nationalgrid

Gerald Cummins
Project Manager
Environmental Department

January 8, 2019

Mr. John Spellman, P.E.
NYS Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 11th Floor
Albany, NY 12233-7014

Subject: Remedial Investigation Report
Troy (Water St.) Site – Area 3
Troy, Rensselaer County, New York
NYSDEC Site # 4-42-029

Dear John:

Please find enclosed, a document entitled "Remedial Investigation Report, Troy (Water St.) Site – Area 3, Troy, New York", which was prepared by Brown and Caldwell Associates (BC) on behalf of National Grid. Enclosed are both a hard copy of the report and an optical disc containing the entire report. This Remedial Investigation (RI) Report for the Site is being submitted to the New York State Department of Environmental Conservation (NYSDEC) based on their concurrence with National Grid's recommendation to prepare a final RI Report provided in a letter dated April 13, 2018. The RI Report has been prepared in accordance with the NYSDEC's Technical Guidance for Site Investigation and Remediation (DER-10) and the Administrative Order of Consent (Index# A4-0473-00001) executed in November 2003. The RI Report provides a comprehensive evaluation of the RI findings including a completed characterization of the nature and extent of impacts beneath the Site.

Following review of enclosed document, please contact me to discuss any comments you may have. Based on the findings presented in the RI Report, National Grid recommends a Feasibility Study (FS) of remedial approaches be developed for the Site. Upon approval of the RI Report, National Grid would begin this FS of remedial approaches.

Please contact me at 315-428-6073 if you have any questions.

Sincerely,

FOR!

Gerald P. Cummins
Project Manager, Environmental Department

Enclosure
cc: M. Sergott – NYSDOH
J. Marolda – BC
A. Sherman – BC

300 Erie Boulevard West, Syracuse, NY 13202
T: (315) 428-6073 ■ F: (315) 460-9644 ■ Gerald.Cummins@nationalgrid.com ■ www.nationalgrid.com

Remedial Investigation Report
Troy (Water St.) Site – Area 3
NYSDEC Site # 4-42-029
Troy, New York

Prepared for

Niagara Mohawk Power Corporation d/b/a
National Grid, Syracuse, New York

January 2019

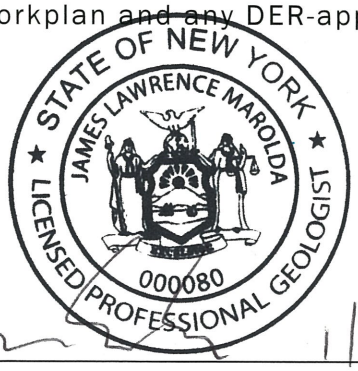
Remedial Investigation Report
Troy (Water St.) Site – Area 3
NYSDEC Site # 4-42-029
Troy, New York

Prepared for
Niagara Mohawk Corporation d/b/a National Grid
300 Erie Boulevard West
Syracuse, New York 13202

January 2019

Project Number: 152169.120

I, James L. Marolda, certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Remedial Investigation Report was prepared in accordance with all applicable statues and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and that all activities were performed in full accordance with the DER-approved workplan and any DER-approved modifications.



1/8/19

James L. Marolda, P.G., C.P.G.
Principal Geologist/Hydrogeologist
New York P.G. License #000080

Brown and Caldwell Associates
2 Park Way, Suite 2A
Upper Saddle River, NJ 07458

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List of Abbreviations

ASP	Analytical Services Protocol
ASTM	American Society for Testing and Materials
ATSDR	Agency for Toxic Substances and Disease Registry
BASE	Building Assessment and Survey Evaluation
BC	Brown and Caldwell Associates
bgs	below ground surface
BTEX	Benzene, Toluene, Ethylbenzene, and isomers of Xylene
CAMP	Community Air Monitoring Program
CCR	Construction Completion Report
CLP	Contract Laboratory Program
CMTFZ	Troy Frontal Zone of the Cohoes Mélange
CMWFZ	Waterford Flysch Zone of the Cohoes Mélange
d/b/a	doing business as
DER	Division of Environmental Remediation
DNAPL	Dense Non-Aqueous Phase Liquid
DOT	Department of Transportation
DUSR	Data Usability Summary Report
Eco-SSLs	Ecological Soil Screening Levels
EDD	Electronic Data Deliverable
ELAP	Environmental Laboratory Approval Program
EM	Electromagnetics
FS	Feasibility Study
FSP	Field Sampling Plan
FWIA	Fish and Wildlife Impact Analysis
FWRIA	Fish and Wildlife Resource Impact Analysis
GC-FID	Gas Chromatograph-Flame Ionization Detector
GPR	Ground-Penetrating Radar
HASP	Health and Safety Plan
I.D.	Inside Diameter
IDW	Investigation-Derived Waste
IRM	Interim Remedial Measure
K_h	Horizontal Hydraulic Conductivity
MGP	Manufactured Gas Plant
MHW	Mean High Water
MHHW	Mean High-High Water
MLLW	Mean Low-Low Water
MWL	Mean Water Level
NAD	North American Datum
NAPL	Non-Aqueous Phase Liquid
NGVD	National Geodetic Vertical Datum
NMPC	Niagara Mohawk Power Corporation
NOAA	National Oceanic and Atmospheric Administration
NYAC	New York Archeological Council
NYNHP	New York National Heritage Program
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OPRHP	Office of Parks, Recreation and Historic Preservation
ORP	Oxidation Reduction Potential
PAHs	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PER	Protection of Ecological Resources
PID	Photoionization Detector
PPE	Personal Protective Equipment
PVC	Polyvinyl Chloride
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance/Quality Control
RDWP	Remedial Design Work Plan
RI	Remedial Investigation
ROD	Record of Decision
RQD	Rock Quality Designation
RSLs	Regional Screening Levels
SCGs	Standards, Criteria, and Guidance
SCO	Soil Cleanup Objectives
SHPO	State Historic Preservation Office
SRI	Supplemental Remedial Investigation
SVOCs	Semi Volatile Organic Compounds
TAL	Target Analyte List
TBC	To-Be-Considered
TCL	Target Compound List
TICs	Tentatively Identified Compounds
TOGS	Technical and Operations Guidance Series
TFT	Taconic Frontal Thrust

USCS	Unified Soil Classification System
USEPA	United Stated Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
VOCs	Volatile Organic Compounds

Executive Summary

This Remedial Investigation (RI) Report has been prepared by Brown and Caldwell Associates (BC) on behalf of Niagara Mohawk Power Corporation (NMPC), doing business as (d/b/a) National Grid (herein referred to as National Grid) to present the results and findings of the RI that was conducted on National Grid's portion of the Troy (Water St.) Site – Area 3 in Troy, New York (hereinafter referred to as the "Site")[1]. Area 3 (together with Area 1 and Area 2) is part of NYSDEC Site No. 4-42-029. Area 4 and the Hudson River sediments are part of NYSDEC Site No. 4-42-029A. Since the river sediments are being addressed as a separate Operable Unit of Site No. 4-42-029A, for the purposes of this RI, the Site is limited to the upland area. The RI activities were conducted pursuant to the Administrative Order of Consent (Index# A4-0473-00001) executed in November 2003. This RI Report provides a comprehensive evaluation of the RI findings to-date including a completed characterization of the nature and extent of impacts attributable to former manufactured gas plant (MGP) operations associated with the Site.

The general objectives of the RI, as identified in the NYSDEC's Technical Guidance for Site Investigation and Remediation (DER-10) (NYSDEC, May 2010), and as described in the two RI work plans associated with the Site, are as follows:

- Determine the nature and extent of MGP-related impacts at or emanating from the Site;
- Determine the surface and subsurface characteristics of the Site, including topography, geology, and hydrogeology;
- Identify the sources of constituents, the migration pathways, and actual or potential receptors of constituents on or through air, soil, bedrock, sediment, groundwater, surface water, utilities, and structures, without regard to property boundaries;
- Collect and evaluate data necessary for a Fish and Wildlife Resource Impact Analysis (FWRIA), and determine actual and potential adverse impact to fish and wildlife resources;
- Collect and evaluate data necessary to evaluate the actual and potential threats to public health and the environment, including the evaluation of current and future potential public health exposure pathways, as well as potential impacts to biota; and
- Collect the data necessary to evaluate any release to an environmental medium and develop remedial alternatives that are protective of human health and the environment, considering current and future use of the Site.

Site Background and History

Based on a review of available drawings, tarvia, a combination of coal tar and petroleum tar, was stored at the Site and was contained in two tanks of unknown capacity. Above-grade remnants of one of the tarvia tanks were present at the Site during the implementation of the RI. However, as part of an Interim Remedial Measure (IRM) completed in 2017, the contents (tar) and the base of the former tarvia tank (also referred herein as the former Tank T-41, which is how the tank was identified during Chevron USA, Inc.'s former asphalt plant operations) were removed along with surface tar from upland areas of the Site to mitigate potential future human or ecological exposure to the surface tar material. Three tar products tanks and a 10,000-gallon capacity flux oil tank were

[1] The New York State Department of Environmental Conservation (NYSDEC) approved a settlement agreement between Chevron USA, Inc. and National Grid dated December 20, 2011, which assigns to National Grid responsibility for the portion of Area 3 lying north of the centerline of the Route 378 bridge.

also associated with historical MGP operations conducted at the former plant site to the north (Area 2). MGP operations produced byproducts including coal tar, spent purifier waste, coal slag, cinders, and ash. MGP-related impacts are described below.

Findings and Conclusions

The RI activities discussed in this report sufficiently complete the Conceptual Site Model and include the following findings and conclusions:

- The bedrock beneath the Site can generally be described as grey to black shale with pervasive, closely-spaced scaly and planar cleavage surfaces and is part of a lithotectonic unit referred to as the Cohoes Mélange.
- A sand and gravel deposit is present above the rock in some portions of the Site; this unit is likely continuous with deposits associated with the Hudson River. Deposits of primarily sand and silt with a minor component of organic matter (e.g., roots, wood) or deposits comprised predominantly of silt and clay and containing minor components sand and organic matter overly the sand and gravel deposits. These deposits are generally 5 to 10 feet in thickness across the Site, however, along the eastern portion of the Site, only a thin veneer of these deposits overlies the bedrock surface, where the sand and gravel deposits are absent. The uppermost unconsolidated material underlying the Site is anthropogenic fill and is composed of various materials including sand, gravel, coal, cinders, ash, and demolition debris (e.g., brick and concrete). The lateral and vertical variations in the nature and distribution of the overburden deposits, may be due to in part, to the apparent re-configuration of shoreline, as indicated by historic maps.
- The water table occurs in the fill, generally 18 to 24 feet below ground surface (bgs). Typically, only a thin interval of the lowermost fill is saturated, with most of the saturated overburden being comprised of deeper deposits (i.e., sand and silt, silt and clay, and sand and gravel). Overburden groundwater in the vicinity of the Site flows generally east to west towards the Hudson River. A downward vertical hydraulic gradient within the overburden is present through much of the Site. In the more inland part of the Site, the difference in head between the water table and the deeper overburden deposits (i.e., the vertical hydraulic gradient) is relatively high, where a laterally discontinuous semi-confining layer unit (deposits of fine sand, silt, and clay) separates the shallow and deeper overburden deposits. However, closer to the river, the head in the shallow and deep overburden wells is similar, thereby indicating a much-reduced vertical hydraulic gradient and the absence of a semi-confining layer between the shallow and deep overburden in this area (i.e., the shallow and deep overburden intervals constitute a single water-bearing zone in the area of the Site proximal to the river).
- Groundwater levels in the deep overburden deposits fluctuate in response to the tide cycles in the adjacent Hudson River.
- Tar encountered at the Site is in the form of a non-aqueous phase liquid (NAPL). It is typically denser than water, and thus is considered a dense NAPL, or DNAPL.
- At the beginning of RI activities, deposits of semi-solid to hard tar were locally observed on the ground surface of the upland part of the Site, and hard tar deposits were noted locally on the river bank slope near the shoreline. The upland surface tar deposits from a depth of 0- to 1-foot bgs were subsequently removed as part of an IRM. Shoreline tar deposits were not addressed as part of the IRM and will be addressed as part of the overall Site remedy.
- The intervals of NAPL observed in the overburden soils are typically less than 2-feet in thickness; however, in the area west of the former tank T-27, the intervals of NAPL are substantially thicker (up to approximately 5 feet thick). NAPL has also been observed to have entered two

overburden monitoring wells at the Site. No NAPL was observed in the collected core samples from bedrock monitoring well location MW-3R. Based on the findings from the RI activities, the lateral and vertical extents of NAPL encountered at the Site have been defined.

- Concentrations of one or more polycyclic aromatic hydrocarbons (PAHs) compounds were detected above applicable Subpart 375-6 Soil Cleanup Objectives (SCOs) in eight surface soil samples (0- to 2-inches bgs). In general, the highest PAH concentrations were observed at locations in close proximity to where surficial or shoreline tar deposits were documented. Subsequent to the surface soil sampling, the majority of the identified surface tar was removed as part of an IRM.
- Concentrations of one or more PAHs were detected above their respective SCOs for Protection of Ecological Resources in seven surface soil samples (0- to 6-inches bgs). In general, the highest total PAH concentrations were observed at locations in close proximity to where surficial or shoreline tar deposits were documented. Subsequent to the surface soil sampling, the majority of the identified surface tar was removed as part of an IRM.
- Concentrations of one or more PAH compounds were above USEPA's Ecological Soil Screening Levels (Eco-SSLs) designated to screen for potential impact to mammals in nine out of the 12 samples collected from the 0- to 6-inch bgs depth interval. In addition, concentrations of one or more PAH compounds in two samples (0- to 6-inches bgs) also exceeded the Eco-SSL criterion designated to screen for potential impact to soil invertebrates.
- Concentrations of one or more benzene, toluene, ethylbenzene, and isomers of xylene (BTEX) compounds were detected at concentrations greater than the SCOs for Protection of Public Health for industrially zoned properties in subsurface soil samples collected at 5 locations. In general, the soil borings where BTEX concentrations were reported greater than the SCOs are at locations where NAPL/tar and/or sheen was also observed. Total PAH concentrations in the subsurface soil samples collected during the RI were greater than 500 mg/kg at 11 locations. Concentrations of one or more PAH compounds were detected at concentrations greater than the SCOs for Protection of Public Health for industrial zoned properties in subsurface soil samples collected at 22 locations. Total cyanide was not detected at concentrations above the unrestricted use SCO for total cyanide in any of the subsurface soil samples. Based on the findings from the RI activities, the lateral and vertical extents of MGP-related or other impacts to subsurface soils have been adequately characterized for the purposes of the RI.
- Constituents often associated with MGP-related residuals (but also potentially associated with other sources) that were detected during RI activities at concentrations greater than the Class GA criteria were BTEX compounds, naphthalene, phenol, and total cyanide. Based on the RI groundwater quality data, the lateral extents of the dissolved-phase, MGP-related constituents in overburden groundwater have been adequately characterized for the purposes of the RI.
- Groundwater quality data from bedrock monitoring well MW-3R, installed where the deepest NAPL occurrences were encountered in the overburden, indicated no exceedances of the Class GA criteria for MGP-related constituents with the exception of low levels of benzene. For the purposes of the RI, the vertical extent of dissolved-phase groundwater impacts at the Site has been adequately characterized.
- A constituent mass flux estimate analysis conducted as part of the RI indicates that discharge of Site groundwater to surface water is not impacting surface water quality.
- Data from the RI activities, which included completion of a soil vapor evaluation, indicated that MGP-related or other soil vapors are not a concern at this Site and that no further evaluation of the potential for impacts from soil vapor is required at this time.

- Based on the qualitative human health exposure assessment performed as part of the RI, there are potentially complete exposure pathways for MGP-related constituents in surface soil, subsurface soil, and groundwater to some potential current and foreseeable future receptors.
- Based on the FWRIA performed as part of the RI, a potential risk to wildlife resources exists from the presence of PAHs, DDT, and various metals in surface soils at the Site. In the shallow subsurface soil, xylene, PAHs, endrin and various metals present a potential risk to ecological resources at the Site. Of these constituents, only xylene and PAHs are considered as potential MGP-related constituents. Potential risk from constituents in surface soil and shallow subsurface soils at the Site is not expected to have significant effect on wildlife populations within a 0.5-mile radius of the Site.

Recommendations

The following recommendations are made with regard to future activities related to National Grid's portion of the Troy (Water St.) Site – Area 3:

- The site conceptual model for the Site is complete and thus, National Grid recommends development of a Feasibility Study (FS) of remedial approaches for the Site. In accordance with the Order on Consent, following completion of the RI, development of FS is the next step in the regulatory process. Accordingly, a report presenting the results of the FS will be provided to the NYSDEC and once approved, the FS report would provide the basis for the selection of a remedy and preparation of a Record of Decision (ROD) by the NYSDEC.
- Following issuance of a draft ROD by the NYSDEC, completion of a public comment period, and preparation and issuance of a final ROD, National Grid will prepare a Remedial Design Work Plan (RDWP) in conformance with Section 5.2 of DER-10.

Upon approval of this RI Report, an FS will be conducted to develop and evaluate remedial alternatives for the Site. Additional data needs may be identified to support the FS.

Section 1

Introduction

1.1 Overview

This RI Report has been prepared by BC on behalf of NMPC, doing business as (d/b/a) National Grid (herein referred to as National Grid) to present the results and findings of the RI that was conducted on National Grid's portion of the Troy (Water St.) Site – Area 3 in Troy, New York (hereinafter referred to as the "Site")[1]. Area 3 (together with Area 1 and Area 2) is part of NYSDEC Site No. 4-42-029. Area 4 and the Hudson River sediments are part of NYSDEC Site No. 4-42-029A. Since the river sediments are being addressed as a separate Operable Unit of Site No. 4-42-029A, for the purposes of this RI, the Site is limited to the upland area. The RI activities were conducted pursuant to the Administrative Order on Consent (Index# A4-0473-00001) executed in November 2003.

In 2015, National Grid developed a RI Work Plan to assess the nature and extent of potential MGP-related impacts underlying the Site. National Grid initiated field activities for the RI in 2015 in accordance with the 2003 Order on Consent, the RI Work Plan (BC, February 2015) and the Supplemental RI (SRI) Work Plan (BC, August 2016) that were submitted and approved by the NYSDEC. A copy of the RI Work Plans and subsequent RI Data Summary Reports are provided on the optical disc in Appendix A. In March 2018, the document entitled "Data Summary Report, Supplemental RI Activities, Troy (Water St.) Site – Area 3, Troy, New York" (BC, March 2018) was submitted to the NYSDEC providing the data and findings of the most recent Phase of RI activities, as well as the results of previous activities. In a letter dated April 13, 2018, the NYSDEC, based on their review of the March 2018 Data Summary Report, provided approval of this document and concurrence with National Grid's conclusion that the nature and extent of MGP-related impacts at the Site are adequately characterized for the purpose of the RI and that a final RI Report should be prepared and submitted for the Site.

This RI Report provides a comprehensive evaluation of RI findings including a completed characterization of the nature and extent of impacts attributable to former MGP operations associated with the Site. The RI activities at this Site were performed by BC on behalf of National Grid.

Provided below in Section 1.2 describes the organization of the document. Section 1.3 is a description of the objectives of the RI. Discussions of the Site setting, site background, and a chronology of the regulatory and remedial history of the Site are presented in Sections 1.4, 1.5, and 1.6, respectively.

1.2 Report Organization

The RI Report is organized as follows:

- **Section 2:** Scope of Work for the RI
- **Section 3:** Discussion of RI findings

[1] The New York State Department of Environmental Conservation (NYSDEC) approved a settlement agreement between Chevron USA, Inc. and National Grid dated December 20, 2011, which assigns to National Grid responsibility for the portion of Area 3 lying north of the centerline of the Route 378 bridge.

- **Section 4:** Human Health Exposure Assessment
- **Section 5:** Fish and Wildlife Resources Impact Analysis
- **Section 6:** Summary and Conclusions
- **Section 7:** Recommendations
- **Section 8:** References

1.3 Remedial Investigation Objectives

The general objectives of the RI, as identified in the NYSDEC's Technical Guidance for Site Investigation and Remediation (DER-10), and as described in the two RI work plans associated with the Site, are as follows:

- Determine the nature and extent of MGP-related impacts at or emanating from the Site;
- Determine the surface and subsurface characteristics of the Site, including topography, geology, and hydrogeology;
- Identify the sources of constituents, the migration pathways, and actual or potential receptors of constituents on or through air, soil, bedrock, sediment, groundwater, surface water, utilities, and structures, without regard to property boundaries;
- Collect and evaluate data necessary for a FWRIA, and determine actual and potential adverse impact to fish and wildlife resources;
- Collect and evaluate data necessary to evaluate the actual and potential threats to public health and the environment, including the evaluation of current and future potential public health exposure pathways, as well as potential impacts to biota; and
- Collect the data necessary to evaluate any release to an environmental medium and develop remedial alternatives that are protective of human health and the environment, considering current and future use of the Site.

1.4 Site Setting

The Site is located in Troy, Rensselaer County, New York. Coordinates for the property are approximately 42°42'06.1" north latitude and 73°42'02.2" west longitude. The location of the property is shown on Figure 1.

The Site is abutted to the north by Area 2 of the Troy (Water Street) Site, to the east by Water Street and a railroad spur, to the south by the remaining portion of Area 3 (where Chevron USA, Inc. is responsible for remediation activities), and to the west by the Hudson River. South of Area 3 is Area 4, which was previously remediated by National Grid. The area surrounding the Site is primarily used for industrial and commercial purposes.

The topography of the Site is generally flat, with a steep bank located directly adjacent to the Hudson River to the west. The elevation of the flat portion of the property is approximately 25 to 28 feet based on National Geodetic Vertical Datum (NGVD) of 1929. A site plan is provided as Figure 2.

Based on the 1980 National Flood Insurance Program and Flood Insurance Rate Map, the majority of the Site is designated as Zone B. Zone B indicates that the area falls between the 100-year and 500-year flood stage for the Hudson River. Directly adjacent to the river, the area is designated as Zone A12 (located within the 100-year flood stage). The 100-year flood elevation at the Site is approximately 24.5 feet, NGVD 1929.

The Hudson River adjacent to the Site is tidal; the level in the river fluctuates approximately four to five feet twice per day. Surface water gauging data for the Hudson River obtained from the USGS Station 01359139 (Hudson River at Albany, New York), which is located approximately 4.5 miles south of the Site, indicate the following typical water elevations (elevations reported relative to NGVD 1929)[2]:

- **Mean High-High Water (MHHW):** Elevation 4.9 feet (annual average MHHW ranged from elevation 4.67 to 5.09 ft)[3].
- **Mean High Water (MHW):** Elevation 4.5 feet (annual average MHW ranged from elevation 4.32 to 4.69 ft)[4].
- **Mean Water Level (MWL):** Elevation 2.2 feet (annual average MWL ranged from elevation 2.06 to 2.34 ft)[5].
- **Mean Low-Low Water (MLLW):** Elevation -0.7 feet (annual average MLLW ranged from elevation -0.82 to -0.46 ft)[6].

1.5 Site Background and History

Available historical information, including historical maps were reviewed to determine the development and decommissioning of the former MGP structures associated with the Site. Provided below are the sources from which the historical information was collected followed by a summary of the history of operations at the Site.

- Map of the Vicinity of Albany and Troy. (1851, J.C. Sidney).
- Map of the City of Troy, West Troy, and Green Island. (1869, W. Barton).
- Map of the City of Troy. (1873, W.H. Young).
- 1885 Sanborn® fire insurance map.
- Historic Plant Drawings:
  - Map of Plant, Hudson Valley Coke & Products Corp. Troy, N.Y. (Date Unknown).
  - New York Power & Light, Hudson Valley Fuel Plant, Troy, N.Y. (1946).

The following discussion of the review of the historical information available for the Site was previously presented in the RI Work Plan (BC, February 2015), as supplemented by additional information presented in Section 5.3 (Industrial Development) of the report entitled "Phase IA Literature Review and Sensitivity Assessment, Troy (Water St.) Site – Area 3, Troy, Rensselaer County, New York" (Hartgen Archeological Associates, Inc., September 2018). Copies of the historical maps listed above are provided on the optical disc in Appendix A. Approximate locations of the former MGP structures based on the historic plant drawings listed above are depicted on Figure 2.

The history of the Site as a whole, including the portion of Area 3 that is the focus of this RI Report is presented below. This history is based on several sources including historical maps, figures, and

[2] The reported water elevations represent the average values at USGS Station 01359139 for "water years" (water years span from October of the previous year to September of the water year, i.e., Water Year 2009 spans from October 2008 to September 2009), with readily available data from USGS website (http://wdr.water.usgs.gov/). Data from the following "water years" was used to generate the average values: 1996, 2003, 2006, 2007, 2008, 2009, and 2010.

[3] MHHW represents the average water level for the higher of the two high tides in a day.

[4] MHW represents the average of the two high tides that occur in a day.

[5] MWL represents the average water level, including low and high tides.

[6] MLLW represents the average water level for the lower of the two low tides in a day.

documents provided by National Grid and Chevron USA, and additional materials, including historical aerial photographs and maps, obtained by BC.

Industrial operations at the Site began in the mid- to late-1800s with several generations of iron and steel making facilities. Manufactured gas production evolved on the Site to support the production of coke for the iron and steel industry. In 1859, portions of the Site were granted by the State of New York to the Troy Iron and Nail Factory. By 1885 the Troy Steel and Iron Company had been incorporated and had operations occurring in the vicinity of the Site, with no record of activities directly occurring in Area 3. It is believed at this time that Area 3 was owned by the Burden Iron Company. Iron making at this time consisted of heating and melting iron ore with coal, coke, or charcoal. The last major iron industry development in the area was the Bessemer Steel Works built in 1864 in the area south of Wynantskill Creek. The Bessemer Steel Works was the first steel plant in America capable of producing high-grade Bessemer Steel (Hartgen Archeological Associates, Inc., September 2018). In 1890, the Troy Steel and Iron Company had swapped the land associated with Area 3 with the Troy and Greenbush Railroad Association to be used as area for railroad tracks. Railroad easements remained on the Site during much of its history.

In 1924, the Hudson Valley Coke and Products Corporation was formed, and a brick shed, presumably used for storage, was constructed on the Site (see Figure 2). By 1938 Hudson Valley Coke and Products Corporation had sold the facility to the Hudson Valley Fuel Corporation, which merged into New York Power and Light, which in turn was consolidated into NMPC in 1951. The brick shed, previously mentioned, was demolished and the Hudson Valley Fuel Corporation constructed two tarvia tanks of unknown capacity. Tarvia is referenced in literature as a combination of coal tar and petroleum tar designed to penetrate the surface to which it is applied and then harden quickly. Three tar products tanks and a flux oil tank (10,000 gallons) were also constructed by the Hudson Valley Fuel Corporation. The approximate positions of the structures mentioned above are shown on Figure 2.

In 1955 Republic Steel Corporation sold the property to American Bitumuls & Asphalt Company, which was acquired by the Chevron Asphalt Company in 1965. The Chevron Asphalt Company constructed the asphalt plant on the land known as Area 3. In 1965, two above ground, vertical storage tanks (tank T-27 and tank T-41) were constructed. Storage tank T-27 was a 2.1-million-gallon asphalt storage tank, and tank T-41 was a 210,000-gallon asphalt storage tank. Chevron ceased operations at the Site as an asphalt terminal around 1998, and the plant structures were razed in 2006, except for the base of tank T-41, which, during demolition activities, tar was observed at the base of the structure. Based on gas chromatograph-flame ionization detector (GC-FID) fingerprint analysis of a sample of this material collected from the base of the structure during the 2006 demolition activities, this material has compositional characteristics indicative of coal tar.

During the RI field work, tank T-41 was observed to contain hardened tar remaining in the structure. When exposed to heat during days exhibiting warmer ambient temperatures, this hardened tar was observed to behave as a semi-solid material and become mobile. As part of an IRM, surface tar (defined as tar deposits from 0- to 1-foot bgs) observed across the Site was removed. Additionally, as part of the IRM, the contents within former Chevron tank T-41 were removed and the remaining portions of the structure were subsequently demolished and removed. The scope of work for the surface tar removal was outlined in the “Interim Remedial Measures Work Plan for Surface Tar Removal, Troy (Water Street) Site – Area 3, Troy, New York” (BC, October 2016). The results of the surface tar removal are documented in the report entitled “Interim Remedial Measures Construction Completion Report for Surface Tar Removal, Troy (Water Street) Site – Area 3, Troy, New York” (BC, January 2018).

1.5.1 Summary of Property Ownership

A chronological summary of the property ownership is as follows, as summarized from the Site history discussed above:

- **Between 1859 and 1885:** Troy Iron and Nail Factory;
- **1890:** Transfer of ownership from Troy Iron and Nail Factory to the Troy Steel and Iron Company;
- **1924:** Transfer of ownership from the Troy Steel and Iron Company to Hudson Valley Coke and Products Corporation;
- **1938:** Transfer of ownership from Hudson Valley Coke and Products Corporation to Hudson Valley Fuel Corporation;
- **Between 1938 and 1951:** Hudson Valley Fuel Corporation merged into New York Power and Light, which in turn was consolidated into NMPC in 1951;
- **Between 1951 and 1955:** Transfer of ownership from NMPC to Republic Steel Corporation; and
- **1955:** Transfer of ownership from Republic Steel Corporation to American Bitumuls & Asphalt Company, which was acquired by the Chevron Asphalt Company (Chevron) in 1965. Chevron USA, Inc. currently maintains ownership of the Area 3 property.

1.6 Regulatory and Remedial History

Following the demolition of asphalt plant structures by Chevron in 2006 and identification of a structure containing suspected byproduct of former MGP operations (i.e., tar), the NYSDEC approved a settlement agreement between Chevron USA, Inc. and National Grid dated December 20, 2011, which assigns to National Grid responsibility for the portion of Area 3 lying north of the centerline of the Route 378 bridge.

RI and IRM activities at the Site were conducted pursuant to the Administrative Order on Consent (Index# A4-0473-00001) between Niagara Mohawk Power Corporation (now doing business as National Grid) and the NYSDEC executed in November 2003.

1.6.1 Remedial Investigation

The RI history chronology is as follows:

- Submitted RI Work Plan to NYSDEC (November 2014).
- Received letter from NYSDEC providing comments on RI Work Plan (January 2015).
- Submitted response to NYSDEC comments letter and revised RI Work Plan to NYSDEC (February 2015).
- RI Work Plan approved by NYSDEC (March 2015).
- Implemented RI Work Plan (April 2015 – September 2015).
- Submitted RI Data Summary Report to NYSDEC (March 2016).
- Received comments on March 2016 RI Data Summary Report from NYSDEC (June 2016).
- Submitted revised RI Data Summary Report to NYSDEC (June 2016).
- Submitted SRI Work Plan to NYSDEC (August 2016). SRI Work Plan proposed soil vapor and outdoor air sampling activities.
- SRI Work Plan approved by NYSDEC (September 2016).
- Implemented SRI Work Plan (January 2017 – November 2017).
- Transmitted validated soil vapor and outdoor air data to property owner (February 2018).

- Submitted SRI Data Summary Report to NYSDEC (March 2018). The cover letter that accompanied the submittal provided a conclusion that indicated that the nature and extent of MGP-related impacts at the Site have been adequately characterized for the purpose of the RI and a recommendation to prepare a final RI Report.
- Received letter from the NYSDEC providing concurrence that the RI data collection is complete and requesting preparation of draft final RI Report (April 2018).
- Performed Phase IA Cultural Resources Evaluation (June 2018 – September 2018).
- Performed additional round of water level monitoring and NAPL gauging/removal activities, the results of which are incorporated herein (August 2018).

1.6.2 Interim Remedial Measures

The IRM history chronology is as follows:

- Submitted IRM Work Plan for Surface Tar Removal to NYSDEC (September 2016).
- Received letter from NYSDEC providing comments on IRM Work Plan (October 2016).
- Submitted a response to NYSDEC comments letter and a revised IRM Work Plan to NYSDEC (October 2016).
- IRM Work Plan approved by NYSDEC (October 2016).
- Implemented IRM Work Plan (September 2017 – October 2017).
- Submitted Construction Completion Report (CCR) for Surface Tar Removal to NYSDEC (January 2018).
- CCR approved by NYSDEC (March 2018).

Section 2

Remedial Investigation Scope of Work

Through the implementation of multiple RI field programs, the following environmental media at the Site were evaluated to determine whether or not impacts related to MGP/asphalt operations are present, and if present, the extent of the impacts.

- Soil, bedrock, and groundwater; and
- Soil vapor.

The scopes of work for conducting the RI field activities are described in the following work plans that were submitted to and approved by the NYSDEC:

- Remedial Investigation Work Plan (BC, November 2014, Revised February 2015); and
- Supplemental Remedial Investigation Work Plan (BC, August 2016).

Copies of the work plans and subsequent correspondence that include work plan modifications are included on the CD-ROM provided in Appendix A. Specific methods and procedures that were followed for completing the RI scope of work are discussed in the sections below.

2.1 General

2.1.1 Generic Plans

Methods and procedures associated with the RI field activities were conducted with the above noted work plans and the following plans:

- Generic Field Sampling Plan for Site Investigations at Non-Owned Former MGP Sites, (Foster Wheeler, November 2002) (referred to as "FSP").
- Generic Quality Assurance Project Plan for Site Investigations at Non-Owned Former MGP Sites, (Foster Wheeler, November 2002) (referred to as "QAPP").
- Generic Health & Safety Plan for Site Investigations at Non-Owned Former MGP Sites (Foster Wheeler, November 2002).
- Site-specific Health and Safety Plan for Remedial Investigation of Troy (Water St.) Site – Area 3 (BC, October 2017) (referred to as "HASP"). This plan was developed consistent with the Generic Health & Safety Plan for Site Investigations at Non-Owned Former MGP Sites (Foster Wheeler, November 2002).
- DER-10/Technical Guidance for Site Investigation and Remediation (NYSDEC, May 2010).

2.1.2 Property Access Activities

Prior to commencing the RI field activities, which included drilling of soil borings, installation of monitoring wells, installation of soil vapor probes, and excavation test pits on property not owned by National Grid; the owner (Chevron USA, Inc.) of the property was contacted and briefed on the planned activities. Access permission agreements were established with the property owner prior to implementing the RI activities.

2.1.3 Utility Mark-Outs and Clearance

Prior to conducting intrusive activities, planned locations for test pits, soil borings and monitoring wells were marked in the field. Dig Safely New York was contacted to clear subscribed underground utilities, while the City of Troy was contacted to clear utilities that they maintain (e.g., sewer and water). Chevron USA, Inc. was also requested to identify and locate known on-site private utilities in areas where investigation activities were proposed.

Some of the proposed drilling and sampling locations were slightly adjusted to provide for adequate clearance from underground utilities. The final locations for the test pits, soil borings, and monitoring wells were determined in the field following the mark-out of underground utilities.

At each drilling location, clearance of subsurface utilities was also confirmed by physical means (e.g., vacuum soil extraction, hand tools, etc.). Physical clearance was used to remove the soil at all drilling locations to a depth of approximately 5 feet bgs.

2.1.4 Investigation-Derived Waste

Investigation-derived waste (IDW) generated during the RI activities included soil and rock cuttings; water from equipment decontamination, drilling, well development, well purging prior to groundwater sampling, and slug tests; and personal protective equipment (PPE) and disposable soil and groundwater equipment and supplies. The IDW was containerized in Department of Transportation (DOT)-approved, 55-gallon drums, and labeled to identify its contents. Samples of the IDW were analyzed in the laboratory for waste profiling purposes and the appropriate treatment/disposal was arranged. During the course of the RI activities, treatment/disposal of the IDW was managed by Clean Harbors Environmental Services, Inc. or Capitol Environmental under contract to National Grid.

2.2 Non-Intrusive Investigations

2.2.1 Surface Geophysical Survey

A non-intrusive surface geophysical survey was performed to identify potential utilities and other obstructions (i.e., former structures, foundations, etc.) within the site boundary. The surface geophysical survey activities consisted of the procurement of a subcontractor to perform magnetometer, ground-penetrating radar (GPR) and electromagnetics (EM). Once identified, geophysical anomalies were surveyed and plotted on the Site plan (Figure 2). Naeva Geophysics, Inc. (Naeva) of Congers, New York performed the subsurface obstruction survey. The findings from the survey are provided in the geophysical survey report prepared by Naeva (see Appendix B) and were also incorporated into the site plan (see Figure 2).

2.2.2 Phase IA Cultural Resources Investigation

As described in DER-10, remedial activities at a site are to be protective of cultural resources. Accordingly, a Phase IA Cultural Resources Investigation of the Site was performed as part of the RI. The Phase IA investigation was performed to assess whether or not cultural resources of concern are present in the project area and to determine if a Phase IB subsurface investigation (e.g., excavation of small test pits at fixed intervals to verify presence or absence of archeological or historic artifacts) for the project is warranted. Phase IA and IB studies are considered Cultural Resource Management investigations as directed by the New York State Historic Preservation Office (SHPO).

The Phase IA evaluation was conducted in compliance with Section 14.09 of the State Historic Preservation Act and will be reviewed by the New York State Office of Parks, Recreation and Historic Preservation (OPRHP). The investigation was performed according to New York Archaeological

Council (NYAC) Standards for Cultural Resource Investigations and the Curation of Archaeological Collections (1994) and SHPO guidelines.

The archeological assessment of the Site was performed by Hartgen Archeological Associates, Inc. of Rensselaer, New York. The findings of this assessment are provided in the report prepared by Hartgen, which is provided in Appendix C.

2.2.3 Demarcation of Surface and Shoreline Tar Deposits

Considering that the Site was previously used as a terminal for loading trucks with asphalt and that MGP waste reputedly passed through Area 3 for disposal south of the Site, surficial deposits of tar were anticipated to be encountered across the Site. Accordingly, a reconnaissance of surface tar was performed as part of the RI field work. Locations of surface tar were demarcated in the field by a field geologist. The subsurface extent of the surface tar was not delineated. The edges of the surficial tar deposits were marked with survey flags or paint and surveyed as detailed below. The IRM activities, discussed in Section 1.6.2, removed surface tar deposits across the Site from 0- to 1-foot bgs.

Prior to completion of RI field work at the Site, surficial deposits of hard tar were observed at the toe of the river bank. In some areas, the hard tar deposits extend from the toe over the gravel along the river's edge. The on-site shoreline tar deposits (i.e., those present above approximate mean high tide) were demarcated in the field by a field geologist. The subsurface extent of the hard tar was not delineated. The edges of the shoreline surficial tar deposits were marked with survey flags or paint and surveyed to include location coordinates and ground surface elevation. Location coordinates were referenced to the State Plane coordinate system for New York using the North American Datum of 1983 (NAD83) in units of feet. Elevations were referenced to the NGVD of 1929 in units of feet. Surveying services were performed by New York licensed surveyors from C.T. Male Associates of Latham, New York.

2.3 Soil, Bedrock and Groundwater Investigation

The approach and procedures for evaluating soil, bedrock, and groundwater at the Site are described together, as the approaches described typically address more than one of these media.

2.3.1 Surface Soil Sampling and Analysis (0- to 2-inch bgs Interval)

Surface soil samples (0- to 2-inch bgs) were collected at 12 locations. Six locations (SS-1 through SS-6) were on the river bank (top and bottom), while the remaining locations (SS-7 through SS-12) were evenly spaced across the Site as shown on Figure 2. At each of the sample locations, a surface soil sample was collected from the top 2 inches of soil following removal of overlying vegetation (if any).

Each surface soil sample was collected using a field-cleaned stainless-steel trowel. The trowel was decontaminated between sampling stations using Alconox® followed by a deionized water rinse.

The surface soil samples were analyzed for Target Compound List (TCL) semi-volatile organic compounds (SVOCs), TCL pesticides, polychlorinated biphenyls (PCBs), Target Analyte List (TAL) metals, and total cyanide. Analyses were conducted using the following United States Environmental Protection Agency (USEPA) SW-846 Methods:

- **SVOCs** – 8270D;
- **Pesticides** – 8081B;
- **PCBs** – 8082A;
- **Metals** – 6010C;

- **Mercury** – 7470A; and
- **Total cyanide** – 9012B.

Quality Assurance/Quality Control (QA/QC) samples were collected and analyzed in accordance with the QAPP and the FSP. Analysis of the collected surface soil samples was conducted by TestAmerica Laboratories, Inc. of Buffalo, New York, a laboratory certified under the New York State Department of Health's (NYSDOH) Environmental Laboratory Approval Program (ELAP) to provide Analytical Services Protocol/Contract Laboratory Program (ASP/CLP) deliverables (NYSDOH ELAP Number 10026). Laboratory reports associated with the surface soil samples are included on the optical disc provided in Appendix I. The results are discussed in Section 3.6.1.

Each of the surface soil sample locations were surveyed for location coordinates and ground surface elevations. Horizontal location coordinates were referenced to the State Plane coordinate system for New York using NAD83 in units of feet. Elevations were referenced to the NGVD of 1929 in units of feet. Surveying services were performed by New York licensed surveyors from C.T. Male Associates of Latham, New York.

2.3.2 Surface Soil Sampling and Analysis (0- to 6-inch bgs Interval)

For the purposes of providing data for an ecological assessment (i.e., Steps 1 through 2B of a FWRIA), surface soil samples from the 0- to 6-inch bgs depth interval were collected from 12 locations throughout the Site during the RI activities. The sample locations are shown on Figure 2. Each sample was collected from the 0- to 6-inch interval below loose vegetative cover at a location immediately adjacent to where the 0- to 2-inch samples were collected.

Each surface soil sample was collected using a field-cleaned stainless-steel trowel. The trowel was decontaminated between sampling stations using Alconox® followed by a deionized water rinse.

The sample analyses and sample methods used are as described above in Section 2.3.1. QA/QC samples were collected and analyzed in accordance with the QAPP and the FSP. Analysis of the collected surface soil samples was conducted by TestAmerica Laboratories, Inc. of Buffalo, New York, a laboratory certified under NYSDOH's ELAP to provide ASP/CLP deliverables (NYSDOH ELAP Number 10026). Laboratory reports associated with the surface soil samples are included on the optical disc provided in Appendix I. The results are discussed in Section 3.6.2.

Each of the surface soil sample locations were surveyed for location coordinates and ground surface elevations. Horizontal location coordinates were referenced to the State Plane coordinate system for New York using NAD83 in units of feet. Elevations were referenced to the NGVD of 1929 in units of feet. Surveying services were performed by New York licensed surveyors from C.T. Male Associates of Latham, New York.

2.3.3 Soil Borings and Subsurface Soil Sampling and Analysis

Subsurface borings were completed for the purposes of stratigraphic characterization of the overburden, field screening to identify visible indicators of potential impacts from former MGP operations or other sources (e.g., NAPL, sheen, etc.), and evaluating the extent of MGP-related or other constituents in soil above applicable SCOs as set forth in 6NYCRR Subpart 375-6. The positions of the soil boring locations are illustrated on Figure 2, and a summary of the technical rationale for each boring as initially proposed in each work plan is provided in Table 1. Table 2 provides a summary of the specific details and information for borings drilled during the RI field investigations, including location survey information, total depths, and depth to bedrock data.

Drilling services were provided by Atlantic Testing Laboratories, Limited of Canton, New York for the drilling activities associated with RI activities conducted in 2015, while Nothnagle Drilling, Inc. of Scottsville, New York provided drilling services for the SRI activities conducted in 2017. During the

completion of the soil borings, a Community Air Monitoring Plan (CAMP) was implemented that meets the requirements of the NYSDOH's Generic CAMP provided in DER-10. The soil borings were advanced using hollow-stem augers and sampled with a two-foot long, two-inch inside diameter (I.D.) split-spoon sampler. The soil samples from the split-spoon sampler were described in the field to characterize soil type, including grain size, texture, and moisture content. Soil samples were logged in accordance with the Burmister Soil Classification System and classified using the Unified Soil Classification System (USCS) as per the FSP. The samples were also field screened for indications of impacts via visual/olfactory observations and organic vapor concentration measurements using a photoionization detector (PID). Head-space screening was conducted using the PID by immediately transferring a representative subsample of the soil to a sealable polyethylene plastic bag (e.g., Ziploc®). To allow the sample to equilibrate, it remained sealed for a period of time (approximately 15 minutes) and then the tip of the PID was inserted through the plastic bag, and the maximum instrument reading was recorded. Visible NAPL/tar, if encountered, was noted and described with regard to color, odor, viscosity, consistency, and distribution in the sample (i.e., degree of NAPL saturation). Soil boring logs are provided in Appendix D.

Upon completion, the soil borings not intended for installation of a monitoring well were filled with cement bentonite grout. Drilling equipment was decontaminated prior to drilling at each location and prior to demobilizing from the Site. Split-spoon samplers were decontaminated prior to each use. The decontamination procedures were conducted in accordance with procedures described in the FSP.

Thirty-six (36) soil borings (16 individual soil borings, and soil borings at 19 overburden well locations and 1 bedrock well location) were completed from 2015 to 2017 as part of the RI activities. The borings ranged in depth from approximately 21 to 38 feet bgs. One hundred twenty-eight (128) soil samples from the soil borings were selected for laboratory analysis based on the results of field screening and/or depth to impacts information from a nearby boring. The samples collected in 2015 were submitted for analysis of TCL volatile organic compounds (VOCs), TCL SVOCs, TCL pesticides, PCBs, TAL metals, and total cyanide. Samples collected during the 2017 investigation were not analyzed for PCBs or TAL metals as sufficient data had been collected during the 2015 RI field work to demonstrate that PCBs and metals concentrations were not a concern at the Site. Analyses were conducted using the following USEPA SW-846 Methods:

- **VOCs** – 8260C;
- **SVOCs** – 8270D;
- **Pesticides** – 8081B;
- **PCBs** – 8082A;
- **Metals** – 6010C;
- **Mercury** – 7470A; and
- **Total cyanide** – 9012B.

QA/QC samples were collected and analyzed in accordance with the QAPP and the FSP. Analysis of the collected soil samples were conducted by TestAmerica Laboratories, Inc. of Buffalo, New York, a laboratory certified under NYSDOH's ELAP to provide ASP/CLP deliverables (NYSDOH ELAP Number 10026). Laboratory reports associated with the subsurface soil samples are included on the optical disc provided in Appendix I. The soil analytical results are discussed in Section 3.6.3.

Each of the soil boring locations were surveyed for location coordinates and ground surface elevations. Horizontal location coordinates were referenced to the State Plane coordinate system for

New York using NAD83 in units of feet. Elevations were referenced to the NGVD of 1929 in units of feet. Surveying services were performed by New York licensed surveyors from C.T. Male Associates of Latham, New York.

2.3.4 Test Pits

During the implementation of the RI activities, nine test pits (TP-1, TP-1A, TP-1B, and TP-2 through TP-7) were excavated to depths of approximately five to 10 feet bgs to assess the potential presences of purifier waste (reputedly observed previously on the surface under the 378 Bridge) and to evaluate potential remnants of subsurface structures and their contents. The test pit locations are shown on Figure 2. Photographic logs documenting observations from the test pits are provided in Appendix D, and a summary of the technical rationale for each test pit as initially proposed in each work plan is provided in Table 1.

During the excavation of any test pits, a CAMP was implemented as described above in Section 2.3.3. Material excavated from the test pits was temporarily placed on polyethylene sheeting adjacent to the test pit. Upon completion of the test pits, excavated material was backfilled into the excavation in the order the material was excavated (last out, first in). The earthwork contractor used for the RI activities conducted in 2015 was Atlantic Testing Laboratories, Limited of Canton, New York, while Nothnagle Drilling, Inc. of Scottsville, New York provided earthwork services for the supplemental RI activities conducted in 2017.

Ten (10) soil samples from the test pits were selected for laboratory analysis based on the results of field screening and/or depth to impacts information from a nearby borings or test pits. The samples collected in 2015 were submitted for analysis of TCL VOCs, TCL SVOCs, TCL pesticides, PCBs, TAL metals, and total cyanide. Samples collected during the 2017 investigation were not analyzed for PCBs or TAL metals as sufficient data had been collected during the 2015 RI field work to demonstrate that PCBs and metals concentrations were not a concern at the Site. Analyses were conducted using the following USEPA SW-846 Methods:

- **VOCs** – 8270C;
- **SVOCs** – 8270D;
- **Pesticides** – 8081B;
- **PCBs** – 8082A;
- **Metals** – 6010C;
- **Mercury** – 7470A; and
- **Total cyanide** – 9012B.

QA/QC samples were collected and analyzed in accordance with the QAPP and the FSP. Analysis of soil samples were conducted by TestAmerica Laboratories, Inc. of Buffalo, New York, a laboratory certified under NYSDOH's ELAP to provide ASP/CLP deliverables (NYSDOH ELAP Number 10026). Laboratory reports associated with the subsurface soil samples are included on the optical disc provided in Appendix I. The soil analytical results are discussed in Section 3.6.3.

The test pits were surveyed for location coordinates and ground surface elevation data. Horizontal location coordinates were referenced to the State Plane coordinate system for New York using NAD83 in units of feet. Elevations were referenced to the NGVD of 1929 in units of feet. Surveying services were performed by New York licensed surveyors from C.T. Male Associates of Latham, New York.

2.3.5 Monitoring Well Installations and Bedrock Evaluation

Nineteen (19) overburden monitoring wells and one bedrock monitoring well were installed throughout the course of the RI activities for the purposes of evaluating subsurface geologic conditions, delineating visible NAPL, assessing groundwater flow conditions, and evaluating the extent of MGP-related or other constituents in overburden and bedrock groundwater at concentrations greater than the New York State Class GA Groundwater Quality Criteria (i.e., the 6 NYCRR Part 703 Standards and guidance values from the Division of Water Technical and Operational Guidance Series [TOGS] 1.1.1). The positions of the monitoring well locations are illustrated on Figure 2, and a summary of the technical rationale for each monitoring well as initially proposed in each work plan is provided in Table 1. Table 2 provides a summary of the specific details and construction information for wells drilled and installed during the RI field investigations, including, location survey information, depth to bedrock data, total depths and screened intervals. The naming convention used associated with the monitoring well identifications is explained as follows: 1) "S" indicates shallow overburden well; 2) "D" indicates deep overburden well; and 3) "R" indicates bedrock well. Wells that do not contain a suffix after the well number (i.e., MW-1, MW-4, MW-5, MW-9, and MW-10) include locations installed by others (MW-1 and MW-4) for which the screened intervals are unknown, and locations installed by BC (MW-5, MW-9, and MW-10). Wells MW-9 and MW-10 are screened across the water table and are considered shallow overburden wells, whereas the screened interval for MW-5 is immediately above the bedrock surface and is considered a deep overburden well.

Methods and procedures used for the sampling of soils from the borings used for installation of monitoring wells, construction and development of the overburden wells and bedrock monitoring well, and bedrock evaluation procedures at individual drilling locations are provided below. Drilling services were provided by Atlantic Testing Laboratories, Limited of Canton, New York for the drilling activities associated with RI activities conducted in 2015, while Nothnagle Drilling, Inc. of Scottsville, New York provided drilling services for the supplemental RI activities conducted in 2017.

2.3.5.1 Overburden Monitoring Wells

Monitoring well installation procedures are provided in the FSP. During the advancement of the soil borings intended for installation of monitoring wells, a CAMP was implemented as described in Section 2.3.3. Continuous sampling, logging, and field screening of the soil at the bedrock boring location was conducted consistent with the procedures described in Section 2.3.3. Per the RI Work Plans at each well location, soil samples were collected from the approximate mid-point of the planned screened interval and submitted for laboratory analyses. The sample analyses and sample methods used are as described above in Sections 2.3.3 and 2.3.4 and the analytical results for the collected samples are discussed in Section 3.6.3.

At each of the completed overburden well couplet locations (MW-1 through MW-8), the initial boring was advanced to bedrock (approximately 30 to 40 feet bgs) and a deep monitoring well was installed with the screened interval positioned near the top of bedrock surface. Adjacent to each deep well, a shallow monitoring well was installed with the screen installed at a depth interval which straddles the water table. Additionally, two other shallow wells (MW-9 and MW-10) were installed at locations where well couplets were not planned. The screens for these locations were also installed at a depth interval that intersects the water table.

The monitoring wells were constructed of two-inch diameter, Schedule 40, polyvinyl chloride (PVC) casing with 0.020-inch slot PVC screens with an appropriately-sized filter pack adjacent to, and extending above the well screen, as described in the FSP. At well locations where DNAPL was encountered in the soil, a sump was installed below the well screen, as described in the FSP. In instances where sumps were installed, the annular space between the sump and formation was

filled with bentonite. If feasible, 2-foot long sumps were installed. At some locations, however, a shorter sump (1-foot) was required based on the subsurface deposits directly below the screen.

After a minimum period of 24 hours had passed following well installation (to allow for the cement/bentonite grout above the filter pack to set), each monitoring well was developed. Development was conducted in accordance with procedures in the FSP. During the development process, observations were made to identify the presence of MGP-related or other impacts in the water produced during development (e.g., sheens, NAPL, etc.), if any.

Each overburden monitoring well was surveyed for location coordinates, ground surface elevations, and top of casing elevation data. Horizontal location coordinates were referenced to the State Plane coordinate system for New York using NAD83 in units of feet. Elevations were referenced to the NGVD of 1929 in units of feet. Surveying services were performed by New York licensed surveyors from C.T. Male Associates of Latham, New York.

Overburden well construction logs, including the description of overburden materials at each location, are provided in Appendix D.

2.3.5.2 Bedrock Evaluation and Monitoring Well Installation

During the implementation of the supplemental RI activities, one (1) bedrock monitoring well (MW-3R) was installed at the location shown on Figure 2 to: 1) Determine whether or not NAPL encountered at or near the top of the bedrock surface at nearby soil boring and monitoring well locations had entered the bedrock; and 2) Assess groundwater quality within bedrock to evaluate the vertical extent of dissolved-phase, MGP-related or other constituents in groundwater. The intended purpose as initially proposed in the work plan is provided in Table 1.

During the advancement of the soil boring intended for installation of the bedrock monitoring well, a CAMP was implemented as described in Section 2.3.3. Continuous sampling, logging, and field screening of the soil at the bedrock boring location was conducted consistent with the procedures described in Section 2.3.3. Using 4.25-inch I.D. hollow-stem augers, an eight-inch diameter borehole was initially drilled through the overburden to a depth of approximately two feet into competent bedrock.

A four-inch diameter steel casing was then placed in the borehole, extending from the bottom of the borehole (seated two feet into competent bedrock) to the ground surface. The casing was then grouted in place by filling the annular space between the casing and the borehole, from the bottom of the borehole to a few feet bgs, with a cement/bentonite grout using the tremie method or pressure grouting. The cement/bentonite grout in the annular space will be allowed to set for a minimum period of 12 hours before resuming drilling activities at the borehole location.

After setting the four-inch diameter steel casing into bedrock and a minimum period of 12 hours had passed to allow for the cement/bentonite grout to set, bedrock drilling was continued using a nominal 4-inch diameter (HQ) coring bit and barrel. Rock core samples were collected in five-foot intervals, to a depth of approximately 17 feet below the top of bedrock surface (approximately 56.5 feet bgs). Core samples were described in the field to characterize: recovery in inches; rock quality designation (RQD) value; rock type; bedding thicknesses; texture; sedimentary structures/features; fracture type, orientation and spacing; structural features in addition to fractures (e.g., cleavage, veins, etc.); and other descriptors used to identify the composition of the bedrock per the FSP. RQD was measured in accordance with American Society for Testing and Materials (ASTM) Standard D6032-08 and recorded for each five-foot interval as an indicator of

bedrock competency. The cores were field screened for indications of MGP-related, or other impacts based on appearance, odor, and organic vapor concentrations using a PID. Additionally, the drilling return water was visually monitored during coring for potential indications of MGP-related or other impacts.

Packer pressure testing was conducted at five-foot intervals following each core run to evaluate changes in hydraulic conductivity versus depth and identify potential water-bearing zones in the bedrock (see Appendix E for test results). Packer pressure testing was conducted in accordance with the procedures specified in the FSP using a single-packer assembly. During packer pressure testing, if the volume of water injected into the tested interval exceeded approximately five gallons over a period of five minutes, the test was terminated as to limit the volume of water introduced into the formation. Estimates of hydraulic conductivity from packer pressure tests were made in accordance with the approach described in US Bureau of Reclamation, (1990), Earth Manual, Method No. USBR 7310-89.

In addition to the core examination and packer pressure testing conducted in the corehole for MW-3R, borehole geophysical logging was performed to further evaluate the bedrock conditions and the vertical position of the water-bearing zone(s) encountered during the drilling process. Specific geophysical parameters that were recorded during the logging included natural gamma, fluid temperature, fluid resistivity, spontaneous potential, single-point resistance, and caliper (borehole diameter). The geophysical log for MW-3R is provided in Appendix F.

Information obtained from the bedrock core, packer pressure test results, and borehole geophysical logging was used as the basis for selecting the screen interval, which targeted the shallowest potential water-bearing zone identified in bedrock at MW-3R.

A two-inch diameter screen and riser casing was installed inside the four-inch steel casing and nominally four-inch borehole. The well was constructed of two-inch diameter, Schedule 40 PVC casing with 0.020-inch slot PVC screens with an appropriately-sized filter pack. After a minimum period of 24 hours had passed following well installation to allow for the cement/bentonite grout to set, the well was developed. Well development will be conducted in accordance with procedures in the FSP. During the development process, observations were made to identify the presence of MGP-related or other impacts in the purge water (e.g., sheens, NAPL, odors, etc.).

The bedrock monitoring well was surveyed for location coordinates, ground surface elevations, and top of casing elevation data. Horizontal location coordinates were referenced to the State Plane coordinate system for New York using NAD83 in units of feet. Elevations were referenced to the NGVD of 1929 in units of feet. Surveying services were performed by New York licensed surveyors from C.T. Male Associates of Latham, New York.

2.3.6 Slug Tests

In-situ hydraulic conductivity tests, i.e., slug tests, were performed on each monitoring well to evaluate the horizontal hydraulic conductivity of the adjacent formation. Rising head slug tests were conducted in accordance with the procedures described in the FSP, and the data generated were input into AQTESOLV® software for hydraulic conductivity calculations. The Hvorslev (1951) method was used to estimate horizontal hydraulic conductivity (K_h). The slug test analyses are provided in Appendix G. Table 3 summarizes the K_h estimates from the slug tests and the results are discussed in Section 3.2.

2.3.7 Water Level Monitoring and NAPL Gauging

Multiple rounds of depth to water measurements and NAPL gauging were conducted on the monitoring wells during the various phases of RI field work. These measurements were made on all available monitoring wells prior to each round of groundwater sampling, as described in Section 2.3.9 and prior to initiation and completion of the continuous water level monitoring activities, as described in Section 2.3.11. The water level data from these measurements made during the RI are provided in Table 4.

NAPL gauging was conducted after the water level measurements were made. The water level measurements and gauging activities were performed using an oil/water interface probe. Where the presence of NAPL was indicated by the probe, efforts were made to confirm its presence. These efforts included inspecting the interface probe for signs of NAPL, and/or lowering a translucent bailer or threaded rod into the well and inspecting them for indications of NAPL.

2.3.8 NAPL Recovery Evaluation

NAPL gauging activities conducted at overburden monitoring well locations MW-3S and MW-3D indicated the presence of NAPL in these wells. A single NAPL gauging and removal event was performed to asses NAPL accumulation rates and evaluate the recoverability of NAPL in these wells. The NAPL gauging and removal activities were conducted on August 1 and 2, 2018. During the gauging process, no NAPL was observed in MW-3S and approximately 1.26 feet of NAPL was measured at MW-3D. The accumulated NAPL in MW-3D was evacuated using a disposable submersible pump. The evacuated contents generated during the removal activities were containerized in a 55-gallon drum. Approximately 12 hours following the NAPL removal efforts at MW-3D, the depth to NAPL was measured and recorded to assess NAPL accumulation rates. An immeasurable amount of NAPL was detected in MW-3D and thus, a NAPL accumulation rate could not be determined. The accumulation of NAPL in MW-3D will continue to be monitored and future removal events may be planned in the event that the depth to the NAPL extends above the top of the sump at MW-3D.

2.3.9 Groundwater Sampling and Analysis

Four rounds of groundwater sampling were conducted on available monitoring wells throughout the two phases of RI activities. The groundwater sampling rounds were conducted during the following periods:

- June 11 - 12, 2015;
- September 21 – 23, 2015;
- February 28 – March 2, 2017; and
- June 27 – 29, 2017.

Samples were collected, handled, and analyzed in accordance with procedures and methods described in the FSP and the QAPP. Low-flow purging and sampling techniques were used in accordance with USEPA protocol entitled “Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures” (USEPA, April 1996). If NAPL was observed in the well, samples were not submitted for laboratory analyses. Samples were submitted to a laboratory and analyzed for: TCL VOCs, TCL SVOCs, TCL pesticides, PCBs, TAL metals, and total cyanide. Samples collected during the 2017 investigation were not analyzed for PCBs or TAL metals as sufficient data had been collected during the 2015 RI field work to demonstrate that PCBs and metals concentrations were not a concern at the Site. The groundwater samples were also analyzed in the field for pH, specific conductivity, oxidation-reduction potential (ORP), temperature, turbidity, and dissolved oxygen (see Appendix H for

field data sheets containing the results of these field analyses). Laboratory analyses were conducted using the following USEPA SW-845 Methods:

- **VOCs** – 8260C;
- **SVOCS** – 8270D;
- **Pesticides** – 8081B;
- **PCBs** – 8082A;
- **Metals** – 6010C;
- **Mercury** – 7471B; and
- **Total Cyanide** – 9012B.

In addition to the samples described above, during each sampling round, QA/QC samples were collected and analyzed in accordance with the QAPP and the FSP. The QA/QC samples included: trip blanks (one per cooler containing samples for VOC analysis), field duplicates (one per 20 samples), and equipment blanks (one per 20 samples). Also, extra sample volume was collected for some samples (one per 20 samples) to provide for matrix spike/matrix spike duplicate (MS/MSD) analysis. The trip blanks were analyzed for VOCs only, as appropriate. The other QA/QC samples were analyzed for all the parameters being analyzed for at the laboratory for the particular sampling round. The sample analyses were conducted by TestAmerica Laboratories, Inc. of Buffalo, New York, a laboratory certified under the NYSDOH ELAP to provide ASP/CLP deliverables (NYSDOH ELAP Number 10026).

Results of the groundwater sample analyses for the above listed sampling rounds are discussed in Section 3.7, while the complete laboratory reports are included on the optical disc in Appendix I.

2.3.10 Data Validation – Soil and Groundwater Samples Analyses

Laboratory results for the soil and groundwater samples collected during each phase of RI field work were forwarded to a data validator for the preparation of Data Usability Summary Reports (DUSRs). Data Validation Services of North Creek, New York provided data validation services for the 2015 RI samples and Meridian Consultant Group, Inc., of Annapolis, Maryland provided data validation services for the 2017 RI samples. The DUSRs present a summary of data usability, including a discussion of qualified data. The DUSRs associated with the soil and groundwater samples collected during the RI are provided in Appendix J.

Following receipt of the validated data from each phase of RI work, the validated data was incorporated into a comprehensive analytical database for the project. These data were then formatted to the NYSDEC's environmental data submission requirements that are detailed on the NYSDEC's website (http://www.dec.ny.gov/chemical/62440.html). This included: 1) populating the NYSDEC Electronic Data Deliverable (EDD) with the analytical data; 2) validating the EDD using the database software application EQuIS™ from EarthSoft®, Inc.; and 3) submitting the validated EDD to the NYSDEC. An EDD that contains the comprehensive data set is provided in Appendix K.

2.3.11 Continuous water Level Monitoring

Continuous monitoring of water levels in the Hudson River, and the installed overburden monitoring wells located on the Site was conducted during the period June 25 to July 2, 2015 to assess the degree of interaction between groundwater and surface water and to provide data for evaluating the hydrogeologic characteristics and groundwater flow in the overburden.

The continuous monitoring was accomplished using In-Situ Level TROLLS® installed in overburden monitoring wells located across the Site and in a staff gauge (equipped with a PVC stilling tube) that was installed in the Hudson River. The In-Situ Level TROLL® consists of a pressure transducer to

measure water levels and an automatic data logger to record the measurements at set time interval. The Level TROLLS® were configured to record water levels every 15 minutes during the monitoring period, after which they were removed, and the data was uploaded to an Excel spreadsheet for evaluation and preparation of hydrographs. Manual water level measurements were made in the wells and staff gauge equipped with Level TROLLS® at the beginning and end of the monitoring period. A summary of the manual water level data is provided in Table 4.

In addition to the water level data, hourly barometric pressure data and precipitation data for this period were obtained from the National Oceanic and Atmospheric Administration (NOAA) meteorological measurement station located at Albany International Airport. This station is located approximately 6 miles from the Site, and thus, the data are considered generally representative of atmospheric conditions at the Site.

The results of the continuous monitoring are discussed in Section 3.2.2.

2.4 Soil Vapor Evaluation

A soil vapor evaluation was implemented during the RI to evaluate the possibility of soil vapor impacts from the former MGP or other Site activities (e.g., asphalt operations) previously located on or adjacent to the property.

Descriptions of the methods and procedures used during the soil vapor field activities are provided in the subsections below.

2.4.1 Soil Vapor Probe Installation

As part of the evaluation, six soil vapor probes were installed at the positions shown on Figure 2 on November 1, 2017 by Nothnagle Drilling, Inc. of Scottsville, New York with oversight provided by BC personnel. Installation of the soil vapor probes included advancing a Geoprobe® implant Anchor/Drive Point (PR 14) to a desired depth using a Geoprobe® direct-push rig. The soil vapor probes consisted of six-inch long stainless-steel screens attached to ¼ inch diameter food grade fluoropolymer tubing. The screens were placed at a depth comparable to the depth of foundation footings (approximately 6 to 8 feet bgs). Filter pack material (appropriately sized glass beads) was placed in the annular space surrounding the soil vapor implant to a depth above the top of the stainless-steel screen. A bentonite seal was then placed in the annulus above the filter pack material. A flush-mounted protective surface cover set into concrete was then placed over the probe.

Each soil vapor probe was surveyed for location coordinates and ground surface elevations. Horizontal location coordinates were referenced to the State Plane coordinate system for New York using NAD83 in units of feet. Elevations were referenced to the NGVD of 1929 in units of feet. Surveying services were performed by New York licensed surveyors from C.T. Male Associates of Latham, New York.

2.4.2 Soil Vapor and Outdoor Air Sampling

A single round of soil vapor and outdoor (ambient) air sampling was conducted on November 14, 2017. Soil vapor and ambient air samples were collected using 6-liter Summa® passivated stainless-steel canisters by BC personnel. The Summa® canisters were batch certified as clean by the laboratory. Flow controllers were provided by the laboratory and were pre-calibrated for the desired flow rate (e.g., approximately 0.2 liters per minute for the soil vapor samples) or for the duration of sample collection (e.g., approximately eight hours for the ambient air samples). Samples were collected in accordance with procedures described in the NYSDOH-approved appendices from the draft document titled “Standard Operating Procedures for Soil Vapor Intrusion Evaluations at

National Grid MGP Sites in New York State" (O'Brien & Gere, September 2007); these procedures were developed consistent with the NYSDOH's "Guidance for Evaluating Vapor Intrusion in New York State" (NYSDOH, October 2006). Prior to collecting a sample of soil vapor from each location, a helium tracer test was conducted to evaluate the integrity of the soil vapor probe seal and to assess the potential for introduction of ambient air into the soil vapor sample. The tracer gas evaluation was also performed in accordance with the above-referenced procedures. Following completion of the helium tracer test at each location, one to three volumes of air within the probe and tubing were purged using a vacuum pump. The tubing was then connected to a Summa® passivated stainless-steel canister, fitted with a flow controller as described above, to collect the soil vapor sample. Just prior to sampling, the upwind direction was determined, and an upwind outdoor air sample location was selected. Other outdoor air sample locations were positioned across the Site. The locations of the outdoor air sample locations (AA-1 through AA-3) are shown on Figure 2.

Throughout the course of the sampling event, applicable field data were recorded on field sampling forms including weather conditions, initial and final vacuum pressures for the Summa® canisters, purge rates and volumes, the time of the beginning and end of sample collection, and the results of the tracer gas evaluation.

2.4.3 Sampling Analysis and Data Validation

Soil vapor and outdoor air samples were analyzed using the USEPA Method TO-15, including alkanes and tentatively identified compounds (TICs). A QA/QC sample was also collected, which consisted of a duplicate sample for soil vapor. The duplicate sample was collected using a split T-connection in the sample tubing. The sample analyses were conducted by TestAmerica Laboratories of Knoxville, Tennessee. TestAmerica Laboratories is certified under the NYSDOH ELAP to provide ASP/CLP deliverables (NYSDOH ELAP Number 10781). As agreed to by National Grid, preliminary (non-validated) analytical data for the soil vapor and outdoor sampling were forwarded to the NYSDOH and the NYSDEC in an e-mail from BC dated November 30, 2017 within 48 hours of receiving them from the laboratory. The results for the samples were forwarded to a data validator for the preparation of a DUSR. Following receipt of the DUSR, the validated data was forwarded to the property owner in a letter dated February 20, 2018; as agreed to with NYSDOH, this information was provided to the property owner within 30 days of receipt of the DUSR by National Grid.

The soil vapor results are discussed in Section 3.8.2. The laboratory reports for these data are included on the optical disc in Appendix I and the DUSR associated with the soil vapor and outdoor air sampling activities are included as Appendix J.

Section 3

Remedial Investigation Findings

Findings resulting from the implementation of the RI scope of work are discussed below.

3.1 Geologic Setting

Unconsolidated overburden deposits that are variable in nature overlie bedrock at the Site. Based on the data collected during the RI field investigations, the characteristics of the bedrock and overburden deposits are described below.

3.1.1 Bedrock

Provided below is a discussion of regional bedrock conditions in the general vicinity of the Site, followed by a discussion of site-specific observations related to bedrock conditions.

3.1.1.1 Regional Bedrock Conditions

The bedrock beneath the Site is composed predominantly of gray to black shale with some siltstone and minor amounts of sandstone occurring as lenses or blocks in a shale matrix (see photo below). The shale has a pervasive, closely-spaced cleavage. Regional studies suggest that the Ordovician-aged rock found beneath the Site was originally deposited in a marine basin as bedded mud and sand deposits derived from the basin margins. The basin is interpreted to have formed as a foreland basin westward of the ancestral Taconic Mountains as they were being uplifted and displaced (Lim, *et al.*, 2005. Rowley and Kidd, 1981). After deep burial, the mud and sand eventually lithified into shale and sandstone. The type of sandstone encountered is typically classified specifically as a greywacke, a term used to indicate that the sandstone contains a substantial component (≥15%) of finer-grained material (e.g., clay and silts) and/or a substantial component of feldspar or lithic fragments in addition to quartz grains. The shales and greywackes were subsequently deformed as the development of the Taconic Mountains continued and progressed westward.



<u>Cohoes Mélange Outcrop:</u> Shale with pervasive, closely-spaced cleavage and no visible bedding. Sandstone block is part of a disrupted sandstone bed. Photo location is approximately 5 miles northeast of the Troy Site in the City of Cohoes

The Site lies approximately one mile west of the north-northeast trending map trace of the Taconic Frontal Thrust (TFT), a basal thrust fault located beneath the Taconic allochthon east of the Site. The Taconic allochthon is mass of rocks, referred to as a thrust sheet, that was displaced from east to west, riding over rocks that were west of where the rocks of the Taconic allochthon were originally deposited prior to their displacement. The current trace of the TFT, which separates the Taconic allochthon from the underlying rocks, is positioned east of, and approximately parallel to the Hudson River. Immediately to the west of and underlying the TFT are parallel north-south oriented zones of highly sheared rocks. This shearing of these rocks is evidenced by their pervasive cleavage, disrupted bedding, folds, faults, and fractures. These zones of sheared and disrupted rocks are considered a type of lithotectonic unit referred to as a "mélange". The Site is within the area where mélange zones have been mapped. Specifically, the bedrock beneath the Site has been included in the lithotectonic unit referred to as the Troy Frontal Zone of the Cohoes Mélange (CMTFZ), which is positioned directly adjacent to and west of the TFT. According to the regional mapping, the contact of another lithotectonic unit of the mélange, referred to as the Waterford Flysch Zone of the Cohoes Mélange (CMWFZ) is located west of the Site and west of the Hudson River. Both the CMTFZ and CMWFZ are primarily composed of highly cleaved and deformed shale with blocks or lenses of more coherent lithologies surrounded by the shale matrix. The blocks and lenses in the CMTFZ typically consist of greywacke, chert, slates, argillites, and carbonate conglomerates; while those in the CMWFZ consist primarily of greywacke (Kidd, *et al.*, 1995).

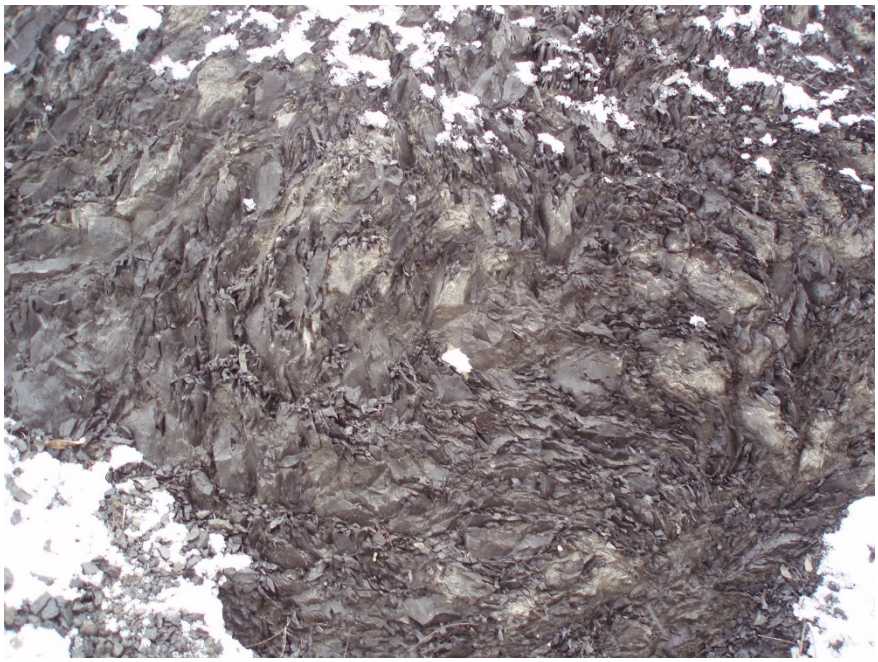
The mélange zones are believed to consist of broad shear zones bounded by relatively low-angle, eastward dipping thrust faults (Kidd, *et al.*, 1995), which formed beneath the more coherent thrust sheet of the Taconic Allocthon as it was displaced westward (see photo below of apparent thrust fault within the Cohoes Mélange).



Outcrop of the Cohoes Mélange located approximately 5 miles northeast of the Troy Site. Apparent thrust fault trace observed in outcrop (position of fault indicated by arrows).

3.1.1.2 Site Bedrock Conditions

Based on observations of bedrock core samples collected during the RI, the bedrock immediately underlying the Site can generally be described as gray to black weathered shale with pervasive, closely-spaced scaly and planar cleavage surfaces. Visual observations documented during the core logging process and from examination of nearby outcrops of the bedrock (see photo below) adjacent to the Site indicate that the bedrock has undergone a substantial degree of deformation (e.g., folded cleavage surfaces, slickenlines, etc.). The observations from the core samples are consistent with the understanding of the above-described regional geologic setting, wherein the Site and adjacent areas lie within an approximately 10-kilometer-wide, north-south oriented zone of Ordovician-aged rock of the Cohoes Mélange (Kidd, et al., 1995), in which the bedrock is of similar composition and structure to that described above.



Tightly folded cleavage surfaces observed in outcrop immediately northeast of the Site, adjacent to railroad.

Continuous bedrock core samples were collected from the borehole intended for installation of bedrock monitoring well MW-3R. Core samples were collected from the interval 41.5 to 56.5 feet bgs to assess the competency, composition, and other characteristics of the bedrock. Based on the core samples, the bedrock encountered at MW-3R can be described as a "dark gray, moderately to severely weathered, highly fractured and highly deformed shale". Fracture orientation ranged from near-horizontal to near-vertical. RQD values calculated from the core samples ranged from 15 to 41%, which indicates that the competency of the bedrock encountered at MW-3R is considered poor. The surface of the bedrock underlying the Site is somewhat irregular as depicted on the top of bedrock surface contour map (see Figure 3). Bedrock surface elevations across the Site range from approximately 0 feet NGVD (adjacent to Water Street) to approximately -14 feet NGVD (at bedrock monitoring well location MW-3R). A local low area is apparent in the bedrock surface beneath the Site, generally located under and west of the location of the former tank T-27.

3.1.2 Overburden Deposits

The type and configuration of the overburden deposits beneath the Site are illustrated on the geologic cross-sections (Figures 4 through 7). The overburden materials are described below.

3.1.2.1 Sand and Gravel

In the western part of the Site, where the bedrock surface is deeper, the bedrock is overlain by a sand and gravel deposit comprised of coarse-grained sand, gravel, and cobbles. Locally, it contains finer sands, silt and clay, but is predominantly coarser-grained. This unit overlies the bedrock throughout most of the Site and is thickest in the western portion of the Site, progressively thinner toward the east, and eventually ends beneath the Site (see cross-sections B-B' and D-D' on Figures 5 and 7). The sand and gravel deposits extend to the north and west beyond the limits of the RI activities, and are likely continuous with deposits associated with the Hudson River.

3.1.2.2 Sand, Silt, and Clay

Deposits of sand and silt, or silt and clay are located above the sand and gravel deposits or where the sand and gravel deposit is absent, directly above bedrock. These deposits of primarily sand and silt with a minor component of organic matter (e.g., roots, wood) or deposits comprised predominantly of silt and clay and containing minor components sand and organic matter. These deposits are generally 5 to 10 feet in thickness across the Site, however, along the eastern portion of the Site, only a thin veneer of these deposit overly the bedrock surface. Locally, these deposits are not present beneath the Site.

3.1.2.3 Fill

The uppermost unconsolidated material underlying the Site is anthropogenic fill and is composed of various materials including sand, gravel, coal, cinders, ash, and demolition debris (e.g., brick and concrete). Finer-grained material (silt and clay), where present in the fill, is typically not the predominant component. Also, there are localized occurrences of organic matter consisting of dried grass, roots, and wood debris within the fill. The fill varies in thickness across the Site ranging from approximately 17 to 30 feet.

Of note, the lateral and vertical variations in the nature and distribution of the overburden deposits, may be due to in part, to the apparent re-configuration of shoreline, as indicated by historic maps (i.e., Map of the Vicinity of Albany and Troy [1851, J.C. Sidney] and Map of the City of Troy, West Troy, and Green Island [1869, W. Barton]). These maps are included in Appendix A and in the Phase IA Cultural Resources Investigation Report provided in Appendix C.

3.2 Hydrostratigraphy and Groundwater Flow

A hydrostratigraphic zone is defined as a layer or interval of unconsolidated deposits (soil) or rock that exhibits similar hydrogeologic properties throughout the area over which it has been identified. A water-bearing zone is a relatively permeable hydrostratigraphic zone that is interconnected on a sufficient scale (e.g., approximately site-wide) such that lateral groundwater flow, and stress on the groundwater system (e.g., drawdown due to water withdrawal) can be transmitted through the zone. Although local variations in the degree of interconnection of the zone may be large, the zone will have consistent properties on a larger scale. Similarly, an aquitard is a hydrostratigraphic zone composed of a layer or interval of unconsolidated deposits or rock that is relatively low in permeability.

The water-bearing zones identified in the overburden and bedrock in the vicinity of the Site are described below.

3.2.1 Identification of Water-Bearing Zones

Overburden

The water table is encountered in the fill, generally in depth from approximately 18 to 24 feet bgs, as illustrated in cross-sections provided as Figures 4 through 7. The saturated thickness of the overburden deposits is typically approximately 15 to 16 feet.

A summary of the estimated K_h values from in-situ hydraulic conductivity testing (slug tests) conducted on all monitoring wells is provided in Table 3. The saturated materials adjacent to the screens for the overburden wells are composed of a variety of subsurface deposits including: 1) fill; 2) fill and sand and silt; 3) fill and silt and clay/clay and silt; 4) sand and gravel; and 5) sand and silt. The K_h estimates for the sand and gravel deposits range from 1.3×10^{-3} to 3.8×10^{-2} cm/sec with a geometric mean of 6.8×10^{-3} cm/sec. The range of K_h estimates for the fill deposits (1.3×10^{-4} to

1.4 x 10^{-2} cm/sec) overlap with those of the sand and gravel deposits, but are generally somewhat lower, a geometric mean of 1.5 x 10^{-3} cm/sec. The greatest hydraulic conductivities were measured in wells screened primarily in the sand and gravel deposits, which have an estimated K_h value range of 1.3 x 10^{-3} to 3.8 x 10^{-2} cm/sec with an overall geometric mean of 6.8 x 10^{-3} cm/sec. The range of K_h estimates (1.3 x 10^{-4} to 1.4 x 10^{-2} cm/sec) from wells screened primarily in fill deposits (MW-5S, MW-6S, MW-8S, MW-8D, MW-10) overlap with those of the sand and gravel deposits, but are generally somewhat lower, with an overall geometric mean of 1.5 x 10^{-3} cm/sec.

Water level data from several locations with both a well screened across or near the water table monitoring well and a well screened deeper in the overburden, at or near the top of bedrock indicate a relatively steep downward vertical hydraulic gradient (see groundwater elevation data in Table 4). This indicates that the screened intervals for the shallow and deep overburden wells intersect separate hydrostratigraphic units. Results from the continuous water level monitoring (see Section 3.2.2) activities validate this conclusion. However, this is not the case for wells MW-1S-REP and MW-1D, where groundwater elevations in the shallower (MW-1S-REP) and the deeper (MW-1D) wells are essentially equal; this is because there is little vertical separation between the base of the well screen at MW-1S-REP and the top of the well screen at MW-1D and that both are screened in the fill, with no semi-confining layer between the well screens.

Bedrock

As described in Section 3.1.1.2, the bedrock in the vicinity of the Site is composed of highly deformed gray to black shale and minor siltstone with pervasive, closely-spaced cleavage, and is part of a lithotectonic unit referred to as the Cohoes Mélange. The rock itself has very low porosity and permeability, and thus groundwater flow is controlled by fractures in the rock.

For the purposes of the RI at the Site, one bedrock monitoring well (MW-3R) was installed at the location shown on Figure 2 to evaluate the vertical extent of dissolved-phase MGP-related constituents in groundwater at the Site. Multiple field techniques were used to assess the hydrostratigraphy of the bedrock and to identify the shallowest water-bearing zone in bedrock. These techniques included: 1) characterization of rock cores (Rock core descriptions are provided in Appendix D); 2) packer pressure testing to assess variation in hydraulic conductivity versus depth and thus identify potential water-bearing zones in the rock in which to screen the monitoring well (Packer pressure test data are provided in Appendix E); and 3) borehole geophysical logging to identify potential water-bearing zones by locating fracture zones where groundwater may be entering or exiting a borehole, thus supplementing the information from the coring and packer pressure testing (the borehole geophysical log for MW-3R is provided in Appendix F). During the supplemental RI activities conducted in 2017, the vertical interval of bedrock from approximately 0 to 17 feet below the top of rock surface, was evaluated at MW-3R using the above described techniques.

Using data obtained from these techniques an apparent water-bearing fracture zone was identified, and a monitoring well was set with a screen intersecting this water-bearing fracture zone. Installation of the well facilitated additional assessment of the upper bedrock through slug testing, continuous water level monitoring, NAPL gauging, and collection and analysis of groundwater samples.

The slug test performed on MW-3R, screened in the shallow bedrock, yielded an estimated K_h value of 8.9 x 10^{-4} cm/sec (Table 3). This estimated K_h value is one order of magnitude lower than the geometric mean for the overburden monitoring wells.

Groundwater elevation data from the bedrock monitoring well MW-3R as compared to groundwater elevation data from the deeper overburden deposits at this location (i.e., data from MW-3D) potentially indicate a slight downward component of flow from the sand and gravel to the shallow

bedrock (see Table 4); however, this is uncertain since the effect of tidal cycles in the river on bedrock water levels has not been assessed in bedrock well MW-3R.

3.2.2 Continuous Water Level Monitoring

As discussed in Section 2.3.11, continuous monitoring of water levels in the Hudson River and overburden monitoring wells located on the Site was conducted during the period from June 25 to July 2, 2015 to assess the degree of interaction between groundwater and surface water, evaluate the hydrogeologic characteristics and groundwater flow in the overburden deposits, and the potential for the river to serve as a discharge area for groundwater from the Site. Figures 8 through 10B present the data collected during this monitoring period.

During the monitoring period (June 25 to July 02, 2015), a total of approximately 1.3 inches of rain fell in several minor precipitation events; decreases in barometric pressure are seen during these minor precipitation events (see Figure 8), most notably the decrease in barometric pressure late on June 28, 2015 associated with a series of precipitation events spanning from late on June 27 to late on June 28, 2015. As depicted on Figure 7, groundwater elevations in well MW-2S respond to changes in barometric pressure during the monitoring period, with the elevation of the water level in the well increasing as barometric pressure decreased, and vice versa (inverse relationship). Water levels in wells MW-1D, MW-3S, MW-4, and MW-4S show only minor changes in response to changes in barometric pressure.

Figure 9 presents hydrographs of the groundwater elevations in monitoring wells screened across the water table (MW-2S, MW-3S, and MW-4S) for the monitoring period. Precipitation for this period is also depicted on the hydrographs. Review of the data from MW-2S and MW-4S suggests that, in general, increases in groundwater levels are attributable to precipitation; however, this trend is not apparent for water table well MW-3S. Groundwater elevations steadily trend downward (by approximately 2 feet) at this location during the monitoring period. Data collected at MW-3S may not be representative of water table conditions underlying the Site, as groundwater mounding has consistently been observed at this location during the course of the RI. Hydraulic head data associated with MW-3S is further discussed below in Section 3.2.3.

Fluctuations in river level, due to fluctuations in tidal cycles, occurred during the week-long monitoring period. The water level in the Hudson River adjacent to the Site rises and falls over a range of approximately three to five feet approximately every six hours due to the tides. The water level changes in three of the wells monitored (MW-1, MW-2D, MW-3D, and MW-4D) correlate closely with the surface water fluctuations, indicating hydraulic interaction with the river (see Figure 10A). The tidal efficiency, or the ratio of groundwater head change to river tidal level change, was approximated as an indicator of tidal effect for these wells. MW-2D, MW-3D, and MW-4D are screened below the subsurface fill material in the sand and gravel/sand and silt and are located approximately 100 feet east of the Hudson River, have approximate tidal efficiencies of ± 0.18, ± 0.11, and ± 0.09, respectively.

The remainder of the wells equipped with data loggers (MW-1D, MW-2S, MW-3S, MW-4, and MW-4S) exhibited little or no response to river level fluctuations (see Figure 10B). A comparison between the water elevation data from the wells and the river from the staff gauge (see Figures 10A and 10B) illustrates the hydraulic head in the overburden deposits is greater than the river level, thus indicating that groundwater in the overburden discharges to the river. As shown on Figure 10C, the water table is higher in elevation than the head in the deeper overburden deposits, demonstrating a downward vertical hydraulic gradient, and thus indicating a downward vertical component of groundwater flow across a laterally discontinuous semi-confining unit (deposits of fine sand, silt, and clay), to the sand and gravel deposits. The difference in head between the water table and the deeper overburden deposits (i.e., the vertical hydraulic gradient), is relatively high in the inland part

of the Site where continuous water level monitoring data was collected. However, at well couplets closer to the river (MW-6S/D and MW-8S/D), the head in the shallow and deep overburden wells is similar (see Table 4), thereby indicating a much reduced vertical hydraulic gradient and the absence of a semi-confining layer between the shallow and deep overburden in this area (i.e., the shallow and deep overburden intervals constitute a single water-bearing zone in the area of the Site proximal to the river).

3.2.3 Groundwater Flow

The evaluation of groundwater flow is based on the understanding of the hydrostratigraphy at the Site, as described above, and the water level data collected from the wells and staff gauge.

The water table occurs in the fill, generally 18 to 24 feet below ground surface. Figures 11 and 12 illustrate the elevation contours of the water table based on measurements from February 27, 2017 and August 1, 2018 (see Table 4); these represent generally high groundwater conditions, and generally low groundwater conditions, respectively. The water level (hydraulic head) values for the well installed in the deeper overburden (MW-1D, MW-2D, MW-3D, MW-4D, MW-5D, MW-6D, MW-7D, and MW-8D) and the bedrock (MW-3R) are posted on Figures 11 and 12 to assess vertical gradients, but were not used in developing water table elevation contour lines. The water table contours indicate that the overburden groundwater in the vicinity of the Site flows generally east to west towards the Hudson River.

Water table mounding is apparent based on the groundwater levels measured at MW-3S; thus, in addition to the overall westerly flow towards the Hudson River, groundwater flow appears to be locally directed to the north and to the southeast from this area. As groundwater moves away from the area of mounding, it subsequently merges into the westward directed flow toward the river. Review of the continuous water level monitoring data collected at MW-3S (see Figure 8) reveals a steady decrease in water level during the monitoring period, which indicates that groundwater is flowing away from MW-3S. The mounding in the area of MW-3S has been observed on eight separate occasions (see Table 4) and may be attributable to groundwater perched on the existing concrete pad for former tank T-27 flowing off the pad on the west side. The saturated thickness of the overburden deposits is in general, 15 to 16 feet across the Site; however, the saturated thickness of the overburden in the area of MW-3S is approximately 29 to 30 feet. The pattern of groundwater contours in the northern part of the site indicates that groundwater flow converges on the area of the sewer that runs from east to west across the site; this is likely caused by some degree of groundwater discharge to the sewer and/or to the bedding surrounding the sewers where they are positioned below the water table.

As discussed above in Section 3.2.1, water level data from locations with both a water table monitoring well and a deep overburden monitoring well indicate a downward vertical hydraulic gradient (see Table 4). Groundwater elevation data from the bedrock monitoring well MW-3R as compared to groundwater elevation data from the deeper overburden deposits at this location (i.e., data from MW-3D) indicates a slight downward component of flow from the sand and gravel to the shallow bedrock (see Table 4); however, water levels in MW-3R have not been assessed for tidal fluctuation.

3.3 Surficial Tar Deposits

As part of the RI activities, a reconnaissance and demarcation of surface and shoreline tar deposits was completed, as described in Section 2.2.3. The demarcated surface and shoreline tar deposits are shown on Figures 14 and 15. Site surficial tar was generally observed in the northeastern portion of the Site in the vicinity of the former tank T-41. This tank was observed to contain

hardened tar remaining in the structure. When exposed to heat during days exhibiting warmer ambient temperatures, this hardened tar was observed to behave as a semi-solid material and becomes mobile. Shoreline hardened tar deposits were, in general, encountered near the base of the riverbank; however, there were a few occurrences of the shoreline tar observed near the top of the bank.

Based on the findings of the demarcation of surface tar deposits, an IRM work plan was developed and implemented to remove surface tar across the Site from a depth of 0- to 1-foot bgs. During implementation of the IRM, the demarcated areas were horizontally expanded based on field observations. The final extent of the removal of surface tar deposits is presented in the "Interim Remedial Measures Construction Completion Report for Surface Tar Removal; Troy (Water Street) Site – Area 3; Troy, New York" (BC, January 2018). Shoreline tar deposits (as shown on Figures 13 through 15) were not addressed as part of the IRM and will be addressed as part of the overall Site remedy.

3.4 Extent of NAPL/Tar and Purifier Waste

The evaluation of the extent of MGP NAPL/tar and potential purifier waste material was conducted through several means, as described below:

- During the RI activities, 42 soil borings (16 soil borings, 19 borings intended for installation of overburden monitoring wells, one boring intended for the installation of bedrock well location MW-3R, and six soil boring intended for installation of soil vapor probes) were drilled and sampled for descriptive purposes. Of these 42 soil borings, at 26 of them, soil sampling was conducted down to the top of bedrock surface. In addition to soil borings, nine test pits were excavated. Soils from the borings and test pits, in addition to being classified for soil type, were screened for indications of impact via visual and olfactory examination and organic vapor concentrations using a PID. Visible NAPL/tar, if encountered, was described with regard to color, odor, viscosity, consistency, distribution in the sample, and degree of saturation. This information was used to evaluate and delineate NAPL in the subsurface soil, both laterally and vertically. Examination of soils for characteristics indicative of potential purifier waste (e.g., development of blue-green color upon exposure to atmosphere, burnt or sulfur-like odors) was also conducted.
- Bedrock was also sampled for descriptive purposes at one location. In addition to being described to characterize the composition of the bedrock, rock cores were screened for indications of MGP or other impacts, similar to the procedures used for soils.
- NAPL gauging in monitoring wells was conducted on eight occasions (preceding groundwater sampling events and the continuous water level monitoring activities, and two additional occasions) in order to document locations where NAPL has been observed to enter a monitoring well.
- Bailing accumulated NAPL from the well sump at MW-3D was conducted to assess the feasibility of recovering NAPL from this overburden wells location.

Discussed below are the findings with regard to the general distribution of NAPL/tar and potential purifier waste at the Site.

3.4.1 General Findings

The NAPL/tar encountered is typically a DNAPL with a density slightly greater than water. NAPL was observed within the overburden in portions of the area of former MGP operations, with the occurrence of NAPL most prevalent in the areas of west of former Tank T-27 (see Figure 13). NAPL was not observed in the bedrock during coring, drilling or NAPL gauging at bedrock well MW-3R; this

well is screened in the shallow bedrock directly below the deepest NAPL occurrences encountered in the overburden. Refer to the soil boring logs and monitoring well construction logs in Appendix D for a description of the nature and degree of NAPL saturation at individual locations from the RI. Descriptions for the NAPL/tar observations are also summarized in Table 5.

Indications of potential purifier waste material were observed at two locations:

- At approximately 8 feet bgs at test pit TP-4, located west of the former tar products tanks, where pieces of white cemented lime-like material with a blue-green tinge exhibiting slight to moderate sulfur-like odor were encountered; and
- In the interval from approximately 3 to 7.5 feet bgs at test pit TP-5, located adjacent to the northeast portion of former tank T-27, where ash-like material exhibiting a slight to burnt/sulfur-like odor was encountered.

Cyanide, a potential indicator of purifier waste, was not detected in the analytical soil samples collected from these test pits. TP-1, TP-1A, and TP-1B were excavated in an area where surficial purifier waste had been previously observed by the NYSDEC during the 2007 Chevron asphalt plant decommissioning activities. During the RI activities, no observations of potential purifier waste materials were recorded in this area.

More specific descriptions of NAPL occurrence and other findings from visual/olfactory observations, are provided below. In Section 3.5, findings related to the remnants of the former MGP structures are discussed, including NAPL observations potentially associated with these structures.

NAPL was encountered at the within the fill, the silt and clay/clay and silt deposits, the sand and silt deposits, and the sand and gravel deposits. No NAPL was encountered in the bedrock. NAPL was observed primarily beneath the footprint and west of the former tank T-27 location. Assessment of subsurface structures is discussed in detail in Section 3.5.

Figure 13 provides a plan view of locations where visual/olfactory impacts including NAPL/tar and indications of potential purifier waste material have been observed in overburden soil throughout the course of RI field activities. Table 5 provides a description for these observations. The vertical positions of the observations are shown on the geologic cross-sections (Figures 4 through 7).

Most of the NAPL observations exhibited tar-like and mothball-like odors and thus, NAPL at these locations is likely MGP-related. However, some of the NAPL encountered exhibited petroleum-like odors. A review of historic maps and documents indicated that King Fuels operated a bulk petroleum terminal and distribution center on the Troy (Water St.) – Area 2 Site, located immediately north of the Site. The petroleum observations and odors were primarily observed along the northern boundary of the Site directly adjacent to Area 2 (SB-2, SB-5, SB-6, SB-10, SB-14, MW-1S, MW-1D, MW-2S, MW-2D, MW-7S, MW-7D), however, petroleum odors were also observed in the southern portion of the Site at SB-4, MW-9, and MW-10.

In general, the NAPL occurs as viscous, tacky, stringy tar-like material or grain coatings within the overburden materials above the water table from approximately 5 to 17 feet bgs. Less viscous NAPL exhibiting a more oil-like consistency, occurring as blebs and grain coatings, was encountered at depths below the water table. The presence of the NAPL primarily as blebs or grain coatings indicates that the NAPL is likely residual. NAPL below the water table was primarily observed in the western central portion of the Site (SB-11, SB-12, MW-3S, MW-3D, MW-3R, MW-5, and MW-5S). The intervals of NAPL/tar in the overburden are typically less than 3 feet in thickness; however, at borings in and around the former tank T-27 area (SB-12, MW-3D, MW-3R, and MW-5), the NAPL/tar intervals were substantially thicker, with intervals of intermittently-occurring residual NAPL ranging from 5.2 to 15.4 feet (from approximately 17 to 32.4 feet bgs). The top of rock surface at these

locations is approximately 37 to 39 feet bgs and thus, the NAPL/tar observed in this area extends to within approximately 5 feet above the top of rock surface.

Observations of NAPL within two overburden monitoring wells have been documented during NAPL gauging events conducted during the RI activities. The observations include the following:

- Measurable thicknesses of DNAPL have been recorded in MW-3D during several NAPL gauging events. A maximum thickness of approximately 1.26 feet was most recently recorded in August 2018. As discussed in Section 2.3.8, this NAPL was removed from the well during the NAPL recovery evaluation activities (the NAPL level did not immediately recover following removal; monitoring of NAPL recovery at this location is ongoing). MW-3D is located approximately 19 feet west of former tank T-27; and
- NAPL was observed on one occasion (June 30, 2017) coating sediment collected in the bottom of a bailer removed from MW-3S following NAPL gauging. Additionally, abundant sheen has been observed on the surface of the purge water evacuated from the well into a bucket during groundwater sampling activities. MW-3S is located approximately 11 feet west of former tank T-27.

These observations are adjacent to areas where NAPL was identified in subsurface soils. The occurrence of NAPL observed in the monitoring wells are summarized in Table 4. Based on the observations documented during the NAPL recovery evaluation activities conducted at well MW-3D, passive extraction of NAPL would be considered feasible as a potential component of the remedy for the Site.

Bedrock was investigated for the presence of NAPL at one location (MW-3R). This location was selected as soil borings completed in this area indicated the deepest occurrence of NAPL in the overburden to within five feet of the top of bedrock surface (see Figure 6). No NAPL was observed in the collected core samples from 41.5 feet to 56.5 feet bgs (approximately 17 feet below the top of rock surface) at MW-3R. As described in the well construction log for MW-3R (provided in Appendix D) and as illustrated on Figure 6 (Geologic Cross-Section C-C'), a slight sheen was observed on the outside of the core samples and on open fracture faces in the core samples collected from the interval 41.5 to 46.5 feet bgs. This interval is located immediately below the permanent steel casing that was set prior to rock coring at a depth of approximately two feet below the top of rock surface. The sheen observed is likely associated with the potential downward migration of impacts observed in the deep overburden soils during the drilling and installation of the overburden casing at this location.

Based on the findings from the RI activities, the lateral and vertical extents of NAPL/tar encountered at the Site have been defined.

3.5 Historical Structures

Remnants of several historical structures were evaluated during the RI activities including a former tarvia tank/former tank T-41, a former Chevron tank (tank T-27), and the areas where a former flux oil tank and former tar products are shown on historical plant drawings. In an effort to characterize the historical structures, historic drawings and information were reviewed, and soil borings and test pit excavations were completed within and in the vicinity of these structures. The findings associated with the characterization of these structures are discussed below. Test pit and soil boring logs for the investigation locations are provided in Appendix D.

3.5.1 Former Tarvia Tank/Former Tank T-41

Characterization of the former tarvia tank/former tank T-41, located along the eastern edge of the Site was accomplished through advancement of two test pit excavations along the perimeter of the

former tank (TP-3 and TP-5). It is likely that the former tarvia tank as depicted on historical plant drawings, and former tank T-41 are the same. As described in Section 1.5, during the demolition of the Chevron asphalt plant in 2006, tar was observed at the base of the former tank T-41 and GC-FID fingerprint analysis of tar collected from the base of the tank indicated that the tar had compositional characteristics indicative of coal tar; all but the base of this tank was removed in 2006. The remaining portion of the former tarvia tank/former tank T-41 was removed as part of the IRM activities documented in the CCR (BC, January 2018).

During the RI, test pits TP-3 and TP-5 were excavated along the perimeter of the tank (north and south edge). Fill materials (sand, gravel, and brick fragments) were encountered in the subsurface around the tank. From the field observations noted during the excavation, it appears that the slab below the tank extended to approximately two feet bgs.

Semi-solid tar was observed in the existing tank during RI activities was removed, along with the above-grade portions of the tank during the IRM activities (BC, January 2018). In addition to surficial tar observed directly outside of tank, semi-solid, stringy, tacky tar-like material was encountered in the subsurface (in the interval from approximately 0- to 1-foot bgs) approximately nine feet north of the tank, in TP-3. This material was also removed as part of the IRM activities. One soil sample from each of the completed test pits (two samples total) was collected and submitted for laboratory analyses. The results are discussed in Section 3.6.3.

3.5.2 Former Tank T-27

Characterization of the area of former tank T-27, centrally located on the Site, was accomplished through the advancement of three soil borings (SB-4, MW-5, and MW-5S) through the existing concrete slab and one test pit excavation (TP-2) that extended from within the footprint to outside of the existing concrete slab for the former tank.

Fill materials (sand, gravel, and slag/coal) were encountered in the subsurface below the slab. From the field observations noted during the excavation, the existing concrete slab associated with former tank T-27 extends from approximately 0.4 to 1.0 feet bgs.

Based on the soil borings completed within the footprint of former tank T-27, the fill material beneath the tank consisted of sand, gravel, ash, slag/coal and brick fragments with native soils (clay and silt) beginning at a depth of 19 to 23.3 feet bgs. Depth to bedrock beneath the tank is approximately 38 to 39 feet bgs.

Only subtle indications of potential impact (e.g., black discoloration of soils from approximately 2 to 5 feet bgs at TP-2) were observed directly beneath the concrete slab of T-27; however, NAPL was observed in the form of blebs and partially coated grains at the borings for both MW-5 and MW-5S at depths of approximately 19 and 28 feet bgs. A total of 10 soil samples were collected from depths below the slab and submitted for laboratory analyses. The results are discussed in Section 3.6.3.

3.5.3 Area of Former Flux Oil Tank

A single test pit excavation was completed in the area of the former flux oil tank (TP-6). A concrete slab extending from 0.5 to 4.0 feet bgs was encountered on the eastern wall of TP-6. No additional findings indicative of a subsurface structure were observed during the excavation of TP-6; only fill consisting of sand, slag, coal, cinders, clinkers, and brick fragments were encountered.

Hard asphalt/tar-like material was observed in the soils from 0.0 to 4.0 feet bgs at TP-6. A total of two soil samples from TP-6 were collected and submitted for laboratory analyses. The results are described in Section 3.6.3.

3.5.4 Area of Former Tar Products Tanks

A single test pit excavation was completed in the area of the former tar products tanks (TP-7). No findings indicative of a subsurface structure were observed during the excavation of TP-7; only fill consisting of sand, slag, coal, cinders, clinkers, and brick fragments were encountered

No visual or olfactory indications of impact were observed in the soils at TP-7. A total of two soil samples from TP-7 were collected and submitted for laboratory analyses. The results are described in Section 3.6.3.

3.6 Soil Quality

Two general categories of MGP-related impacts to soil are typically: 1) tar, which typically behaves as a DNAPL, and 2) purifier waste. The primary constituents of concern with regard to tar are BTEX compounds and PAHs. Note, however, that BTEX and PAHs are frequently found in soil as a result of operations and activities other than MGP Sites. Purifier waste contains cyanide incorporated into iron cyanide complexes. Accordingly, analyses of BTEX compounds, PAHs, and cyanide are used, in conjunction with other information, in assessing the degree of impact to soil related to MGP operations.

3.6.1 Surface Soil Quality: 0- to 2-inch bgs Interval

For the purposes of evaluating concentrations and areal distribution of potentially MGP-related or other constituents in surface soil, and to assess the potential human exposure to constituents in the surface soil (see Section 4.0), surface soil samples from the 0- to 2-inch bgs depth interval were collected from 12 locations throughout the Site during the RI activities, as described in Section 2.3.1. The sample locations are depicted on Figures 2 and 14. The surface soil samples were analyzed for TCL SVOCs, total cyanide, TCL pesticides, PCBs, and TAL metals.

Analytical results for the surface soil samples were compared to the applicable Subpart 375-6 SCOs (Protection of Groundwater, Protection of Ecological Resources, or Protection of Public Health for industrially zoned properties). The comparison is presented in Table 6. Also, a comparison to these criteria for constituents of concern typically associated with MGP-related impacts (e.g., PAHs and cyanide) is provided on Figure 14. Concentrations shown in bold type on Figure 14 indicate concentrations of one or more PAH compounds are above the applicable criteria. Concentrations of one or more PAHs were detected above applicable Subpart 375-6 SCOs in eight locations (SS-2, SS-5, SS-7, SS-8, SS-9, SS-10, SS-11, and SS-12). Total PAHs were detected at concentrations ranging from a low of 1.2 mg/kg (J qualified) to a high of 7998 mg/kg at location SS-7. Noteworthy is that, in general, the highest total PAH concentrations were observed at locations in close proximity to where surficial or shoreline tar deposits were documented (SS-3, and SS-7 through SS-10). Subsequent to the surface soil sampling, the majority of the identified surface tar was removed as part of an IRM. No other SVOCs were detected above applicable SCOs at any of the sample locations.

Total cyanide was not detected above the applicable SCOs at any sample location (see Figure 11). Low-level concentrations were observed in the collected samples ranging from a low of 0.53 mg/kg (J qualified) to a high of 4.2 mg/kg at SS-5.

Exceedances of the Protection of Ecological Resources SCO for 4,4'- DDT (0.0033 mg/kg) were observed at three locations—SS-7, SS-8, and SS-10—at concentrations 0.024 mg/kg, 0.032 mg/kg, and 0.04 mg/kg, respectively. Of note, the above-listed results are J qualified (i.e., estimated at low levels below reporting limits). These low-level concentrations do not exceed the SCOs for Protection of Public Health (industrial use) or Protection of Groundwater. No other pesticides were detected at concentrations exceeding applicable SCOs.

PCBs were not detected at concentrations above the applicable SCOs at any sample location.

Concentrations of one or more of the following metals exceeded their respective applicable SCOs at each of the 12 collected surface soil samples: arsenic, chromium, copper, lead, manganese, nickel, zinc, and mercury. Of these constituents, chromium, lead, and zinc were most often detected at concentrations above the SCOs. Arsenic was the only metal that exceeded the SCO for industrial use; this exceedance occurred at four of the surface soil sample locations.

Table 6 provides a summary of the surface soil quality results and a comparison to the applicable Part 375 SCOs. The applicable SCOs are identified as described above.

3.6.2 Surface Soil Quality: 0- to 6-inch bgs Interval

For the purposes of providing data for an ecological assessment (i.e., Steps 1 through 2B of a FWRIA, (Section 5)), surface soil samples from the 0- to 6-inch bgs depth interval were collected from 12 locations throughout the Site, as described in Section 2.3.2. The sample locations are depicted on Figures 2 and 15. The 0- to 6-inch surface soil samples were analyzed for TCL SVOCs, total cyanide, TCL pesticides, PCBs, and TAL metals.

The analytical results from the 0- to 6-inch soil samples are provided in Table 6. The measured concentrations in the collected samples were compared to Subpart 375-6 SCOs for Protection of Ecological Resources (SCO-PER). Concentrations were also compared to the Eco-SSLs developed by the USEPA, which are concentrations in soil that are protective of ecological receptors that commonly come into contact and/or consume biota that live in or on soil (USEPA, 2005-2008). The Eco-SSLs are not cleanup values but are intended for use in screening sites for identifying constituents of potential concern. The comparison to the SCO-PER and Eco-SSLs criteria are provided in Table 7. Also, a comparison to these criteria for PAHs and cyanide is provided as Figure 15. Concentrations shown in bold type on Figure 15 indicate concentrations of one or more PAH compounds are above the applicable criteria.

Concentrations of one or more PAHs were detected above the SCO-PER criteria in seven locations (SS-3 and SS-7 through SS-12). Total PAHs were detected at concentrations ranging from a low of 11 mg/kg to a high of 4471 mg/kg at location SS-7. Noteworthy is that, in general, the highest total PAH concentrations were observed at locations in close proximity to where surficial or shoreline tar deposits were documented (SS-3, and SS-7 through SS-10). Subsequent to the surface soil sampling, the majority of the identified surface tar was removed as part of an IRM.

Concentrations of one or more PAH compounds were above the Eco-SSL criterion designated to screen for potential impact to mammals in nine out of the 12 samples collected from the 0- to 6-inch bgs depth interval. In addition, concentrations of one or more PAH compounds in samples SS-7 and SS-8 also exceeded the Eco-SSL criterion designated to screen for potential impact to soil invertebrates.

Low-level concentrations of cyanide were observed in the collected samples ranging from a low of 0.51 mg/kg (J qualified) to a high of 2.8 mg/kg at SS-5. Of note, an SCO-PER criterion or Eco-SSL has not been established for total cyanide.

Exceedances of the SCO-PER criterion for 4,4'- DDT (0.0033 mg/kg) were identified at four locations—SS-1, SS-3, SS-7, and SS-10—at concentrations 0.025 mg/kg, 0.022 mg/kg, 0.022 mg/kg, and 0.051 mg/kg, respectively. Of note, the above-listed results are J qualified (i.e., estimated at low levels below reporting limits). The concentrations of 4,4'- DDT in these samples were also slightly above the Eco-SSL (Mammals) for this constituent of 0.021 mg/kg.

Low-level, J-qualified concentrations of Aroclor 1248 (a PCB mixture) were detected in samples SS-1 and SS-3. No PCBs were detected in any of the other 0- to 6-inch bgs depth interval samples.

Concentrations of one or more of the following metals were detected above their respective SCO-PER criterion at each of the 12 sampling locations: arsenic, copper, chromium, lead, nickel, zinc, and mercury.

The Eco-SSLs (Mammals) were exceeded for one or more of the following metals at each of the 12 sampling locations: cadmium, chromium, copper, lead, nickel, selenium, vanadium, and zinc.

The Eco-SSLs (Soil Invertebrates) were exceeded for one or more of the following metals at 8 out of the 12 sampling locations: barium, copper, lead, manganese, nickel, and zinc.

3.6.3 Subsurface Soil Quality

Throughout the course of the RI field activities, a total of 128 subsurface soil samples from 35 locations were collected and submitted for laboratory analyses. The samples collected in 2015 were analyzed for TCL VOCs, TCL SVOCs, TCL pesticides, PCBs, TAL metals, and total cyanide. Samples collected during the 2017 investigation were not analyzed for PCBs or TAL metals as sufficient data for completion of the RI had been collected during the 2015 RI field work to demonstrate that PCBs and metals concentrations were not a concern at the Site. The soil quality data collected during the RI activities were compared to the following criteria:

- NYSDEC's Remedial Program Soil Cleanup Objectives (SCOs) as set forth in 6 NYCRR Subpart 375-6.
- Subsurface soil cleanup guidance level for total PAHs of 500 mg/kg from Section H of NYSDEC's CP-51/Soil Cleanup Guidance (October 21, 2010). Per CP-51, the NYSDEC may apply this criterion at non-residential (i.e., commercial or industrial) sites where SCOs protective of ecological resources are not applicable.

Table 5 presents the soil quality data from the soil samples analyzed during the RI activities. Additionally, the distribution of BTEX, PAHs and cyanide in subsurface soil is depicted on Figure 16 and is summarized below. If the concentration of one or more constituents exceeded SCOs for Protection of Public Health - Industrial Use, Protection of Ecological Resources, and/or Protection of Groundwater, then the sample location is depicted with a red symbol. Locations where no exceedances were observed are depicted with a green symbol on Figure 16. Additionally, values that are bolded on Figure 16 indicate an exceedance of one or more of the above-referenced SCOs; data cells that are shaded red denote a sample interval where total PAH concentrations are greater than 500 mg/kg; and orange shaded cells represent intervals where concentrations of one or more BTEX and/or PAH compounds are above SCOs for Protection of Public Health – Industrial Use. The vertical distribution of BTEX and PAH concentrations are depicted on Figures 4 through 7 (geologic cross-sections).

Based on the findings from the RI activities, the lateral and vertical extents of MGP-related or other impacts to soils have been adequately characterized for the purposes of the RI.

3.6.3.1 Comparison to Total PAH Subsurface Soil Cleanup Guidance Level

Total PAH concentrations in the soil samples collected during the RI were greater than 500 mg/kg at 11 locations (SB-2, SB-5 through SB-7, SB-9, SB-11, SB-13, MW-2D, MW-3S, MW-3D, and TP-6). In general, these locations fall within areas and depth intervals impacted by NAPL/tar (see Figure 13 and Table 5). For the above-referenced sample locations, total PAH concentrations ranged from a low of 515 mg/kg in the 33.5 to 34-foot sample interval from MW-3D to a high of 27,970 mg/kg in the 13 to 14.5-foot sample interval from SB-2.

3.6.3.2 Comparison to SCOs

Subsurface soil analytical results that exceed applicable SCOs are summarized below.

VOCs

In the RI subsurface soil samples, concentrations of total BTEX ranged from non-detect to a high of 21,200 mg/kg within the 11 to 13-foot interval sample collected from soil boring MW-3S. The distribution of total BTEX in subsurface soils is depicted in Figure 16. Concentrations of one or more BTEX compounds were detected at concentrations greater than applicable SCOs in samples collected at 15 locations (MW-2S, MW-2D, MW-3S, MW-3D, MW-5, MW-5S, MW-6D, MW-8S, MW-8D, SB-2, SB-5, SB-9, SB-11, SB-12, SB-13). In general, the soil borings where BTEX concentrations were reported greater than the SCOs are at locations where NAPL/tar and/or sheen was also observed.

The only other VOC detected at concentrations greater than applicable SCOs was acetone at soil boring locations MW-1S-REP, SB-10, SB-15, SB-16. Acetone is a common laboratory contaminant and is not considered to be Site-related.

SVOCs

PAHs, a category of SVOCs that can be associated with MGP-related impacts, as well as many other potential sources, were detected at concentrations greater than their corresponding SCOs (Protection of Public Health - Industrial Use, Protection of Ecological Resources and/or Protection of Groundwater) in numerous RI soil samples collected across the Site. The distribution of PAHs in soils is depicted on Figure 16. Total PAH concentrations in the RI soil samples ranged from non-detect to 27,970 mg/kg (within the 13 to 14.5-foot interval sample collected from soil boring SB-2). Concentrations of one or more PAH compounds were detected at concentrations greater than applicable SCOs in samples collected at 26 locations (see Figure 16).

Other SVOCs detected at concentrations greater than applicable SCOs included: 2-methylphenol (o-cresol), 4-methyphenol, dibenzofuran, and phenol at soil boring locations MW-3S, SB-2, SB-5, SB-9, SB-11, and SB-13 (see Table 8).

Cyanide

Total cyanide was not detected at concentrations greater than applicable SCOs in any of the subsurface soil samples collected during the RI activities. Concentrations of total cyanide in the RI subsurface soil samples ranged from non-detect to a high of 10.3 mg/kg (within the 7 to 8.6-foot interval sample collected from SB-5). Figure 16 depicts distribution of total cyanide in soil from the RI and SRI activities.

Pesticides

Concentrations of one or more of the following pesticides were detected at concentrations greater than their respective SCO for Protection of Ecological Resources criterion at 13 subsurface soil sample locations completed during the RI activities (MW-3D, SB-2 through SB-4, SB-9 through SB-13, TP-3 and TP-5 through TP-7): 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, delta-hexachlorocyclohexane, dieldrin, and endrin. Of note, all the concentrations except for 4-4'-DDT within the 7 to 7.8-foot interval from soil boring SB-11, are J qualified (i.e., estimated at low levels below reporting limits). These low-level concentrations do not exceed the SCOs for Protection of Public Health (Industrial Use) or Protection of Groundwater. No other pesticides were detected at concentrations exceeding applicable SCOs. Table 8 presents the pesticides results from the soil samples analyzed during the RI activities. The distribution of pesticides in soils is variable, yet the locations where exceedances were observed are generally positioned north of former tank T-41 and west of former tank T-27; this distribution does not indicate an association with MGP impacts.

PCBs

PCBs were not detected at concentrations above the applicable SCOs at any location during the 2015 RI activities. A single low-level concentration (0.14 mg/kg, J-qualified) of Aroclor 1248 was detected in the 5- to 5.8-foot interval sample collected at SB-6. Analyses of PCBs was not conducted during the 2017 RI activities as no potential concerns with PCBs have been identified at this Site in association with MGP-related impacts.

Metals

Concentrations of one or more of the following metals exceeded their respective applicable SCOs at 20 sample locations: arsenic, chromium, copper, lead, manganese, nickel, zinc, and mercury. Of these constituents, chromium and arsenic were most often detected at concentrations above their respective applicable SCOs, with concentrations for these constituents exceeding at 18 sample subsurface soil sampling locations. Concentrations of lead, manganese, and mercury exceeded their respective applicable SCOs at approximately half of the subsurface soil sampling locations. The exceedances of metals in subsurface soils are boxed and bolded on Table 8. Based on the distribution of metals in subsurface soils, no potential concerns with metals have been identified at this Site in association with MGP-related impacts.

3.7 Groundwater Quality

This section discusses the findings of the groundwater quality data collected at the Site. The groundwater samples collected during the 2015 RI activities were analyzed for TCL VOCs, TCL SVOCs, total cyanide, pesticides, PCBs, and TAL metals, while groundwater samples collected during 2017 RI activities were analyzed for TCL VOCs, TCL SVOCs, total cyanide, and pesticides. Results of the analyses were compared to the 6 NYCRR Part 703 groundwater standards for Class GA water (groundwater) or, for constituents with no standard, the corresponding guidance value from Division of Water TOGS 1.1.1; collectively, these are referred to herein as the Class GA criteria. Table 9 presents the groundwater quality data from 2015 and 2017, including a comparison to the Class GA criteria. Concentrations of total BTEX, naphthalene, phenol, and total cyanide in groundwater are presented on Figures 4 through 7 (geologic cross-sections) and Figure 17. On Figure 17, concentrations shown in bold type are above the Class GA criteria and red symbols identify locations where one or more constituents were detected at levels above the Class GA criteria. Green symbols indicate no exceedances of criteria, while the black symbol represents a well where NAPL was detected during the water level measurements and NAPL gauging activities conducted prior to sampling. In accordance with the RI work plans, groundwater samples were not collected from monitoring wells where NAPL was detected. Accordingly, as indicated on Figure 17, samples were not collected from MW-3D during any of the RI sampling events and a sample was not collected from MW-3S during the June 2017 event. Provided below is a summary of overburden and bedrock groundwater quality data.

3.7.1 Overburden Groundwater

Constituents often associated with MGP-related residuals that were detected during RI activities at concentrations greater than the Class GA criteria were BTEX compounds, naphthalene, phenol, and total cyanide. Although they can be derived from a variety of non-MGP sources as well, these constituents are used in this report as indicators for evaluating dissolved-phase impacts in overburden groundwater. The exceedances for these indicator constituents in groundwater are summarized as follows:

- One or more constituents in the BTEX constituent group were detected at concentrations greater than the Class GA criteria in samples collected from six well locations including MW-2S, MW-3S,

MW-5S, MW-5, MW-8S, and MW-8D. Of note, concentrations typically decreased between the initial round of sampling and subsequent rounds, with the concentrations or some constituents decreasing to levels below the Class GA criteria in later sampling rounds. The exceedances occur primarily in two areas:

  - Area of former Tank T-27. Beneath and directly west of the concrete pad for former Tank T-27 (MW-5S, MW-5, and MW-3S), concentrations of some of the BTEX compounds (primarily benzene) exceed the Class GA criteria. These wells were installed in an area where NAPL was observed in subsurface soil. Further, NAPL has been consistently found in well MW-3D, and on one occasion in MW-3S. Downgradient of this area, concentrations of BTEX compounds decrease to non-detect (well couplet MW-6S/MW-6D).
  - Northwest Portion of Site. Elevated concentrations of BTEX compounds were detected in the shallow overburden groundwater at MW-2S, and to a lesser extent at MW-2D, screened in the deeper overburden at the same location. These dissolved-phase concentrations are likely related to the tar-like material with petroleum odors encountered in the saturated zone at this location. Data from the downgradient well couplet MW-8S/MW-8D indicate that concentrations decrease downgradient, with only benzene exceeding the Class GA criteria. Note that the concentrations of BTEX compounds have decreased substantially in this area since the initial round of groundwater sampling.

- Naphthalene and phenol were detected at concentrations greater than their respective Class GA criterion at wells MW-3S, MW-5S, and MW-5. These exceedances are in the same areas as for the BTEX compounds, as described above. As with the BTEX compounds, concentrations typically decreased between the initial round of sampling and subsequent rounds, with the concentrations or some constituents decreasing to levels below the Class GA criteria in later sampling rounds.
- Total cyanide was detected at concentrations greater than its Class GA criterion in the southern part of the Site at wells MW-4S and MW-5S. As discussed in Section 3.6.3, no elevated cyanide concentrations have been detected in the soil on-site that may be a source of the total cyanide concentrations in groundwater.

Based on the RI groundwater quality data, the lateral extents of the above-described constituents in overburden groundwater have been adequately characterized for the purposes of the RI.

Other groundwater analytical results that exceed Class GA criteria are summarized below.

VOCs other than BTEX Compounds

The only other VOC (besides one or more BTEX compounds) that was detected in overburden groundwater at concentrations greater than its respective Class GA criterion during the RI was isopropylbenzene. Concentrations of isopropylbenzene in samples collected from MW-2S, MW-3S, MW-5S, and MW-5 were above the Class GA criterion in one or more sampling rounds. The isopropylbenzene exceedances are located in the same areas as the exceedances of BTEX compounds described above, and likely related to the same sources.

SVOCs

Exceedances of one or more of the low solubility PAHs--benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, and indeno(1,2,3-c,d)pyrene--were measured at MW-2S, MW-3S, MW-4S, and MW-5 (see Table 9). The concentrations of these PAH compounds were low (<1 µg/L) when detected and were not consistently detected in multiple sampling rounds. Since these compounds have very low solubilities, exceedances may be related to suspended particulates or turbidity entrained in the sample. Noteworthy is that the standard for benzo(a)pyrene is “non-detect” and the guidance value for the other four PAHs, 0.002 µg/L, is approximately two orders of

magnitude below the method detection limit. Therefore, any detection of these compounds in groundwater will result in an exceedance.

Other SVOCs that were detected at concentrations greater than their respective Class GA criteria included 2,4-dimethylphenol, 2-methylphenol, and 4-methylphenol. Concentrations of one or more of these constituents were above the Class GA criteria in samples collected from MW-1D, MW-2S, MW-2D, MW-3S, MW-4S, MW-5S, and MW-5. These exceedances are located in the same areas as the exceedances of BTEX compounds described above, and likely related to the same sources.

Pesticides

Concentrations of one or more of the following pesticides compounds exceeded their respective Class GA criteria at MW-1D, MW-2S, MW-3S, MW-4S, MW-5, MW-6S, MW-6D, MW-7S, and MW-8S: aldrin, alpha-hexachlorocyclohexane gamma-hexachlorocyclohexane, heptachlor epoxide and dieldrin (see Table 9). Of note, the majority of the concentrations are J qualified (i.e., estimated at low levels below reporting limits). These pesticide compounds are not associated to potential MGP-related impacts.

PCBs

PCBs were not detected in any of the samples collected during the 2015 RI groundwater sampling events.

Metals

Several metals were detected in groundwater at concentrations above the Class GA criteria (iron, magnesium, manganese, and sodium) in the wells sampled during the 2015 RI activities. Typically, the concentrations of metals at locations impacted by potential MGP-residuals (e.g., MW-2S and MW-3S) are similar to the concentrations in the other locations and thus, the metals are not considered related to MGP impacts. These metals are likely associated with regional conditions in this industrial area, the nature of the fill, and road salting.

3.7.2 Bedrock Groundwater

A bedrock monitoring well, MW-3R, was installed during the RI activities to assess the vertical extent of NAPL and associated dissolved-phase impacts in excess of Class GA criteria previously observed in wells MW-3S and MW-3D where the deepest NAPL occurrences were encountered in the overburden. Benzene was detected at concentrations slightly greater than its Class GA criterion of 1 µg/L in samples collected from MW-3R during both the February and June 2017 monitoring events. No other constituents were detected at concentrations greater than Class GA criteria in the MW-3R samples (see Table 9). For the purposes of the RI, the vertical extent of dissolved-phase groundwater impacts at the Site has been adequately characterized.

3.7.3 Evaluation of Potential Impacts to River from Site Constituents in Groundwater

The conceptual model for groundwater flow and the evaluation of groundwater quality indicate that groundwater impacted by Site-related constituents in the overburden generally flows from east to west and discharges to the Hudson River located adjacent to the Site. Accordingly, a constituent mass flux analysis was conducted to assess the potential for discharge of Site-related constituents dissolved in overburden groundwater to impact water quality in the Hudson River. The details of this analysis are presented in Appendix L. The estimated concentration of benzene in the Hudson River resulting from Site groundwater discharge was calculated using conservative assumptions that bias the estimates toward higher concentration estimates. Benzene is considered a conservative representative of a group of VOCs referred to as the BTEX compounds that typically are found at site with MGP-related impacts. Benzene was evaluated because, of the BTEX compounds, it was

detected at the highest concentrations and the highest frequency in groundwater at the Site, and it has lower water quality standards/guidance values than the other BTEX compounds. The water quality standard for cyanide is relatively low with regard to protection of aquatic life, but these standards assume that cyanide is in the form of free cyanide (i.e., hydrogen cyanide or free cyanide anion) and it has been demonstrated that the cyanide impacts in groundwater associated with MGP sites are low toxicity iron cyanide complexes (Ghosh, *et al.*, 1999; Ghosh, *et al.*, 2004). The estimated concentration of benzene in the Hudson River proximal to the Site during low-flow conditions is 0.000026 µg/L (see Appendix L). This conservatively-estimated concentration (i.e., biased high) was compared to surface water standards and guidance values in the "New York State Ambient Water Quality Standards and Guidance Values" (NYSDEC, June 1998 with Addenda dated April 2000 and June 2004). The estimated concentration is several orders of magnitude below the surface water standards and guidance values for this constituent, including the lowest standard applicable to the portion of the Hudson River proximal to the Site (10 µg/L), which is classified as a Class C surface water. Also, the estimated concentration is below the detection limit for benzene analysis. Thus, based on the understanding of subsurface conditions at the Site, Site-related constituents in overburden groundwater are not expected to impact surface water quality in the Hudson River.

3.8 Soil Vapor Evaluation

3.8.1 Overview

As discussed in Section 2.4, a soil vapor investigation was implemented during the RI to evaluate the possibility of soil vapor impacts from the MGP-related impacts or other Site activities (e.g., asphalt operations) previously located on or adjacent to the property.

Soil vapor and outdoor air samples were analyzed for a list of compounds that includes compounds that can potentially be related to MGP impacts as listed in the NYSDOH guidance document referenced in Section 2.5.2 (NYSDOH, October 2006), as well as numerous compounds that are not associated with MGPs.

3.8.2 Findings

On November 14, 2017, soil vapor and ambient (outdoor) samples were collected at the locations shown on Figure 2 on property owned by the Chevron USA, Inc. (Chevron). A summary of the results from the sampling activities is provided in Table 10. These results were provided to the NYSDEC and the NYSDOH in a letter addressed to Chevron dated February 16, 2018.

Results from the soil vapor samples were compared to typical indoor air concentrations expected for non-residential settings, as provided in the "Guidance for Evaluating Vapor Intrusion in New York State" (NYSDOH, October 2006). As recommended by the NYSDOH, typical indoor air concentrations in non-residential settings are the 90th percentile values from the USEPA Building Assessment and Survey Evaluation (BASE). In addition, detected concentrations from the soil vapor samples were compared to USEPA's Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites, as per the document entitled "OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air" (USEPA, June 2015). Note that there are no buildings currently on the property; however, if soil vapors were to migrate into potential future non-residential buildings, the resulting concentrations in the buildings would be expected to be substantially less than those in the soil vapor due to attenuation (dilution) as vapor migrates from the subsurface into the building. To conservatively estimate the indoor air concentrations that may result if the soil vapor did migrate into a building, an attenuation factor of 0.03 (detected concentrations were diluted by multiplying concentrations by 0.03) was applied to the soil vapor

concentrations prior to the comparison to the screening levels (as recommended in Appendix A of the above-referenced USEPA document). With a single exception, the estimated indoor air concentrations are less than typical indoor air concentrations for non-residential properties (NYSDOH, October 2006) and are also less than the USEPA's RSLs (composite worker air) (USEPA, November 2017), indicating that intrusion of soil vapors are not a concern. The exception does not appear to be related to former MGP operations, as described below:

- At location SV-1 (and the corresponding duplicate sample), the concentration of trichlorofluoromethane (Freon) with the attenuation factor applied was greater than the NYSDOH's typical indoor air concentration values for non-residential properties (note there are no established RSLs for trichlorofluoromethane). Trichlorofluoromethane is a type of refrigerant and is not considered related to former MGP operations.

Based on a review of the data, the NYSDEC and NYSDOH concurred that MGP-related or other soil vapors are not a concern at this Site, and that no further evaluation of the potential for impacts from soil vapor is required at this time.

Section 4

Human Health Exposure Assessment

A qualitative assessment was conducted to evaluate whether complete exposure pathways exist between MGP-related constituents at the Site and potential human receptor populations. This assessment was conducted consistent with NYSDOH guidance provided in Appendix 3B of "DER-10: Technical Guidance for Site Investigation and Remediation" (NYSDEC, May 2010).

A complete exposure pathway requires the following components:

- A source of the constituents.
- A mechanism for the release of the constituents to the media in the environment and, in some cases, a mechanism for transfer of constituents from one medium to another and/or for transport of the constituents to a potential exposure point.
- A point of potential contact by receptors (humans) to media containing the constituents.
- A receptor population.
- A route of exposure for the constituents at the exposure point to the potential receptor.

This evaluation was based on available data and information for the Site and an understanding of current and foreseeable future land uses at the Site.

Pathways identified through this assessment are potential exposure pathways, i.e., identification of a potential pathway does not imply that the exposures are actually occurring, but that the potential for exposure exists. Further, the identification of a potentially complete exposure pathway is not an indicator of impact to the receptor in and of itself; the potential for impact to the receptor depends on the degree and duration of the exposure. The results of this human health exposure assessment will be used, in conjunction with other information and data, to evaluate remedial alternatives for Site-related impacts.

4.1 Current and Future Site Use

The Site property consists of a sparsely vegetated vacant lot. There is currently no planned future use of the property, but based on surrounding land uses, the lot could potentially be used for commercial or industrial purposes.

4.2 Source of Impacts and Fate & Transport of Site-Related Constituents

As described in previous sections of the report, various media at the Site were impacted as a result the release of MGP-related by-products. These impacts are discussed below.

- The NAPL/tar encountered is typically a DNAPL with a density slightly greater than water. NAPL was locally observed within the overburden deposits, with the occurrence of NAPL most prevalent in the areas west of former Tank T-27. NAPL was not observed in the bedrock.
- Indications of potential purifier waste material were observed at approximately 8 feet bgs at test pit location TP-4 (pieces of white cemented lime-like material with a blue-green tinge exhibiting

slight to moderate sulfur-like odor) and in the interval from approximately 3 to 7.5 feet bgs at test pit location TP-5 (ash-like material exhibiting slight to burnt/sulfur-like odor). Cyanide was not detected in the analytical soil samples collected from these test pits. TP-1, TP-1A, and TP-1B were excavated in an area where surficial purifier waste had been previously observed during the 2007 Chevron asphalt plant decommissioning activities. During the RI activities, no observations of potential purifier waste materials were recorded in this area.

- Concentrations of one or more PAH compounds were detected above applicable Subpart 375-6 SCOs in eight 0- to 2-inch bgs surface soil samples. In general, the highest PAH concentrations were observed at locations in close proximity to where surficial or shoreline tar deposits were documented. Subsequent to the surface soil sampling, the majority of the identified surface tar was removed as part of an IRM. No other SVOCs were detected above applicable SCOs at any of the sample locations.
- PAHs and total cyanide are the only constituents detected in 0- to 6-inch bgs surface soil samples that are potentially MGP-related. PAHs were detected at concentrations above applicable SCOs in samples from 9 of the 12 locations.
- Total PAH concentrations in the subsurface soil samples collected during the RI were greater than 500 mg/kg (subsurface soil cleanup guidance level for total PAHs from Section H of NYSDEC's CP-51/Soil Cleanup Guidance) at 11 of the 35 soil boring locations.
- Concentrations of one or more BTEX compounds were detected in subsurface soil at concentrations greater than the SCOs for Protection of Public Health for industrially zoned properties in samples collected at 5 of the 35 soil boring locations. In general, the soil borings where BTEX concentrations were reported greater than the SCOs are at locations where NAPL/tar and/or sheen was also observed.
- Concentrations of one or more PAH compounds were detected in subsurface soil at concentrations greater than the SCOs for Protection of Public Health for industrially zoned properties in samples collected at 22 of the 35 soil boring locations.
- Spent purifier waste associated with MGP operations is commonly a source of relatively low toxicity complexed iron cyanide compounds. Total cyanide was detected at six of the 0- to 2-inch bgs surface soil sample locations; these detections were at levels below the unrestricted use SCO. Total cyanide was detected at five of the 0- to 6-inch bgs surface soil sample locations; these detections were at levels below the unrestricted use SCO. In the subsurface soil samples, total cyanide was not detected at concentrations above the unrestricted use SCOs. Cyanide is present in groundwater at the Site.
- Constituent concentrations in overburden groundwater were measured at levels above the New York State Class GA Groundwater Quality Criteria for one or more constituents in samples from eight overburden wells, located within, downgradient and sidegradient of areas of MGP NAPL/tar impacts in the overburden. Generally, the most prevalent organic constituents detected at levels above the Class GA criteria were BTEX compounds, naphthalene, phenol, and total cyanide.
- A bedrock monitoring well, MW-3R, was installed during the RI activities to assess the vertical extent of NAPL and associated dissolved-phase impacts in excess of Class GA criteria observed in adjacent overburden monitoring wells MW-3S and MW-3D where the deepest NAPL occurrences were encountered in the overburden. Benzene was detected at concentrations slightly greater than its Class GA criterion of 1 µg/L in samples collected from MW-3R; however, no other constituents were detected at concentrations greater than Class GA criteria in the MW-3R samples.

BTEX compounds are VOCs and thus can readily volatilize and migrate via air (Agency for Toxic Substances and Disease Registry [ATSDR], September 2000, August 2007, August 2007, November 2010). They can also migrate as vapors through unsaturated soil (i.e., soil vapor) and subsequently into outdoor (ambient) air or indoor air. BTEX compounds degrade when exposed to the atmosphere. BTEX compounds are somewhat soluble in water and can migrate in the dissolved phase in groundwater. These compounds do not undergo substantial biomagnifications in the food chain, as they are metabolized by organisms if ingested. These compounds readily biodegrade under aerobic conditions in the soil, sediment and water.

The fate and transport properties of PAH compounds varies depending on molecular weight and structure (ATSDR, August 1995, August 2005). Although some of the lower molecular weight PAHs can volatilize to the air to some extent (e.g., naphthalene), most commonly the migration of PAHs in air is the result of the sorbing of PAHs to small particles that become entrained in the air as dust. PAHs typically have low solubility and do not readily dissolve in water, although some of the PAH compounds with low molecular weights, such as naphthalene, dissolve more readily than those with higher molecular weights. PAHs will attach or adsorb to soil and sediment particles. In surface water bodies, PAHs are typically sorbed to sediment particles and would migrate with the sediment, i.e., PAH migration would largely be controlled by sediment transport mechanisms. Transport and migration of PAHs in groundwater is limited by low solubility and the tendency for the PAH compounds to adsorb to materials in soil or other matrix materials; the lower molecular weight PAHs migrate to some extent in the dissolved-phase. PAHs can also adsorb to colloidal particles that can migrate to some degree with groundwater. Phenol generally does not adhere very strongly to soils and tends to filter rapidly through soil into groundwater. It is degraded rapidly in air but may persist in water for a somewhat longer period, although biodegradation in water and soil is considered to be rapid (ATSDR, September 2008).

Cyanide compounds can be released to the environment by both natural and industrial activities (ATSDR, July 2006). When detected in air, cyanide is usually in a volatile form, hydrogen cyanide, or in low volatility forms associated with fine dust particles that have been entrained in the air. Some cyanide compounds in soil can form hydrogen cyanide, which may then volatilize, while other cyanide compounds are transformed into other chemical forms by microorganisms. However, ferric ferrocyanide and other iron cyanide compounds, which are solids, are the predominant form of cyanide associated with MGP-related impacts (Ghosh, *et al.*, 1999; Ghosh, *et al.*, 2004). When leached these iron cyanides can dissolve into iron cyanide complexes (Ghosh, *et al.*, 1999; Ghosh, *et al.*, 2004) and result in dissolved phase iron cyanide complexes in groundwater. These cyanide compounds that typically leach from purifier waste are significantly less toxic than other cyanide compounds (NYSDEC Website - http://www.dec.ny.gov/chemical/24922.html). The rate of dissociation of iron cyanide complexes to free cyanide/hydrogen cyanide is very low in the subsurface, thus little if any hydrogen cyanide is expected to be associated with MGP-related impacts. There is no evidence of biomagnification of cyanides in the food chain.

4.3 Potential Receptors

A potential receptor is a human population that is or may be exposed to Site-related constituents at a point of exposure, if there is a completed exposure pathway. In the area of or near the Site, the following potential receptors may be present under current conditions:

- Outdoor Worker
- Utility Worker
- Trespasser or visitor

- Local off-Site resident
- Recreational user of the Hudson River (e.g., fisherman)

Under possible future conditions at the Site, industrial use is permitted by the zoning. Accordingly, the potential receptors under possible future conditions include all those identified above for current conditions, as well as the following:

- Construction worker
- Utility Worker
- Indoor worker

4.4 Potential Exposure Routes and Pathways

Potential exposure pathways to receptor populations were evaluated, for both current and possible future Site conditions, as presented in Table 11. Table 11 provides an assessment of the potential pathway by evaluating in sequence:

- **Impacted medium:** The medium (e.g., soil, groundwater, etc.) that is the source of constituents in the exposure medium.
- **Exposure medium:** The impacted medium to which a receptor may be exposed, including where constituents transfer from one media to another before the receptor is potentially exposed.
- **Exposure point:** The location of potential contact between a receptor and a constituent in the exposure medium.
- **Potential receptor:** Potentially exposed human individual, or population of human individuals.
- **Exposure route:** The means by which a receptor comes in contact with a constituent (e.g., inhalation, dermal contact, etc.).

The potential exposure pathways and the potential exposure routes for constituents in each medium are discussed below.

4.4.1 Surface Soil

Under current conditions, a potentially complete exposure pathway for constituents in surface soil exists for the on-site area to outdoor workers, utility workers and trespassers or site visitors. Under potential future conditions, in addition to these same populations, construction workers would also would be included as potentially exposed. These exposures may result from incidental ingestion, dermal contact, inhalation of VOCs released from the soil, or inhalation of soil particles with sorbed constituents that are suspended in the air as dust. Much of the ground surface at the Site is bare soil, with scattered herbaceous vegetation throughout. This surface condition serves to increase the potential for direct contact with surface soil, incidental ingestion of surface soil, and the development of dust.

4.4.2 Subsurface Soil

Potentially complete exposure pathways for constituents in subsurface soil exist for the following receptor populations:

- Utility workers (current and future) and construction workers (future) who dig into the subsurface soil. The potential exposure route from the subsurface soil would be via dermal contact, inhalation (dust particles and/or vapors) and accidental ingestion.
- Outdoor workers (current and future), trespassers/Site visitors (current and future). The potential exposure route from the subsurface soil would be via inhalation of VOCs and SVOCs that have migrated from subsurface soil, through the vadose zone, and into ambient air.

However, as stated above in Section 4.2, BTEX compounds and naphthalene readily degrade when exposed to the atmosphere.

- Indoor workers (future) via inhalation of VOCs and SVOCs that have migrated from the subsurface soil, through the vadose zone and into the indoor air of a building assuming, as described above, that the future use of the Site includes construction and occupation of commercial buildings. However, new structures can be designed with vapor barriers and/or sub-slab venting systems.

Note that based on a review of the soil vapor data collected during the RI field work (see Section 3.8.2), the NYSDEC and NYSDOH concurred that MGP-related or other soil vapors are not a concern at this Site, and that no further evaluation of the potential for impacts from soil vapor is required at this time.

4.4.3 Groundwater

There are no known users of groundwater for water supply or other uses in the vicinity of the Site. Potentially complete exposure pathways for constituents in groundwater exist for the following receptor populations:

- Utility workers (current and future) and construction workers (future) who encounter groundwater in excavations. The water table is typically 18 to 24 feet below grade within the Site property boundary, so groundwater would not likely be encountered in excavations. Routes of potential exposure would include dermal contact, inhalation of vapors volatilizing from the groundwater, and accidental ingestion.
- Outdoor workers (current and future) and trespassers/Site visitors (current and future). The potential exposure route from groundwater would be via inhalation of VOCs and SVOCs that have migrated from groundwater, through the vadose zone, and into ambient air. However, as stated above in Section 4.2, BTEX compounds and naphthalene readily degrade when exposed to the atmosphere.
- Indoor workers (future) via inhalation of VOCs and SVOCs that have migrated from the groundwater, through the vadose zone and into the indoor air of a building. However, new structures can be designed with vapor barriers and/or sub-slab venting systems.

Note that based on a review of the soil vapor data collected during the RI field work (see Section 3.8.2), the NYSDEC and NYSDOH concurred that MGP-related or other soil vapors are not a concern at this Site, and that no further evaluation of the potential for impacts from soil vapor is required at this time.

4.5 Summary

Based on this qualitative assessment, there are potentially completed exposure pathways for MGP-related constituents in surface soil, subsurface soil, and groundwater to potential current and future receptors. These potential exposure pathways are summarized below by medium.

- **Surface soil:** Potential for exposure to MGP-related constituents, primarily PAHs, exists via routes of incidental ingestion, dermal contact and inhalation of soil particles to current and future outdoor workers, utility workers, trespassers, and Site visitors, and to future construction workers.
- **Subsurface soil:** Potential for exposure to MGP-related constituents exists via routes of dermal contact, inhalation (dust particles and/or vapors) and accidental ingestion for potential receptors involved with excavation work (utility worker and future construction worker).

- **Groundwater:** Potential for exposure to MGP-related constituents exists via routes of dermal contact, inhalation of vapors volatilizing from the groundwater, and accidental ingestion for potential receptors involved with excavation work (utility worker and future construction worker). The water table is typically 18 to 24 feet below grade within the Site property boundary, so groundwater would not likely be encountered in excavations.

Section 5

Fish and Wildlife Resources Impact Analysis

5.1 Introduction

The FWRIA for the Site has been prepared in accordance with NYSDEC guidelines in "DER-10, Technical Guidance for Site Investigation and Remediation" (NYSDEC, 2010) for conducting Part 1 (Resource Characterization) of a FWRIA; Part 1 generally encompasses activities described under Step I and Step IIA & B of the "Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites" (NYSDEC, 1994). The purpose of Part 1 of the FWRIA is to identify actual or potential impacts to fish and wildlife resources from site contaminants of ecological concern. This assessment herein includes qualitative discussions of the various vegetation communities and associated fish and wildlife resources, significant habitats and endangered/threatened species, state-regulated wetlands and surface waters within 0.5 mile of the Site, a listing of applicable fish and wildlife regulatory criteria, a resource characterization, exposure pathway analysis and a comparison of Site-generated contaminants with regulatory criteria and guidelines.

As described in Section 1, the scope of the RI for Area 3 is limited to the upland area. The Hudson River sediments are being addressed as a separate Operable Unit of Site No. 4-42-029A.

5.2 Description of Natural Resources

The U.S. Fish and Wildlife Service (USFWS) and the NYSDEC Natural Heritage Program were contacted regarding species of concern, significant habitats, and fishery resources within 0.5 miles of the Site. In addition, a field reconnaissance survey of the Site and the surrounding 0.5-mile radius was conducted on July 12, 2018. The objectives of the survey were to describe plant communities and aquatic resources on and adjacent to the Site, observe wildlife species, identify significant ecological resources, and observe evidence of stress to plants and animals, if any, from Site-related chemicals.

Land use in the immediate vicinity of the Site is primarily commercial, industrial and vacant land. Residential uses exist with a half mile of the Site to the southeast, east, and northeast. Natural areas include a narrow corridor along the Hudson River. Figure 18 shows land use features within the 0.5-mile radius of the Site.

5.2.1 Vegetation and Wildlife

5.2.1.1 Cover Types

The Site itself consists of a vacant lot and contains various vegetative cover types. The vegetated areas along the bank of the Hudson River can be loosely classified as floodplain forest, according to the New York State Natural Heritage Program's Ecological Communities of New York State (Reschke, 1990 and Edinger, *et al.*, 2002). Although the overstory in these areas is dominated by Norway maple (*Acer platanoides*), silver maple (*Acer saccharinum*), and cottonwood (*Populus deltoides*), there are occurrences of black willow (*Salix nigra*), northern catalpa (*Catalpa speciosa*), sycamore (*Acer pseudoplatanus*), American elm (*Ulmus americana*), tree-of-heaven (*Ailanthus altissima*), green

ash (*Fraxinus pennsylvanica*), and river birch (*Betula nigra*). Understory consists mostly of European alder (*Alnus glutinosa*), buckthorn (*Rhamnus cathartica*), and red-osier dogwood (*Cornus stolonifera*), with grape vines (*Vitis* sp.), Virginia creeper (*Parthenocissus quinquefolia*), deadly nightshade (*Atropa belladonna*), and oriental bittersweet (*Celastrus orbiculatus*) interspersed throughout. Herbaceous species scattered along the base of the river bank include fringed loosestrife (*Lysimachia ciliata*), purple loosestrife (*Lythrum salicaria*), and Joe-Pye weed (*Eupatorium dubium*).

The main, open portion of the Site can be classified as successional old field, according to the New York State Natural Heritage Program's Ecological Communities of New York State (Reschke, 1990 and Edinger, et al., 2002). This area consists of various grasses and wildflowers such as foxtail grass (*Setaria* sp.), Canadian horseweed (*Conyza canadensis*), ragweed (*Ambrosia artemisiifolia*), Queen Anne's lace (*Daucus carota*), common mullein (*Verbascum thapsus*), Deptford pink (*Dianthus armeria*), spotted knapweed (*Centaurea maculosa*), catnip (*Nepeta cataria*), curled dock (*Rumex crispus*), St. John's wort (*Hypericum perforatum*), wild madder (*Galium mollugo*) and dwarf horsetail (*Equisetum scirpoides*). The area along the northern boundary of the Site contains scattered herbaceous and shrub vegetation similar to that listed above, with several Eastern cottonwoods, red mulberry (*Morus rubra*), green ash in the overstory and shrub layers, and grasses, grape vines and wildflowers such as daisy fleabane (*Erigeron annuus*) and pigweed (*Chenopodium album*) constituting the herbaceous layer. Many of the species observed at the Site are typical of vegetation in developed, urban areas.

5.2.1.2 Wildlife

Terrestrial animal forms expected in the project vicinity are both typical inhabitants of suburban areas and, due to the commercial/industrial nature of the area, tolerant of the presence and activity of man. Wildlife use of the Site is likely minimal due to its disturbed nature, and the lack of diverse vegetation communities. Duration of use by wildlife in general, is expected to be sporadic considering the Site offers limited habitat value. Wildlife observed on Site during the July 2018 Site visit was limited to small birds such as the American robin (*Turdus migratorius*) and various sparrows (*Passer sp.*). Deer tracks were also noted in the southernmost portion of the Site. Examples of other common mammal species that may use the Site include the cottontail rabbit (*Sylvilagus floridanus*), eastern chipmunk (*Tamias striatus*), raccoon (*Procyon lotor*), opossum (*Didelphis marcupialis*), woodchuck (*Marmota monax*), common rat (*Rattus norvegicus*), skunk (*Mephitis mephitis*), mice and voles. Avian forms that may be found in the Site vicinity are primarily passerine species typically associated with developed areas and small deciduous woodlots of the northeastern United States. Examples of such forms would include American crow (*Corvus brachyrhynchos*), pigeon (*Columba livia*), starling (*Sturnus vulgaris*), cardinal (*Cardinalis cardinalis*), purple finch (*Carpodacus purpureus*), and blue jay (*Cyanocitta cristata*).

Various types of aquatic invertebrates are found in the Hudson River, including species of aquatic insects, worms, mollusks, and crustaceans, among others. Fish known to inhabit the Hudson River in the vicinity of the Site include bluegill sunfish (*Lepomis macrochirus*), smallmouth bass (*Micropterus dolomieu*), American shad (*Alosa sapidissima*), largemouth bass (*Micropterus salmoides*), striped bass (*Morone saxatilis*), white perch (*Morone Americana*), yellow perch (*Perca flavescens*), channel catfish (*Ictalurus punctatus*), white catfish (*Ameiurus catus*), and carp (*Cyprinus carpio*). The endangered shortnose sturgeon (*Acipenser brevirostrum*) may also inhabit the Hudson River as far north as the Federal Dam at Troy.

5.2.2 Surface Waters

The NYSDEC classifies water bodies as A, B, C, or D. Title 6, Chapter 100, Part 700-705 of the New York State Code of Rules and Regulations (6NYCRR) defines the best usage of each water quality classification as:

- Class A waters are suitable for use as a public water supply.
- Class B waters are suitable for fishing and fish propagation and primary and secondary contact recreation. Class B streams cannot be used as a drinking water source.
- Class C waters are suitable for fish survival and/or reproduction and other aquatic life and for secondary contact recreation but not primary contact recreation. Class C(T) indicates that the water is suitable for fish survival and/or reproduction and trout standards for dissolved oxygen apply.
- Class D waters are suitable for fishing. However, due to natural conditions such as intermittency of flow, water conditions are not conducive to fish propagation.

The water quality standards presented in 6NYCRR also set measurable limits on pollution indicators including dissolved oxygen, turbidity, colloidal solids, oil and floating substances, phosphorus and nitrogen, and taste-, color- and odor-producing toxic or deleterious substances. Class A, B, and C waters should have a pH greater than 6.5 and no more than 8.5. For non-trout waters, the average daily dissolved oxygen should not be less than 5.0 mg/L and never less than 4.0 mg/L. For trout waters, the average daily dissolved oxygen should not be less than 7.0 mg/L and at no time be less than 6.0 mg/L.

The Site lies within the Lower Hudson River Drainage Basin (North). Surface water drainage in the vicinity of the Site is to the Hudson River, which flows south to New York Harbor. The Hudson River, in the vicinity of the Site, is designated as a Class C water body, with impaired fish consumption and stressed aquatic life, recreation and aesthetics (NYSDEC, 2008). Water quality in the Hudson River in the vicinity of Albany and Troy has been assessed by the NYSDEC as an impaired water body, with PCB-contaminated sediments as the suspected source (NYSDEC, 2016).

5.2.3 Wetlands

Several federally-mapped wetlands are present within a 0.5-mile radius of the Site (Figure 19). These wetlands include Riverine areas associated with the Hudson River and Wynantskill Creek, to the north of the Site. The Hudson River in the Site vicinity is designated as a R1UBV (*riverine, tidal unconsolidated bottom permanent-tidal*) wetland and Wynantskill Creek is designated as a R3UBH (*riverine upper perennial unconsolidated bottom permanently flooded*) and R5UBH (*riverine unknown perennial unconsolidated bottom permanently flooded*) wetland. There are no NYSDEC-mapped wetlands within the 0.5-mile radius of the Site. Since the Hudson River lies downgradient from the Site, there is a potential migration pathway from the Site into the riverine wetlands. Based on the 1980 National Flood Insurance Program, Flood Insurance Rate Map, most of the Site is designated as Zone B. Zone B indicates that the area falls between the 100-year and 500-year flood stage for the Hudson River. Directly adjacent to the river, the area is designated as Zone A12 (located within the 100-year flood stage). The 100-year flood elevation at the Site is approximately 24.5 feet, NGVD 1929.

5.2.4 Significant Habitats/Endangered Species

U.S. Fish and Wildlife Service lists several rare and threatened species in Rensselaer County (USFWS, 2018). These include the Indiana bat (*Myotis sodalis*), northern long-eared bat (*Myotis septentrionalis*), and the bog turtle (*Clemmys muhlenbergii*). The Indiana bat is listed as Endangered. The northern long-eared bat and the bog turtle are listed as "Threatened." There are

no known hibernacula for the Indiana bat in Rensselaer County, although the summer range of this species may extend into the County. None of these species were observed at the Site during the July 2018 Site visit. No occurrences of the northern long-eared bat were listed for Troy as of June 2018 (NYSDEC, 2018a). While mature trees along the Hudson River at the Site could potentially provide summer habitat for the bats, bog turtle habitat does not exist on or in the immediate vicinity of the Site.

According to the NYSDEC Environmental Resource Mapper (NYSDEC, 2018b), the Site is located within a half mile of the Hudson River, which is listed as a significant natural community. Rare species listed for the Hudson River in the vicinity of the Site include the shortnose sturgeon (*Acipenser brevirostrum*, Endangered) and rare freshwater mussels (not listed by New York State). New York Natural Heritage Program (NYNHP) data (http://www.dec.ny.gov/natureexplorer/app/location/town) lists several sensitive species for the 0.5-mile radius of the Site: the alewife floater mussel (*Anodonta implicata*) and the navel corn salad plant (*Valerianella umbilicata*). The endangered shortnose sturgeon may also inhabit the Hudson River as far north as the Federal Dam at Troy. Several threatened and endangered birds, the bald eagle (*Haliaeetus leucocephalus*), least bittern (*Ixobrychus exilis*), northern harrier (*Circus cyaneus*), peregrine falcon (*Falco peregrinus*), and pied-billed grebe (*Podilymbus podiceps*) have been recently (1985-2012) confirmed in Rensselaer County. However, none of the rare animals or plants have been identified at the Site. Natural Communities in this area include a Tidal River (the Hudson River Estuary Tidal Wetlands).

5.2.5 Value of Fish and Wildlife Resources

Several small mammal species such as cottontail rabbit, squirrel and raccoon may potentially inhabit the Site and areas surrounding the Site on a long-term basis. Small mammals such as mice and voles are also likely to inhabit the Site and surrounding areas. Small birds may also use the wooded and open portions of the Site vicinity for nesting and/or feeding.

The land within a 0.5-mile radius of the Site is primarily commercial and industrial, as evidenced from Site visits, review of satellite photography and street view photography available on Google Earth. Land use along the main roadways (Water Street, King Road, Burden Avenue) is mostly industrial, commercial and residential. Several federal wetlands are also located within 0.5 miles of the Site, associated with the Hudson River and Wynantskill Creek. These wetland areas were discussed in Section 5.2.3 above.

The primary land uses in the 0.5-mile radius of the Site (commercial, industrial and residential) limit the habitat available to indigenous wildlife. Areas with the greatest habitat potential occur along the Hudson River and Wynantskill Creek. Wildlife species which are likely to occur in the area are those species which can tolerate living in proximity to man, or those which may utilize the area as an occasional stopover. Since much of the land in the immediate Site area is disturbed through development, the overall ability of the area to support wildlife is limited.

Since the Site itself is fenced and restricted, it does not provide recreational opportunities (hunting, wildlife observation, etc.) for humans. Given the land use in the immediate Site area, hunting does not take place within the 0.5-mile radius. The Hudson River, however, provides recreational and aesthetic benefits to humans. The Hudson River offers fishing opportunities throughout its length, and there are public fishing access points in the City of Troy at the Troy Riverside Park near Green Island, in the City of Rensselaer at the Rensselaer Boat Launch, and the City of Albany at the Albany Municipal Launch, the Corning Preserve and Island Creek Park. Popular gamefish available in the Hudson River include striped bass, American shad, smallmouth bass, largemouth bass, white perch, yellow perch, channel catfish, white catfish, and carp. Possession of Atlantic sturgeon and shortnose sturgeon (an endangered species) from the Hudson River is prohibited. Fish advisories are in place

for the Hudson River in the vicinity of Troy and Albany due to the presence of PCBs. For alewife, blueback herring, rock bass and yellow perch, men over 15 and women over 50 are advised to eat up to 1 meal per month, and women under 50 and children under 15 are advised not to eat these fish at all. For all other fish, the advisory is not to eat any caught in this area (NYSDEC, 2018c).

5.2.6 Observations of Stress

Signs of stress to vegetation and wildlife from Site-related chemicals were not observed during the field reconnaissance.

5.3 Standards, Criteria and Guidance

Site-specific State and Federal "Standards, Criteria and Guidance" (SCGs) are listed below. These SCGs will be used to determine the appropriate scope and level of remediation necessary, to formulate remedial action alternatives, and to guide the implementation of selected remedial actions. The chemical-specific SCGs will be used to establish acceptable amounts or concentrations of a chemical that are allowed in the ambient environment.

The location-specific SCGs will provide the basis for evaluating relevant Site-specific restrictions during the identification and screening of remedial action alternatives. However, at this point in the process of remedial activities, it does not appear that the location-specific SCGs identified herein will significantly impact the selection of a remedial alternative for the Site.

5.3.1 Chemical Specific SCGs

The following have been identified as chemical-specific SCGs and items To-Be-Considered (TBC) (e.g., guidance, advisories, etc.) with regard to fish and wildlife resources for the Site:

- New York State Soil Cleanup Objectives for the Protection of Ecological Resources (6NYCRR Subpart 375-6)
- USEPA Eco-SSL Guidance

As mentioned above, river sediments are not a subject of this RI, as they are being addressed as a separate Operable Unit of Site No. 4-42-029A; thus, no chemical specific SCGs for sediment are included here.

5.3.2 Location Specific SCGs

The following have been identified as potential location-specific SCGs for the Site:

• Fish and Wildlife Coordination Act Requirements (16 USC 661 et seq.).	- There are several riverine wetlands in the immediate vicinity of the Site.
• Federal Endangered Species Act Requirements (16 USC 1531 et seq.).	- There are several threatened or endangered species identified in the vicinity of the Site.
• New York State Endangered Species Act Requirements (6NYCRR 182).	- There are several threatened or endangered species identified in the vicinity of the Site.
• Clean Water Act Section 404 Standards (33 USC 1344).	- There are several riverine wetlands in the immediate vicinity of the Site.
• New York State Freshwater Wetlands Standards (6NYCRR 663 and 664).	- There are no state-regulated wetlands mapped in the vicinity of the study area.
• New York State Dredge and Fill, Work in Navigable Water, Streambed or Bank Disturbance Standards (Article 15-0501,0505).	- The Hudson River is located immediately adjacent to the Site.

5.4 Constituent Specific Impact Analysis

5.4.1 Exposure Pathway Analysis

The main potential pathway for constituent migration from the Site is through discharge of dissolved-phase constituents in groundwater to the Hudson River. Groundwater containing dissolved-phase constituents entering the river may impact surface water and sediment in this water body and in turn provide potential exposure pathways for wildlife utilizing these media. However, based on the evaluation described in Section 3.7.2, discharge of Site-related dissolved-phase constituents in groundwater is not expected to impact surface water quality in the Hudson River adjacent to the Site.

Surface soils also present an exposure pathway for wildlife. Wooded, grassy and scrub/shrub areas exist adjacent to the Site along the Hudson River, and herbaceous vegetated areas exist on the main portion of the Site. Small birds and mammals coming into contact with, or indirectly ingesting soils in these areas are subject to uptake of constituents from surface soils. Potential exposure could occur through direct contact with or accidental ingestion of contaminated soil, ingestion of plant material, or through the terrestrial food chain. PAHs vary in their ability to bioaccumulate. In general, the more soluble a PAH, the higher the uptake by plants, while the reverse is true for uptake by earthworms and uptake in the gastrointestinal tract of animals (USEPA, 2007g). Cyanide seldom remains biologically available in soils because it is either complexed by trace metals, metabolized by microorganisms or lost through volatilization (Irwin, 1997). Cyanide ions are not strongly adsorbed or retained on soils.

5.4.2 Criteria Specific Pathway Analysis

5.4.2.1 Surface Soil

Surface soil quality data (0- to 2-inches and 0- to 6-inches bgs) were considered in this assessment. Shallow subsurface soils are evaluated in Section 5.4.2.2. Surface soil samples from each of the depth intervals were collected at 12 locations, designated as SS-1 though SS-12 (see Figures 14 and 15) during the RI and submitted for analysis of TCL SVOCs, total cyanide, TCL pesticides, PCBs, and TAL metals. The results are discussed in Section 3.6. Each surficial soil sample was collected from either the 0- to 2-inch interval or from the 0- to 6-inch interval below vegetative cover using a field cleaned stainless steel trowel.

The analytical results from both the 0- to 2-inch and 0- to 6-inch bgs surface soil samples are provided in Table 12. The measured concentrations were compared to the Subpart 375 SCOs for SCO-PER, as shown in Table 12. SCO-PERs do not exist for many of the constituents detected at the Site. The USEPA has developed Eco-SSLs, which are concentrations of certain constituents in soil that are protective of ecological receptors that commonly come into contact with and/or consume biota that live in or on soil (USEPA, 2007g). The Eco-SSLs are not cleanup values but are intended for use in screening sites for constituents of concern.

Of the PAH constituents present in Site soils, SCO-PER are only available for acenaphthene, benzo(a)pyrene and fluorene. Concentrations of one or more PAHs in the 0 to 6-inch samples were detected above the SCO-PER criteria in seven locations (SS-3 and SS-7 through SS-12). Total PAHs were detected at concentrations ranging from a low of 1.19 mg/kg (J qualified) to a high of 7,998 mg/kg at location SS-7 (0- to 2-inch sample). Noteworthy is that, in general, the highest total PAH concentrations were observed at locations in close proximity to where surficial or shoreline tar deposits were documented (SS-3, and SS-7 through SS-10). Subsequent to the surface soil sampling, the majority of the identified surface tar was removed as part of an IRM.

Concentrations of one or one or more PAH compounds were above the Eco-SSL criterion designated to screen for potential impact to mammals in 9 out of the 12 samples collected from the 0- to 6-inch bgs depth interval and 10 out of the 12 samples collected from the 0- to 2-inch bgs depth interval. In addition, concentrations of one or more PAH compounds in samples SS-7 and SS-8 also exceeded the Eco-SSL criterion designated to screen for potential impact to soil invertebrates.

Low-level concentrations of cyanide were observed in the 0- to 2-inch and 0- to 6-inch samples ranging from a low of 0.51 mg/kg (J qualified) to a high of 3.1 mg/kg at SS-6 (0- to 2-inch sample). An SCO-PER criterion or Eco-SSL has not been established for total cyanide.

In the 0- to 2-inch samples, exceedances of the SCO-PER for 4,4'- DDT (0.0033 mg/kg) were observed at three locations—SS-7, SS-8 and SS-10—at concentrations of 0.024 mg/kg, 0.032 mg/kg, and 0.04 mg/kg, respectively (all J qualified). These low-level concentrations also exceed the Eco-SSL for this constituent. No other pesticides were detected at concentrations exceeding applicable SCOs. Exceedances of the SCO-PER criterion in the 0- to 6-inch samples for 4,4'- DDT (0.0033 mg/kg) were observed at four locations—SS-1, SS-3, SS-7, and SS-10—at concentrations 0.025 mg/kg, 0.022 mg/kg, 0.022 mg/kg, and 0.051 mg/kg, respectively (all J qualified). The concentrations of 4,4'- DDT in these samples were also slightly above the Eco-SSL (Mammals) for this constituent of 0.021 mg/kg.

There are no SCO-PERs or Eco-SSLs for PCBs. Only low-level, J-qualified concentrations of Aroclor 1248 were detected in 0- to 2-inch and 0- to 6-inch samples SS-1 and SS-3, and Aroclor 1254 in the 0- to 2-inch sample SS-6. No PCBs were detected in any of the other 0- to 6-inch bgs depth interval samples.

Concentrations of one or more of the following metals were detected above their respective SCO-PER criterion at each of the 12 sampling locations, in both the 0- to 2-inch and 0- to 6-inch samples: arsenic, copper, chromium, lead, nickel, zinc, and mercury.

The Eco-SSLs (Mammals) were exceeded for one or more of the following metals at each of the 12 sampling locations: cadmium, chromium, copper, lead, nickel, selenium, vanadium, and zinc.

The Eco-SSLs (Soil Invertebrates) were exceeded for one or more of the following metals at 8 out of the 12 sampling locations: barium, copper, lead, manganese, nickel, and zinc.

Given these exceedances, it appears that a potential risk exists to mammals in the Site vicinity from the presence of PAHs, DDT and various metals in surface soil.

5.4.2.2 Shallow Subsurface Soil

Only shallow subsurface soil quality data (up to four feet bgs) were considered in this assessment. Deeper subsurface soils were not evaluated due to the lack of exposure routes to wildlife. Most burrowing animals create dens in the upper 4 feet of soil, or shallower. In addition, the deeper subsurface soil samples (i.e., greater than 4 feet) are below the root zone of most herbaceous plants. The samples were submitted for analysis of TCL VOCs, TCL SVOCs, TCL pesticides, PCBs, TAL metals, and total cyanide.

The analytical results of the 9 shallow subsurface soil samples (see Figure 16) are provided in Table 13. The measured concentrations in the samples were compared to Subpart 375-6 SCOs for SCO-PER and the Eco-SSLs developed by USEPA. SCO-PERs only exist for several VOCs, and there are currently no Eco-SSLs for VOCs. Of the BTEX compounds detected, only xylene exceeded the SCO-PER in the 0- to 1-foot sample from SB-2.

For SVOCs, SCO-PERs only exist for several compounds, but Eco-SSLs exist for each of the PAHs analyzed. The SCO-PERs were exceeded for acenaphthene at SB-7 (0 to 1 foot) only and benzo(a)anthracene at 7 of the 9 locations. All of the PAHs detected exceeded the Eco-SSLs in at

least one of the samples. Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, chrysene, fluoranthene, and indeno(1,2,3-cd)pyrene exceeded the Eco-SSLs in 7 of the 9 samples. Most of the Eco-SSL exceedances were of the mammal Eco-SSLs, but the invertebrate Eco-SSLs were also exceeded in SB-3 (3 to 4 feet), SB-5 (3 to 4 feet), SB-6 (2 to 3 feet), SB-7 (0 to 1 foot), and SB-9. For other SVOCs, SCO-PER only exist for pentachlorophenol and phenol; there were no exceedances for these compounds.

The only pesticides which were detected were beta chlordane and endrin; only endrin exceeded the SCO-PER, in SB-3 (3 to 4 feet). No Eco-SSL exists for either compound. No PCBs were detected in any of the shallow subsurface soil samples.

Of the inorganic constituents, exceedances of the SCO-PER and/or Eco-SSLs occurred for antimony, arsenic, cadmium, chromium, lead, manganese, nickel, selenium, zinc, and mercury. The manganese and zinc results were all "B" qualified, indicating that these constituents were also detected in the blank sample. No SCO-PER or Eco-SSLs exist for cyanide, aluminum, calcium, magnesium, potassium, sodium, or thallium.

Given these exceedances, it appears that a potential risk exists to ecological resources in the Site vicinity from the presence of xylene, PAHs, endrin, and metals in surface soil.

5.5 Conclusions

Based on the evaluation presented in Section 5.4.2 above, it appears that a potential risk to wildlife resources exists from the presence of PAHs, DDT and various metals in surface soils at the Site. In the shallow subsurface soil, xylene, PAHs, endrin and various metals present a potential risk to ecological resources at the Site. Of the above-noted constituents, only PAHs and xylene are considered as potential MGP-related constituents.

The Site vicinity offers moderate to low habitat value to wildlife since the Site consists of a partially vegetated lot and the surrounding areas are mostly commercial, industrial and residential developed areas. As such, the potential risk from constituents in surface soil at the Site is not expected to have a significant effect on wildlife populations within a 0.5-mile radius of the Site.

Section 6

Summary and Conclusions

Provided below is a summary of the findings based on the results of the RI field programs at the Troy (Water St.) Site – Area 3.

6.1 Geologic Setting

- The bedrock beneath the Site can generally be described as grey to black shale with pervasive, closely-spaced scaly and planar cleavage surfaces and is part of a lithotectonic unit referred to as the Cohoes Mélange.
- The top of bedrock surface generally slopes to the west, (Figure 3), with bedrock surface elevations across the Site ranging from approximately 0 feet NGVD (adjacent to Water Street) to approximately -14 feet NGVD (in west central part of Site near well location MW-3R). A local low area is apparent in the bedrock surface beneath the Site, generally located under and west of the location of the area of former tank T-27.
- A sand and gravel deposit comprised of coarse grained sand, gravel, and cobbles (with a minor component of finer-grained deposits) is present above the rock in much of the western portion of the Site (see Figures 4 through 7). This unit is likely continuous with deposits associated with the Hudson River.
- Deposits of sand and silt, or silt and clay are located above the sand and gravel deposits or where the sand and gravel deposit is absent, directly above bedrock. Locally, these deposits have a minor component of organic matter (e.g., roots, wood). These deposits are generally 5 to 10 feet in thickness across the Site, however, along the eastern portion of the Site, only a thin veneer of these deposit overly the bedrock surface.
- Anthropogenic fill overlies the natural overburden deposits and is composed of various materials including sand, gravel, coal, cinders, ash, and demolition debris (e.g., brick and concrete). Locally, finer-grained material (silt and clay) and organic matter (e.g., dried grass, roots, and wood debris) are also present within the fill, but not the predominant component.
- The lateral and vertical variations in the nature and distribution of the overburden deposits (see Figures 4 through 7), may be due to in part, to the apparent re-configuration of shoreline, as indicated by historic maps.

6.2 Hydrostratigraphy and Groundwater Flow

6.2.1 Overburden

- The water table is encountered in the fill, generally at depths ranging from approximately 18 to 24 feet bgs (Figures 4 through 7). The saturated thickness of the overburden deposits is typically about 15 feet.
- K_h estimates for the sand and gravel deposits range from 1.3×10^{-3} to 3.8×10^{-2} cm/sec with a geometric mean of 6.8×10^{-3} cm/sec. The range of K_h estimates for the fill deposits (1.3×10^{-4} to 1.4×10^{-2} cm/sec) overlap with those of the sand and gravel deposits, but are generally somewhat lower, with a geometric mean of 1.5×10^{-3} cm/sec.

- A downward vertical hydraulic gradient within the overburden is present through much of the Site (see Figures 10A through 10C). In the more inland part of the Site, the difference in head between the water table and the deeper overburden deposits (i.e., the vertical hydraulic gradient) is relatively high, where a laterally discontinuous semi-confining layer unit (deposits of fine sand, silt and clay) separates the shallow and deeper overburden deposits. However, closer to the river, the head in the shallow and deep overburden wells is similar, thereby indicating a much-reduced vertical hydraulic gradient and the absence of a semi-confining layer between the shallow and deep overburden in this area (i.e., the shallow and deep overburden intervals constitute a single water-bearing zone in the area of the Site proximal to the river).
- Groundwater levels in the deep overburden deposits fluctuate in response to the tide cycles in the adjacent Hudson River (see Figure 10A).
- The net overburden groundwater flow is generally east to west towards the Hudson River (see Figures 11 and 12). Localized groundwater mounding was identified directly west of the concrete pad for former tank T-27. The mounding may be attributable to groundwater perched on the existing concrete pad for former tank T-27 flowing off the pad on the west side.

6.2.2 Bedrock

- The shale comprising the bedrock beneath the Site has very low porosity and permeability, and thus groundwater flow is controlled by fractures in the rock. The competency of uppermost bedrock is poor at the one location where it was evaluated at the Site (MW-3R).
- The slug test performed on MW-3R, yielded an estimated K_h value of 8.9×10^{-4} cm/sec. This estimated K_h value is one order of magnitude lower than the geometric mean for the overburden monitoring wells.
- Groundwater elevation data from deep overburden well MW-3D and bedrock well MW-3R potentially indicates a slight downward vertical gradient from the deeper overburden deposits to the bedrock at this location; however, this is uncertain since the effect of tidal cycles in the river on bedrock water levels has not been assessed in bedrock well MW-3R.

6.3 Surficial Tar Deposits

At the beginning of RI activities, deposits of semi-solid to hard tar were locally observed on the ground surface of the upland part of the Site, and hard tar deposits were noted locally on the river bank slope near the shoreline. The upland surface tar deposits from a depth of 0- to 1-foot bgs were subsequently removed as part of an IRM. Shoreline tar deposits (as shown on Figures 13 through 15) were not addressed as part of the IRM and will be addressed as part of the overall Site remedy.

6.4 Extent of NAPL/Tar and Purifier Waste

6.4.1 NAPL/Tar

- The tar encountered is typically a DNAPL with a density slightly greater than water.
- In general, the NAPL/tar occurs as viscous, tacky, stringy tar-like material or grain coatings within the overburden materials above the water table. Less viscous NAPL exhibiting a more oil-like consistency occurring as blebs and grain coatings was encountered at depths below the water table. The presence of the NAPL primarily as blebs or grain coatings indicates that the NAPL is likely residual.
- NAPL/tar at the Site occurs locally within the overburden materials. The occurrence of NAPL is most prevalent within the footprint and west of the former tank T-27. NAPL was also observed at times within two overburden monitoring wells in this area (MW-3S and MW-3D). A tar-like

material with petroleum odors was also encountered in the overburden deposits in the northwest part of the Site at the borings for wells MW-2S and MW-2D; no tar/NAPL has been found to have entered these wells.

- Based on the findings from the RI activities, the lateral and vertical extents of NAPL encountered at the Site have been defined.

6.4.2 Purifier Waste

Field indications of potential purifier waste material were observed at two locations (test pits TP-4 and TP-5) in the north central and eastern part of the Site. Cyanide was not detected in the analytical soil samples collected from these locations.

6.5 Historical Structures

6.5.1 Former Tarvia Tank/Former Tank T-41

During the demolition of the Chevron asphalt plant, tar was observed at the base of the former tank T-41 and fingerprint analysis of tar collected from the base of the tank indicated that the tar had compositional characteristics indicative of coal tar. The remaining portion of the former tarvia tank/former tank T-41 (likely the same structure) were removed as part of the IRM activities.

6.5.2 Former Tank T-27

- The existing concrete slab associated with former tank T-27 extends from approximately 0.4 to 1.0 feet bgs.
- Fill materials (sand, gravel, and slag/coal) were encountered in the subsurface below the slab.
- Subtle indications of potential impact (e.g., black discoloration of soils) were observed directly beneath the concrete slab for the former tank. NAPL was observed in deeper soils (approximately 19 and 28 feet bgs).

6.5.3 Area of Former Flux Oil Tank

- A concrete slab extending from 0.5 to 4.0 feet bgs was encountered during the excavation of test pit TP-6, which is located in the area of the former flux oil tank.
- Hard asphalt/tar-like material was observed in the soils from 0.0 to 4.0 feet bgs at TP-6.

6.5.4 Area of Former Tar Products Tanks

There were no indications of intact subsurface structures in the area of the former tar products tanks.

6.6 Soil Quality

6.6.1 Surface Soil 0- to 2-inch bgs Interval

- Concentrations of one or more PAH compounds were detected above applicable Subpart 375-6 SCOs in eight of the 12 surface soil samples (see Figure 14). In general, the highest PAH concentrations were observed at locations in close proximity to where surficial or shoreline tar deposits were documented. Subsequent to the surface soil sampling, the majority of the identified surface tar was removed as part of an IRM.
- No other SVOCs were detected above applicable SCOs at any of the sample locations.
- Total cyanide was detected at six of the 12 locations; these detections were at levels below the unrestricted use SCO.

- Of the metals analyzed, only arsenic was found to be locally greater than the SCO for Protection of Public Health for industrial zoned properties (at four of the 12 locations).

6.6.2 Surface Soil 0- to 6-inch bgs Interval

- Surface soil samples from the 0- to 6-inch bgs depth interval were collected from 12 locations throughout the Site to provide data for an ecological assessment (see Figure 15).
- PAHs and total cyanide are the only constituents detected in these samples that are potentially related to former MGP operations. PAHs were detected in samples from 9 of the 12 locations. Total cyanide was detected at five of the locations; these detections were at levels below the unrestricted use SCO.
- Concentrations of one or more PAHs were detected above their respective SCOs for Protection of Ecological Resources in seven locations (see Table 7). In general, the highest total PAH concentrations were observed at locations in close proximity to where surficial or shoreline tar deposits were documented. Subsequent to the surface soil sampling, the majority of the identified surface tar was removed as part of an IRM.
- Concentrations of one or one or more PAH compounds were above USEPA's Eco-SSLs designated to screen for potential impact to mammals in nine out of the 12 samples collected from the 0- to 6-inch bgs depth interval (see Table 7). In addition, concentrations of one or more PAH compounds in two samples also exceeded the Eco-SSL criterion designated to screen for potential impact to soil invertebrates (see Table 7).

6.6.3 Subsurface Soil

- Total PAH concentrations in the soil samples collected during the RI were greater than 500 mg/kg (subsurface soil cleanup guidance level for total PAHs from Section H of NYSDEC's CP-51/Soil Cleanup Guidance) at 11 locations (Figure 16). In general, these locations fall within areas and depth intervals impacted by NAPL/tar.
- Concentrations of one or more BTEX compounds were locally detected at concentrations greater than the SCOs for Protection of Public Health for industrially zoned properties in samples collected at 5 of 35 locations. In general, the soil borings where BTEX concentrations were reported greater than the SCOs are at locations where NAPL/tar and/or sheen was also observed.
- Concentrations of one or more PAH compounds were detected at concentrations greater than the SCOs for Protection of Public Health for industrial zoned properties in samples collected at 22 of 35 locations.
- Total cyanide was not detected at concentrations above the unrestricted use SCO for total cyanide in any of the subsurface soil samples.
- Based on the findings from the RI activities, the lateral and vertical extents of MGP-related or other impacts to soils have been adequately characterized for the purposes of the RI.

6.7 Groundwater Quality

6.7.1 Overburden Groundwater

Constituents often associated with MGP-related residuals (but also potentially associated with other sources) that were detected during RI activities at concentrations greater than the Class GA criteria were BTEX compounds, naphthalene, phenol, and total cyanide (see Figure 17).

- The concentrations of BTEX compounds in overburden groundwater that exceed Class GA groundwater quality criteria occur primarily in two areas:

  - Area of former Tank T-27. Beneath and directly west of the concrete pad for former Tank T-27 (MW-5S, MW-5, and MW-3S), concentrations of some of the BTEX compounds (primarily benzene) exceed the Class GA criteria. Downgradient of this area, concentrations of BTEX compounds decrease to non-detect (well couplet MW-6S/MW-6D). The source of these dissolved-phase BTEX compounds is likely the NAPL identified in the vicinity of former Tank T-27.
  - Northwest Portion of Site. Elevated concentrations of BTEX compounds were detected in the shallow overburden groundwater at MW-2S, and to a lesser extent at MW-2D, screened in the deeper overburden at the same location. Data from the downgradient well couplet MW-8S/MW-8D indicate that concentrations decrease downgradient, with only benzene exceeding the Class GA criteria. Note that the concentrations of BTEX compounds have decreased substantially in this area since the initial round of groundwater sampling. These dissolved-phase BTEX compounds are likely related to the tar-like material with petroleum odors encountered in the saturated zone at location MW-2S/MW-2D.
- Naphthalene, isopropylbenzene, and various phenolic compounds were locally detected concentrations greater than their respective Class GA criterion. at wells MW-3S, MW-5S, and MW-5. These exceedances are generally in the same areas as for the BTEX compounds, as described above. As with the BTEX compounds, concentrations typically decreased between the initial round of sampling and subsequent rounds.
- Total cyanide was detected at concentrations greater than its Class GA criterion in the southern part of the Site at wells MW-4S and MW-5S. No elevated cyanide concentrations have been detected in the soil on-site that may be a source of the total cyanide concentrations in groundwater.
- Based on the RI groundwater quality data, the lateral extents of the dissolved-phase, MGP-related constituents in overburden groundwater have been adequately characterized for the purposes of the RI.

6.7.2 Bedrock Groundwater

Groundwater quality data from bedrock monitoring well MW-3R, installed where the deepest NAPL occurrences were encountered in the overburden, indicated no exceedances of the Class GA criteria for MGP-related constituents with the exception of low levels of benzene. For the purposes of the RI, the vertical extent of dissolved-phase groundwater impacts at the Site has been adequately characterized.

6.7.3 Evaluation of Potential Impacts to River from Site Constituents in Groundwater

A constituent mass flux analysis was conducted to assess the potential for discharge of Site-related constituents in overburden groundwater to impact water quality in the Hudson River. Conservatively-estimated concentrations (i.e., biased high) of Site-related constituents in the Hudson River channel adjacent to the Site resulting from discharge of Site groundwater are several orders of magnitude below applicable surface water standards and guidance values. Thus, site-related constituents in overburden groundwater are not expected to impact surface water quality in the Hudson River.

6.8 Soil Vapor

The soil vapor evaluation indicated that MGP-related or other soil vapors are not a concern at this Site and that no further evaluation of the potential for impacts from soil vapor is required at this time.

6.9 Human Health Exposure Assessment

The qualitative human health exposure assessment indicated there are potentially completed exposure pathways for MGP-related constituents in surface soil, subsurface soil, and groundwater to potential current and future receptors. The receptors were identified based on current land use and zoning.

- **Surface soil:** Potential for exposure to MGP-related constituents, primarily PAHs, exists via routes of incidental ingestion, dermal contact and inhalation of soil particles to current and future outdoor workers, utility workers, trespassers, and Site visitors, and to future construction workers.
- **Subsurface soil:** Potential for exposure to MGP-related constituents exists via routes of dermal contact, inhalation (dust particles and/or vapors) and accidental ingestion for potential receptors involved with excavation work (utility worker and future construction worker).
- **Groundwater:** Potential for exposure to MGP-related constituents exists via routes of dermal contact, inhalation of vapors volatilizing from the groundwater, and accidental ingestion for potential receptors involved with excavation work (utility worker and future construction worker). The water table is typically 18 to 24 feet below grade within the Site property boundary, so groundwater would not likely be encountered in excavations.

6.10 Fish and Wildlife Resources Impact Analysis

- The FWRIA indicates that a potential risk to wildlife resources exists from the presence of PAHs, DDT, and various metals in surface soils at the Site. In the shallow subsurface soil, xylene, PAHs, endrin, and various metals present a potential risk to ecological resources at the Site. Of these constituents, only xylene and PAHs are considered as potential MGP-related constituents.
- The Site vicinity offers moderate to low habitat value to wildlife since the Site consists of a partially vegetated lot and the surrounding areas are mostly commercial, industrial, and residential developed areas. As such, the potential risk from constituents in surface soil at the Site is not expected to have a significant effect on wildlife populations within a 0.5-mile radius of the Site.

Section 7

Recommendations

The following recommendations are made with regard to future activities related to National Grid's portion of the Troy (Water St.) Site – Area 3:

- The site conceptual model for the Site is complete and thus, National Grid recommends development of a FS of remedial approaches for the Site. In accordance with the Order on Consent, following completion of the RI, development of FS is the next step in the regulatory process. Accordingly, a report presenting the results of the FS will be provided to the NYSDEC and once approved, the FS report would provide the basis for the selection of a remedy and preparation of a ROD by the NYSDEC.
- Following issuance of a draft ROD by the NYSDEC, completion of a public comment period, and preparation and issuance of a final ROD, National Grid will prepare a RDWP in conformance with Section 5.2 of DER-10.

Upon approval of this RI Report, an FS will be conducted to develop and evaluate remedial alternatives for the Site. Additional data needs may be identified to support the FS.

Section 8

References

Agency for Toxic Substances and Disease Registry (ATSDR), 1995. Toxicological Profile for Polycyclic Aromatic Hydrocarbons. US Department of Health and Human Services, Public Health Service. August 1995.

ATSDR, September 2000. Toxicological Profile for Toluene. US Department of Health and Human Services, Public Health Service.

ATSDR, August 2005. Toxicological Profile for Naphthalene, 1-Methylnaphthalene, and 2-Methylnaphthalene. US Department of Health and Human Services, Public Health Service.

ATSDR, July 2006. Division of Toxicology and Environmental Medicine ToxFAQs™. Cyanide.

ATSDR, July 2006. Toxicological Profile for Cyanide. US Department of Health and Human Services, Public Health Service.

ATSDR, August 2007. Toxicological Profile for Benzene. U.S. Dept. of Health and Human Services, Public Health Service.

ATSDR, August 2007. Toxicological Profile for Xylene. US Department of Health and Human Services, Public Health Service.

ATSDR, September 2008. Toxicological Profile for Phenol. US Department of Health and Human Services, Public Health Service.

ATSDR, November 2010. Toxicological Profile for Ethylbenzene. US Department of Health and Human Services, Public Health Service.

Barton, W., 1869. Map of the City of Troy, West Troy and Green Island.

Brown and Caldwell Associates, February 2015. Remedial Investigation Work Plan, Troy (Water St.) Site – Area 3.

Brown and Caldwell Associates, August 2016. Supplemental Remedial Investigation Work Plan, Troy (Water St.) Site – Area 3.

Brown and Caldwell Associates, September 2016, revised October 2016. Interim Remedial Measures Work Plan for Surface Tar Removal, Troy (Water Street) Site – Area 3, Troy, New York.

Brown and Caldwell Associates, October 2017. Health and Safety Plan for Remedial Investigation of Troy (Water St.) Site – Area 3.

Brown and Caldwell Associates, January 2018. Interim Remedial Measures Construction Completion Report for Surface Tar Removal, Troy (Water Street) Site – Area 3, Troy, New York.

Brown and Caldwell Associates, March 2018. Data Summary Report, Supplemental Remedial Investigation, Troy (Water St.) Site – Area 3.

City of Troy NY Bureau of Information Services, December 2016. Official Zoning Map, City of Troy.

Edinger, G.J., D.J. Evans, S. Gebauer, T.G. Howard, D.M. Hunt, and A.M. Olivero (editors), 2002. Ecological Communities of New York State. Second Edition. A revised and expanded edition of Carol Reschke's Ecological Communities of New York State (Draft for review). New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY.

Foster Wheeler, November 2002. Generic Field Sampling Plan for Site Investigations at Non-Owned Former MGP Sites.

Foster Wheeler, November 2002. Generic Quality Assurance Project Plan for Site Investigations at Non-Owned Former MGP Sites.

Foster Wheeler, November 2002. Generic Health & Safety Plan for Site Investigations at Non-Owned Former MGP Sites.

General Valuations Co. Inc. Map of Plant, Hudson Valley Coke & Products Corp, Troy, N.Y.

Ghosh, R.S., Dzombak, D.A., and Luthy, R.G., 1999. Equilibrium Precipitation and Dissolution of iron-cyanide solids in Water. Environmental Engineering Science, v16 (4), p. 293-313.

Ghosh, R.S., Nakles, D.V., Mukarka, I, and Neuhauser, E., 2004. Cyanide Speciation in Soil and Groundwater at Manufactured Gas (MGP) Plant Sites. Environmental Engineering Science, v. 21 (6), p. 752-767.

Hartgen Archeological Associates, Inc., September 2018. Phase IA Literature Review and Sensitivity Assessment, National Grid Troy (Water Street) Site - Area 3.

Irwin, R. J., M. VanMouwerik, L. Stevens, M.D. Seese and W. Basham, July 1997. Environmental Contaminants Encyclopedia. National Park Service, Water Resources Division, Fort Collins, Colorado.

Kidd, W.S.F., Plesch, A., and Vollmer, F.W., 1995. Field Trip A4: October 14th. Lithofacies of the Taconic Flysch, Mélange, & Allochthon in the New York Capital District. Field Trip Guidebook for the 67th Annual Meeting of the New York State Geological Association, edited by; John I. Garver and Jacqueline Smith.

Lim, C., Kidd, W.S.F., and Howe, S.S., 2005. Late Shortening and Extensional Structures and Veins in Western Margin of the Taconic Orogen (New York and Vermont). Journal of Geology, v. 113, p. 419-438.

New York Archaeological Council (NYAC) 2004. 2004 Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State. NYAC, n.p.

New York Power & Light Corp. 1946. Hudson Valley Fuel Plant.

NYSDEC, October 1994. Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites (FWIA). Division of Fish and Wildlife.

NYSDEC, 2008. The Lower Hudson River Basin Waterbody Inventory and Priority Waterbodies List. Bureau of Watershed Assessment and Management, Division of Water. August.

NYSDEC, May 2010. DER-10 / Technical Guidance for Site Investigation and Remediation. DEC Program Policy.

NYSDEC, 2016. The Final New York State 2016 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy. November 2016

NYSDEC, 2018a. Northern Long-eared Bat Occurrences by Town. New York Natural Heritage Program.

NYSDEC, 2018b. Environmental Resource Mapper. http://www.dec.ny.gov/gis/erm/. Accessed on December 13, 2018.

NYSDEC, 2018c. Fish Health Advisories, NYSDEC website. http://www.health.ny.gov/environmental/outdoors/fish/health_advisories/

NYSDOH, October 2006. Guidance for Evaluating Vapor Intrusion in New York State.

New York State Office of Parks, Recreation and Historic Preservation (OPRHP), 2005. New York State Historic Preservation Office (SHPO) Phase I Archaeological Report Requirements. OPRHP, Waterford, New York.

O'Brien and Gere, September 2007. Standard Operating Procedures for Soil Vapor Intrusion Evaluations at National Grid MGP Sites in New York State.

Reschke, C., 1990. Ecological Communities of New York State. New York State Department of Environmental Conservation (NYSDEC). New York Natural Heritage Program. Latham, NY.

Rowley, D.B. and Kidd, W.S.F., 1981. Stratigraphic Relationships and Detrital Composition of the Medial Ordovician Flysch of Western New England: Implications for the Tectonic Evolution of the Taconic Orogeny. Journal of Geology. V. 89, p. 199-218.

Sanborn Map & Publishing Company, 1885. Troy, New York, Volume I.

Sidney, J.C., 1851. Map of the Vicinity of Albany and Troy.

U.S. Bureau of Reclamation, 1990. Earth Manual, Method No. USBR 7310-89.

USEPA, 2005a. Ecological Soil Screening Levels for Antimony Interim Final. OSWER Directive 9285.7-61. February 2005.

USEPA, 2005b. Ecological Soil Screening Levels for Barium Interim Final. OSWER Directive 9285.7-63. February 2005.

USEPA, 2005c. Ecological Soil Screening Levels for Beryllium Interim Final. OSWER Directive 9285.7-64. February 2005.

USEPA, 2005d. Ecological Soil Screening Levels for Arsenic Interim Final. OSWER Directive 9285.7-62. March 2005.

USEPA, 2005e. Ecological Soil Screening Levels for Cadmium Interim Final. OSWER Directive 9285.7-65. March 2005.

USEPA, 2005f. Ecological Soil Screening Levels for Cobalt Interim Final. OSWER Directive 9285.7-67. March 2005.

USEPA, 2005g. Ecological Soil Screening Levels for Lead Interim Final. OSWER Directive 9285.7-70. March 2005.

USEPA, 2005h. Ecological Soil Screening Levels for Vanadium Interim Final. OSWER Directive 9285.7-75. April 2005.

USEPA, 2006. Ecological Soil Screening Levels for Silver Interim Final. OSWER Directive 9285.7-77. September 2006.

USEPA, 2007a. Ecological Soil Screening Levels for Copper Interim Final. OSWER Directive 9285.7-68. February 2007.

USEPA, 2007b. Ecological Soil Screening Levels for Nickel Interim Final. OSWER Directive 9285.7-76. March 2007.

USEPA, 2007c. Ecological Soil Screening Levels for DDT and Metabolites Interim Final. OSWER Directive 9285.7-57. April 2007.

USEPA, 2007d. Ecological Soil Screening Levels for Dieldrin Interim Final. OSWER Directive 9285.7-56. April 2007.

USEPA, 2007e. Ecological Soil Screening Levels for Manganese Interim Final. OSWER Directive 9285.7-71. April 2007.

USEPA, 2007f. Ecological Soil Screening Levels for Pentachlorophenol Interim Final. OSWER Directive 9285.7-58. April 2007.

USEPA, 2007g. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs). Interim Final. OSWER Directive 9285.7-78. June 2007.

USEPA, 2007h. Ecological Soil Screening Levels for Zinc. Interim Final. OSWER Directive 9285.7-73. June 2007.

USEPA, 2007i. Ecological Soil Screening Levels for Selenium Interim Final. OSWER Directive 9285.7-72. July 2007.

USEPA, 2008. Ecological Soil Screening Levels for Chromium Interim Final. OSWER Directive 9285.7-66. April 2008.

USEPA, June 2015. OSWER Technical Guide for Assessing and Mitigation the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air.

USEPA, November 2017. Regional Screening Level (RSL) Composite Worker Ambient Air Table (TR=1E-06, HQ=0.1).

U.S. Fish and Wildlife Service, 2018. Environmental Conservation Online System. Species Reports. https://ecos.fws.gov/ecp0/reports/species-by-current-range-county?fips=36083. Accessed on September 19, 2018.

Young, W.H. 1873. Map of the City of Troy, N.Y.

Tables

TABLE 1
RATIONALE FOR SAMPLING LOCATIONS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Location ID	Completion Date	Planned Purpose	Planned Target Depth Per Work Plans[1]
SOIL BORINGS			
SB-1	5/18/2015	Evaluate hydrostratigraphy. Delineate NAPL. Collect analytical samples to assess potential for constituents above SCOs.	Advance to top of bedrock surface or overlying dense till (approximately 40 feet bgs).
SB-2	5/13/2015	Evaluate hydrostratigraphy. Delineate NAPL and evaluate potential continuity with hard tar deposits along shoreline. Collect analytical samples to assess potential for constituents above SCOs.	Advance to top of bedrock surface or overlying dense till (approximately 40 feet bgs).
SB-3	5/14/2015	Evaluate hydrostratigraphy. Delineate NAPL. Collect analytical samples to assess potential for constituents above SCOs.	Advance to top of bedrock surface or overlying dense till (approximately 40 feet bgs).
SB-4	5/13/2015	Evaluate structure of T-27 foundation. Delineate NAPL and evaluate potential continuity with hard tar deposits along shoreline. Collect analytical samples to assess potential for constituents above SCOs.	If feasible and liquid or semi-liquid tank residues NOT encountered, advance to top of bedrock surface or overlying dense till (approximately 40 feet bgs).
SB-5	5/12/2015	Evaluate hydrostratigraphy. Delineate adjacent NAPL previously identified below 18 feet bgs on Area 2. Evaluate potential continuity with hard tar deposits along shoreline. Collect analytical samples to assess potential for constituents above SCOs.	Advance to top of bedrock surface or overlying dense till (approximately 40 feet bgs).
SB-6	5/11/2015	Evaluate hydrostratigraphy. Delineate adjacent NAPL previously identified below 18 feet on Area 2. Collect analytical samples to assess potential for constituents above SCOs.	Advance to top of bedrock surface or overlying dense till (approximately 40 feet bgs).
SB-7	5/14/2015	Evaluate hydrostratigraphy. Delineate NAPL. Collect analytical samples to assess potential for constituents above SCOs.	Advance to top of bedrock surface or overlying dense till (approximately 40 feet bgs).
SB-8	5/15/2015	Evaluate hydrostratigraphy. Delineate NAPL. Collect analytical samples to assess potential for constituents above SCOs.	Advance to top of bedrock surface or overlying dense till (approximately 40 feet bgs).
SB-9	5/19/2015	Evaluate hydrostratigraphy. Delineate NAPL and evaluate potential continuity with hard tar deposits along shoreline. Collect analytical samples to assess potential for constituents above SCOs.	Advance to top of bedrock surface or overlying dense till (approximately 40 feet bgs).
SB-10	1/25/2017	Further evaluate the extent of constituents in subsurface soil above applicable SCOs.	Advance to top of bedrock surface (estimated 30 feet bgs).
SB-11	2/1/2017	Further evaluate the extent of NAPL/tar encountered in area of MW-3S/3D. Further evaluate the extent of constituents in subsurface soil above applicable SCOs.	Advance to top of bedrock surface (estimated 37 feet bgs).

TABLE 1
RATIONALE FOR SAMPLING LOCATIONS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Location ID	Completion Date	Planned Purpose	Planned Target Depth Per Work Plans[1]
SB-12	1/31/2017	Further evaluate the extent of NAPL/tar encountered in area of MW-3S/3D. Further evaluate the extent of constituents in subsurface soil above applicable SCOs.	Advance to top of bedrock surface (estimated 37 feet bgs).
SB-13	1/30/2017	Further evaluate the extent of constituents in subsurface soil above applicable SCOs.	Advance to top of bedrock surface (estimated 37 feet bgs).
SB-14	1/25/2017	Further evaluate the extent of constituents in subsurface soil above applicable SCOs.	Advance to top of bedrock surface (estimated 30 feet bgs).
SB-15	1/27/2017	Further evaluate the extent of constituents in subsurface soil above applicable SCOs.	Advance to top of bedrock surface (estimated 27 feet bgs).
SB-16	1/30/2017	Further evaluate the extent of constituents in subsurface soil above applicable SCOs.	Advance to top of bedrock surface (estimated 28 feet bgs).
OVERBURDEN MONITORING WELLS			
MW-1S	5/27/2015	Evaluate shallow overburden groundwater quality conditions upgradient from area of former MGP and asphalt plant operations. Evaluate aquifer characteristics in the shallow overburden. Collect analytical soil samples to asses potential for constituents across screened interval.	Soil Boring - advance and continuously sample to top of fine-grained alluvial deposits (estimated 20 feet bgs) or other potential confining layer if present. Well - position well screen within fill material on top of fine-grained alluvial deposits observed in Area-2. Assume well will be positioned hydraulically upgradient.
MW-1S-REP	1/24/2017	Further evaluate the extent of dissolved-phase constituents in shallow overburden groundwater above Class GA criteria.	Soil Boring - estimated 23 feet bgs. Well - straddle water table with screen.
MW-1D	5/26/2015	Evaluate deep overburden groundwater quality conditions upgradient of former MGP and asphalt plant operations. Evaluate aquifer characteristics in the deep overburden. Collect analytical soil samples to asses potential for constituents across screened interval.	Soil Boring - advance and continuously sample to top of bedrock surface (estimated 40 feet bgs). Well - position well screen on top of bedrock or overlying dense till within "lower sand and gravel" unit observed in Area-2. Assume well will be positioned hydraulically upgradient.
MW-2S	5/22/2015	Evaluate shallow overburden groundwater quality conditions upgradient from area of former MGP and asphalt plant operations. Evaluate aquifer characteristics in the shallow overburden. Collect analytical soil samples to asses potential for constituents across screened interval.	Soil Boring - advance and continuously sample to top of fine-grained alluvial deposits (estimated 20 feet bgs) or other potential confining layer if present. Well - position well screen within fill material on top of fine-grained alluvial deposits observed in Area-2.
MW-2D	5/21/2015	Evaluate deep overburden groundwater quality conditions upgradient of former MGP and asphalt plant operations. Evaluate aquifer characteristics in the deep overburden. Collect analytical soil samples to asses potential for constituents across screened interval.	Soil Boring - advance and continuously sample to top of bedrock surface (estimated 40 feet bgs). Well - position well screen on top of bedrock or overlying dense till within "lower sand and gravel" unit observed in Area-2.
MW-3S	5/21/2015	Evaluate shallow overburden groundwater quality conditions upgradient from area of former MGP and asphalt plant operations. Evaluate aquifer characteristics in the shallow overburden. Collect analytical soil samples to asses potential for constituents across screened interval.	Soil Boring - advance and continuously sample to top of fine-grained alluvial deposits (estimated 20 feet bgs) or other potential confining layer if present. Well - position well screen within fill material on top of fine-grained alluvial deposits observed in Area-2.

TABLE 1
RATIONALE FOR SAMPLING LOCATIONS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Location ID	Completion Date	Planned Purpose	Planned Target Depth Per Work Plans[1]
MW-3D	5/20/2015	Evaluate deep overburden groundwater quality conditions upgradient of former MGP and asphalt plant operations. Evaluate aquifer characteristics in the deep overburden. Collect analytical soil samples to asses potential for constituents across screened interval.	Soil Boring - advance and continuously sample to top of bedrock surface (estimated 40 feet bgs). Well - position well screen on top of bedrock or overlying dense till within "lower sand and gravel" unit observed in Area-2.
MW-4S	5/20/2015	Evaluate shallow overburden groundwater quality conditions upgradient from area of former MGP and asphalt plant operations. Evaluate aquifer characteristics in the shallow overburden. Collect analytical soil samples to asses potential for constituents across screened interval.	Soil Boring - advance and continuously sample to top of fine-grained alluvial deposits (estimated 20 feet bgs). Well - position well screen within fill material on top of fine-grained alluvial deposits observed in Area-2.
MW-4D	5/19/2015	Evaluate deep overburden groundwater quality conditions upgradient of former MGP and asphalt plant operations. Evaluate aquifer characteristics in the deep overburden. Collect analytical soil samples to asses potential for constituents across screened interval.	Soil Boring - advance and continuously sample to top of bedrock surface (estimated 40 feet bgs). Well - position well screen on top of bedrock or overlying dense till within "lower sand and gravel" unit observed in Area-2.
MW-5	1/26/2017	Further evaluate the extent of NAPL/tar encountered in area of MW-3S/3D. Further evaluate the extent of dissolved-phase constituents in shallow overburden groundwater above Class GA criteria. Assess groundwater flow conditions in area of MW-3S.	Soil Boring - advance and continuously sample to top of bedrock surface (estimated 40 feet bgs). Well - straddle water table with screen.
MW-5S	2/13/2017	Further evaluate the extent of NAPL/tar encountered in area of MW-3S/3D. Further evaluate the extent of dissolved-phase constituents in shallow overburden groundwater above Class GA criteria. Assess groundwater flow conditions in area of MW-3S.	Soil Boring - approximately 25 feet bgs. Well - straddle water table with screen.
MW-6S	2/4/2017	Further evaluate the extent of NAPL/tar encountered in area of MW-3S/3D. Further evaluate the extent of dissolved-phase constituents in shallow overburden groundwater above Class GA criteria.	Soil Boring - approximately 25 feet bgs. Well - straddle water table with screen.
MW-6D	2/3/2017	Further evaluate the extent of NAPL/tar encountered in area of MW-3S/3D. Further evaluate the extent of dissolved-phase constituents in	Soil Boring - advance and continuously sample to top of bedrock surface (estimated 40 feet bgs). Well - position well screen on top of bedrock.
MW-7S	2/10/2017	Further evaluate the extent of dissolved-phase constituents in shallow overburden groundwater above Class GA criteria.	Soil Boring - approximately 23 feet bgs. Well - straddle water table with screen.
MW-7D	2/9/2017	Further evaluate the extent of dissolved-phase constituents in deep overburden groundwater above Class GA criteria.	Soil Boring - advance and continuously sample to top of bedrock surface (estimated 33 feet bgs). Well - position well screen on top of bedrock.
MW-8S	2/2/2017	Further evaluate the extent of dissolved-phase constituents in shallow overburden groundwater above Class GA criteria.	Soil Boring - approximately 25 feet bgs. Well - straddle water table with screen.

TABLE 1
RATIONALE FOR SAMPLING LOCATIONS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Location ID	Completion Date	Planned Purpose	Planned Target Depth Per Work Plans[1]
MW-8D	2/2/2017	Further evaluate the extent of dissolved-phase constituents in deep overburden groundwater above Class GA criteria.	Soil Boring - advance and continuously sample to top of bedrock surface (estimated 34 feet bgs). Well - position well screen on top of bedrock.
MW-9	1/26/2017	Further evaluate the extent of dissolved-phase constituents in shallow overburden groundwater above Class GA criteria.	Soil Boring - approximately 25 feet bgs. Well - straddle water table with screen.
MW-10	1/26/2017	Further evaluate the extent of dissolved-phase constituents in shallow overburden groundwater above Class GA criteria.	Soil Boring - approximately 25 feet bgs. Well - straddle water table with screen.
BEDROCK MONITORING WELLS			
MW-3R	2/15/2017	Assess vertical extent of NAPL/tar encountered in soil boring for MW-3D. Evaluate groundwater quality conditions in shallow bedrock groundwater.	Pending findings from coring, packer testing and geophysical logging, complete a well with screen in shallow bedrock water-bearing zone. Total depth of bedrock well is anticipate to be less than 20 feet below the top of bedrock surface (estimated 60 feet bgs).
TEST PITS			
TP-1, TP-1A and TP-1B	5/27/2015	Delineate purifier wastes observed on surface beneath span of Troy-Menands Bridge. Collect analytical samples to assess potential for constituents above SCOs	10 feet or below impacts identified by field screening (if any).
TP-2	5/28/2015	Evaluate structure of foundation of former tank T-27. Collect analytical samples to assess potential for constituents above SCOs.	*Within Structure* - excavate to base of structure (if foundation bottom is not visible on surface). *Outside of Structure*- excavate to expose sidewall of foundation to determine thickness, and excavate below impacts identified by field screening (if any).
TP-3	5/28/2015	Evaluate structure of foundation of former tank T-41. Collect analytical samples to assess potential for constituents above SCOs.	*Within Structure* - excavate to base of structure (if foundation bottom is not visible on surface). *Outside of Structure*- excavate to expose sidewall of foundation to determine thickness, and excavate below impacts identified by field screening (if any).
TP-4	5/27/2015	Evaluate any geophysical anomaly identified during onsite subsurface obstruction survey performed during RI activities, or AST foundations/structures. Collect analytical samples to assess potential for constituents above SCOs.	10 feet or below impacts identified by field screening (if any).
TP-5	5/28/2015	Evaluate structure of foundation of former tank T-41. Collect analytical samples to assess potential for constituents above SCOs.	*Within Structure* - excavate to base of structure (if foundation bottom is not visible on surface). *Outside of Structure*- excavate to expose sidewall of foundation to determine thickness, and excavate below impacts identified by field screening (if any).
TP-6	2/8/2017	Evaluate subsurface conditions in area of former flux oil tank.	10 feet or below impacts identified by field screening (if any).
TP-7	2/8/2017	Evaluate subsurface conditions in area of former tar products tanks.	10 feet or below impacts identified by field screening (if any).

TABLE 1
RATIONALE FOR SAMPLING LOCATIONS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Location ID	Completion Date	Planned Purpose	Planned Target Depth Per Work Plans[(1)]
SURFICIAL SOIL SAMPLES			
SS-1 through SS-12	5/13/2015 - 5/14/2015	Measure concentrations of constituents in on-site surficial soil to collect data for human health exposure assessment and fish and wildlife resources impact analysis.	0- to 2-inches below vegetative cover and 0- to 6-inches below vegetative cover.
SOIL VAPOR PROBES			
SV-1 through SV-6	11/1/2017	Evaluate the potential for MGP-related or other residuals to be contributing VOCs to soil vapor.	Screen to be placed at a depth comparable to the depth of foundation footing (approximately 6-8 feet bgs).

Notes:
SCOs- Soil Cleanup Objectives (as set forth in 6 NYCRR 375-6)
NAPL - non-aqueous phase liquid
bgs - below ground surface
VOCs - volatile organic compounds
(1) - See Table 2 for actual depths.

TABLE 2
SUMMARY OF DETAILS FOR INVESTIGATORY SAMPLE LOCATIONS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

		Survey Coordinates		Ground Surface	Depth to	Base of Fill	Depth to	Bedrock	Screened Interval		Screened Interval		Total Depth	
	Completion	NY State Plane - NAD 83		Elevation[1]	Base of Fill	Elevation	Bedrock	Elevation	Top	Bottom	Top	Bottom		
Location ID	Date	Northing	Easting	(ft., NGVD)	(ft., BGS)	(ft., NGVD)	(ft., BGS)	(ft., NGVD)	(ft., BGS)	(ft., BGS)	(ft., NGVD)	(ft., NGVD)	(ft., BGS)	(ft., NGVD)
Soil Borings														
SB-1	5/18/2015	1410104.90	706954.47	26.39	21.0	5.4	29.1	-2.7	--	--	--	--	29.7	-3.31
SB-2	5/13/2015	1410263.46	706810.37	25.35	27.2	-1.9	31.9	-6.6	--	--	--	--	33.2	-7.85
SB-3	5/14/2015	1410341.83	706960.32	27.45	21.0	6.5	31.3	-3.9	--	--	--	--	31.3	-3.85
SB-4	5/13/2015	1410189.84	706916.92	26.88	23.3	3.6	39.0	-12.1	--	--	--	--	40.7	-13.82
SB-5	5/12/2015	1410360.84	706807.06	25.95	25.0	0.9	32.9	-7.0	--	--	--	--	33.1	-7.15
SB-6	5/11/2015	1410375.43	706909.56	27.42	25.2	2.2	33.0	-5.6	--	--	--	--	33.6	-6.18
SB-7	5/14/2015	1410276.77	706912.94	26.03	26.4	-0.4	32.8	-6.8	--	--	--	--	33.2	-7.17
SB-8	5/15/2015	1410191.47	706979.02	26.91	11.6	15.3	27.3	-0.4	--	--	--	--	29.1	-2.19
SB-9	5/19/2015	1410147.22	706834.27	25.18	23.7	1.5	37.0	-11.8	--	--	--	--	37.7	-12.52
SB-10	1/25/2017	1410384.01	706989.43	28.03	20.0	8.0	32.4	-4.4	--	--	--	--	32.8	-4.77
SB-11	2/1/2017	1410229.95	706851.64	25.85	17.0	8.9	37.8	-12.0	--	--	--	--	37.9	-12.05
SB-12	1/31/2017	1410194.74	706856.21	25.62	19.0	6.6	38.2	-12.6	--	--	--	--	38.4	-12.78
SB-13	1/30/2017	1410093.38	706831.72	24.39	19.2	5.2	35.5	-11.1	--	--	--	--	35.7	-11.31
SB-14	1/25/2017	1410342.28	706989.52	27.26	19.0	8.3	31.9	-4.6	--	--	--	--	32.3	-5.04
SB-15	1/27/2017	1410216.80	706997.96	28.07	21.2	6.9	28.3	-0.2	--	--	--	--	28.5	-0.43
SB-16	1/30/2017	1410150.36	706995.29	27.04	20.9	6.1	27.3	-0.3	--	--	--	--	27.4	-0.36
Overburden Monitoring Wells														
MW-1[2]	--	1410206.18	706820.10	25.53	--	--	--	--	--	--	--	--	29.2	-3.63
MW-1S	5/27/2015	1410304.02	706978.72	27.20	--	--	--	--	12.0	18.0	15.2	9.2	28.0	-0.80
MW-1S-REP	1/24/2017	1410290.40	706973.44	27.07	--	--	--	--	18.0	23.0	9.1	4.1	23.0	4.07
MW-1D	5/26/2015	1410296.66	706977.17	27.03	28.0	-1.0	29.8	-2.8	23.0	29.0	4.0	-2.0	30.0	-2.97
MW-2S	5/22/2015	1410321.63	706845.58	25.90	19.8	6.1	--	--	10.0	20.0	15.9	5.9	22.0	3.90
MW-2D	5/21/2015	1410321.23	706839.74	25.80	21.0	4.8	33.7	-7.9	29.5	33.0	-3.7	-7.2	34.4	-8.60
MW-3S	5/21/2015	1410215.97	706855.40	25.70	17.0	8.7	--	--	9.5	19.5	16.2	6.2	21.5	4.20
MW-3D	5/20/2015	1410216.92	706849.03	25.48	17.0	8.5	37.0	-11.5	24.5	34.5	1.0	-9.0	38.2	-12.72
MW-4[2]	--	1410305.46	706970.54	27.17	--	--	--	--	--	--	--	--	24.5	2.72
MW-4S	5/20/2015	1410127.41	706876.31	25.27	19.6	5.7	--	--	15.0	21.0	10.3	4.3	21.0	4.27
MW-4D	5/19/2015	1410122.25	706866.29	25.00	19.0	6.0	35.0	-10.0	27.5	33.5	-2.5	-8.5	35.9	-10.90
MW-5	1/26/2017	1410214.52	706880.16	26.49	19.7	6.8	38.2	-11.7	27.0	37.0	-0.5	-10.5	39.0	-12.51
MW-5S	2/13/2017	1410217.29	706880.27	26.60	20.3	6.3	--	--	12.0	22.0	14.6	4.6	23.0	3.60
MW-6S	2/4/2017	1410214.55	706818.64	25.68	--	--	--	--	18.0	24.0	7.7	1.7	24.0	1.68
MW-6D	2/3/2017	1410219.53	706817.67	25.54	19.0	6.5	36.5	-10.96	26.5	36.5	-1.0	-11.0	36.8	-11.26
MW-7S	2/10/2017	1410373.29	706844.55	27.93	20.0	7.9	--	--	14.0	24.0	13.9	3.9	24.0	3.93
MW-7D	2/9/2017	1410378.27	706843.50	27.90	23.0	4.9	36.4	-8.50	28.0	36.5	-0.1	-8.6	36.5	-8.60
MW-8S	2/2/2017	1410309.02	706809.74	25.77	--	--	--	--	15.0	25.0	10.8	0.8	25.0	0.77
MW-8D	2/2/2017	1410313.26	706809.20	25.68	31.7	-6.0	32.0	-6.32	29.0	32.0	-3.3	-6.3	32.3	-6.62
MW-9	1/26/2017	1410123.28	706829.21	24.76	21.0	3.8	--	--	15.0	25.0	9.8	-0.2	25.0	-0.24
MW-10	1/26/2017	1410098.10	706880.32	25.25	21.7	3.55	--	--	15.0	25.0	10.3	0.3	25.0	0.25

TABLE 2
SUMMARY OF DETAILS FOR INVESTIGATORY SAMPLE LOCATIONS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Location ID	Completion Date	Survey Coordinates NY State Plane - NAD 83 Northing	Survey Coordinates NY State Plane - NAD 83 Easting	Ground Surface Elevation[1] (ft., NGVD)	Depth to Base of Fill (ft., BGS)	Base of Fill Elevation (ft., NGVD)	Depth to Bedrock (ft., BGS)	Bedrock Elevation (ft., NGVD)	Screened Interval Top (ft., BGS)	Screened Interval Bottom (ft., BGS)	Screened Interval Top (ft., NGVD)	Screened Interval Bottom (ft., NGVD)	Total Depth (ft., BGS)	Total Depth (ft., NGVD)
Bedrock Monitoring Wells														
MW-3R	2/15/2017	1410208.45	706856.29	25.71	19	6.71	39.5	-13.79	47	56	-21.29	-30.29	56.5	-30.79
Test Pits														
TP-1	5/27/2015	1410099.76	706890.52	25.35	--	--	--	--	--	--	--	--	10.0	15.35
TP-1A	5/27/2015	1410095.83	706865.02	25.24	--	--	--	--	--	--	--	--	6.0	19.24
TP-1B	5/27/2015	1410082.67	706840.20	24.27	--	--	--	--	--	--	--	--	10.0	14.27
TP-2	5/28/2015	1410238.78	7068853.10	25.86	--	--	--	--	--	--	--	--	5.0	20.86
TP-3	5/28/2015	1410284.08	706964.03	27.00	--	--	--	--	--	--	--	--	5.0	22.00
TP-4	5/27/2015	1410321.79	706899.47	26.63	--	--	--	--	--	--	--	--	9.5	17.13
TP-5	5/28/2015	1410231.26	706956.86	26.80	--	--	--	--	--	--	--	--	7.5	19.30
TP-6	2/8/2017	1410293.67	706896.07	29.12	--	--	--	--	--	--	--	--	8.5	20.62
TP-7	2/8/2017	1410313.71	706965.10	28.81	--	--	--	--	--	--	--	--	8.5	20.31
Surface Soil Samples														
SS-1	5/13/2015	1410331.29	706764.10	7.51	--	--	--	--	--	--	--	--	--	--
SS-2	5/14/2015	1410331.80	706782.49	16.60	--	--	--	--	--	--	--	--	--	--
SS-3	5/13/2015	1410194.08	706776.36	8.04	--	--	--	--	--	--	--	--	--	--
SS-4	5/13/2015	1410198.16	706796.06	22.02	--	--	--	--	--	--	--	--	--	--
SS-5	5/13/2015	1410080.65	706791.54	9.09	--	--	--	--	--	--	--	--	--	--
SS-6	5/13/2015	1410083.58	706812.23	24.25	--	--	--	--	--	--	--	--	--	--
SS-7	5/13/2015	1410339.81	706847.84	25.95	--	--	--	--	--	--	--	--	--	--
SS-8	5/13/2015	1410346.37	706933.92	27.44	--	--	--	--	--	--	--	--	--	--
SS-9	5/13/2015	1410255.35	706851.24	25.56	--	--	--	--	--	--	--	--	--	--
SS-10	5/13/2015	1410251.95	706936.99	26.30	--	--	--	--	--	--	--	--	--	--
SS-11	5/14/2015	1410132.54	706858.52	24.87	--	--	--	--	--	--	--	--	--	--
SS-12	5/14/2015	1410135.19	706945.98	25.87	--	--	--	--	--	--	--	--	--	--
Soil Vapor Probes														
SV-1	11/1/2017	1410108.73	706923.12	27.86	--	--	--	--	7.5	8.0	20.4	19.9	8.0	19.86
SV-2	11/1/2017	1410132.95	706832.85	26.43	--	--	--	--	6.5	7.0	19.9	19.4	7.0	19.43
SV-3	11/1/2017	1410224.92	706858.94	27.03	--	--	--	--	6.5	7.0	20.5	20.0	7.0	20.03
SV-4	11/1/2017	1410264.72	706822.40	27.23	--	--	--	--	7.5	8.0	19.7	19.2	8.0	19.23
SV-5	11/1/2017	1410374.75	706872.96	29.35	--	--	--	--	7.5	8.0	21.8	21.3	8.0	21.35
SV-6	11/1/2017	1410314.40	706983.77	28.95	--	--	--	--	7.5	8.0	21.4	20.9	8.0	20.9

Notes:

(1) - Value presented reflects ground surface elevation at time of well installation, soil boring drilling, soil vapor probe installation, or test pit excavation.

(2) - Wells installed by others

-- - Data not available or not applicable

NGVD - National Geodetic Vertical Datum

BGS - Below Ground Surface

TABLE 3
SUMMARY OF IN-SITU HYDRAULIC CONDUCTIVITY RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Location ID	Screened Interval (ft., BGS)	Formation(s) Screened[a]	Saturated Formation(s) Adjacent to Screen at Time of Test[b]	Test Date	Hydraulic Conductivity (cm/sec)
Fill					
MW-1S[c]	12-18	Fill(6)	--	--	--
MW-1S-REP	18-23	Fill (5)	Fill	4/11/2017	1.4E-02
MW-1D	23-29	Fill(5)/Sand and Silt(1)	Fill/Sand and Silt	7/24/2015	9.9E-03
MW-2S	10.0-20.0	Fill(9.8)/Silt & Clay/Clay & Silt (0.2)	Fill/Silt&Clay/Clay&Silt	7/24/2015	1.2E-03
MW-3S	9.5-19.5	Fill(7.5)/Sand and Silt(2.5)	Fill/Sand and Silt	7/24/2015	1.3E-04
MW-4S	15.0-21.0	Fill(6)	Fill	7/24/2015	3.8E-04
MW-5S	12-22	Fill (8.3)/Silt & Clay/Clay & Silt (1.7)	Fill/Silt&Clay/Clay&Silt	4/11/2017	3.0E-04
MW-6S	18-24	Fill (6)	Fill	4/12/2017	2.6E-03
MW-8S	15-25	Fill (10)	Fill	4/12/2017	3.2E-03
MW-8D	29-32	Fill (2.7)/ Sand and Silt (0.3)	Fill/Sand and Silt	4/12/2017	5.3E-03
MW-10	15-25	Fill (6.7)/Silt & Clay/Clay & Silt (3.3)	Fill/Silt&Clay/Clay&Silt	4/12/2017	5.7E-04
				Geometric Mean	**1.5E-03**
Sand and Gravel					
MW-2D	29.5-33.0	Sand and Gravel(3.5)	Sand and Gravel	7/24/2015	6.1E-03
MW-3D	24.5-34.5	Sand and Gravel(10)	Sand and Gravel	7/24/2015	1.0E-03
MW-6D	26.5-36.5	Sand and Gravel (10)	Sand and Gravel	4/11/2017	3.5E-02
MW-7S	14-24	Fill(6)/ Sand and Gravel (4)	Fill/Sand and Gravel	4/11/2017	3.8E-02
MW-7D	28-36.5	Sand and Gravel (8.5)	Sand and Gravel	4/11/2017	1.0E-02
MW-9	15-25	Fill (6)/ Sand and Gravel (4)	Fill/Sand and Gravel	4/11/2017	1.3E-03
				Geometric Mean	**6.8E-03**
Bedrock					
MW-3R	47-56	Bedrock (9)	Bedrock	4/11/2017	8.9E-04
Other					
MW-4D	27.5-33.5	Sand and Silt(6)	Sand and Silt	7/24/2015	4.1E-03
MW-5	27-37	Silt & Clay/Clay & Silt (2.3)/Sand and Silt (6.1)/ Sand and Gravel (1.6)	Silt&Clay/Clay&Silt/Sand and Silt/ Sand and Gravel	4/11/2017	1.3E-03

Notes:
BGS - Below Ground Surface
cm/sec - centimeters per second
(a) - Formation(s) adjacent to screened interval. Value presented in parentheses indicates length of screen in feet adjacent to listed formation(s).
(b) - Based on depth to water data collected prior to initiation of slug test, formation(s) listed indicates which formation(s) the slug test is representative of.
(c) - Insufficient amount of water in well to complete test using this test procedure.

TABLE 4
GROUNDWATER ELEVATIONS AND NAPL MONITORING DATA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Well ID	Top of Casing Elevation (ft., NGVD)	Screened Interval (ft., BGS)	6/11/2015			6/25/2015			7/2/2015			9/22/2015		
			Depth to Water (ft., BTOC)	Water Elevation (ft., NGVD)	Depth to NAPL (ft., BTOC)	Depth to Water (ft., BTOC)	Water Elevation (ft., NGVD)	Depth to NAPL (ft., BTOC)	Depth to Water (ft., BTOC)	Water Elevation (ft., NGVD)	Depth to NAPL (ft., BTOC)	Depth to Water (ft., BTOC)	Water Elevation (ft., NGVD)	Depth to NAPL (ft., BTOC)
MW-1	25.33	(1)	22.06	3.27	ND	22.08	3.25	NM	21.21	4.12	NM	22.72	2.61	ND
MW-1S	29.55	12-18	Dry	< 9.2	ND	Dry	< 9.2	NM	Dry	< 9.2	NM	Dry	< 9.2	ND
MW-1S-REP	29.12	18-23	--	--	--	--	--	--	--	--	--	--	--	--
MW-1D	29.61	22-29	22.12	7.49	ND	21.36	8.25	NM	20.75	8.86	NM	22.02	7.59	ND
MW-2S	28.45	10-20	22.26	6.19	ND	21.63	6.82	NM	21.50	6.95	NM	22.27	6.18	ND
MW-2D	28.95	29.5-33	25.02	3.93	ND	24.81	4.14	NM	24.18	4.77	NM	25.47	3.48	ND
MW-3S	28.26	9.5-19.5	17.35	10.91	ND[2]	17.07	11.19	NM	18.82	9.44	NM	17.16	11.10	ND[2]
MW-3D	28.05	24.5-34.5	24.40	3.65	38.42[3]	24.17	3.88	NM	23.59	4.46	NM	24.82	3.23	37.32[3]
MW-3R	27.70	49-56	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	27.08	(1)	19.61	7.47	ND	18.82	8.26	NM	19.02	8.06	NM	19.53	7.55	ND
MW-4S	28.14	13-21	20.97	7.17	ND	19.86	8.28	NM	19.76	8.38	NM	20.88	7.26	ND
MW-4D	27.65	27.5-33.5	24.13	3.52	ND	23.86	3.79	NM	23.23	4.42	NM	24.51	3.14	ND
MW-5S	29.06	12-22	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	29.09	27-37	--	--	--	--	--	--	--	--	--	--	--	--
MW-6S	28.23	18-24	--	--	--	--	--	--	--	--	--	--	--	--
MW-6D	28.56	26.5-36.5	--	--	--	--	--	--	--	--	--	--	--	--
MW-7S	30.65	14-24	--	--	--	--	--	--	--	--	--	--	--	--
MW-7D	30.70	28-36.5	--	--	--	--	--	--	--	--	--	--	--	--
MW-8S	28.61	15-25	--	--	--	--	--	--	--	--	--	--	--	--
MW-8D	28.84	29-32	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	27.43	15-25	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	28.01	15-25	--	--	--	--	--	--	--	--	--	--	--	--
SG-1	1.49	NA	0.67	0.82	ND	1.71	-0.22	NM	0.85	0.64	NM	1.62	-0.13	ND
Water Valve	27.52	(1)	NM	NA	NA	19.34	8.18	NM	NM	NA	NM	20.11	7.41	ND

TABLE 4
GROUNDWATER ELEVATIONS AND NAPL MONITORING DATA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Well ID	Top of Casing Elevation (ft., NGVD)	Screened Interval (ft., BGS)	2/27/2017			6/26/2017			6/30/2017			8/1/2018		
			Depth to Water (ft., BTOC)	Water Elevation (ft., NGVD)	Depth to NAPL (ft., BTOC)	Depth to Water (ft., BTOC)	Water Elevation (ft., NGVD)	Depth to NAPL (ft., BTOC)	Depth to Water (ft., BTOC)	Water Elevation (ft., NGVD)	Depth to NAPL (ft., BTOC)	Depth to Water (ft., BTOC)	Water Elevation (ft., NGVD)	Depth to NAPL (ft., BTOC)
MW-1	25.33	(1)	19.68	5.65	ND	21.37	3.96	ND	21.92	3.41	ND	22.38	2.95	ND
MW-1S	29.55	12-18	Dry	< 9.2	ND	20.06	9.49	ND	20.06	9.49	ND	19.96	9.59	ND
MW-1S-REP	29.12	18-23	20.83	8.29	ND	21.00	8.12	ND	21.15	7.97	ND	22.48	6.64	ND
MW-1D	29.61	22-29	21.29	8.32	ND	21.48	8.13	ND	21.63	7.98	ND	22.94	6.67	ND
MW-2S	28.45	10-20	21.59	6.86	ND	21.76	6.69	ND	21.89	6.56	ND	25.30	3.15	ND
MW-2D	28.95	29.5-33	23.12	5.83	ND	24.26	4.69	ND	24.52	4.43	ND	22.50	6.45	ND
MW-3S	28.26	9.5-19.5	10.85	17.41	ND(2)	10.90	17.36	ND(2)	11.90	16.36	23.9(4)	10.93	17.33	ND(2)
MW-3D	28.05	24.5-34.5	22.44	5.61	NM(5)	23.68	4.37	37.7	23.90	4.15	37.2	24.65	3.40	36.81
MW-3R	27.70	49-56	22.36	5.34	ND	23.45	4.25	ND	23.59	4.11	ND	24.36	3.34	ND
MW-4	27.08	(1)	18.78	8.30	ND	19.00	8.08	ND	19.11	7.97	ND	20.42	6.66	ND
MW-4S	28.14	13-21	19.07	9.07	ND	18.92	9.22	ND	19.14	9.00	ND	21.05	7.09	ND
MW-4D	27.65	27.5-33.5	22.16	5.49	ND	23.24	4.41	ND	23.55	4.10	ND	24.25	3.40	ND
MW-5S	29.06	12-22	19.79	9.27	ND	20.32	8.74	ND	20.38	8.68	ND	21.00	8.06	ND
MW-5	29.09	27-37	23.66	5.43	ND	24.80	4.29	ND	25.00	4.09	ND	25.75	3.34	ND
MW-6S	28.23	18-24	22.47	5.76	ND	24.30	3.93	ND	24.81	3.42	ND	25.27	2.96	ND
MW-6D	28.56	26.5-36.5	22.87	5.69	ND	24.65	3.91	ND	25.15	3.41	ND	25.59	2.97	ND
MW-7S	30.65	14-24	22.20	8.45	ND	22.67	7.98	ND	22.83	7.82	ND	23.94	6.71	ND
MW-7D	30.70	28-36.5	24.71	5.99	ND	22.80	7.90	ND	26.13	4.57	ND	26.93	3.77	ND
MW-8S	28.61	15-25	22.86	5.75	ND	24.68	3.93	ND	25.20	3.41	ND	25.66	2.95	ND
MW-8D	28.84	29-32	23.80	5.04	ND	25.12	3.72	ND	25.39	3.45	ND	25.87	2.97	ND
MW-9	27.43	15-25	21.78	5.65	ND	23.39	4.04	ND	23.89	3.54	ND	24.20	3.23	ND
MW-10	28.01	15-25	19.75	8.26	ND	19.58	8.43	ND	19.66	8.35	ND	21.22	6.79	ND
SG-1	1.49	NA	NM	2.38(6)	NM	1.54	-0.05	NM	NM	4.63(6)	NM	NM	0.96(6)	NM
Water Valve	27.52	(1)	NM	NA	NM	NM	NA	NM	NM	NA	NM	NM	NA	NM

Notes:
NGVD - National Geodetic Vertical Datum
BGS - Below Ground Surface
BTOC - Below Top of Casing
NA - Not Applicable
ND - Not detected with oil/water interface probe.
NM - Not measured
-- Monitoring well not installed at time of measurements
(1) - Wells installed by others. Screened intervals are unknown.
(2) - Heavy sheen observed on surface of purge water during groundwater sampling activities.
(3) - Depth to NAPL measured using threaded rod, oil/water interface was not lowered to bottom of well.
(4) - NAPL observed coating sediment in bottom of bailer
(5) - NAPL detected in well, during gauging activities. Measurement not collected.
(6) - Value posted represents water elevation from USGS river gauging station
(USGS 01359139 Hudson River at Albany, NY) location approximately 4.5 miles south of the Site.
River level adjacent to Site was above measuring point for SG-1 at time of Site-wide water level measurements.

TABLE 5
SUMMARY OF VISUAL/OLFACTORY OBSERVATIONS IN SOIL, BEDROCK AND MONITORING WELLS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Location	Date(s) of Observation	Total Depth of Boring/Test Pit (ft., BGS)	Depth of Observation (ft., BGS)	Description
SOIL BORINGS				
SB-1	5/18/2015	29.7	0.0-2.15	Black discolored grains (flat to submetallic luster), sporadic nodules of gravel-sized black solid tar-like material with a submetallic luster.
			2.15-2.6	Few occurrences of black discoloration (flat luster).
			2.6-5.0	Black discoloration (flat luster).
			5.0-21.1	Black discoloration (flat to submetallic luster).
SB-2	5/13/2015	33.2	0.0-2.0	Black discolored grains (flat to submetallic luster), sporadic nodules of gravel-sized black material with a submetallic luster.
			2.0-5.0	Black discoloration (flat luster).
			5.0-7.9	Infrequent black discolored grains (flat to submetallic luster), faint mothball-like odor.
			13.0-14.5	Black tacky/stringy tar-like material (sub-metallic to metallic luster), strong mothball-like odor.
			15.0-19.3	Infrequent black discolored grains (flat luster),faint mothball-like odor, specks of sheen on surface of water in split-spoon.
			21.0-32.0	Black discolored grains (sub-metallic to metallic luster), faint to moderate petroleum-like odor, specks of sheen on surface of water in split-spoon.
SB-3	5/14/2015	31.8	0.0-3.0	Faint to moderate mothball-like odor.
			0.3-5.0	Black discolored sand and gravel (flat luster).
			5.0-5.9	Black discolored grains (sub-metallic to metallic luster).
			7.0-22.3	Infrequent black discolored grains (flat luster).
SB-4	5/13/2015	40.8	2.0-5.0	Black discolored grains (flat luster).
			5.0-10.5	Infrequent black discolored grains (flat to sub-metallic luster).
			17.0-22.1	Infrequent black discolored grains (flat to sub-metallic), faint petroleum-like odor, specks of sheen of surface on water in split-spoon.
SB-5	5/12/2015	33.1	0.0-3.0	Black discolored grains (flat to submetallic luster), sporadic nodules of gravel-sized black material with a submetallic luster.
			5.0-6.2	Black tacky/stringy tar-like material (sub-metallic to metallic luster), strong mothball-like odor.
			7.0-8.6	Black tacky/stringy tar-like material (sub-metallic to metallic luster), strong mothball-like odor.
			9.0-14.9	Faint mothball-like odor.
			21.0-34.5	Strong to moderate petroleum-like odor, specks of sheen on surface of water in split-spoon.
SB-6	5/11/2014	34	1.5-5.0	Black discolored grains (flat luster), moderate to strong mothball-like odor.
			1.5 -3.0	Gravel to cobble sized solid tar-like material (submetallic luster), strong mothball-like odor.
			5.0-5.8	Black discoloration (flat to sub-metallic luster), strong mothball-like odor.
			9.0-14.0	Infrequent black discolored grains (flat to submetallic), faint mothball-like odor.
			19.0-32.1	Moderate to faint petroleum-like odor.
SB-7	5/14/2015	33	0.0-2.0	Black discolored sand and gravel, faint to moderate mothball-like odor.
			5.0-21.0	Infrequent black discolored grains (flat to submetallic luster).
SB-8	5/15/2015	29.1	1.0-3.0	Infrequent black discoloration (flat luster).
SB-9	5/19/2015	37.9	0.0-3.0	Black discolored grains (flat luster).
			1.5 -3.0	Gravel to cobble sized solid tar-like material (submetallic luster), strong mothball-like odor.
			5.0-8.3	Black discolored grains (flat to sub-metallic luster), faint to moderate mothball-like odor.
			9.0-11.6	Black tacky/semi-solid tar-like material, black discolored grains (flat to sub-metallic luster), strong mothball-like odor.
			13.0-20.4	Black discolored grains (flat luster).
SB-10	1/25/2017	32.8	5.8-7.4	Little black discolored grains (flat luster).
			7.4-10.6	Black discolored grains (flat luster).
			13.0-16.0	Black discolored grains (flat luster).
			19.0-21.7	Iridescent sheen visible on water in split-spoon, moderate fuel-like odor.
			23.0-23.2	Iridescent sheen visible on water in split-spoon, moderate fuel-like odor.
			25.0-28.6	Iridescent sheen visible on water in split-spoon, moderate fuel-like odor.
			31.0-32.4	Slight fuel-like odor.

TABLE 5
SUMMARY OF VISUAL/OLFACTORY OBSERVATIONS IN SOIL, BEDROCK AND MONITORING WELLS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Location	Date(s) of Observation	Total Depth of Boring/Test Pit (ft., BGS)	Depth of Observation (ft., BGS)	Description
SB-11	2/1/2017	37.9	7.3-8.1	Orange discoloration on grains, slight tar-like odor.
			9.0-10.4	Black discolored grains (flat luster), moderate tar-like odor.
			11.0-11.8	Black discolored grains (flat luster), black stringy semi-solid tar-like material, strong tar-like odor.
			13.0-14.2	Black discolored grains (flat luster), blebs of black stringy, tacky tar-like material, strong tar-like material.
			17.0-17.3	Black discolored grains (flat luster), strong tar-like odor.
			17.3-18.4	Black discoloration on outside of soil in split-spoon (flat luster), slight iridescent sheen on water in split-spoon, strong tar-like odor.
			19.0-19.3	Black discoloration on outside of soil in split-spoon (flat luster), slight iridescent sheen on water in split-spoon, strong tar-like odor.
			21.0-22.2	Black discolored grains (submetallic luster), strong tar-like odor.
			23.0-23.9	Black discolored grains (submetallic luster), strong tar-like odor.
			23.9-24.2	Moderate tar-like odor.
			25.0-25.4	Moderate tar-like odor.
			25.4-26.2	Black discolored grains (flat luster), brown NAPL partially coating grains, strong tar-like odor.
			26.2-26.4	Moderate tar-like odor.
			27.0-27.7	Slight iridescent sheen on water in split-spoon, moderate tar-like odor.
			31.0-32.2	Slight tar-like odor.
			33.0-34.3	Slight tar-like odor.
SB-12	1/31/2017	38.4	10.0-10.5	Black discolored grains (flat luster), moderate tar-like odor.
			11.0-12.0	Black discolored grains (submetallic luster), trace iridescent sheen visible on water in split-spoon, strong tar-like odor.
			13.0-14.3	Black discolored grains (flat luster), moderate tar-like odor.
			15.0-15.3	Black discolored grains (submetallic luster), trace sheen visible on water in split-spoon, moderate tar-like odor.
			18.1-18.5	Black discolored grains (flat luster), faint tar-like odor.
			23.0-24.0	Slight tar-like odor.
			24.0-24.2	Black discolored grains (flat luster), moderate tar-like odor.
			25.0-25.9	Black discolored grains (flat luster).
			26.1-26.2	NAPL partially coating grains, black discolored grains (metallic luster), strong tar/mothball-like odor.
			27.0-29.0	No recovery - iridescent sheen visible on outside of split-spoon.
			29.0-29.2	Black discolored grains (submetallic luster), NAPL coating grains, strong tar/mothball-like odor.
			29.2-30.0	Black discolored grains, submetallic luster, strong tar/mothball-like odor.
			30.0-30.2	Flat luster, moderate tar/mothball-like odor.
			31.0-31.3	Black discolored grains (submetallic luster), NAPL coating grains, strong tar-like odor.
			33.0-34.1	Black discolored grains (metallic luster), few blebs of NAPL, slight iridescent sheen, moderate tar-like odor.
			35.0-36.2	Slight iridescent sheen visible on outside of soils, slight tar-like odor.
			37.0-38.2	Faint tar-like odor.
SB-13	1/30/2017	35.7	9.0-9.7	Little black discolored grains (flat luster), moderate tar-like odor.
			9.7-10.8	Moderate tar-like odor.
			11.0-11.9	Slight tar-like odor.
SB-14	1/25/2017	32.3	5.9-7.8	Black discolored grains (flat luster).
			11.4-17.6	Little black discolored grains (flat luster).
			19.0-20.6	Slight fuel-like odor.
			23.0-24.0	Black discolored grains (metallic luster), slight iridescent sheen visible on water in split-spoon, strong fuel-like odor.
			24.0-24.1	Moderate fuel-like odor.
			25.0-25.7	Black discolored grains (submetallic luster), slight fuel-like odor.
			25.7-26.1	Slight fuel-like odor.
			27.0-28.1	Black discolored grains (flat luster), moderate fuel-like odor.
			30.0-31.9	Slight fuel-like odor.
			31.9	Blue-green discoloration visible on gravel.

TABLE 5
SUMMARY OF VISUAL/OLFACTORY OBSERVATIONS IN SOIL, BEDROCK AND MONITORING WELLS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Location	Date(s) of Observation	Total Depth of Boring/Test Pit (ft., BGS)	Depth of Observation (ft., BGS)	Description
SB-15	1/27/2017	28.5	5.8-7.4	Black discolored grains (flat luster).
			15.8-17.0	Black discolored grains (flat luster).
SB-16	1/30/2017	27.4	13.4-17.8	Black discolored grains (flat luster).
SOIL BORINGS FOR MONITORING WELLS				
MW-1S	5/27/2015	28	0.15	Solid tar-like material.
			12.0-12.4	Black discolored grains (flat luster).
			14.0-15.2	Black discolored grains (flat luster).
			16.4-17.0	Black discolored grains (flat luster).
			18.0-18.5	Black discolored grains (flat luster).
			20.0-21.3	Black discolored grains (flat luster), moderate petroleum-like odor, slight sheen on surface of water in split-spoon.
			21.3-21.7	Slight petroleum-like odor.
			22.0-23.0	Sporadic black discoloration of grains, moderate petroleum-like odor.
			23.0-23.2	Black discolored grains (flat luster), moderate petroleum-like odor.
			24.0-25.4	Slight petroleum-like odor.
			26.0-27.6	Slight petroleum-like odor.
MW-1S-REP	1/24/2017	23	0.0-0.2	Black discolored grains (flat luster), moderate tar-like odor.
			0.2-0.4	Black, hardened tar-like material, moderate tar-like odor.
			0.4-2.0	Moderate tar-like odor.
			2.0-5.2	Slight tar-like odor.
			7.4-8.1	Black discolored grains (flat luster).
			17.0-18.4	Black discolored grains (flat luster).
			21.0-22.5	Moderate mothball-like odor.
			22.5-23.0	Black discolored grains (metallic luster), iridescent sheen visible on grains, strong mothball-like odor.
MW-1D	5/26/2015	30	0.15	Solid tar-like material.
			0.5-1.4	Black semi-solid, tacky, tar-like material, strong tar-like odor.
			14.0-14.9	Black discolored grains (flat luster).
			16.0-17.5	Black discolored grains (flat luster).
			20.0-20.8	Moderate petroleum-like odor.
			24.0-24.3	Slight petroleum-like odor.
			26.0-26.3	Slight petroleum-like odors, slight sheen on surface of water in split-spoon.
			28.0-30.0	Black discolored grains (flat luster), slight petroleum-like odor.
MW-2S	5/22/2015	22	0.0-5.0	Black discolored grains (flat luster).
			0.8-1.0	Black gravel sized solid tar-like material (submetallic luster).
			19.0-19.8	Black greasy tar-like material (sub-metallic luster), petroleum-like odor.
MW-2D	5/21/2015	34.4	0.0-5.0	Black discolored grains (flat luster).
			1.0-1.2	Black gravel sized solid tar-like material (submetallic luster).
			5.0-5.7	Infrequent black discoloration (sub-metallic luster).
			7.0-7.8	Black tacky tar-like material (taffy-like consistency, flat to submetallic luster), mixture of strong mothball/petroleum-like odor.
			9.0-10.3	Black discoloration (flat luster).
			17.0-17.5	Black tacky/greasy tar-like material (flat to submetallic luster), faint petroleum-like odor, specks of sheen on surface of water in split-spoon.
			21.0-21.6	Specks of sheen on surface of water in split-spoon, faint petroleum-like odor.
			25.0-30.1	Faint petroleum-like odor.
MW-3S	5/21/2015	19.5	0.0-5.0	Black discolored grains (flat to submetallic luster).
			9.0-12.8	Sporadic occurrences of black tacky tar-like material (sub-metallic luster, taffy-like consistency).

TABLE 5
SUMMARY OF VISUAL/OLFACTORY OBSERVATIONS IN SOIL, BEDROCK AND MONITORING WELLS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Location	Date(s) of Observation	Total Depth of Boring/Test Pit (ft., BGS)	Depth of Observation (ft., BGS)	Description
MW-3D	5/20/2015	38.2	0.0-1.4	Black discolored grains (flat to submetallic luster).
			1.4-2.8	Infrequent black discoloration (flat luster).
			2.8-3.0	Black discolored grains (flat to submetallic luster).
			5.0-7.6	Infrequent black discoloration (flat luster), faint to moderate mothball-like odor.
			9.0-15.9	Black tacky/greasy tar-like material (flat to submetallic luster), mixture of strong mothball/petroleum-like odor, specks of sheen on surface of water in split-spoon.
			17.0-23.0	Black tacky/greasy tar-like material (flat to metallic luster), strong mothball-like odor, specks of sheen on surface of water in split-spoon.
			23.0-23.7	Sporadic NAPL blebs, sand grains partially coated with NAPL, black tacky/greasy tar-like material (flat to submetallic luster), strong mothball-like odor, specks of sheen on surface of water in split-spoon.
			23.7-29.0	Black tacky/greasy tar-like material (flat to metallic luster), strong mothball-like odor, specks of sheen on surface of water in split-spoon.
			29.0-30.2	Sporadic NAPL blebs, sand grains partially coated with NAPL, black tacky/greasy tar-like material (flat to submetallic luster), strong mothball-like odor, specks of sheen on surface of water in split-spoon.
			30.2-32.1	Black tacky/greasy tar-like material (flat to metallic luster), strong mothball-like odor, specks of sheen on surface of water in split-spoon.
			32.1-32.4	Soils coated to saturated with NAPL, black tacky/greasy tar-like material (flat to submetallic luster), strong mothball-like odor, specks of sheen on surface of water in split-spoon.
			33.6-34.0	Soils coated to saturated with NAPL, black tacky/greasy tar-like material (flat to submetallic luster), strong mothball-like odor, specks of sheen on surface of water in split-spoon.
			35.0-35.6	Black discoloration (flat to sub-metallic), strong mothball-like odor.
MW-4S	5/20/2015	21	0.0-5.0	Black discolored grains (flat luster).
			1.0-2.0	Gravel sized nodules of solid tar-like material (submetallic luster).
MW-4D	5/19/2015	35.9	0.0-5.0	Black discolored grains (flat luster).
			1.0-2.0	Gravel sized nodules of solid tar-like material (submetallic luster).
			5.0-21.4	Infrequent black discolored grains (flat to sub-metallic luster).
MW-5	1/26/2017	39	10.1-10.7	Black discolored grains (flat luster).
			13.0-14.7	Black discolored grains (flat luster), heavy iridescent sheen visible on water in split-spoon, strong tar-like odor.
			15.0-15.8	Black discolored grains (submetallic luster), slight iridescent sheen visible on water in split-spoon, slight tar-like odor.
			15.8-16.8	Slight tar-like odor.
			17.0-17.7	Moderate iridescent sheen visible on water in split-spoon, strong tar-like odor.
			19.0-19.7	Black discolored grains (metallic luster), brown blebs of NAPL partially coating grains, heavy iridescent sheen, strong tar-like odor.
			19.7-20.7	Slight tar-like odor.
			23.0-24.8	Faint tar-like odor.
			27.7-29.3	Brown NAPL partially coating grains, slight iridescent sheen, moderate tar-like odor.
			29.3-30.0	Slight tar-like odor.
			31.0-31.4	Slight tar-like odor.
MW-5S	2/13/2017	23	13.0-16.3	Black discolored grains (flat luster), strong tar-like odor.
			17.0-17.4	Black discolored grains (flat luster), strong tar-like odor, slight iridescent sheen.
			17.4-19.0	Moderate tar-like odor.
			19.0-20.3	Black discolored grains (flat luster), trace blebs of brown NAPL visible on gravel, strong tar-like odor, slight iridescent sheen.
			20.3-20.8	Moderate tar-like odor.
			21.0-22.7	Slight tar-like odor, iridescent sheen visible on water in split-spoon.
MW-6S	2/4/2017	24	22.0-22.6	Moderate tar-like odor.
			22.6-23.3	Black discolored grains (flat luster), moderate tar-like odor.

TABLE 5
SUMMARY OF VISUAL/OLFACTORY OBSERVATIONS IN SOIL, BEDROCK AND MONITORING WELLS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Location	Date(s) of Observation	Total Depth of Boring/Test Pit (ft., BGS)	Depth of Observation (ft., BGS)	Description
MW-6D	2/3/2017	36.8	3.0-5.0	Strong tar-like odor.
			5.0-6.0	Black discoloration on outside of soils, slight tar-like odor.
			6.0-13.2	Slight tar-like odor.
			19.0-19.9	Black discolored grains (flat luster), strong tar-like odor.
			21.0-22.4	Black discolored grains (flat luster), strong tar-like odor.
			23.0-23.2	Moderate tar-like odor.
			23.2-24.2	Black discolored grains (flat luster), moderate tar-like odor.
			25.0-26.0	Black discolored grains (submetallic luster), strong tar-like odor.
			27.0-27.7	Black discolored grains (submetallic luster), strong tar-like odor.
			29.0-29.4	Black discolored grains (submetallic luster), strong tar-like odor.
			29.4-29.9	Black discolored grains (submetallic luster); iridescent sheen, moderate tar-like odor.
			31.0-31.4	Black discolored grains (submetallic luster); iridescent sheen, moderate tar-like odor.
			33.0-33.5	Black discolored grains (submetallic luster); iridescent sheen, moderate tar-like odor.
			33.5-34	Black discolored grains (flat luster), iridescent sheen on water in split- spoon, slight tar-like odor.
			35-35.8	Black discolored grains (flat luster), slight iridescent sheen, slight tar-like odor.
			36.0-36.5	Black discolored grains (flat luster), slight tar-like odor.
MW-7S	2/10/2017	24	14.0-18.9	Slight fuel-like odor.
			20.0-21.4	Black discolored grains (flat luster), moderate fuel-like odor.
			22.0-22.8	Black discolored grains (flat luster), moderate fuel-like odor.
MW-7D	5/20/2015	21	7.0-7.9	Faint fuel-like odor.
			9.0-9.8	Faint fuel-like odor.
			15.5-16.9	Black discolored grains (flat luster).
			19.0-19.8	Moderate fuel-like odor.
			19.8-21.9	Black discolored grains (flat luster), slight iridescent sheen, strong fuel-like odor.
			23.0-24.1	Moderate fuel-like odor.
			27.0-28.3	Slight iridescent sheen on water in split-spoon, moderate fuel-like odor.
			29.0-30.2	Slight iridescent sheen on water in split-spoon, moderate fuel-like odor.
			31.0-31.8	Slight fuel-like odor.
			33.0-33.7	Slight fuel-like odor.
			35.0-36.4	Slight fuel-like odor.
MW-8S	2/2/2017	25	17.0-18.6	Slight tar-like odor.
			21.0-21.6	Slight tar-like odor.
			23.0-23.7	Slight tar-like odor.
MW-8D	2/2/2017	32.3	5.0-10.2	Black discolored grains (flat luster).
			11.0-11.8	Black discolored grains (flat luster), strong tar-like odor.
			13.0-13.7	Black discolored grains (flat luster), strong solvent-like odor.
			15.0-15.4	Black discolored grains, moderate solvent-like odor.
			15.4-16.3	Slight tar-like odor.
			19.8-21.2	Strong unknown odor.
			23.0-25.7	Black discolored grains (submetallic luster), moderate tar-like odor.
			27.0-27.2	Black discolored grains (metallic luster), moderate tar-like odor.
			27.2-27.4	Black discolored grains (submetallic luster), slight tar-like odor.
			27.4-29.9	Black discolored grains (submetallic luster), moderate tar-like odor.
			29.9-32.0	Black discolored grains (flat luster), moderate tar-like odor.
MW-9	2/7/2017	25	5.0-5.8	Faint fuel-like odor.
			7.0-8.4	Faint fuel-like odor.
			21.7-22.2	Black discolored grains (flat luster), moderate fuel-like odor.
			23.0-23.5	Black discolored grains (flat luster), moderate fuel-like odor.
			24.0-25.0	Black discolored grains (flat luster), slight fuel-like odor.
MW-10	2/7/2017	25	15.4-16.4	Black discolored grains (flat luster).
			17.0-17.9	Black discolored grains (flat luster), slight fuel-like odor.
			19.0-19.4	Black discolored grains (flat luster), slight fuel-like odor.

TABLE 5
SUMMARY OF VISUAL/OLFACTORY OBSERVATIONS IN SOIL, BEDROCK AND MONITORING WELLS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Location	Date(s) of Observation	Total Depth of Boring/Test Pit (ft., BGS)	Depth of Observation (ft., BGS)	Description
OVERBURDEN MONITORING WELLS				
MW-3S	6/30/2017	19.5	--	NAPL observed in well during gauging event (screen: 9.5-19.5' BGS)
MW-3D	6/11/2015, 9/22/2015, 2/27/2017, 6/26/2017, 6/30/2017 and 8/1/2018	38.2	--	NAPL observed in well during gauging events (screen: 24.5-34.5' BGS)
BEDROCK BORINGS FOR MONITORING WELLS				
MW-3R	2/15/2017	56.5	9.0-9.7	Slight tar-like odor.
Top of Rock: 39.5' BGS			9.7-12.4	Black discolored grains (flat luster), black stringy, tacky tar-like material partially coating grains, strong tar-like odor.
			12.4-12.8	Faint tar-like odor.
			13.0-14.6	Little black discolored grains (flat luster), moderate tar-like odor.
			15.0-16.3	Trace blebs of stringy, tacky tar-like material, strong tar-like odor.
			17.0-18.6	Trace blebs of stringy, tacky tar-like material, strong tar-like odor, slight iridescent sheen on water in split-spoon.
			19.0-20.4	Black discolored grains (submetallic luster), brown NAPL partially coating grains, strong tar-like odor; slight iridescent sheen.
			21.0-21.8	Black discolored grains (submetallic luster), brown NAPL partially coating grains, strong tar-like odor; slight iridescent sheen.
			23.0-23.8	Black discolored grains (submetallic luster), sporadic blebs of brown NAPL, strong tar-like odor.
			25.0-26.2	Black discolored grains (flat luster), brown NAPL partially coating grains, strong tar-like odor.
			26.2-26.5	Moderate tar-like odor.
			27.0-28.4	Brown NAPL partially coating grains, strong tar-like odor.
			29.0-29.9	Brown NAPL partially coating grains, slight iridescent sheen, strong tar-like odor.
			29.9-30.3	Moderate tar-like odor.
			33.0-33.7	Brown NAPL partially coating grains, strong tar-like odor.
			33.7-36.4	Strong tar-like odor.
			36.4-36.7	Moderate tar-like odor.
			37.0-38.4	Faint tar-like odor.
			39.0-39.5	Slight tar-like odor.
			41.5-46.5	Slight iridescent sheen visible on outside of core and within fractures.
TEST PITS				
TP-1	5/27/2015	10	0.0-10.0	Black discolored grains (flat luster).
TP-1A	5/27/2015	6	0.0-3.0	Black discolored grains (flat luster).
TP-1B	5/27/2015	10	0.0-4.0	Black discolored grains (flat luster).
			6.0-10.0	Black discolored grains (flat luster).
TP-2	5/28/2015	5	2.0-5.0	Black discolored grains (flat luster)
TP-3	5/28/2015	5	0.0-1.0	Semi-solid, stringy, tacky tar-like material mixed with gravel.
TP-4	5/27/2015	9.5	8.0	Piece of cemented lime-like material encountered with blue/green tinge, sulfur-like odor.
TP-5	5/28/2015	7.5	3.0-7.5	Black discolored grains (flat luster), some ash observed within fill material, faint sulfur-like odor.
TP-6	2/8/2017	8.5	0.5-4.0	Boulder sized chunks of haradened asphalt/tar-like material, faint tar-like odor.
TP-7	2/8/2017	8.5	--	No observations or odor indicative of MGP-related or other impacts
Soil Vapor Probes				
SV-1	11/1/2017	8	5.8-6.9	Black discolored grains (flat luster).
SV-2	11/1/2017	7	--	No observations or odor indicative of MGP-related or other impacts
SV-3	11/1/2017	7	--	No observations or odor indicative of MGP-related or other impacts
SV-4	11/1/2017	8	--	No observations or odor indicative of MGP-related or other impacts
SV-5	11/1/2017	8	--	No observations or odor indicative of MGP-related or other impacts
SV-6	11/1/2017	8	--	No observations or odor indicative of MGP-related or other impacts

Notes:
BGS - Below Ground Surface
-- - Not Applicable

TABLE 6
SURFACE SOIL ANALYTICAL RESULTS (0-2")
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[(a)]	Protection of Ecological Resources	Protection of Groundwater	Units	SS-1 0-2" 5/13/2015	SS-2 0-2" 5/14/2015	SS-3 0-2" 5/13/2015	SS-4 0-2" 5/13/2015	SS-5 0-2" 5/13/2015	SS-5 DUP 0-2" 5/13/2015	SS-6 0-2" 5/13/2015
Semi-volatile Organic Compounds (SVOCs)											
Polycyclic Aromatic Hydrocarbons (PAHs)											
Acenaphthene	1000	20	98	mg/kg	0.66 U	0.61 U	9.6 U	6 U	0.58 U	0.58 U	3.6 U
Acenaphthylene	1000	NE	107	mg/kg	0.58 U	0.54 U	8.4 U	5.3 U	0.6 J	0.51 U	3.2 U
Anthracene	1000	NE	1000	mg/kg	1.1 U	1 U	16 U	10 U	1.2 J	0.97 U	6 U
Benzo(a)anthracene	11	NE	1	mg/kg	0.45 U	**1.7 J**	6.5 U	4.1 U	**5.5**	**3.2 J**	2.4 U
Benzo(a)pyrene	1	2.6	22	mg/kg	0.66 U	**1.5 J**	9.6 U	6 U	**5.1**	**2.9 J**	3.6 U
Benzo(b)fluoranthene	11	NE	1.7	mg/kg	0.71 U	**1.9 J**	10 U	6.5 U	**6.2**	**4.5**	3.9 U
Benzo(g,h,i)perylene	1000	NE	1000	mg/kg	0.48 U	0.57 J	6.9 U	4.3 U	3.2 J	2.2 J	2.6 U
Benzo(k)fluoranthene	110	NE	1.7	mg/kg	0.58 U	0.8 J	8.4 U	5.3 U	**3.1 J**	1.5 J	3.2 U
Chrysene	110	NE	1	mg/kg	1 U	**1.7 J**	15 U	9.2 U	**5.2**	**2.9 J**	5.4 U
Dibenz(a,h)anthracene	1.10	NE	1000	mg/kg	0.79 U	0.73 U	12 U	7.2 U	0.69 U	0.69 U	4.3 U
Fluoranthene	1000	NE	1000	mg/kg	0.64 J	2.1 J	6.9 U	4.3 U	8.3	4.7	2.6 U
Fluorene	1000	30	386	mg/kg	0.53 U	0.49 U	7.7 U	4.8 U	0.46 U	0.46 U	2.9 U
Indeno(1,2,3-c,d)pyrene	11	NE	8.2	mg/kg	0.56 U	0.73 J	8.1 U	5.1 U	3.4 J	2.3 J	3 U
Naphthalene	1000	NE	NE	mg/kg	0.58 U	0.54 U	8.4 U	5.3 U	0.51 U	0.51 U	3.2 U
Phenanthrene	1000	NE	1000	mg/kg	0.66 U	0.97 J	9.6 U	6 U	4	1.4 J	3.6 U
Pyrene	1000	NE	1000	mg/kg	0.55 J	1.9 J	7.7 U	4.8 U	8	5	2.9 U
2-Methylnaphthalene	NE	NE	NE	mg/kg	0.9 U	0.83 U	13 U	8.2 U	0.78 U	0.79 U	4.9 U
Total PAHs	NE	NE	NE	mg/kg	1.2 J	14 J	ND	ND	54	31	ND
Other SVOCs											
2,4,5-Trichlorophenol	NE	NE	NE	mg/kg	1.2 U	1.1 U	18 U	11 U	1.1 U	1.1 U	6.6 U
2,4,6-Trichlorophenol	NE	NE	NE	mg/kg	0.9 U	0.83 U	13 U	8.2 U	0.78 U	0.79 U	4.9 U
2,4-Dichlorophenol	NE	NE	NE	mg/kg	0.48 U	0.44 U	6.9 U	4.3 U	0.41 U	0.42 U	2.6 U
2,4-Dimethylphenol	NE	NE	NE	mg/kg	1.1 U	1 U	16 U	9.9 U	0.94 U	0.95 U	5.9 U
2,4-Dinitrophenol	NE	NE	NE	mg/kg	21 U	19 U	300 U	190 U	18 U	18 U	110 U
2,4-Dinitrotoluene	NE	NE	NE	mg/kg	0.93 U	0.86 U	13 U	8.5 U	0.81 U	0.81 U	5 U
2,6-Dinitrotoluene	NE	NE	NE	mg/kg	0.53 U	0.49 U	7.7 U	4.8 U	0.46 U	0.46 U	2.9 U
2-Chloronaphthalene	NE	NE	NE	mg/kg	0.74 U	0.69 U	11 U	6.8 U	0.64 U	0.65 U	4 U
2-Chlorophenol	NE	NE	NE	mg/kg	0.82 U	0.76 U	12 U	7.5 U	0.71 U	0.72 U	4.4 U
2-Methylphenol (o-cresol)	1000	NE	0.33	mg/kg	0.53 U	0.49 U	7.7 U	4.8 U	0.46 U	0.46 U	2.9 U
2-Nitroaniline	NE	NE	NE	mg/kg	0.66 U	0.61 U	9.6 U	6 U	0.58 U	0.58 U	3.6 U
2-Nitrophenol	NE	NE	NE	mg/kg	1.3 U	1.2 U	18 U	12 U	1.1 U	1.1 U	6.9 U
3,3'-Dichlorobenzidine	NE	NE	NE	mg/kg	5.3 U	4.9 U	77 U	48 U	4.6 U	4.6 U	29 U
3-Nitroaniline	NE	NE	NE	mg/kg	1.2 U	1.2 U	18 U	11 U	1.1 U	1.1 U	6.7 U
4,6-Dinitro-2-methylphenol	NE	NE	NE	mg/kg	4.5 U	4.2 U	65 U	41 U	3.9 U	3.9 U	24 U
4-Bromophenyl phenyl ether	NE	NE	NE	mg/kg	0.63 U	0.59 U	9.2 U	5.8 U	0.55 U	0.55 U	3.4 U
4-Chloro-3-methylphenol	NE	NE	NE	mg/kg	1.1 U	1 U	16 U	10 U	0.97 U	0.97 U	6 U

TABLE 6
SURFACE SOIL ANALYTICAL RESULTS (0-2")
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[(a)]	Protection of Ecological Resources	Protection of Groundwater	Units	SS-1 0-2" 5/13/2015	SS-2 0-2" 5/14/2015	SS-3 0-2" 5/13/2015	SS-4 0-2" 5/13/2015	SS-5 0-2" 5/13/2015	SS-5 DUP 0-2" 5/13/2015	SS-6 0-2" 5/13/2015
4-Chloroaniline	NE	NE	NE	mg/kg	1.1 U	1 U	16 U	10 U	0.97 U	0.97 U	6 U
4-Chlorophenyl phenyl ether	NE	NE	NE	mg/kg	0.56 U	0.51 U	8.1 U	5.1 U	0.48 U	0.49 U	3 U
4-Methylphenol	1000	NE	0.33	mg/kg	0.53 U	0.49 U	7.7 U	4.8 U	0.46 U	0.46 U	2.9 U
4-Nitroaniline	NE	NE	NE	mg/kg	2.4 U	2.2 U	34 U	21 U	2 U	2.1 U	13 U
4-Nitrophenol	NE	NE	NE	mg/kg	3.1 U	2.9 U	46 U	29 U	2.7 U	2.8 U	17 U
Acetophenone	NE	NE	NE	mg/kg	0.61 U	0.56 U	8.8 U	5.6 U	0.53 U	0.53 U	3.3 U
Atrazine	NE	NE	NE	mg/kg	1.6 U	1.4 U	23 U	14 U	1.4 U	1.4 U	8.5 U
Benzaldehyde	NE	NE	NE	mg/kg	3.6 U	3.3 U	52 U	33 U	3.1 U	3.1 U	19 U
Benzyl butyl phthalate	NE	NE	NE	mg/kg	0.74 U	0.69 U	11 U	6.8 U	0.64 U	0.65 U	4 U
Biphenyl (Diphenyl)	NE	NE	NE	mg/kg	0.66 U	0.61 U	9.6 U	6 U	0.58 U	0.58 U	3.6 U
bis(2-Chloroethoxy)methane	NE	NE	NE	mg/kg	0.95 U	0.88 U	14 U	8.7 U	0.83 U	0.83 U	5.2 U
bis(2-Chloroethyl)ether	NE	NE	NE	mg/kg	0.58 U	0.54 U	8.4 U	5.3 U	0.51 U	0.51 U	3.2 U
bis(2-Chloroisopropyl)ether	NE	NE	NE	mg/kg	0.9 U	0.83 U	13 U	8.2 U	0.78 U	0.79 U	4.9 U
bis(2-Ethylhexyl)phthalate	NE	NE	NE	mg/kg	1.5 U	1.4 U	22 U	14 U	1.3 U	1.3 U	8.3 U
Caprolactam	NE	NE	NE	mg/kg	1.3 U	1.2 U	20 U	12 U	1.2 U	1.2 U	7.3 U
Carbazole	NE	NE	NE	mg/kg	0.53 U	0.49 U	7.7 U	4.8 U	0.46 U	0.46 U	2.9 U
Dibenzofuran	1000	NE	210	mg/kg	0.53 U	0.49 U	7.7 U	4.8 U	0.46 U	0.46 U	2.9 U
Diethyl phthalate	NE	NE	NE	mg/kg	0.58 U	0.54 U	8.4 U	5.3 U	0.51 U	0.51 U	3.2 U
Dimethyl phthalate	NE	NE	NE	mg/kg	0.53 U	0.49 U	7.7 U	4.8 U	0.46 U	0.46 U	2.9 U
dI-n-Butyl phthalate	NE	NE	NE	mg/kg	0.77 U	0.71 U	11 U	7 U	0.67 U	0.67 U	4.2 U
dI-n-Octyl phthalate	NE	NE	NE	mg/kg	0.53 U	0.49 U	7.7 U	4.8 U	0.46 U	0.46 U	12 J
Hexachlorobenzene	12	NE	3.2	mg/kg	0.61 U	0.56 U	8.8 U	5.6 U	0.53 U	0.53 U	3.3 U
Hexachlorobutadiene	NE	NE	NE	mg/kg	0.66 U	0.61 U	9.6 U	6 U	0.58 U	0.58 U	3.6 U
Hexachlorocyclopentadiene	NE	NE	NE	mg/kg	0.61 U	0.56 U	8.8 U	5.6 U	0.53 U	0.53 U	3.3 U
Hexachloroethane	NE	NE	NE	mg/kg	0.58 U	0.54 U	8.4 U	5.3 U	0.51 U	0.51 U	3.2 U
Isophorone	NE	NE	NE	mg/kg	0.95 U	0.88 U	14 U	8.7 U	0.83 U	0.83 U	5.2 U
Nitrobenzene	NE	NE	NE	mg/kg	0.5 U	0.47 U	7.3 U	4.6 U	0.44 U	0.44 U	2.7 U
N-Nitroso-di-n-propylamine	NE	NE	NE	mg/kg	0.77 U	0.71 U	11 U	7 U	0.67 U	0.67 U	4.2 U
N-Nitrosodiphenylamine	NE	NE	NE	mg/kg	3.7 U	3.4 U	53 U	33 U	3.2 U	3.2 U	20 U
Pentachlorophenol	55	0.8	0.8	mg/kg	4.5 U	4.2 U	65 U	41 U	3.9 U	3.9 U	24 U
Phenol	1000	30	0.33	mg/kg	0.69 U	0.64 U	10 U	6.3 U	0.6 U	0.6 U	3.7 U

TABLE 6
SURFACE SOIL ANALYTICAL RESULTS (0-2")
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SS-1 0-2" 5/13/2015	SS-2 0-2" 5/14/2015	SS-3 0-2" 5/13/2015	SS-4 0-2" 5/13/2015	SS-5 0-2" 5/13/2015	SS-5 DUP 0-2" 5/13/2015	SS-6 0-2" 5/13/2015
Inorganic Constituents											
Cyanide, total	10000	NE	40	mg/kg	0.64 U	0.59 U	2.6	0.53 J	2.7	4.2	3.1
Aluminum	NE	NE	NE	mg/kg	13700 B	10500	9410 B	7110 B	8360 B	6460 B	9720
Antimony	NE	NE	NE	mg/kg	0.51 U	0.51 U	0.5 U	0.45 U	0.46 U	0.5 U	0.4 U
Arsenic	16	13	16	mg/kg	6.5	7.7	6.6	**23.5**	9.4	6.7	5.4
Barium	10000	433	820	mg/kg	114	87.9	106	84	134	85	99.1
Beryllium	2700	10	47	mg/kg	0.69	0.66	0.54	0.4	0.033 U	0.063 J	0.5
Cadmium	60	4	8	mg/kg	0.46	0.038 U	0.41	0.17 U	0.3	0.17 J	0.33
Calcium	NE	NE	NE	mg/kg	11000 B	12700 B	3790 B	3880 B	8920 J	59100 J	25000 B
Chromium[b]	800	1	19	mg/kg	**35**	**17.6**	**42**	**75.8**	**28.6**	**22.3**	**79.8**
Cobalt	NE	NE	NE	mg/kg	13.3	11.8	8.7	24.3	22.4	15.3	8.8
Copper	10000	50	1720	mg/kg	34.8	30.6	34.9	**285**	**80.4 J**	39.1 J	**63.5**
Iron	NE	NE	NE	mg/kg	24800 B^	26400 ^B	27500 ^B	175000 B	41600 ^B	31400 ^B	36600 B
Lead	3900	63	450	mg/kg	39.5	28.6	**289**	**701**	**614 J**	**257 J**	**282**
Magnesium	NE	NE	NE	mg/kg	6620 B	5790	3140 B	4600 B	3160 B	4010 B	7170
Manganese	10000	1600	2000	mg/kg	788 B	714 ^B	654 B	1270 B	620 B	565 B	610 B
Nickel	10000	30	130	mg/kg	28	23.6	22.6	**123**	**1410 J**	**650 J**	**32.2**
Potassium	NE	NE	NE	mg/kg	1900	1770	1950	1110	1390	1190	1730
Selenium	6800	4	4	mg/kg	0.51 U	0.51 U	0.5 U	2.2 U	0.46 U	0.5 U	0.4 U
Silver	6800	2	8	mg/kg	0.25 U	0.25 U	0.25 U	0.22 U	0.23 U	0.25 U	0.2 U
Sodium	NE	NE	NE	mg/kg	98.5 J	101 J	260	105 J	901	677	566
Thallium	NE	NE	NE	mg/kg	0.38 U	0.38 U	0.38 U	0.34 U	4.7 J	1.6 J	0.3 U
Vanadium	NE	NE	NE	mg/kg	21.6	23	29.3	62.4	2100 J	1050 J	30.2
Zinc	10000	109	2480	mg/kg	109 B	84.7 ^B	**118 B**	**310 B**	**169 B**	**119 B**	**855 B**
Mercury	5.7	0.18	0.73	mg/kg	0.13	0.015 J	**0.83**	0.1	**1.2**	**1.3**	0.047
Pesticides											
4,4'-DDD	180	0.0033	14	mg/kg	0.021 U	0.0081 U	0.042 U	0.18 U	0.075 U	0.019 U	0.034 U
4,4'-DDE	120	0.0033	17	mg/kg	0.023 U	0.0087 U	0.045 U	0.19 U	0.081 U	0.02 U	0.036 U
4,4'-DDT	94	0.0033	136	mg/kg	0.026 U	0.0097 U	0.05 U	0.21 U	0.09 U	0.023 U	0.041 U
Aldrin	1.40	0.14	0.19	mg/kg	0.027 U	0.01 U	0.053 U	0.22 U	0.094 U	0.024 U	0.043 U
alpha Endosulfan (Endosulfan I)	920	NE	102	mg/kg	0.021 U	0.008 U	0.041 U	0.17 U	0.074 U	0.019 U	0.033 U
beta Endosulfan (Endosulfan II)	920	NE	102	mg/kg	0.02 U	0.0075 U	0.039 U	0.16 U	0.069 U	0.018 U	0.031 U
BHC, alpha	6.80	0.04	0.02	mg/kg	0.02 U	0.0075 U	0.039 U	0.16 U	0.069 U	0.018 U	0.031 U
BHC, beta	14	0.60	0.09	mg/kg	0.02 U	0.0075 U	0.039 U	0.16 U	0.069 U	0.018 U	0.031 U
BHC, delta	1000	0.04	0.25	mg/kg	0.02 U	0.0077 U	0.04 U	0.17 U	0.071 U	0.018 U	0.032 U
BHC, gamma (Lindane)	23	6	0.10	mg/kg	0.02 U	0.0076 U	0.039 U	0.17 U	0.07 U	0.018 U	0.032 U
Chlordane, alpha	47	1.3	2.9	mg/kg	0.055 U	0.021 U	0.11 U	0.45 U	0.19 U	0.048 U	0.086 U
Chlordane, beta	NE	NE	NE	mg/kg	0.035 U	0.013 U	0.068 U	0.29 U	0.12 U	0.031 U	0.055 U
Dieldrin	2.80	0.01	0.10	mg/kg	0.026 U	0.01 U	0.051 U	0.22 U	0.092 U	0.023 U	0.042 U

TABLE 6
SURFACE SOIL ANALYTICAL RESULTS (0-2")
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[(a)]	Protection of Ecological Resources	Protection of Groundwater	Units	SS-1 0-2" 5/13/2015	SS-2 0-2" 5/14/2015	SS-3 0-2" 5/13/2015	SS-4 0-2" 5/13/2015	SS-5 0-2" 5/13/2015	SS-5 DUP 0-2" 5/13/2015	SS-6 0-2" 5/13/2015
Endosulfan sulfate	920	NE	1000	mg/kg	0.02 U	0.0078 U	0.04 U	0.17 U	0.072 U	0.018 U	0.032 U
Endrin	410	0.01	0.06	mg/kg	0.022 U	0.0082 U	0.042 U	0.18 U	0.076 U	0.019 U	0.034 U
Endrin aldehyde	NE	NE	NE	mg/kg	0.028 U	0.011 U	0.055 U	0.23 U	0.098 U	0.025 U	0.044 U
Endrin ketone	NE	NE	NE	mg/kg	0.027 U	0.01 U	0.053 U	0.22 U	0.094 U	0.024 U	0.043 U
Heptachlor	29	0.14	0.38	mg/kg	0.024 U	0.009 U	0.046 U	0.2 U	0.083 U	0.021 U	0.038 U
Heptachlor epoxide	NE	NE	NE	mg/kg	0.028 U	0.011 U	0.055 U	0.23 U	0.099 U	0.025 U	0.045 U
Methoxychlor	NE	NE	NE	mg/kg	0.022 U	0.089 J	0.044 U	0.19 U	0.078 U	0.02 U	0.035 U
Toxaphene	NE	NE	NE	mg/kg	0.64 U	0.24 U	1.2 U	5.3 U	2.2 U	0.57 U	1 U
Polychlorinated Biphenyls (PCBs)											
Aroclor 1016	NE	NE	NE	mg/kg	0.058 U	0.041 U	0.052 U	0.048 U	0.053 U	0.048 U	0.043 U
Aroclor 1221	NE	NE	NE	mg/kg	0.058 U	0.041 U	0.052 U	0.048 U	0.053 U	0.048 U	0.043 U
Aroclor 1232	NE	NE	NE	mg/kg	0.058 U	0.041 U	0.052 U	0.048 U	0.053 U	0.048 U	0.043 U
Aroclor 1242	NE	NE	NE	mg/kg	0.058 U	0.041 U	0.052 U	0.048 U	0.053 U	0.048 U	0.043 U
Aroclor 1248	NE	NE	NE	mg/kg	0.091 J	0.041 U	0.1 J	0.048 U	0.053 U	0.048 U	0.043 U
Aroclor 1254	NE	NE	NE	mg/kg	0.14 U	0.098 U	0.12 U	0.12 U	0.13 U	0.11 U	0.16 J
Aroclor 1260	NE	NE	NE	mg/kg	0.14 U	0.098 U	0.12 U	0.12 U	0.13 U	0.11 U	0.1 U
Total PCBs	NE	NE	3.2	mg/kg	0.091 J	ND	0.1 J	ND	ND	ND	0.16 J

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
NJ - The result is tentative in indentification and estimated in value.
^ - Instrument related Quality Control (QC) is outside acceptance limits.
B - Constituent was found in the blank and the sample.

NE - Not established.
ND - Not Detected
(a) - Zoning determination based on review of City of Troy Official Zoning Map dated 12/19/16. Zoning classification for the Site is identified as Waterfront Trade District, which permits industrial usage of property.
(b) - Chromium analysis was for total chromium. To be conservative, total chromium concentrations were compared to hexavalent chromium SCOs.

Boxed and bolded values indicate concentrations above New York State Subpart 375 Soil Cleanup Objectives for: Protection of Public Health for Industrially Zoned Properties, Protection of Ecological Resources, and/or Protection of Groundwater.

TABLE 6
SURFACE SOIL ANALYTICAL RESULTS (0-2")
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[(a)]	Protection of Ecological Resources	Protection of Groundwater	Units	SS-7 0-2" 5/13/2015	SS-8 0-2" 5/13/2015	SS-9 0-2" 5/13/2015	SS-10 0-2" 5/13/2015	SS-11 0-2" 5/14/2015	SS-11 DUP 0-2" 5/14/2015	SS-12 0-2" 5/14/2015
Semi-volatile Organic Compounds (SVOCs)											
Polycyclic Aromatic Hydrocarbons (PAHs)											
Acenaphthene	1000	20	98	mg/kg	**90 J**	5.2 U	0.52 U	1.3 U	0.53 U	0.53 U	0.52 U
Acenaphthylene	1000	NE	107	mg/kg	15 U	12 J	2.1 J	2.1 J	1.2 J	1.1 J	0.8 J
Anthracene	1000	NE	1000	mg/kg	210	8.8 U	2.7 J	2.3 U	1 J	0.97 J	0.87 U
Benzo(a)anthracene	11	NE	1	mg/kg	**770**	**33 J**	**11**	**9.1 J**	**4.9**	**5.6**	**2.7 J**
Benzo(a)pyrene	1	2.6	22	mg/kg	**1100**	**28 J**	**8.9**	**9.3**	**4**	**4.3**	**2.1 J**
Benzo(b)fluoranthene	11	NE	1.7	mg/kg	**960**	**31 J**	**11**	**9.9**	**5.1**	**6.7**	**3.4 J**
Benzo(g,h,i)perylene	1000	NE	1000	mg/kg	430	14 J	5.1	4.6 J	2 J	2 J	1.3 J
Benzo(k)fluoranthene	110	NE	1.7	mg/kg	**670**	**16 J**	**5.1**	**5.7 J**	**2.9 J**	**2.2 J**	1.2 J
Chrysene	110	NE	1	mg/kg	**790**	**26 J**	**11**	**8.5 J**	**4.9**	**5.1**	**2.5 J**
Dibenz(a,h)anthracene	1.10	NE	1000	mg/kg	**170**	6.3 U	0.62 U	1.6 U	0.63 U	0.97 J	0.62 U
Fluoranthene	1000	NE	1000	mg/kg	840	29 J	14	11	7	6.5	3.3 J
Fluorene	1000	30	386	mg/kg	**48 J**	4.2 U	1.3 J	1.1 U	0.42 U	0.45 J	0.42 U
Indeno(1,2,3-c,d)pyrene	11	NE	8.2	mg/kg	**470**	**14 J**	5.2	4.8 J	2.2 J	2 J	1.3 J
Naphthalene	1000	NE	NE	mg/kg	89 J	4.6 U	0.87 J	1.9 J	0.46 U	0.66 J	0.46 U
Phenanthrene	1000	NE	1000	mg/kg	520	13 J	12	6.6 J	4.1	5.3	1.7 J
Pyrene	1000	NE	1000	mg/kg	810	40	16	14	6.1	7	3.2 J
2-Methylnaphthalene	NE	NE	NE	mg/kg	31 J	7.1 U	0.71 U	1.8 U	0.72 U	0.72 U	0.71 U
Total PAHs	NE	NE	NE	mg/kg	7998	256	106	88	45	51	24 J
Other SVOCs											
2,4,5-Trichlorophenol	NE	NE	NE	mg/kg	31 U	9.6 U	0.96 U	2.5 U	0.97 U	0.97 U	0.95 U
2,4,6-Trichlorophenol	NE	NE	NE	mg/kg	23 U	7.1 U	0.71 U	1.8 U	0.72 U	0.72 U	0.71 U
2,4-Dichlorophenol	NE	NE	NE	mg/kg	12 U	3.8 U	0.37 U	0.97 U	0.38 U	0.38 U	0.37 U
2,4-Dimethylphenol	NE	NE	NE	mg/kg	28 U	8.5 U	0.85 U	2.2 U	0.86 U	0.86 U	0.85 U
2,4-Dinitrophenol	NE	NE	NE	mg/kg	530 U	160 U	16 U	42 U	17 U	16 U	16 U
2,4-Dinitrotoluene	NE	NE	NE	mg/kg	24 U	7.3 U	0.73 U	1.9 U	0.74 U	0.74 U	0.73 U
2,6-Dinitrotoluene	NE	NE	NE	mg/kg	14 U	4.2 U	0.42 U	1.1 U	0.42 U	0.42 U	0.42 U
2-Chloronaphthalene	NE	NE	NE	mg/kg	19 U	5.8 U	0.58 U	1.5 U	0.59 U	0.59 U	0.58 U
2-Chlorophenol	NE	NE	NE	mg/kg	21 U	6.5 U	0.64 U	1.7 U	0.65 U	0.65 U	0.64 U
2-Methylphenol (o-cresol)	1000	NE	0.33	mg/kg	14 U	4.2 U	0.42 U	1.1 U	0.42 U	0.42 U	0.42 U
2-Nitroaniline	NE	NE	NE	mg/kg	17 U	5.2 U	0.52 U	1.3 U	0.53 U	0.53 U	0.52 U
2-Nitrophenol	NE	NE	NE	mg/kg	33 U	10 U	1 U	2.6 U	1 U	1 U	1 U
3,3'-Dichlorobenzidine	NE	NE	NE	mg/kg	140 U	42 U	4.2 U	11 U	4.2 U	4.2 U	4.2 U
3-Nitroaniline	NE	NE	NE	mg/kg	32 U	9.8 U	0.98 U	2.5 U	0.99 U	0.99 U	0.98 U
4,6-Dinitro-2-methylphenol	NE	NE	NE	mg/kg	120 U	35 U	3.5 U	9.2 U	3.6 U	3.6 U	3.5 U
4-Bromophenyl phenyl ether	NE	NE	NE	mg/kg	16 U	5 U	0.5 U	1.3 U	0.51 U	0.5 U	0.5 U
4-Chloro-3-methylphenol	NE	NE	NE	mg/kg	28 U	8.8 U	0.87 U	2.3 U	0.89 U	0.88 U	0.87 U

TABLE 6
SURFACE SOIL ANALYTICAL RESULTS (0-2")
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[(a)]	Protection of Ecological Resources	Protection of Groundwater	Units	SS-7 0-2" 5/13/2015	SS-8 0-2" 5/13/2015	SS-9 0-2" 5/13/2015	SS-10 0-2" 5/13/2015	SS-11 0-2" 5/14/2015	SS-11 DUP 0-2" 5/14/2015	SS-12 0-2" 5/14/2015
4-Chloroaniline	NE	NE	NE	mg/kg	28 U	8.8 U	0.87 U	2.3 U	0.89 U	0.88 U	0.87 U
4-Chlorophenyl phenyl ether	NE	NE	NE	mg/kg	14 U	4.4 U	0.44 U	1.1 U	0.44 U	0.44 U	0.44 U
4-Methylphenol	1000	NE	0.33	mg/kg	14 U	4.2 U	0.42 U	1.1 U	0.42 U	0.42 U	0.42 U
4-Nitroaniline	NE	NE	NE	mg/kg	60 U	19 U	1.9 U	4.8 U	1.9 U	1.9 U	1.8 U
4-Nitrophenol	NE	NE	NE	mg/kg	81 U	25 U	2.5 U	6.4 U	2.5 U	2.5 U	2.5 U
Acetophenone	NE	NE	NE	mg/kg	16 U	4.8 U	0.48 U	1.2 U	0.49 U	0.48 U	0.48 U
Atrazine	NE	NE	NE	mg/kg	40 U	12 U	1.2 U	3.2 U	1.2 U	1.2 U	1.2 U
Benzaldehyde	NE	NE	NE	mg/kg	92 U	28 U	2.8 U	7.3 U	2.8 U	2.8 U	2.8 U
Benzyl butyl phthalate	NE	NE	NE	mg/kg	19 U	5.8 U	0.58 U	1.5 U	0.59 U	0.59 U	0.58 U
Biphenyl (Diphenyl)	NE	NE	NE	mg/kg	17 U	5.2 U	0.52 U	1.3 U	0.53 U	0.53 U	0.52 U
bis(2-Chloroethoxy)methane	NE	NE	NE	mg/kg	24 U	7.5 U	0.75 U	1.9 U	0.76 U	0.76 U	0.75 U
bis(2-Chloroethyl)ether	NE	NE	NE	mg/kg	15 U	4.6 U	0.46 U	1.2 U	0.46 U	0.46 U	0.46 U
bis(2-Chloroisopropyl)ether	NE	NE	NE	mg/kg	23 U	7.1 U	0.71 U	1.8 U	0.72 U	0.72 U	0.71 U
bis(2-Ethylhexyl)phthalate	NE	NE	NE	mg/kg	39 U	12 U	1.2 U	3.1 U	1.2 U	1.2 U	1.2 U
Caprolactam	NE	NE	NE	mg/kg	35 U	11 U	1.1 U	2.7 U	1.1 U	1.1 U	1.1 U
Carbazole	NE	NE	NE	mg/kg	100 J	4.2 U	1.1 J	1.1 U	0.43 J	0.42 U	0.42 U
Dibenzofuran	1000	NE	210	mg/kg	54 J	4.2 U	0.7 J	1.1 U	0.42 U	0.42 U	0.42 U
Diethyl phthalate	NE	NE	NE	mg/kg	15 U	4.6 U	0.46 U	1.2 U	0.46 U	0.46 U	0.46 U
Dimethyl phthalate	NE	NE	NE	mg/kg	14 U	4.2 U	0.42 U	1.1 U	0.42 U	0.42 U	0.42 U
dI-n-Butyl phthalate	NE	NE	NE	mg/kg	20 U	6 U	0.6 U	1.6 U	0.61 U	0.61 U	0.6 U
dI-n-Octyl phthalate	NE	NE	NE	mg/kg	14 U	4.2 U	0.42 U	1.1 U	0.42 U	0.42 U	0.42 U
Hexachlorobenzene	12	NE	3.2	mg/kg	16 U	4.8 U	0.48 U	1.2 U	0.49 U	0.48 U	0.48 U
Hexachlorobutadiene	NE	NE	NE	mg/kg	17 U	5.2 U	0.52 U	1.3 U	0.53 U	0.53 U	0.52 U
Hexachlorocyclopentadiene	NE	NE	NE	mg/kg	16 U	4.8 U	0.48 U	1.2 U	0.49 U	0.48 U	0.48 U
Hexachloroethane	NE	NE	NE	mg/kg	15 U	4.6 U	0.46 U	1.2 U	0.46 U	0.46 U	0.46 U
Isophorone	NE	NE	NE	mg/kg	24 U	7.5 U	0.75 U	1.9 U	0.76 U	0.76 U	0.75 U
Nitrobenzene	NE	NE	NE	mg/kg	13 U	4 U	0.39 U	1 U	0.4 U	0.4 U	0.39 U
N-Nitroso-di-n-propylamine	NE	NE	NE	mg/kg	20 U	6 U	0.6 U	1.6 U	0.61 U	0.61 U	0.6 U
N-Nitrosodiphenylamine	NE	NE	NE	mg/kg	94 U	29 U	2.9 U	7.4 U	2.9 U	2.9 U	2.9 U
Pentachlorophenol	55	0.8	0.8	mg/kg	120 U	35 U	3.5 U	9.2 U	3.6 U	3.6 U	3.5 U
Phenol	1000	30	0.33	mg/kg	18 U	5.4 U	0.54 U	1.4 U	0.55 U	0.55 U	0.54 U

TABLE 6
SURFACE SOIL ANALYTICAL RESULTS (0-2")
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SS-7 0-2" 5/13/2015	SS-8 0-2" 5/13/2015	SS-9 0-2" 5/13/2015	SS-10 0-2" 5/13/2015	SS-11 0-2" 5/14/2015	SS-11 DUP 0-2" 5/14/2015	SS-12 0-2" 5/14/2015
Inorganic Constituents											
Cyanide, total	10000	NE	40	mg/kg	0.75 J	0.61 J	0.46 U	0.51 U	0.51 U	0.51 UJ	0.5 U
Aluminum	NE	NE	NE	mg/kg	2340	9620 B	7170 B	5880 B	8230	7940	8950
Antimony	NE	NE	NE	mg/kg	0.43 U	0.39 U	2 U	2 U	6.7 J	0.4 U	0.43 U
Arsenic	16	13	16	mg/kg	**17.9**	7.2	**28.9**	**30**	11.8	10.4	9
Barium	10000	433	820	mg/kg	43.4	89.2	99.1	70	81.5	90.9	115
Beryllium	2700	10	47	mg/kg	0.19 J	0.58	1.1	0.83 J	0.64	0.57	0.88
Cadmium	60	4	8	mg/kg	0.047 J	0.17 J	0.15 U	0.15 U	0.13 J	0.08 J	0.032 U
Calcium	NE	NE	NE	mg/kg	429 B	3230 B	5970 B	5120 B	23100 J	12700 J	19500 B
Chromium[b]	800	1	19	mg/kg	**5.7**	**20**	**38.9**	**52.3**	**30**	**44.8**	**52**
Cobalt	NE	NE	NE	mg/kg	2.4	8.2	10	10.1	9.1	9	9
Copper	10000	50	1720	mg/kg	13.8	28.1	27.8	**110**	**50.9**	**60.2**	**59.1**
Iron	NE	NE	NE	mg/kg	15400 B	23900 ^B	110000 B^	85100 B^	34600 ^B	45000 B	48400 ^B
Lead	3900	63	450	mg/kg	53.9	**200**	**127**	**391**	**386**	**403**	**221**
Magnesium	NE	NE	NE	mg/kg	570	2900 B	2790 B	2190 B	5130	4510 B	5040
Manganese	10000	1600	2000	mg/kg	142 B	518 B	**2040 B^**	1500 B^	458 ^B	738 B	735 ^B
Nickel	10000	30	130	mg/kg	7.9	29.3	24.7	**64.2**	**32.1**	**35.7**	**48.8**
Potassium	NE	NE	NE	mg/kg	508	1310	1130	795	1560	1410	1590
Selenium	6800	4	4	mg/kg	0.49 J	0.39 U	2 U	2 U	0.43 U	0.4 U	0.43 U
Silver	6800	2	8	mg/kg	0.21 U	0.2 U	1 U	0.99 U	0.21 U	0.2 U	0.21 U
Sodium	NE	NE	NE	mg/kg	47.1 J	92.5 J	334 J	237 J	164	140 J	314
Thallium	NE	NE	NE	mg/kg	0.32 U	0.29 U	1.5 U	1.5 U	0.32 U	0.3 U	0.32 U
Vanadium	NE	NE	NE	mg/kg	12.7	34.2	134	133	35.7	36.8	53.4
Zinc	10000	109	2480	mg/kg	25.6 B	**113 B**	78.9 B	**119 B**	**139 ^B**	**151 B**	**159 ^B**
Mercury	5.7	0.18	0.73	mg/kg	0.052	0.1	0.15	0.079	0.076	0.11	0.077
Pesticides											
4,4'-DDD	180	0.0033	14	mg/kg	0.017 U	0.017 U	0.017 U	0.017 U	0.017 U	0.017 U	0.017 U
4,4'-DDE	120	0.0033	17	mg/kg	0.018 U	0.018 U	0.018 U	0.019 U	0.018 U	0.018 U	0.018 U
4,4'-DDT	94	0.0033	136	mg/kg	**0.024 NJ**	**0.032 J**	0.02 U	**0.04 J**	0.02 U	0.021 U	0.02 U
Aldrin	1.40	0.14	0.19	mg/kg	0.021 U	0.021 U	0.021 U	0.022 U	0.022 U	0.022 U	0.021 U
alpha Endosulfan (Endosulfan I)	920	NE	102	mg/kg	0.017 U	0.016 U	0.017 U	0.017 U	0.017 U	0.017 U	0.017 U
beta Endosulfan (Endosulfan II)	920	NE	102	mg/kg	0.016 U	0.015 U	0.016 U	0.016 U	0.016 U	0.016 U	0.015 U
BHC, alpha	6.80	0.04	0.02	mg/kg	0.016 U	0.015 U	0.016 U	0.016 U	0.016 U	0.016 U	0.015 U
BHC, beta	14	0.60	0.09	mg/kg	0.016 U	0.015 U	0.016 U	0.016 U	0.016 U	0.016 U	0.015 U
BHC, delta	1000	0.04	0.25	mg/kg	0.016 U	0.016 U	0.016 U	0.017 U	0.016 U	0.016 U	0.016 U
BHC, gamma (Lindane)	23	6	0.10	mg/kg	0.016 U	0.016 U	0.016 U	0.09 U	0.016 U	0.016 U	0.016 U
Chlordane, alpha	47	1.3	2.9	mg/kg	0.043 U	0.042 U	0.043 U	0.045 U	0.044 U	0.044 U	0.043 U
Chlordane, beta	NE	NE	NE	mg/kg	0.028 U	0.027 U	0.028 U	0.029 U	0.028 U	0.028 U	0.027 U
Dieldrin	2.80	0.01	0.10	mg/kg	0.021 U	0.02 U	0.021 U	0.022 U	0.021 U	0.021 U	0.021 U

TABLE 6
SURFACE SOIL ANALYTICAL RESULTS (0-2")
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[(a)]	Protection of Ecological Resources	Protection of Groundwater	Units	SS-7 0-2" 5/13/2015	SS-8 0-2" 5/13/2015	SS-9 0-2" 5/13/2015	SS-10 0-2" 5/13/2015	SS-11 0-2" 5/14/2015	SS-11 DUP 0-2" 5/14/2015	SS-12 0-2" 5/14/2015
Endosulfan sulfate	920	NE	1000	mg/kg	0.016 U	0.085 U	0.016 U	0.017 U	0.016 U	0.016 U	0.016 U
Endrin	410	0.01	0.06	mg/kg	0.017 U	0.017 U	0.017 U	0.018 U	0.017 U	0.017 U	0.017 U
Endrin aldehyde	NE	NE	NE	mg/kg	0.022 U	0.022 U	0.022 U	0.023 U	0.022 U	0.022 U	0.022 U
Endrin ketone	NE	NE	NE	mg/kg	0.021 U	0.056 NJ	0.021 U	0.026 J	0.022 U	0.022 J	0.021 U
Heptachlor	29	0.14	0.38	mg/kg	0.019 U	0.018 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
Heptachlor epoxide	NE	NE	NE	mg/kg	0.022 U	0.022 U	0.022 U	0.023 U	0.023 U	0.023 U	0.022 U
Methoxychlor	NE	NE	NE	mg/kg	0.087 U	0.085 U	0.087 U	0.018 U	0.088 U	0.062 NJ	0.018 U
Toxaphene	NE	NE	NE	mg/kg	0.51 U	0.49 U	0.5 U	0.52 U	0.51 U	0.51 U	0.5 U
Polychlorinated Biphenyls (PCBs)											
Aroclor 1016	NE	NE	NE	mg/kg	0.048 U	0.05 U	0.044 U	0.039 U	0.046 U	0.037 U	0.04 U
Aroclor 1221	NE	NE	NE	mg/kg	0.048 U	0.05 U	0.044 U	0.039 U	0.046 U	0.037 U	0.04 U
Aroclor 1232	NE	NE	NE	mg/kg	0.048 U	0.05 U	0.044 U	0.039 U	0.046 U	0.037 U	0.04 U
Aroclor 1242	NE	NE	NE	mg/kg	0.048 U	0.05 U	0.044 U	0.039 U	0.046 U	0.037 U	0.04 U
Aroclor 1248	NE	NE	NE	mg/kg	0.048 U	0.05 U	0.044 U	0.039 U	0.046 U	0.037 U	0.04 U
Aroclor 1254	NE	NE	NE	mg/kg	0.12 U	0.12 U	0.1 U	0.094 U	0.11 U	0.088 U	0.096 U
Aroclor 1260	NE	NE	NE	mg/kg	0.12 U	0.12 U	0.1 U	0.094 U	0.11 U	0.088 U	0.096 U
Total PCBs	NE	NE	3.2	mg/kg	ND	ND	ND	ND	ND	ND	ND

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
NJ - The result is tentative in indentification and estimated in value.
^ - Instrument related Quality Control (QC) is outside acceptance limits.
B - Constituent was found in the blank and the sample.

NE - Not established.
ND - Not Detected
(a) - Zoning determination based on review of City of Troy Official Zoning Map dated 12/19/16. Zoning classification for the Site is identified as Waterfront Trade District, which permits industrial usage of property.
(b) - Chromium analysis was for total chromium. To be conservative, total chromium concentrations were compared to hexavalent chromium SCOs.

Boxed and bolded values indicate concentrations above New York State Subpart 375 Soil Cleanup Objectives for: Protection of Public Health for Industrially Zoned Properties, Protection of Ecological Resources, and/or Protection of Groundwater.

TABLE 7
SURFACE SOIL ANALYTICAL RESULTS (0-6")
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1) Protection of Ecological Resources	USEPA Ecological Soil Screening Levels (2) Soil Inverterbrates	Mammals	Units	SS-1 0-6" 5/13/2015	SS-2 0-6" 5/14/2015	SS-3 0-6" 5/13/2015	SS-4 0-6" 5/13/2015	SS-5 0-6" 5/13/2015	SS-6 0-6" 5/13/2015
Semi-volatile Organic Compounds (SVOCs)										
Polycyclic Aromatic Hydrocarbons (PAHs)										
Acenaphthene	20	29	100	mg/kg	0.65 U	0.63 U	0.28 U	7.5 U	3.4 U	9.5 U
Acenaphthylene	NE	29	100	mg/kg	0.58 U	0.55 U	2.7	6.6 U	3 U	8.4 U
Anthracene	NE	29	100	mg/kg	1.1 U	1.1 U	4.2	13 U	5.7 UF1F2	16 U
Benzo(a)anthracene	NE	18	1.1	mg/kg	**1.2 J**	**1.7 J**	**5.4**	5.1 U	2.3 UF1F2	6.5 U
Benzo(a)pyrene	2.6	18	1.1	mg/kg	1 J	**1.3 J**	**4.1**	7.5 U	3.4 UF1F2	9.5 U
Benzo(b)fluoranthene	NE	18	1.1	mg/kg	**1.5 J**	**2 J**	**5.7**	8.1 U	3.7 UF1F2	10 U
Benzo(g,h,i)perylene	NE	18	1.1	mg/kg	0.47 U	0.54 J	**2.2**	5.4 U	2.5 UF1F2	6.9 U
Benzo(k)fluoranthene	NE	18	1.1	mg/kg	0.58 U	0.55 U	**1.9**	6.6 U	3 UF1F2	8.4 U
Chrysene	NE	18	1.1	mg/kg	**1.4 J**	**1.8 J**	**5.4**	11 U	5.2 UF1F2	14 U
Dibenz(a,h)anthracene	NE	18	1.1	mg/kg	0.78 U	0.75 U	0.34 U	9 U	4.1 UF2	11 U
Fluoranthene	NE	18	1.1	mg/kg	**2.5 J**	**3.1 J**	**13**	5.4 U	2.5 UF1F2	6.9 U
Fluorene	30	29	100	mg/kg	0.52 U	0.5 U	3.8	6 U	2.7 UF2	7.6 U
Indeno(1,2,3-c,d)pyrene	NE	18	1.1	mg/kg	0.55 U	0.57 J	**2**	6.3 U	2.9 UF1F2	8 U
Naphthalene	NE	29	100	mg/kg	0.58 U	0.55 U	0.94 J	6.6 U	3 U	8.4 U
Phenanthrene	NE	29	100	mg/kg	1.2 J	1.8 J	17	7.5 U	3.4 UF1F2	9.5 U
Pyrene	NE	29	100	mg/kg	1.7 J	2.5 J	8.7	6 U	2.7 UF1F2	7.6 U
2-Methylnaphthalene	NE	NE	NE	mg/kg	0.89 U	0.85 U	0.57 J	10 U	4.6 U	13 U
Total PAHs	NE	NE	NE	mg/kg	11 J	15 J	78	ND	ND	ND
Other SVOCs										
2,4,5-Trichlorophenol	NE	NE	NE	mg/kg	1.2 U	1.2 U	0.52 U	14 U	6.3 UF1	18 U
2,4,6-Trichlorophenol	NE	NE	NE	mg/kg	0.89 U	0.85 U	0.38 U	10 U	4.6 UF1F2	13 U
2,4-Dichlorophenol	NE	NE	NE	mg/kg	0.47 U	0.45 U	0.2 U	5.4 U	2.5 UF2	6.9 U
2,4-Dimethylphenol	NE	NE	NE	mg/kg	1.1 U	1 U	0.46 U	12 U	5.6 U	16 U
2,4-Dinitrophenol	NE	NE	NE	mg/kg	20 U	20 U	8.9 U	240 U	110 U	300 U
2,4-Dinitrotoluene	NE	NE	NE	mg/kg	0.91 U	0.88 U	0.4 U	11 U	4.8 U	13 U
2,6-Dinitrotoluene	NE	NE	NE	mg/kg	0.52 U	0.5 U	0.23 U	6 U	2.7 UF1	7.6 U
2-Chloronaphthalene	NE	NE	NE	mg/kg	0.73 U	0.7 U	0.32 U	8.4 U	3.8 U	11 U
2-Chlorophenol	NE	NE	NE	mg/kg	0.81 U	0.78 U	0.35 U	9.3 U	4.2 U	12 U
2-Methylphenol (o-cresol)	NE	NE	NE	mg/kg	0.52 U	0.5 U	0.23 U	6 U	2.7 U	7.6 U
2-Nitroaniline	NE	NE	NE	mg/kg	0.65 U	0.63 U	0.28 U	7.5 U	3.4 UF1F2	9.5 U
2-Nitrophenol	NE	NE	NE	mg/kg	1.3 U	1.2 U	0.54 U	14 U	6.6 U	18 U
3,3'-Dichlorobenzidine	NE	NE	NE	mg/kg	5.2 U	5 U	2.3 U	60 U	27 U	76 U
3-Nitroaniline	NE	NE	NE	mg/kg	1.2 U	1.2 U	0.53 U	14 U	6.4 UF1	18 U
4,6-Dinitro-2-methylphenol	NE	NE	NE	mg/kg	4.4 U	4.3 U	1.9 U	51 U	23 U	65 U
4-Bromophenyl phenyl ether	NE	NE	NE	mg/kg	0.63 U	0.6 U	0.27 U	7.2 U	3.3 U	9.1 U
4-Chloro-3-methylphenol	NE	NE	NE	mg/kg	1.1 U	1.1 U	0.47 U	13 U	5.7 U	16 U
4-Chloroaniline	NE	NE	NE	mg/kg	1.1 U	1.1 U	0.47 U	13 U	5.7 UF1	16 U
4-Chlorophenyl phenyl ether	NE	NE	NE	mg/kg	0.55 U	0.53 U	0.24 U	6.3 U	2.9 U	8 U
4-Methylphenol	NE	NE	NE	mg/kg	0.52 U	0.5 U	0.23 U	6 U	2.7 U	7.6 U

TABLE 7
SURFACE SOIL ANALYTICAL RESULTS (0-6")
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1) Protection of Ecological Resources	USEPA Ecological Soil Screening Levels (2) Soil Inverterbrates	Mammals	Units	SS-1 0-6" 5/13/2015	SS-2 0-6" 5/14/2015	SS-3 0-6" 5/13/2015	SS-4 0-6" 5/13/2015	SS-5 0-6" 5/13/2015	SS-6 0-6" 5/13/2015
4-Nitroaniline	NE	NE	NE	mg/kg	2.3 U	2.2 U	1 U	27 U	12 U	34 U
4-Nitrophenol	NE	NE	NE	mg/kg	3.1 U	3 U	1.3 U	36 U	16 UF1	45 U
Acetophenone	NE	NE	NE	mg/kg	0.6 U	0.58 U	0.26 U	6.9 U	3.1 U	8.8 U
Atrazine	NE	NE	NE	mg/kg	1.5 U	1.5 U	0.67 U	18 U	8.1 U	22 U
Benzaldehyde	NE	NE	NE	mg/kg	3.5 U	3.4 U	1.5 U	41 U	18 UF1	51 U
Benzyl butyl phthalate	NE	NE	NE	mg/kg	0.73 U	0.7 U	0.32 U	8.4 U	3.8 U	11 U
Biphenyl (Diphenyl)	NE	NE	NE	mg/kg	0.65 U	0.63 U	0.28 U	7.5 U	3.4 U	9.5 U
bis(2-Chloroethoxy)methane	NE	NE	NE	mg/kg	0.94 U	0.9 U	0.41 U	11 U	4.9 UF2	14 U
bis(2-Chloroethyl)ether	NE	NE	NE	mg/kg	0.58 U	0.55 U	0.25 U	6.6 U	3 U	8.4 U
bis(2-Chloroisopropyl)ether	NE	NE	NE	mg/kg	0.89 U	0.85 U	0.38 U	10 U	4.6 U	13 U
bis(2-Ethylhexyl)phthalate	NE	NE	NE	mg/kg	1.5 U	1.5 U	0.66 U	17 U	7.9 U	22 U
Caprolactam	NE	NE	NE	mg/kg	1.3 U	1.3 U	0.58 U	15 U	7 U	19 U
Carbazole	NE	NE	NE	mg/kg	0.52 U	0.5 U	1.9	6 U	2.7 UF2	7.6 U
Dibenzofuran	NE	NE	NE	mg/kg	0.52 U	0.5 U	2	6 U	2.7 U	7.6 U
Diethyl phthalate	NE	NE	NE	mg/kg	0.58 U	0.55 U	0.25 U	6.6 U	3 U	8.4 U
Dimethyl phthalate	NE	NE	NE	mg/kg	0.52 U	0.5 U	0.23 U	6 U	2.7 UF2	7.6 U
dI-n-Butyl phthalate	NE	NE	NE	mg/kg	0.76 U	0.73 U	0.33 U	8.7 U	4 U	11 U
dI-n-Octyl phthalate	NE	NE	NE	mg/kg	0.52 U	0.5 U	0.23 U	6 U	2.7 UF2	7.6 U
Hexachlorobenzene	NE	NE	NE	mg/kg	0.6 U	0.58 U	0.26 U	6.9 U	3.1 U	8.8 U
Hexachlorobutadiene	NE	NE	NE	mg/kg	0.65 U	0.63 U	0.28 U	7.5 U	3.4 U	9.5 U
Hexachlorocyclopentadiene	NE	NE	NE	mg/kg	0.6 U	0.58 U	0.26 U	6.9 U	3.1 UF1	8.8 U
Hexachloroethane	NE	NE	NE	mg/kg	0.58 U	0.55 U	0.25 U	6.6 U	3 U	8.4 U
Isophorone	NE	NE	NE	mg/kg	0.94 U	0.9 U	0.41 U	11 U	4.9 U	14 U
Nitrobenzene	NE	NE	NE	mg/kg	0.5 U	0.48 U	0.21 U	5.7 U	2.6 U	7.2 U
N-Nitroso-di-n-propylamine	NE	NE	NE	mg/kg	0.76 U	0.73 U	0.33 U	8.7 U	4 U	11 U
N-Nitrosodiphenylamine	NE	NE	NE	mg/kg	3.6 U	3.5 U	1.6 U	42 U	19 UF1	53 U
Pentachlorophenol	0.8	31	2.8	mg/kg	4.4 U	4.3 U	1.9 U	51 U	23 U	65 U
Phenol	30	NE	NE	mg/kg	0.68 U	0.65 U	0.29 U	7.8 U	3.6 U	9.9 U
Inorganic Constituents				mg/kg						
Cyanide, total	NE	NE	NE	mg/kg	0.63 U	0.6 U	0.63 J	1.2	2.8	0.53 U
Aluminum	NE	NE	NE	mg/kg	13500	12000	5310	7340 B	6270 J	11200
Antimony	NE	78	0.27	mg/kg	0.52 UJ	0.53 U	0.46 U	0.46 U	0.46 UJ	0.46 U
Arsenic	13	NE	46	mg/kg	7.2 F1	6.4	4.7	**21.4**	9.6 J	6.2
Barium	433	330	2000	mg/kg	116 F1	103	81.7	99.2	129	**425**
Beryllium	10	40	21	mg/kg	0.77 F1	0.71	0.36	0.42	0.032 UF1	0.59
Cadmium	4	140	0.36	mg/kg	**0.43 F1**	0.065 J	0.2 J	0.17 U	**0.38 F1**	**0.55**
Calcium	NE	NE	NE	mg/kg	11000 B	3210 B	1940 B	5270 B	29800 F2B	21400 B
Chromium	NE	NE	34	mg/kg	**34.2**	20.6	23.8	**64.4**	**60.8 J**	**72.3**
Cobalt	NE	NE	230	mg/kg	12.8	12.4	7.5	24.9	23.9	9.9
Copper	50	80	49	mg/kg	35.8 F1	30.4	25.1	**257**	**125** J	**77.9**
Iron	NE	NE	NE	mg/kg	23600 B	26800 ^B	20700 B	201000 **B**	56500 **J**	40500 B
Lead	63	1700	56	mg/kg	46.7 J	**94.1**	**107**	**2540**	**307**	**468**

TABLE 7
SURFACE SOIL ANALYTICAL RESULTS (0-6")
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1) Protection of Ecological Resources	USEPA Ecological Soil Screening Levels (2) Soil Inverterbrates	Mammals	Units	SS-1 0-6" 5/13/2015	SS-2 0-6" 5/14/2015	SS-3 0-6" 5/13/2015	SS-4 0-6" 5/13/2015	SS-5 0-6" 5/13/2015	SS-6 0-6" 5/13/2015
Magnesium	NE	NE	NE	mg/kg	6380 J	6160	1470	3810 B	7850 J	8490
Manganese	1600	450	4000	mg/kg	**873 J**	**969 ^B**	411 B	**1320 B**	**707 J**	**547 B**
Nickel	30	280	130	mg/kg	26.5 F1	28.4	10.5	**103**	**731 J**	**46.3**
Potassium	NE	NE	NE	mg/kg	2120 J	2260	1590	1190	1090 J	1880
Selenium	3.9	4.1	0.63	mg/kg	0.52 UF1	0.53 U	0.46 U	2.3 U	0.46 UJ	0.46 U
Silver	2	NE	14	mg/kg	0.26 UF1	0.26 U	0.36 J	0.23 U	0.23 UF1	0.23 U
Sodium	NE	NE	NE	mg/kg	121 JF1	69.7 J	259	123 J	978 J	778
Thallium	NE	NE	NE	mg/kg	0.39 U	0.4 U	0.35 U	0.34 U	3.7 J	0.34 U
Vanadium	NE	NE	280	mg/kg	22.9	27.7	25.7	82.7	**1580 F2**	63.5
Zinc	109	120	79	mg/kg	**107 J**	**175 ^B**	53.2 B	**486** B	**243 J**	**946 B**
Mercury	0.18	NE	NE	mg/kg	0.12	0.031	**0.63**	0.1	**0.98 F1**	0.068
Pesticides										
4,4'-DDD	0.0033	NE	0.021	mg/kg	0.021 U	0.02 U	0.019 U	0.19 U	0.018 UF1	0.035 U
4,4'-DDE	0.0033	NE	0.021	mg/kg	0.023 U	0.022 U	0.02 U	0.2 U	0.02 U	0.038 U
4,4'-DDT	0.0033	NE	0.021	mg/kg	**0.025 J**	0.024 U	**0.022 J**	0.23 U	0.022 UF1F2	0.042 U
Aldrin	0.14	NE	NE	mg/kg	0.027 U	0.026 U	0.023 U	0.24 U	0.023 U	0.044 U
alpha Endosulfan (Endosulfan I)	NE	NE	NE	mg/kg	0.021 U	0.02 U	0.018 U	0.19 U	0.018 UF1	0.035 U
beta Endosulfan (Endosulfan II)	NE	NE	NE	mg/kg	0.02 U	0.019 U	0.017 U	0.17 U	0.017 UF1	0.033 U
BHC, alpha	0.04	NE	NE	mg/kg	0.02 U	0.019 U	0.017 U	0.17 U	0.017 UF1F2	0.033 U
BHC, beta	0.6	NE	NE	mg/kg	0.02 U	0.019 U	0.017 U	0.17 U	0.017 UF1	0.033 U
BHC, delta	0.04	NE	NE	mg/kg	0.02 U	0.019 U	0.018 U	0.18 U	0.017 UF1F2	0.034 U
BHC, gamma (Lindane)	6	NE	NE	mg/kg	0.02 U	0.019 U	0.017 U	0.18 U	0.017 UF1	0.033 U
Chlordane, alpha	1.3	NE	NE	mg/kg	0.054 U	0.052 U	0.047 U	0.48 U	0.046 U	0.09 U
Chlordane, beta	NE	NE	NE	mg/kg	0.034 U	0.033 U	0.03 U	0.31 U	0.03 U	0.057 U
Dieldrin	0.006	NE	0.0049	mg/kg	0.026 U	0.025 U	0.023 U	0.23 U	0.022 U	0.043 U
Endosulfan sulfate	NE	NE	NE	mg/kg	0.02 U	0.019 U	0.018 U	0.18 U	0.017 UF1	0.034 U
Endrin	0.014	NE	NE	mg/kg	0.021 U	0.021 U	0.019 U	0.19 U	0.018 U	0.036 U
Endrin aldehyde	NE	NE	NE	mg/kg	0.028 U	0.027 U	0.024 U	0.25 U	0.024 U	0.046 U
Endrin ketone	NE	NE	NE	mg/kg	0.027 U	0.026 U	0.023 U	0.24 U	0.023 U	0.044 U
Heptachlor	0.14	NE	NE	mg/kg	0.023 U	0.022 U	0.021 U	0.21 U	0.02 U	0.039 U
Heptachlor epoxide	NE	NE	NE	mg/kg	0.028 U	0.027 U	0.025 U	0.25 U	0.024 U	0.047 U
Methoxychlor	NE	NE	NE	mg/kg	0.022 U	0.021 U	0.019 U	0.2 U	0.019 U	0.037 U
Toxaphene	NE	NE	NE	mg/kg	0.63 U	0.6 U	0.55 U	5.6 U	0.54 U	1.1 U

TABLE 7
SURFACE SOIL ANALYTICAL RESULTS (0-6")
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1) Protection of Ecological Resources	USEPA Ecological Soil Screening Levels (2) Soil Inverterbrates	Mammals	Units	SS-1 0-6" 5/13/2015	SS-2 0-6" 5/14/2015	SS-3 0-6" 5/13/2015	SS-4 0-6" 5/13/2015	SS-5 0-6" 5/13/2015	SS-6 0-6" 5/13/2015
Polychlorinated Biphenyls (PCBs)										
Aroclor 1016	NE	NE	NE	mg/kg	0.05 U	0.051 U	0.05 U	0.054 U	0.053 U	0.049 U
Aroclor 1221	NE	NE	NE	mg/kg	0.05 U	0.051 U	0.05 U	0.054 U	0.053 U	0.049 U
Aroclor 1232	NE	NE	NE	mg/kg	0.05 U	0.051 U	0.05 U	0.054 U	0.053 U	0.049 U
Aroclor 1242	NE	NE	NE	mg/kg	0.05 U	0.051 U	0.05 U	0.054 U	0.053 U	0.049 U
Aroclor 1248	NE	NE	NE	mg/kg	0.071 J	0.051 U	0.069 J	0.054 U	0.053 U	0.049 U
Aroclor 1254	NE	NE	NE	mg/kg	0.12 U	0.12 U	0.12 U	0.13 U	0.13 U	0.12 U
Aroclor 1260	NE	NE	NE	mg/kg	0.12 U	0.12 U	0.12 U	0.13 U	0.13 U	0.12 U
Total PCBs	NE	NE	NE	mg/kg	0.071 J	ND	0.069 J	ND	ND	ND

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the reporting limit but greater than or equal to the method detection limit.
B - Constituent was found in the blank and the sample.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related Quality Control (QC) is outside acceptance limits.

NE - Not established.
ND - Not Detected

Boxed and bolded values indicate concentrations are above one or more of the following criteria: 1) New York State Subpart 375 Soil Cleanup Objectives for
Protection of Ecological Resources, 2) USEPA Ecological Soil Screening Levels for PAHs, select pesticides and metals (Soil Invertebrates), or 3) USEPA Ecological Screening Levels for PAHs, select pesticides and metals (Mammals).

(1) - 6NYCRR Subpart 375-6.
(2) - Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) (USEPA, 2007g), Pentachlorophenol (USEPA, 2007f), Antimony (USEPA, 2005a), Arsenic (USEPA, 2005d), Barium (USEPA, 2005b), Beryllium (USEPA, 2005c), Cadmium (USEPA, 2005e), Chromium (USEPA, 2008), Cobalt (USEPA, 2005f), Copper (USEPA, 2007a), Lead (USEPA, 2005g), Manganese (USEPA, 2007e), Nickel (USEPA, 2007b), Selenium (USEPA, 2007i), Silver (USEPA, 2006), Vanadium (USEPA, 2005h), Zinc (USEPA, 2007h), 4,4'-DDD (USEPA, 2007c), 4,4'-DDE (USEPA, 2007c), 4,4'-DDT,(USEPA, 2007c), and Dieldrin (USEPA, 2007d)

TABLE 7
SURFACE SOIL ANALYTICAL RESULTS (0-6")
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1) Protection of Ecological Resources	USEPA Ecological Soil Screening Levels (2) Soil Inverterbrates	Mammals	Units	SS-7 0-6" 5/13/2015	SS-8 0-6" 5/13/2015	SS-9 0-6" 5/13/2015	SS-10 0-6" 5/13/2015	SS-11 0-6" 5/14/2015	SS-12 0-6" 5/14/2015
Semi-volatile Organic Compounds (SVOCs)										
Polycyclic Aromatic Hydrocarbons (PAHs)										
Acenaphthene	20	29	100	mg/kg	**44 J**	1.3 U	0.53 U	4.7 U	0.69 JF1	0.53 U
Acenaphthylene	NE	29	100	mg/kg	18 U	20	1 J	4.2 U	1.2 JF1F2	2 J
Anthracene	NE	29	100	mg/kg	**120 J**	8.1 J	1.2 J	7.9 U	2 JF1F2	0.89 U
Benzo(a)anthracene	NE	18	1.1	mg/kg	**420**	**56**	**5.3**	**12 J**	**8 F2**	**4.3**
Benzo(a)pyrene	2.6	18	1.1	mg/kg	**600**	**46**	**4.3**	**8.9 J**	**6 F1F2**	**3.9**
Benzo(b)fluoranthene	NE	18	1.1	mg/kg	**560**	**46**	**5.6**	**8 J**	**7** F2	**5**
Benzo(g,h,i)perylene	NE	18	1.1	mg/kg	**290**	**20**	**1.7 J**	**4 J**	**3.6 F1F2**	**2 J**
Benzo(k)fluoranthene	NE	18	1.1	mg/kg	**330**	**31**	**2.2 J**	4.2 U	**4.5 F1F2**	**2.6 J**
Chrysene	NE	18	1.1	mg/kg	**440**	**52**	**5.4**	**9.5 J**	**8** F2	**4.7**
Dibenz(a,h)anthracene	NE	18	1.1	mg/kg	**110 J**	1.5 U	0.64 **U**	5.7 U	**1.5 JF1F2**	1 **J**
Fluoranthene	NE	18	1.1	mg/kg	**430**	**55**	**7.9**	**16 J**	**13** F2	**5**
Fluorene	30	29	100	mg/kg	**48 J**	3.3 J	0.68 J	4 J	1.6 **JF1F2**	0.42 U
Indeno(1,2,3-c,d)pyrene	NE	18	1.1	mg/kg	**290**	**20**	**2 J**	**4 J**	**3.7 F1F2**	**2.2 J**
Naphthalene	NE	29	100	mg/kg	**49 J**	5.6 J	0.47 U	4.7 J	0.7 J	0.51 J
Phenanthrene	NE	29	100	mg/kg	**350**	27	6.3	29 J	13 F2	1.9 J
Pyrene	NE	29	100	mg/kg	**390**	**79**	7.6	26 J	13	5
2-Methylnaphthalene	NE	NE	NE	mg/kg	27 U	3.8 J	0.72 U	6.4 U	0.89 JF1F2	0.72 U
Total PAHs	NE	NE	NE	mg/kg	4471	473	51	126 J	88	40
Other SVOCs										
2,4,5-Trichlorophenol	NE	NE	NE	mg/kg	37 U	2.3 U	0.97 U	8.7 U	0.94 UF1	0.97 U
2,4,6-Trichlorophenol	NE	NE	NE	mg/kg	27 U	1.7 U	0.72 U	6.4 U	0.69 UF1F2	0.72 U
2,4-Dichlorophenol	NE	NE	NE	mg/kg	14 U	0.91 U	0.38 U	3.4 U	0.37 UF2	0.38 U
2,4-Dimethylphenol	NE	NE	NE	mg/kg	33 U	2.1 U	0.87 U	7.8 U	0.83 U	0.87 U
2,4-Dinitrophenol	NE	NE	NE	mg/kg	630 U	40 U	17 U	150 U	16 U	17 U
2,4-Dinitrotoluene	NE	NE	NE	mg/kg	28 U	1.8 U	0.74 U	6.6 U	0.71 U	0.74 U
2,6-Dinitrotoluene	NE	NE	NE	mg/kg	16 U	1 U	0.42 U	3.8 U	0.41 UF1F2	0.42 U
2-Chloronaphthalene	NE	NE	NE	mg/kg	22 U	1.4 U	0.59 U	5.3 U	0.57 UF2	0.59 U
2-Chlorophenol	NE	NE	NE	mg/kg	25 U	1.6 U	0.66 U	5.9 U	0.63 UF2	0.65 U
2-Methylphenol (o-cresol)	NE	NE	NE	mg/kg	16 U	1 U	0.42 U	3.8 U	0.41 U	0.42 U
2-Nitroaniline	NE	NE	NE	mg/kg	20 U	1.3 U	0.53 U	4.7 U	0.51 UF1F2	0.53 U
2-Nitrophenol	NE	NE	NE	mg/kg	39 U	2.4 U	1 U	9.1 U	0.98 U	1 U
3,3'-Dichlorobenzidine	NE	NE	NE	mg/kg	160 U	10 U	4.2 U	38 U	4.1 U	4.2 U
3-Nitroaniline	NE	NE	NE	mg/kg	38 U	2.4 U	1 U	8.9 U	0.96 UF1	0.99 U
4,6-Dinitro-2-methylphenol	NE	NE	NE	mg/kg	140 U	8.6 U	3.6 U	32 U	3.5 U	3.6 U
4-Bromophenyl phenyl ether	NE	NE	NE	mg/kg	19 U	1.2 U	0.51 U	4.5 U	0.49 UF2	0.51 U
4-Chloro-3-methylphenol	NE	NE	NE	mg/kg	34 U	2.1 U	0.89 U	7.9 U	0.86 UF2	0.89 U
4-Chloroaniline	NE	NE	NE	mg/kg	34 U	2.1 U	0.89 U	7.9 U	0.86 UF1	0.89 U
4-Chlorophenyl phenyl ether	NE	NE	NE	mg/kg	17 U	1.1 U	0.45 U	4 U	0.43 UF2	0.44 U
4-Methylphenol	NE	NE	NE	mg/kg	16 U	1 U	0.42 U	3.8 U	0.41 UF2	0.42 U

TABLE 7
SURFACE SOIL ANALYTICAL RESULTS (0-6")
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1) Protection of Ecological Resources	USEPA Ecological Soil Screening Levels (2) Soil Inverterbrates	Mammals	Units	SS-7 0-6" 5/13/2015	SS-8 0-6" 5/13/2015	SS-9 0-6" 5/13/2015	SS-10 0-6" 5/13/2015	SS-11 0-6" 5/14/2015	SS-12 0-6" 5/14/2015
4-Nitroaniline	NE	NE	NE	mg/kg	71 U	4.5 U	1.9 U	17 U	1.8 U	1.9 U
4-Nitrophenol	NE	NE	NE	mg/kg	96 U	6 U	2.5 U	23 U	2.4 UF1	2.5 U
Acetophenone	NE	NE	NE	mg/kg	18 U	1.2 U	0.49 U	4.3 U	0.47 UF2	0.49 U
Atrazine	NE	NE	NE	mg/kg	47 U	3 U	1.3 U	11 U	1.2 UF2	1.2 U
Benzaldehyde	NE	NE	NE	mg/kg	110 U	6.9 U	2.9 U	26 U	2.7 UF1	2.9 U
Benzyl butyl phthalate	NE	NE	NE	mg/kg	22 U	1.4 U	0.59 U	5.3 U	0.57 UF2	0.59 U
Biphenyl (Diphenyl)	NE	NE	NE	mg/kg	20 U	1.3 U	0.53 U	4.7 U	0.51 UF1F2	0.53 U
bis(2-Chloroethoxy)methane	NE	NE	NE	mg/kg	29 U	1.8 U	0.76 U	6.8 U	0.73 UF2	0.76 U
bis(2-Chloroethyl)ether	NE	NE	NE	mg/kg	18 U	1.1 U	0.47 U	4.2 U	0.45 UF2	0.46 U
bis(2-Chloroisopropyl)ether	NE	NE	NE	mg/kg	27 U	1.7 U	0.72 U	6.4 U	0.69 UF2	0.72 U
bis(2-Ethylhexyl)phthalate	NE	NE	NE	mg/kg	47 U	2.9 U	1.2 U	11 U	1.2 UF1F2	1.2 U
Caprolactam	NE	NE	NE	mg/kg	41 U	2.6 U	1.1 U	9.6 U	1 UF2	1.1 U
Carbazole	NE	NE	NE	mg/kg	63 J	1 U	0.49 J	3.8 U	0.68 JF1F2	0.42 U
Dibenzofuran	NE	NE	NE	mg/kg	34 J	1.1 J	0.42 U	3.8 U	0.73 JF1F2	0.42 U
Diethyl phthalate	NE	NE	NE	mg/kg	18 U	1.1 U	0.47 U	4.2 U	0.45 UF2	0.46 U
Dimethyl phthalate	NE	NE	NE	mg/kg	16 U	1 U	0.42 U	3.8 U	0.41 UF2	0.42 U
dI-n-Butyl phthalate	NE	NE	NE	mg/kg	23 U	1.5 U	0.61 U	5.5 U	0.59 UF2	0.61 U
dI-n-Octyl phthalate	NE	NE	NE	mg/kg	16 U	1 U	0.42 U	3.8 U	0.41 UF1	0.42 U
Hexachlorobenzene	NE	NE	NE	mg/kg	18 U	1.2 U	0.49 U	4.3 U	0.47 U	0.49 U
Hexachlorobutadiene	NE	NE	NE	mg/kg	20 U	1.3 U	0.53 U	4.7 U	0.51 U	0.53 U
Hexachlorocyclopentadiene	NE	NE	NE	mg/kg	18 U	1.2 U	0.49 U	4.3 U	0.47 UF1	0.49 U
Hexachloroethane	NE	NE	NE	mg/kg	18 U	1.1 U	0.47 U	4.2 U	0.45 U	0.46 U
Isophorone	NE	NE	NE	mg/kg	29 U	1.8 U	0.76 U	6.8 U	0.73 UF2	0.76 U
Nitrobenzene	NE	NE	NE	mg/kg	15 U	0.97 U	0.4 U	3.6 U	0.39 U	0.4 U
N-Nitroso-di-n-propylamine	NE	NE	NE	mg/kg	23 U	1.5 U	0.61 U	5.5 U	0.59 UF2	0.61 U
N-Nitrosodiphenylamine	NE	NE	NE	mg/kg	110 U	7 U	2.9 U	26 U	2.8 UF1	2.9 U
Pentachlorophenol	0.8	31	2.8	mg/kg	140 U	8.6 U	3.6 U	32 U	3.5 U	3.6 U
Phenol	30	NE	NE	mg/kg	21 U	1.3 U	0.55 U	4.9 U	0.53 U	0.55 U
Inorganic Constituents				mg/kg						
Cyanide, total	NE	NE	NE	mg/kg	0.51 J	0.93 J	0.49 U	0.5 U	0.5 UJ	0.51 U
Aluminum	NE	NE	NE	mg/kg	2200	9340	8190 B	7120 B	7960 J	11600
Antimony	NE	78	0.27	mg/kg	0.42 U	0.38 U	0.42 U	2.1 U	0.42 UJ	0.43 U
Arsenic	13	NE	46	mg/kg	**24**	7.1	**14.7**	**20.2**	9.1	10.8
Barium	433	330	2000	mg/kg	48.4	95.3	106	78.3	81.3 J	98.5
Beryllium	10	40	21	mg/kg	0.19 J	0.7	0.56	0.94 J	0.56	0.84
Cadmium	4	140	0.36	mg/kg	0.043 J	0.17 J	0.16 U	0.16 U	0.19 J	0.042 J
Calcium	NE	NE	NE	mg/kg	514 B	9040 B	2960 B	6100 B	7190 J	17400 B
Chromium	NE	NE	34	mg/kg	7.3	16	22.5	**49.3**	25.8	28.2
Cobalt	NE	NE	230	mg/kg	2.3	8	12.6	9.8	8	9.4
Copper	50	80	49	mg/kg	15.8	27.7	37.2	46.5	**52.8**	**53.3**
Iron	NE	NE	NE	mg/kg	17800 B	21800 B	64100 B^	91900 B	30900 B^	39900 B
Lead	63	1700	56	mg/kg	**64.6**	**172**	**224**	**729**	**336**	**204**

TABLE 7
SURFACE SOIL ANALYTICAL RESULTS (0-6")
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1) Protection of Ecological Resources	USEPA Ecological Soil Screening Levels (2) Soil Inverterbrates	Mammals	Units	SS-7 0-6" 5/13/2015	SS-8 0-6" 5/13/2015	SS-9 0-6" 5/13/2015	SS-10 0-6" 5/13/2015	SS-11 0-6" 5/14/2015	SS-12 0-6" 5/14/2015
Magnesium	NE	NE	NE	mg/kg	430	3370	3260 B	3020 B	4630 J	4110 B
Manganese	1600	450	4000	mg/kg	124 B	366 B	**601 B^**	**1490 B**	442 B^	**829 B**
Nickel	30	280	130	mg/kg	8.5	**30.7**	**32.2**	**38.6**	**31.1**	**32.9**
Potassium	NE	NE	NE	mg/kg	484	1170	1320	1100	1430 J	1340
Selenium	3.9	4.1	0.63	mg/kg	**1.7 J**	0.38 U	0.42 U	2.1 U	0.42 U	0.43 U
Silver	2	NE	14	mg/kg	0.21 U	0.19 U	0.21 U	1 U	0.21 U	0.22 U
Sodium	NE	NE	NE	mg/kg	79.9 J	163	125 J	308 J	149	260
Thallium	NE	NE	NE	mg/kg	0.32 U	0.29 U	0.31 U	1.6 U	0.31 U	0.32 U
Vanadium	NE	NE	280	mg/kg	15.2	33.7	34.6	134	33	46.7
Zinc	109	120	79	mg/kg	27 B	**105 B**	**87 B**	**153 B**	**146 J-**	**123 B**
Mercury	0.18	NE	NE	mg/kg	0.076	0.13	0.11	0.059	0.053 J	0.09
Pesticides										
4,4'-DDD	0.0033	NE	0.021	mg/kg	0.017 U	0.033 U	0.017 U	0.034 U	0.017 UF1	0.017 U
4,4'-DDE	0.0033	NE	0.021	mg/kg	0.019 U	0.036 U	0.019 U	0.037 U	0.018 U	0.018 U
4,4'-DDT	0.0033	NE	0.021	mg/kg	**0.022 J**	0.04 U	0.021 U	**0.051 J**	0.02 U	0.021 U
Aldrin	0.14	NE	NE	mg/kg	0.022 U	0.042 U	0.022 U	0.043 U	0.021 U	0.022 U
alpha Endosulfan (Endosulfan I)	NE	NE	NE	mg/kg	0.017 U	0.033 U	0.017 U	0.034 U	0.017 UF1	0.017 U
beta Endosulfan (Endosulfan II)	NE	NE	NE	mg/kg	0.016 U	0.031 U	0.016 U	0.031 U	0.016 UF1	0.016 U
BHC, alpha	0.04	NE	NE	mg/kg	0.016 U	0.031 U	0.016 U	0.031 U	0.016 UF1	0.016 U
BHC, beta	0.6	NE	NE	mg/kg	0.016 U	0.031 U	0.016 U	0.031 U	0.016 UF1	0.016 U
BHC, delta	0.04	NE	NE	mg/kg	0.017 U	0.032 U	0.016 U	0.033 U	0.016 UF1	0.016 U
BHC, gamma (Lindane)	6	NE	NE	mg/kg	0.016 U	0.031 U	0.016 U	0.032 U	0.016 UF1	0.016 U
Chlordane, alpha	1.3	NE	NE	mg/kg	0.045 U	0.085 U	0.044 U	0.087 U	0.043 U	0.044 U
Chlordane, beta	NE	NE	NE	mg/kg	0.029 U	0.054 U	0.028 U	0.056 U	0.028 U	0.028 U
Dieldrin	0.006	NE	0.0049	mg/kg	0.022 U	0.041 U	0.021 U	0.042 U	0.021 U	0.021 U
Endosulfan sulfate	NE	NE	NE	mg/kg	0.017 U	0.17 U	0.017 U	0.033 U	0.016 UF1	0.016 U
Endrin	0.014	NE	NE	mg/kg	0.018 U	0.034 U	0.018 U	0.035 U	0.017 UF1	0.017 U
Endrin aldehyde	NE	NE	NE	mg/kg	0.023 U	0.043 U	0.023 U	0.045 U	0.022 U	0.022 U
Endrin ketone	NE	NE	NE	mg/kg	0.022 U	0.066 J	0.022 U	0.043 U	0.021 U	0.022 U
Heptachlor	0.14	NE	NE	mg/kg	0.019 U	0.037 U	0.019 U	0.038 U	0.019 U	0.019 U
Heptachlor epoxide	NE	NE	NE	mg/kg	0.023 U	0.044 U	0.023 U	0.045 U	0.023 U	0.023 U
Methoxychlor	NE	NE	NE	mg/kg	0.018 U	0.035 U	0.018 U	0.036 U	0.087 U	0.018 U
Toxaphene	NE	NE	NE	mg/kg	0.52 U	0.99 U	0.52 U	1 U	0.51 U	0.51 U

TABLE 7
SURFACE SOIL ANALYTICAL RESULTS (0-6")
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1) Protection of Ecological Resources	USEPA Ecological Soil Screening Levels (2) Soil Inverterbrates	Mammals	Units	SS-7 0-6" 5/13/2015	SS-8 0-6" 5/13/2015	SS-9 0-6" 5/13/2015	SS-10 0-6" 5/13/2015	SS-11 0-6" 5/14/2015	SS-12 0-6" 5/14/2015
Polychlorinated Biphenyls (PCBs)										
Aroclor 1016	NE	NE	NE	mg/kg	0.047 U	0.045 U	0.044 U	0.045 U	0.042 U	0.041 U
Aroclor 1221	NE	NE	NE	mg/kg	0.047 U	0.045 U	0.044 U	0.045 U	0.042 U	0.041 U
Aroclor 1232	NE	NE	NE	mg/kg	0.047 U	0.045 U	0.044 U	0.045 U	0.042 U	0.041 U
Aroclor 1242	NE	NE	NE	mg/kg	0.047 U	0.045 U	0.044 U	0.045 U	0.042 U	0.041 U
Aroclor 1248	NE	NE	NE	mg/kg	0.047 U	0.045 U	0.044 U	0.045 U	0.042 U	0.041 U
Aroclor 1254	NE	NE	NE	mg/kg	0.11 U	0.11 U	0.1 U	0.11 U	0.1 U	0.099 U
Aroclor 1260	NE	NE	NE	mg/kg	0.11 U	0.11 U	0.1 U	0.11 U	0.1 U	0.099 U
Total PCBs	NE	NE	NE	mg/kg	ND	ND	ND	ND	ND	ND

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the reporting limit but greater than or equal to the method detection limit.
B - Constituent was found in the blank and the sample.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related Quality Control (QC) is outside acceptance limits.

NE - Not established.
ND - Not Detected

Boxed and bolded values indicate concentrations are above one or more of the following criteria: 1) New York State Subpart 375 Soil Cleanup Objectives for
Protection of Ecological Resources, 2) USEPA Ecological Soil Screening Levels for PAHs, select pesticides and metals (Soil Invertebrates), or 3) USEPA Ecological Screening Levels for PAHs, select pesticides and metals (Mammals).

(1) - 6NYCRR Subpart 375-6.
(2) - Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) (USEPA, 2007g), Pentachlorophenol (USEPA, 2007f), Antimony (USEPA, 2005a), Arsenic (USEPA, 2005d), Barium (USEPA, 2005b), Beryllium (USEPA, 2005c), Cadmium (USEPA, 2005e), Chromium (USEPA, 2008), Cobalt (USEPA, 2005f), Copper (USEPA, 2007a), Lead (USEPA, 2005g), Manganese (USEPA, 2007e), Nickel (USEPA, 2007b), Selenium (USEPA, 2007i), Silver (USEPA, 2006), Vanadium (USEPA, 2005h), Zinc (USEPA, 2007h), 4,4'-DDD (USEPA, 2007c), 4,4'-DDE (USEPA, 2007c), 4,4'-DDT,(USEPA, 2007c), and Dieldrin (USEPA, 2007d)

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	MW-1S 16-18 5/27/2015	MW-1S-REP 22.5-23 2/7/2017	MW-1D 28-29 5/26/2015	MW-2S 19-19.8 5/22/2015	MW-2D 7-8.8 5/21/2015	MW-2D 31-32.1 5/21/2015	MW-3S 11-13 5/21/2015	MW-3S DUP 11-13 5/21/2015	MW-3D 33.5-34 5/20/2015
Volatile Organic Compounds (VOCs)													
BTEX													
Benzene	89	70	0.06	mg/kg	0.00024 U	0.00032 U	0.00041 J	**6.8 F1F2**	**6600**	**0.75**	**8200 J**	**15000 J**	**0.58**
Toluene	1000	36	0.7	mg/kg	0.00037 U	0.0005 U	0.00046 U	**4.5 F1**	**4000**	0.54	**2300 J**	**4600 J**	0.059 J
Ethylbenzene	780	NE	1	mg/kg	0.00033 U	0.00046 U	0.00042 U	0.21 F1	**60 J**	0.047 J	72 U	98 U	0.14
Xylenes, total	1000	0.26	1.6	mg/kg	0.00081 U	0.0011 U	0.001 U	**4.2 F1**	**1600**	**0.46**	**850 J**	**1600 J**	**2.6**
Total BTEX	NE	NE	NE	mg/kg	ND	ND	0.00041 J	16 F1	12260	1.8	11350 J	21200 J	3.4
Other VOCs													
1,1,1-Trichloroethane	1000	NE	0.68	mg/kg	0.00035 U	0.00048 U	0.00044 U	0.056 UF1	45 U	0.045 U	68 U	93 U	0.032 U
1,1,2,2-Tetrachloroethane	NE	NE	NE	mg/kg	0.00078 UJ	0.0011 U	0.00098 U	0.033 U	26 U	0.026 U	40 U	55 U	0.019 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NE	NE	NE	mg/kg	0.0011 U	0.0015 U	0.0014 U	0.1 UF1	81 U	0.081 U	120 U	170 U	0.058 U
1,1,2-Trichloroethane	NE	NE	NE	mg/kg	0.00063 U	0.00086 U	0.00078 U	0.043 U	34 U	0.034 U	52 U	71 U	0.025 U
1,1-Dichloroethane	480	NE	0.27	mg/kg	0.00059 U	0.00081 U	0.00073 U	0.063 U	50 U	0.05 U	76 U	100 U	0.036 U
1,1-Dichloroethene	1000	NE	0.33	mg/kg	0.00059 U	0.00081 U	0.00074 U	0.07 U	56 U	0.056 U	85 U	120 U	0.04 U
1,2,4-Trichlorobenzene	NE	NE	NE	mg/kg	0.00029 UJ	0.0004 U	0.00037 U	0.077 U	61 U	0.061 U	94 U	130 U	0.044 U
1,2-Dibromo-3-chloropropane (DBCP)	NE	NE	NE	mg/kg	0.0024 UJ	0.0033 U	0.003 U	0.1 U	81 U	0.081 U	120 U	170 U	0.058 U
1,2-Dibromoethane (EDB)	NE	NE	NE	mg/kg	0.00062 U	0.00085 U	0.00077 U	0.036 U	28 U	0.028 U	43 U	59 U	0.02 U
1,2-Dichlorobenzene	1000	NE	1.1	mg/kg	0.00038 UJ	0.00052 U	0.00047 U	0.052 U	41 U	0.041 U	63 U	86 U	0.03 U
1,2-Dichloroethane	60	10	0.02	mg/kg	0.00024 U	0.00033 U	0.0003 U	0.083 U	66 U	0.066 U	100 U	140 U	0.048 U
1,2-Dichloropropane	NE	NE	NE	mg/kg	0.0024 U	0.0033 U	0.003 U	0.033 U	26 U	0.026 U	40 U	55 U	0.019 U
1,3-Dichlorobenzene	560	NE	2.4	mg/kg	0.00025 UJ	0.00034 U	0.00031 U	0.054 U	43 U	0.043 U	66 U	90 U	0.031 U
1,4-Dichlorobenzene	250	20	1.8	mg/kg	0.00068 UJ	0.00093 U	0.00084 U	0.029 U	23 U	0.023 U	35 U	47 U	0.016 U
2-Butanone (MEK)	1000	100	0.12	mg/kg	0.0018 U	0.0061 J	0.0022 U	0.61 U	480 U	0.48 U	730 U	1000 U	0.35 U
2-Hexanone	NE	NE	NE	mg/kg	0.0024 U	0.0033 U	0.003 U	0.42 U	330 U	0.33 U	510 U	690 U	0.24 U
4-Methyl-2-pentanone (MIBK)	NE	NE	NE	mg/kg	0.0016 U	0.0022 U	0.002 U	0.065 U	52 U	0.052 U	79 U	110 U	0.037 U
Acetone	1000	2.2	0.05	mg/kg	0.0095 J	**0.051 J+**	0.0051 U	0.84 U	670 U	0.66 U	1000 U	1400 U	0.48 U
Bromodichloromethane	NE	NE	NE	mg/kg	0.00065 U	0.00089 U	0.00081 U	0.041 U	32 U	0.032 U	49 U	67 U	0.023 U
Bromoform	NE	NE	NE	mg/kg	0.0024 U	0.0033 U	0.003 U	0.1 U	81 U	0.081 U	120 U	170 U	0.058 U
Bromomethane	NE	NE	NE	mg/kg	0.00043 U	0.0006 U	0.00054 U	0.045 U	36 U	0.036 U	54 U	74 U	0.026 U
Carbon disulfide	NE	NE	NE	mg/kg	0.0024 U	0.0033 U	0.003 U	0.093 U	74 U	0.073 U	110 U	150 U	0.053 U
Carbon tetrachloride	44	NE	0.76	mg/kg	0.00047 U	0.00064 U	0.00058 U	0.052 U	41 U	0.041 U	63 U	86 U	0.03 U
Chlorobenzene	1000	40	1.1	mg/kg	0.00064 U	0.00087 U	0.0008 U	0.027 U	21 U	0.021 U	33 U	45 U	0.015 U
Chloroethane	NE	NE	NE	mg/kg	0.0011 U	0.0015 U	0.0014 U	0.042 UF2	34 U	0.034 U	51 U	70 U	0.024 U
Chloroform	700	12	0.37	mg/kg	0.0003 U	0.00041 U	0.00037 U	0.14 U	110 U	0.11 U	170 U	230 U	0.08 U
Chloromethane	NE	NE	NE	mg/kg	0.00029 U	0.0004 U	0.00036 U	0.048 U	39 U	0.038 U	59 U	80 U	0.028 U
cis-1,2-Dichloroethene	1000	NE	0.25	mg/kg	0.00062 U	0.00085 U	0.00077 U	0.056 U	45 U	0.045 U	68 U	93 U	0.032 U
cis-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.0007 U	0.00095 U	0.00087 U	0.049 U	39 U	0.039 U	59 U	81 U	0.028 U
Cyclohexane	NE	NE	NE	mg/kg	0.00068 U	0.00093 U	0.00084 U	0.045 UF1	36 U	0.036 U	55 U	75 U	0.026 U
Dibromochloromethane	NE	NE	NE	mg/kg	0.00062 U	0.00085 U	0.00077 U	0.099 U	78 U	0.078 U	120 U	160 U	0.056 U
Dichlorodifluoromethane (Freon 12)	NE	NE	NE	mg/kg	0.0004 U	0.00055 U	0.0005 U	0.089 U	71 UJ	0.07 U	110 UJ	150 UJ	0.051 U
Isopropylbenzene (Cumene)	NE	NE	NE	mg/kg	0.00073 UJ	0.001 U	0.00091 U	1.7 F1	530 J	0.12 J	120 J	200 J	10
Methyl acetate	NE	NE	NE	mg/kg	0.0029 U	0.004 U	0.0036 U	0.097 U	77	0.25	120 U	160 U	0.056 U
Methylcyclohexane	NE	NE	NE	mg/kg	0.00073 U	0.0041 J	0.00092 U	0.1 JF1	76 U	0.076 U	120 U	160 U	0.15
Methylene chloride	1000	12	0.05	mg/kg	0.0022 U	0.003 U	0.0028 U	0.2 U	32 U	0.032 U	49 U	67 U	0.023 U
Styrene	NE	NE	NE	mg/kg	0.00024 U	0.00033 U	0.0003 U	0.049 UF1	39 U	0.039 U	60 U	81 U	0.028 U
tert-Butyl methyl ether (MTBE)	1000	NE	0.93	mg/kg	0.00047 U	0.00065 U	0.00059 U	0.077 U	61 U	0.061 U	93 U	130 U	0.044 U
Tetrachloroethene (PCE)	300	2	1.3	mg/kg	0.00065 U	0.00089 U	0.00081 U	0.027 U	22 U	0.022 U	33 U	45 U	0.016 U
trans-1,2-Dichloroethene	1000	NE	0.19	mg/kg	0.0005 U	0.00068 U	0.00062 U	0.048 U	38 U	0.038 U	58 U	80 U	0.028 U
trans-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.0021 U	0.0029 U	0.0027 U	0.02 U	16 U	0.016 U	24 U	33 U	0.011 U
Trichloroethene (TCE)	400	2	0.47	mg/kg	0.0011 U	0.0015 U	0.0013 U	0.057 U	45 U	0.045 U	69 U	94 U	0.032 U
Trichlorofluoromethane (Freon 11)	NE	NE	NE	mg/kg	0.00046 U	0.00063 U	0.00057 U	0.096 U	76 U	0.076 U	120 U	160 U	0.055 U
Vinyl chloride	27	NE	0.02	mg/kg	0.00059 U	0.00081 U	0.00073 U	0.068 U	54 U	0.054 U	83 U	110 U	0.039 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	MW-1S 16-18 5/27/2015	MW-1S-REP 22.5-23 2/7/2017	MW-1D 28-29 5/26/2015	MW-2S 19-19.8 5/22/2015	MW-2D 7-8.8 5/21/2015	MW-2D 31-32.1 5/21/2015	MW-3S 11-13 5/21/2015	MW-3S DUP 11-13 5/21/2015	MW-3D 33.5-34 5/20/2015
Semi-volatile Organic Compounds (SVOCs)													
Polycyclic Aromatic Hydrocarbons (PAHs)													
Acenaphthene	1000	20	98	mg/kg	0.14 U	0.038 J	0.17 U	0.27 U	73 U	0.15 U	17 J	71 U	1.8 J
Acenaphthylene	1000	NE	107	mg/kg	0.12 U	0.03 U	0.23 J	0.24 U	150 U	0.13 U	83 J	100 J	4.5 J
Anthracene	1000	NE	1000	mg/kg	0.23 U	0.056 U	0.62 J	1.8 JF1	540 U	0.26 U	350	410 J	5.1 J
Benzo(a)anthracene	11	NE	1	mg/kg	0.21 J	0.023 U	0.63 J	**2.8 F1**	510 U	0.1 U	**320**	**320 J**	**5.4 J**
Benzo(a)pyrene	1.1	2.6	22	mg/kg	0.14 U	0.034 U	0.43 J	**2 F1**	330 U	0.15 U	**210**	**230 J**	**3.7 J**
Benzo(b)fluoranthene	11	NE	1.7	mg/kg	0.15 U	0.036 U	0.54 J	**2.6 F1**	360 U	0.16 U	**240**	**260 J**	**3.6 J**
Benzo(g,h,i)perylene	1000	NE	1000	mg/kg	0.1 U	0.024 U	0.12 U	1.3 JF1	150 U	0.11 U	91 J	100 J	1.8 J
Benzo(k)fluoranthene	110	NE	1.7	mg/kg	0.12 U	0.03 U	0.26 J	1.5 JF1	300 U	0.13 U	**140**	**140 J**	**3 J**
Chrysene	110	NE	1	mg/kg	0.21 U	0.051 U	0.68 J	**2.6 F1**	410 U	0.23 U	**260**	**260 J**	**5.6 J**
Dibenz(a,h)anthracene	1.1	NE	1000	mg/kg	0.17 U	0.04 U	0.2 U	0.34 JF1F2	88 U	0.18 U	20 U	85 U	1.4 U
Fluoranthene	1000	NE	1000	mg/kg	0.21 J	0.024 U	1.2	4.8 F1	780 J	0.15 J	430	460 J	13
Fluorene	1000	30	386	mg/kg	0.11 U	0.027 U	0.61 J	1.7 JF1	510 U	0.12 U	**360**	**370 J**	13
Indeno(1,2,3-c,d)pyrene	11	NE	8.2	mg/kg	0.12 U	0.028 U	0.17 J	1.4 JF1	160 U	0.13 U	**100 J**	**120 J**	2.6 J
Naphthalene	1000	NE	12	mg/kg	0.12 U	0.03 U	0.43 J	12	**1300**	1	**3300**	**4100**	**380**
Phenanthrene	1000	NE	1000	mg/kg	0.27 J	0.12 J	1.8	6.7 F1	**2000 J**	0.26 J	**1100**	**1200**	19
Pyrene	1000	NE	1000	mg/kg	0.2 J	0.027 U	1.1	4 F1	1200 U	0.12 U	700	770	9.5
2-Methylnaphthalene	NE	NE	NE	mg/kg	0.19 U	0.046 U	0.27 J	2.1 F1	350 U	0.21 U	500	600	43
Total PAHS	NE	NE	NE	mg/kg	0.89 J	0.16 J	9.0	48	4080	1.4	8201	9440	515
Other SVOCs													
2,4,5-Trichlorophenol	NE	NE	NE	mg/kg	0.26 U	0.062 U	0.31 U	0.5 UF2	130 U	0.28 U	31 U	130 U	2.2 U
2,4,6-Trichlorophenol	NE	NE	NE	mg/kg	0.19 U	0.046 U	0.23 U	0.37 U	99 U	0.21 U	23 U	97 U	1.6 U
2,4-Dichlorophenol	NE	NE	NE	mg/kg	0.1 U	0.024 U	0.12 U	0.2 UF1F2	53 U	0.11 U	12 U	51 U	0.85 U
2,4-Dimethylphenol	NE	NE	NE	mg/kg	0.23 U	0.055 U	0.28 U	0.45 U	120 U	0.25 U	52 J	120 U	1.9 U
2,4-Dinitrophenol	NE	NE	NE	mg/kg	4.3 U	1.1 U	5.3 U	8.6 U	2300 U	4.8 U	530 U	2200 U	37 U
2,4-Dinitrotoluene	NE	NE	NE	mg/kg	0.19 U	0.047 U	0.24 U	0.38 U	100 U	0.21 U	24 U	100 U	1.6 U
2,6-Dinitrotoluene	NE	NE	NE	mg/kg	0.11 U	0.027 U	0.13 U	0.22 U	58 U	0.12 U	14 U	57 U	0.94 U
2-Chloronaphthalene	NE	NE	NE	mg/kg	0.16 U	0.038 U	0.19 U	0.31 U	82 U	0.17 U	19 U	80 U	1.3 U
2-Chlorophenol	NE	NE	NE	mg/kg	0.17 U	0.042 U	0.21 U	0.34 U	90 U	0.19 U	21 U	88 U	1.5 U
2-Methylphenol (o-cresol)	1000	NE	0.33	mg/kg	0.11 U	0.027 U	0.13 U	0.22 U	58 U	0.12 U	**42 J**	57 U	0.94 U
2-Nitroaniline	NE	NE	NE	mg/kg	0.14 U	0.034 U	0.17 U	0.27 U	73 U	0.15 U	17 U	71 U	1.2 U
2-Nitrophenol	NE	NE	NE	mg/kg	0.27 U	0.065 U	0.32 U	0.52 U	140 U	0.29 U	33 U	140 U	2.3 U
3,3'-Dichlorobenzidine	NE	NE	NE	mg/kg	1.1 U	0.27 U	1.3 U	2.2 U	580 U	1.2 U	140 U	570 U	9.4 U
3-Nitroaniline	NE	NE	NE	mg/kg	0.26 U	0.063 U	0.32 U	0.51 U	140 U	0.29 U	32 U	130 U	2.2 U
4,6-Dinitro-2-methylphenol	NE	NE	NE	mg/kg	0.94 U	0.23 U	1.1 U	1.9 U	500 U	1 U	120 U	480 U	8 U
4-Bromophenyl phenyl ether	NE	NE	NE	mg/kg	0.13 U	0.032 U	0.16 U	0.26 UF1	70 U	0.15 U	16 U	68 U	1.1 U
4-Chloro-3-methylphenol	NE	NE	NE	mg/kg	0.23 U	0.056 U	0.28 U	0.46 U	120 U	0.26 U	29 U	120 U	2 U
4-Chloroaniline	NE	NE	NE	mg/kg	0.23 U	0.056 U	0.28 U	0.46 U	120 U	0.26 U	29 U	120 U	2 U
4-Chlorophenyl phenyl ether	NE	NE	NE	mg/kg	0.12 U	0.028 U	0.14 U	0.23 U	61 U	0.13 U	14 U	60 U	0.99 U
4-Methylphenol	1000	NE	0.33	mg/kg	0.11 U	0.027 U	0.13 U	0.22 U	58 U	0.12 U	230 U	940 U	0.94 U
4-Nitroaniline	NE	NE	NE	mg/kg	0.49 U	0.12 U	0.6 U	0.97 U	260 U	0.54 U	61 U	250 U	4.2 U
4-Nitrophenol	NE	NE	NE	mg/kg	0.66 U	0.16 U	0.8 U	1.3 U	350 U	0.73 U	81 U	340 U	5.6 U
Acetophenone	NE	NE	NE	mg/kg	0.13 U	0.031 U	0.15 U	0.27 JF1	67 U	0.14 U	44 J	66 U	1.1 U
Atrazine	NE	NE	NE	mg/kg	0.33 U	0.079 U	0.4 U	0.65 U	170 U	0.36 U	40 U	170 U	2.8 U
Benzaldehyde	NE	NE	NE	mg/kg	0.75 UJ	0.18 U	0.91 UJ	1.5 U	390 U	0.82 U	92 U	380 U	6.3 U
Benzyl butyl phthalate	NE	NE	NE	mg/kg	0.16 U	0.038 U	0.19 U	0.31 U	82 U	0.17 U	19 U	80 U	1.3 U
Biphenyl (Diphenyl)	NE	NE	NE	mg/kg	0.14 U	0.034 U	0.17 U	0.27 U	73 U	0.15 U	76 J	110 J	8.1
bis(2-Chloroethoxy)methane	NE	NE	NE	mg/kg	0.2 U	0.048 U	0.24 U	0.39 U	110 U	0.22 U	25 U	100 U	1.7 U
bis(2-Chloroethyl)ether	NE	NE	NE	mg/kg	0.12 U	0.03 U	0.15 U	0.24 U	64 U	0.13 U	15 U	63 U	1 U
bis(2-Chloroisopropyl)ether	NE	NE	NE	mg/kg	0.19 U	0.046 U	0.23 U	0.37 U	99 U	0.21 U	23 U	97 U	1.6 U
bis(2-Ethylhexyl)phthalate	NE	NE	NE	mg/kg	0.32 U	0.078 U	0.39 U	0.63 U	170 U	0.35 U	40 U	170 U	2.7 U
Caprolactam	NE	NE	NE	mg/kg	0.28 U	0.069 U	0.34 U	0.56 U	150 U	0.31 U	35 U	150 U	2.4 U
Carbazole	NE	NE	NE	mg/kg	0.11 U	0.027 U	0.19 J	0.65 NJ	210 U	0.12 U	120	120 J	1.2 J
Dibenzofuran	1000	NE	210	mg/kg	0.11 U	0.027 U	0.33 J	1.4 JF1	370 U	0.12 U	**260**	**280 J**	11
Diethyl phthalate	NE	NE	NE	mg/kg	0.12 U	0.03 U	0.15 U	0.24 U	64 U	0.13 U	15 U	63 U	1 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	MW-1S 16-18 5/27/2015	MW-1S-REP 22.5-23 2/7/2017	MW-1D 28-29 5/26/2015	MW-2S 19-19.8 5/22/2015	MW-2D 7-8.8 5/21/2015	MW-2D 31-32.1 5/21/2015	MW-3S 11-13 5/21/2015	MW-3S DUP 11-13 5/21/2015	MW-3D 33.5-34 5/20/2015
Dimethyl phthalate	NE	NE	NE	mg/kg	0.11 U	0.027 U	0.13 U	0.22 U	58 U	0.12 U	14 U	57 U	0.94 U
dl-n-Butyl phthalate	NE	NE	NE	mg/kg	0.16 U	0.039 U	0.2 U	0.32 U	85 U	0.18 U	20 U	83 U	1.4 U
dl-n-Octyl phthalate	NE	NE	NE	mg/kg	0.11 U	0.027 U	0.13 U	0.22 U	58 U	0.12 U	14 U	57 U	0.94 U
Hexachlorobenzene	12	NE	3.2	mg/kg	0.13 U	0.031 U	0.15 U	0.25 U	67 U	0.14 U	16 U	66 U	1.1 U
Hexachlorobutadiene	NE	NE	NE	mg/kg	0.14 U	0.034 U	0.17 U	0.27 U	73 U	0.15 U	17 U	71 U	1.2 U
Hexachlorocyclopentadiene	NE	NE	NE	mg/kg	0.13 U	0.031 U	0.15 U	0.25 U	67 U	0.14 U	16 U	66 U	1.1 U
Hexachloroethane	NE	NE	NE	mg/kg	0.12 U	0.03 U	0.15 U	0.24 U	64 U	0.13 U	15 U	63 U	1 U
Isophorone	NE	NE	NE	mg/kg	0.2 U	0.048 U	0.24 U	0.39 U	110 U	0.22 U	25 U	100 U	1.7 U
Nitrobenzene	NE	NE	NE	mg/kg	0.11 U	0.026 U	0.13 U	0.21 U	55 U	0.12 U	13 U	54 U	0.89 U
N-Nitroso-di-n-propylamine	NE	NE	NE	mg/kg	0.16 U	0.039 U	0.2 U	0.32 U	85 U	0.18 U	20 U	83 U	1.4 U
N-Nitrosodiphenylamine	NE	NE	NE	mg/kg	0.77 U	0.19 U	0.93 U	1.5 U	400 U	0.84 U	94 U	390 U	6.5 U
Pentachlorophenol	55	0.8	0.8	mg/kg	0.94 UJ	0.23 U	1.1 UJ	1.9 U	500 U	1 U	120 U	480 U	8 UJ
Phenol	1000	30	0.33	mg/kg	0.14 U	0.035 U	0.17 U	0.28 U	76 U	0.16 U	**78 J**	74 U	1.2 U
Inorganic Constituents													
Cyanide, total	10000	NE	40	mg/kg	0.54 U	0.66 U	0.65 U	0.54 R	2.1 U	0.59 U	0.55 U	2.3	0.57 UJ
Aluminum	NE	NE	NE	mg/kg	3400	--	7210	2600 J	2800	11200	3000	3080	9430
Antimony	NE	NE	NE	mg/kg	2.1 U	--	0.52 U	2.1 UJ	2.6 U	0.55 U	0.45 U	2.4 U	0.55 J
Arsenic	16	13	16	mg/kg	**15**	--	6.8	**15.1 F1**	**15.2**	5.4	11	**14**	3.8
Barium	10000	433	820	mg/kg	24.7	--	49.3	15.1 J	18.1	33.3	44.3	29.2	67.3
Beryllium	2700	10	47	mg/kg	1.4	--	0.64	0.91 J	0.84	0.57	0.33	1 J	0.43
Cadmium	60	4	7.5	mg/kg	0.2 J	--	0.039 U	0.16 U	0.2 U	0.041 U	0.1 J	0.18 U	0.24 U
Calcium	NE	NE	NE	mg/kg	7170 B	--	2830 B	4870 J	4960 B	1610 B	6470 B	9280 B	11900 B
Chromium[b]	800	1	19	mg/kg	**24.9 B**	--	**16.2**	**18**	**30.4**	**15.9**	**15.2 J**	**70.2 J**	**12.5**
Cobalt	NE	NE	NE	mg/kg	9.3	--	9.2	9.3	2.8	12.5	3.8	6.2	8.4
Copper	10000	50	1720	mg/kg	15.8	--	22.3	25.6 F1	27.4	17.9	22.1	22.2	19.9
Iron	NE	NE	NE	mg/kg	121000 B	--	39200	96900 J	88600 ^B	29800 ^B	32400 J	105000 J	21500 B
Lead	3900	63	450	mg/kg	10.1	--	22.5	14.7 J	55.2	11.1	38.9	29.6	11.7
Magnesium	NE	NE	NE	mg/kg	862	--	2330	739 J	427	4870	1330	1030	9750
Manganese	10000	1600	2000	mg/kg	740 B	--	420	545 J	1260	355	1210 J	**2730 J**	1250 B
Nickel	10000	30	130	mg/kg	18.3 J	--	18.2	15.5	6.8	23.8	9.5	19.7	17.3
Potassium	NE	NE	NE	mg/kg	464	--	1350	328 F1F2	281 B	1370 B	529	408	1760
Selenium	6800	3.9	4	mg/kg	2.1 U	--	0.52 U	2.1 UF1	2.6 U	0.55 U	0.45 U	2.4 U	0.49 U
Silver	6800	2	8.3	mg/kg	1 U	--	0.26 U	1 U	1.3 U	0.27 U	0.23 U	1.2 U	0.24 U
Sodium	NE	NE	NE	mg/kg	266 J	--	212 B	167 J	238 J	131 J	893	1170	171 U
Thallium	NE	NE	NE	mg/kg	1.6 U	--	0.39 U	0.31 U	0.4 U	0.41 U	0.34 U	1.8 U	0.37 U
Vanadium	NE	NE	NE	mg/kg	104	--	32.4	96.5 J	59.3	26.8	27.6 J	92 J	15.4
Zinc	10000	109	2480	mg/kg	16 B	--	36.5 B	28 J	40.4 B	71.1 B	36.4 B	32.6 B	42.6 B
Mercury	5.7	0.18	0.73	mg/kg	0.0083 U	--	0.07	0.032	0.73 U	0.01 U	**0.22**	**0.31**	0.019 J
Pesticides													
4,4'-DDD	180	0.0033	14	mg/kg	0.00035 U	0.00045 U	0.0087 U	0.0071 UJ	0.085 U	0.0016 U	0.074 U	0.079 U	0.037 U
4,4'-DDE	120	0.0033	17	mg/kg	0.00038 U	0.00048 U	0.0094 U	0.0077 UJ	0.092 U	0.0017 U	0.08 U	0.085 U	0.19 U
4,4'-DDT	94	0.0033	136	mg/kg	0.00043 U	0.00054 U	0.011 U	0.0085 UJ	0.44 U	0.0019 U	0.089 U	0.095 U	0.19 U
Aldrin	1.4	0.14	0.19	mg/kg	0.00045 U	0.00056 U	0.011 U	0.009 UJ	0.11 U	0.002 U	0.094 U	0.099 U	0.049 J
alpha Endosulfan (Endosulfan I)	920	NE	102	mg/kg	0.00035 U	0.00044 U	0.0086 U	0.007 UJ	0.084 U	0.0015 U	0.073 U	0.078 U	0.037 U
beta Endosulfan (Endosulfan II)	920	NE	102	mg/kg	0.00033 U	0.00041 U	0.0081 U	0.0066 UJ	0.078 U	0.0014 U	0.069 U	0.073 U	0.035 U
BHC, alpha	6.8	0.04	0.02	mg/kg	0.00033 U	0.00041 U	0.0081 U	0.0066 UJ	0.078 U	0.0014 U	0.069 U	0.41 U	0.035 U
BHC, beta	14	0.6	0.09	mg/kg	0.00033 U	0.00041 U	0.0081 U	0.0066 UJ	0.078 U	0.0014 U	0.069 U	0.073 U	0.035 U
BHC, delta	1000	0.04	0.25	mg/kg	0.00034 U	0.00043 U	0.0084 U	0.0068 UJ	0.081 U	0.0015 U	0.071 U	0.075 U	0.036 U
BHC, gamma (Lindane)	23	6	0.1	mg/kg	0.00033 U	0.00042 U	0.0083 U	0.0067 UJ	0.08 U	0.0015 U	0.07 U	0.074 U	0.05 J
Chlordane, alpha	47	1.3	2.9	mg/kg	0.0009 U	0.0011 U	0.022 U	0.018 UJ	0.22 U	0.004 U	0.19 U	0.2 U	0.096 U
Chlordane, beta	NE	NE	NE	mg/kg	0.00058 U	0.00073 U	0.014 U	0.012 UJ	0.14 U	0.0026 U	0.12 U	0.13 U	0.061 U
Dieldrin	2.8	0.006	0.1	mg/kg	0.00044 U	0.00055 U	0.011 U	0.0087 UJ	0.1 U	0.0019 U	0.091 U	0.097 U	**0.056 J**
Endosulfan sulfate	920	NE	1000	mg/kg	0.00034 U	0.00043 U	0.0084 U	0.0068 UJ	0.081 U	0.0015 U	0.071 U	0.075 U	0.058 J
Endrin	410	0.014	0.06	mg/kg	0.00036 U	0.00045 U	0.0089 U	0.0072 UJ	0.086 U	0.0016 U	0.075 U	0.08 U	0.038 U
Endrin aldehyde	NE	NE	NE	mg/kg	0.00046 U	0.00059 U	0.011 U	0.0093 UJ	0.11 U	0.0021 U	0.097 U	0.1 U	0.049 U
Endrin ketone	NE	NE	NE	mg/kg	0.00078 J	0.00056 U	0.011 U	0.009 UJ	0.21 U	0.002 U	0.094 U	0.099 U	0.047 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	MW-1S 16-18 5/27/2015	MW-1S-REP 22.5-23 2/7/2017	MW-1D 28-29 5/26/2015	MW-2S 19-19.8 5/22/2015	MW-2D 7-8.8 5/21/2015	MW-2D 31-32.1 5/21/2015	MW-3S 11-13 5/21/2015	MW-3S DUP 11-13 5/21/2015	MW-3D 33.5-34 5/20/2015
Heptachlor	29	0.14	0.38	mg/kg	0.00039 U	0.0005 U	0.0097 U	0.0079 UJ	0.094 U	0.0017 U	0.082 U	0.088 U	0.042 U
Heptachlor epoxide	NE	NE	NE	mg/kg	0.00047 U	0.00059 U	0.012 U	0.0094 UJ	0.11 U	0.0021 U	0.098 U	0.1 U	0.05 U
Methoxychlor	NE	NE	NE	mg/kg	0.00037 U	0.00047 U	0.0092 U	0.0074 UJ	0.089 U	0.0016 U	0.61 U	0.52 NJ	0.062 J
Toxaphene	NE	NE	NE	mg/kg	0.011 U	0.013 U	0.26 U	0.21 UJ	2.5 U	0.047 U	2.2 U	2.4 U	1.1 U
Polychlorinated Biphenyls (PCBs)													
Aroclor 1016	NE	NE	3.2	mg/kg	0.046 U	--	0.054 U	0.038 U	0.063 U	0.056 U	0.044 U	0.057 U	0.053 U
Aroclor 1221	NE	NE	3.2	mg/kg	0.046 U	--	0.054 U	0.038 U	0.063 U	0.056 U	0.044 U	0.057 U	0.053 U
Aroclor 1232	NE	NE	3.2	mg/kg	0.046 U	--	0.054 U	0.038 U	0.063 U	0.056 U	0.044 U	0.057 U	0.053 U
Aroclor 1242	NE	NE	3.2	mg/kg	0.046 U	--	0.054 U	0.038 U	0.063 U	0.056 U	0.044 U	0.057 U	0.053 U
Aroclor 1248	NE	NE	3.2	mg/kg	0.046 U	--	0.054 U	0.038 U	0.063 U	0.056 U	0.044 U	0.057 U	0.053 U
Aroclor 1254	NE	NE	3.2	mg/kg	0.11 U	--	0.13 U	0.091 U	0.15 U	0.13 U	0.1 U	0.14 U	0.13 U
Aroclor 1260	NE	NE	3.2	mg/kg	0.11 U	--	0.13 U	0.091 U	0.15 U	0.13 U	0.1 U	0.14 U	0.13 U
Total PCBs	25	1.0	3.2	mg/kg	ND	--	ND	ND	ND	ND	ND	ND	ND

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
U1 - The analyte was analyzed for, but was not detected substantially above the level reported in laboratory or field blanks.
J+ - Estimated concentration. Reported value may be biased high. Result is esitmated high
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
N J - The analyte detection if tentative in indentification and estimated in value.
B - Constituent was found in the blank and the sample.
R - Result rejected as determined by the data validator.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related QC is outside acceptance limits.
* - Laboratory Control Sample (LCS) or Laboratory Control Sample Duplicate (LCSD) is outside acceptance limits
NE - Not established.
ND - Not detected
(a) - Zoning determination based on review of City of Troy Official Zoning Map dated 12/19/16. Zoning classification for the Site is identified as Waterfront Trade District, which permits industrial usage of property.
(b) - Chromium analysis was for total chromium. To be conservative, total chromium concentrations were compared to hexavalent chromium SCOs.

Boxes and bolded values indicate concentrations are above New York State Subpart 375 Soil Cleanup Objectives for: Protection of Public Health for Industrially Zoned Properties, Protection of Ecological Resources, and/or Protection of Groundwater.

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	MW-4S 19-19.6 5/20/2015	MW-4D 29-29.8 5/19/2015	MW-5S 19-20.3 1/26/2017	MW-5 27.7-29.3 1/24/2017	MW-6S 22-23.5 2/3/2017	MW-6D 31-31.9 2/2/2017	MW-7S 20-21.4 2/10/2017	MW-7D 29-30.2 2/9/2017	MW-7D DUP 29-30.2 2/9/2017	MW-8S 23-23.7 2/1/2017
Volatile Organic Compounds (VOCs)														
BTEX														
Benzene	89	70	0.06	mg/kg	0.0096	0.00092 J	**24**	**0.44 J**	0.056 U	**0.18**	0.012 U	0.01 U	0.019 J	**0.17 J**
Toluene	1000	36	0.7	mg/kg	0.0022 J	0.00063 J	**3.9**	0.51 U	0.079 U	0.075	0.032 J	0.023 J	0.033 J	0.13 J
Ethylbenzene	780	NE	1	mg/kg	0.00033 U	0.00043 U	**1.8**	0.64 J	0.085 U	0.017 U	0.051 J	0.015 U	0.014 U	0.087 U
Xylenes, total	1000	0.26	1.6	mg/kg	0.00081 U	0.0011 U	**15**	**18 J**	0.16 U	0.1 J	0.11 J	0.029 U	0.064 J	0.17 U
Total BTEX	NE	NE	NE	mg/kg	0.012	0.0016 J	45	19 J	ND	0.36	0.19 J	0.023 J	0.116 J	0.30 J
Other VOCs														
1,1,1-Trichloroethane	1000	NE	0.68	mg/kg	0.00035 U	0.00046 U	0.045 U	0.51 U	0.081 U	0.016 U	0.017 U	0.015 U	0.013 U	0.083 U
1,1,2,2-Tetrachloroethane	NE	NE	NE	mg/kg	0.00078 U	0.001 U	0.026 U	0.51 U	0.048 U	0.0093 U	0.0099 U	0.0086 UJ	0.09 J	0.049 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NE	NE	NE	mg/kg	0.0011 U	0.0014 U	0.081 U	0.51 U	0.15 U	0.029 U	0.03 U	0.027 U	0.024 U	0.15 U
1,1,2-Trichloroethane	NE	NE	NE	mg/kg	0.00062 U	0.00082 U	0.034 U	0.51 U	0.062 U	0.012 U	0.013 U	0.011 U	0.01 U	0.063 U
1,1-Dichloroethane	480	NE	0.27	mg/kg	0.00059 U	0.00077 U	0.05 U	0.51 U	0.091 U	0.018 U	0.021 J	0.016 U	0.015 U	0.093 U
1,1-Dichloroethene	1000	NE	0.33	mg/kg	0.00059 U	0.00077 U	0.056 U	0.51 U	0.1 U	0.02 U	0.021 U	0.018 U	0.017 U	0.1 U
1,2,4-Trichlorobenzene	NE	NE	NE	mg/kg	0.00029 U	0.00038 U	0.061 U	0.51 U	0.11 U	0.022 U	0.023 U	0.02 U	0.018 U	0.11 U
1,2-Dibromo-3-chloropropane (DBCP)	NE	NE	NE	mg/kg	0.0024 U	0.0031 U	0.74	0.51 U	0.15 U	0.029 U	0.03 U	0.027 U	0.041 J	0.15 U
1,2-Dibromoethane (EDB)	NE	NE	NE	mg/kg	0.00062 U	0.00081 U	0.028 U	0.51 U	0.051 U	0.01 U	0.011 U	0.0093 U	0.0084 U	0.052 U
1,2-Dichlorobenzene	1000	NE	1.1	mg/kg	0.00038 U	0.00049 U	0.041 U	0.51 U	0.075 U	0.015 U	0.016 U	0.014 U	0.012 U	0.076 U
1,2-Dichloroethane	60	10	0.02	mg/kg	0.00024 U	0.00032 U	0.066 U	0.51 U	0.12 U	0.023 U	0.025 U	0.022 U	0.02 U	0.12 U
1,2-Dichloropropane	NE	NE	NE	mg/kg	0.0024 U	0.0031 U	0.026 U	0.51 U	0.048 U	0.0093 U	0.0099 U	0.0086 U	0.0078 U	0.049 U
1,3-Dichlorobenzene	560	NE	2.4	mg/kg	0.00025 U	0.00032 U	0.043 U	0.51 U	0.078 U	0.015 U	0.016 U	0.014 U	0.013 U	0.08 U
1,4-Dichlorobenzene	250	20	1.8	mg/kg	0.00067 U	0.00088 U	0.023 U	0.51 U	0.041 U	0.008 U	0.0085 U	0.0074 U	0.0067 U	0.042 U
2-Butanone (MEK)	1000	100	0.12	mg/kg	0.0018 U	0.0023 U	0.48 U	2.5 U	0.87 U	0.17 U	0.18 U	0.16 U	0.14 U	0.89 U
2-Hexanone	NE	NE	NE	mg/kg	0.0024 U	0.0031 U	0.33 U	2.5 U	0.6 U	0.12 U	0.12 U	0.11 U	0.098 U	0.61 U
4-Methyl-2-pentanone (MIBK)	NE	NE	NE	mg/kg	0.0016 U	0.0021 U	0.052 U	2.5 U	0.094 U	0.018 U	0.019 U	0.017 U	0.015 U	0.096 U
Acetone	1000	2.2	0.05	mg/kg	0.004 U	0.031 U	0.66 U	2.5 U	1.2 U	0.24 U	0.25 U	0.22 U	0.2 U	1.2 U
Bromodichloromethane	NE	NE	NE	mg/kg	0.00064 U	0.00084 U	0.032 U	0.51 U	0.059 U	0.011 U	0.012 U	0.011 U	0.0096 U	0.06 U
Bromoform	NE	NE	NE	mg/kg	0.0024 U	0.0031 U	0.081 U	0.51 U	0.15 U	0.029 U	0.03 U	0.027 U	0.024 U	0.15 U
Bromomethane	NE	NE	NE	mg/kg	0.00043 U	0.00057 U	0.035 U	0.51 U	0.065 U	0.013 U	0.013 U	0.012 U	0.011 U	0.066 U
Carbon disulfide	NE	NE	NE	mg/kg	0.0024 U	0.0031 U	0.073 U	0.51 U	0.13 U	0.026 U	0.028 U	0.024 U	0.022 U	0.14 U
Carbon tetrachloride	44	NE	0.76	mg/kg	0.00046 U	0.00061 U	0.041 U	0.51 U	0.075 U	0.015 U	0.016 U	0.014 U	0.012 U	0.076 U
Chlorobenzene	1000	40	1.1	mg/kg	0.00063 U	0.00083 U	0.021 U	0.51 U	0.039 U	0.0076 U	0.008 U	0.007 U	0.0063 U	0.04 U
Chloroethane	NE	NE	NE	mg/kg	0.0011 U	0.0014 U	0.034 U	0.51 U	0.061 U	0.012 U	0.013 U	0.011 U	0.01 U	0.062 U
Chloroform	700	12	0.37	mg/kg	0.0003 U	0.00039 U	0.11 U	0.51 U	0.2 U	0.039 U	0.042 U	0.036 U	0.033 U	0.21 U
Chloromethane	NE	NE	NE	mg/kg	0.00029 U	0.00038 U	0.038 U	0.51 U	0.07 U	0.014 U	0.015 U	0.013 U	0.011 U	0.071 U
cis-1,2-Dichloroethene	1000	NE	0.25	mg/kg	0.00061 U	0.0008 U	0.044 U	0.51 U	0.081 U	0.016 U	0.017 U	0.015 U	0.013 U	0.083 U
cis-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.00069 U	0.0009 U	0.039 U	0.51 U	0.07 U	0.014 U	0.015 U	0.013 U	0.011 U	0.072 U
Cyclohexane	NE	NE	NE	mg/kg	0.00067 U	0.00088 U	0.11 J	0.51 UJ	0.065 U	0.013 U	0.014 U	0.012 U	0.011 U	0.067 U
Dibromochloromethane	NE	NE	NE	mg/kg	0.00061 U	0.0008 U	0.078 U	0.51 U	0.14 U	0.028 U	0.029 U	0.026 U	0.023 U	0.15 U
Dichlorodifluoromethane (Freon 12)	NE	NE	NE	mg/kg	0.0004 U	0.00052 U	0.07 U	0.51 U	0.13 U	0.025 U	0.027 U	0.023 U	0.021 U	0.13 U
Isopropylbenzene (Cumene)	NE	NE	NE	mg/kg	0.00072 U	0.00095 U	12	3.7 J	0.044 U	0.084	0.019 J	0.008 U	0.011 J	0.088 J
Methyl acetate	NE	NE	NE	mg/kg	0.0029 U	0.0038 U	0.077 U	2.5 U	0.14 U	0.027 U	0.029 U	0.025 U	0.023 U	0.14 U
Methylcyclohexane	NE	NE	NE	mg/kg	0.00073 U	0.00095 U	0.3	0.51 UJ	0.14 U	0.027 U	0.029 U	0.025 U	0.022 U	0.14 U
Methylene chloride	1000	12	0.05	mg/kg	0.0022 U	0.0029 U	0.032 U	0.51 U	0.2 U1	0.035 U1	210 U1	220 U1	160 U1	0.19 U1
Styrene	NE	NE	NE	mg/kg	0.00024 U	0.00031 U	0.17	0.51 U	0.071 U	0.014 U	0.015 U	0.025 J	0.028 J	0.072 U
tert-Butyl methyl ether (MTBE)	1000	NE	0.93	mg/kg	0.00047 U	0.00062 U	0.061 U	0.51 U	0.11 U	0.022 U	0.023 U	0.02 U	0.018 U	0.11 U
Tetrachloroethene (PCE)	300	2	1.3	mg/kg	0.00064 U	0.00084 U	0.022 U	0.51 U	0.039 U	0.0077 U	0.0082 U	0.0071 U	0.0064 U	0.04 U
trans-1,2-Dichloroethene	1000	NE	0.19	mg/kg	0.0005 U	0.00065 U	0.038 U	0.51 U	0.069 U	0.014 U	0.014 U	0.013 U	0.011 U	0.071 U
trans-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.0021 U	0.0028 U	0.016 U	0.51 U	0.029 U	0.0056 U	0.006 U	0.0052 U	0.0047 U	0.029 U
Trichloroethene (TCE)	400	2	0.47	mg/kg	0.0011 U	0.0014 U	0.045 U	0.51 U	0.082 U	0.016 U	0.046 J	0.015 U	0.013 U	0.083 U
Trichlorofluoromethane (Freon 11)	NE	NE	NE	mg/kg	0.00045 U	0.00059 U	0.076 U	0.51 U	0.14 U	0.027 U	0.029 U	0.025 U	0.022 U	0.14 U
Vinyl chloride	27	NE	0.02	mg/kg	0.00059 U	0.00077 U	0.054 U	0.51 U	0.098 U	0.019 U	0.02 U	0.018 U	0.016 U	0.1 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	MW-4S 19-19.6 5/20/2015	MW-4D 29-29.8 5/19/2015	MW-5S 19-20.3 1/26/2017	MW-5 27.7-29.3 1/24/2017	MW-6S 22-23.5 2/3/2017	MW-6D 31-31.9 2/2/2017	MW-7S 20-21.4 2/10/2017	MW-7D 29-30.2 2/9/2017	MW-7D DUP 29-30.2 2/9/2017	MW-8S 23-23.7 2/1/2017
Semi-volatile Organic Compounds (SVOCs)														
Polycyclic Aromatic Hydrocarbons (PAHs)														
Acenaphthene	1000	20	98	mg/kg	0.13 U	0.16 U	0.55 U	0.21 U	0.25	0.031 U	0.71 J	0.28 U	0.16 J	0.34
Acenaphthylene	1000	NE	107	mg/kg	0.18 J	0.14 U	3.4 J	0.15 J	0.03 U	0.027 U	0.13 U	0.25 U	0.026 U	0.21 J
Anthracene	1000	NE	1000	mg/kg	1.3	0.27 U	4.9	0.29 J	0.057 U	0.052 U	0.25 U	0.47 U	0.049 U	0.054 U
Benzo(a)anthracene	11	NE	1	mg/kg	**1.3**	0.2 J	**5.1**	0.31 J	0.14 J	0.3 J+	0.17 J	0.19 U	0.047 J	0.71
Benzo(a)pyrene	1.1	2.6	22	mg/kg	0.91 J	0.16 U	**3.3 J**	0.26 J	0.088 J	0.19 J	0.15 U	0.28 U	0.038 J	0.54
Benzo(b)fluoranthene	11	NE	1.7	mg/kg	1.2	0.17 U	**4.5**	0.32 J	0.19 J	0.3 J+	0.16 J	0.3 U	0.04 J	0.64
Benzo(g,h,i)perylene	1000	NE	1000	mg/kg	0.46 J	0.11 U	1.6 J	0.18 J	0.088 J	0.18 J	0.11 J	0.2 U	0.021 J	0.33
Benzo(k)fluoranthene	110	NE	1.7	mg/kg	0.7 J	0.14 U	1.6 J	0.13 J	0.053 J	0.13 J	0.13 U	0.25 U	0.026 U	0.29
Chrysene	110	NE	1	mg/kg	**1.5**	0.24 U	**4.1**	0.23 J	0.3	0.38 J+	0.23 J	0.43 U	0.05 J	0.61
Dibenz(a,h)anthracene	1.1	NE	1000	mg/kg	0.16 U	0.19 U	0.66 U	0.21 U	0.04 J	0.037 U	0.18 U	0.34 U	0.035 U	0.039 U
Fluoranthene	1000	NE	1000	mg/kg	2.9	0.22 J	11	0.6 J	0.27	0.022 U	0.45 J	0.2 U	0.085 J	1.2
Fluorene	1000	30	386	mg/kg	1.4	0.13 U	8.9	2.8 J	0.46	1.8 J+	0.12 U	0.22 U	0.023 U	0.026 U
Indeno(1,2,3-c,d)pyrene	11	NE	8.2	mg/kg	0.51 J	0.13 U	1.8 J	0.23 J	0.07 J	0.14 J	0.13 U	0.24 U	0.024 U	0.32
Naphthalene	1000	NE	12	mg/kg	6.6	0.23 J	**280**	**26 J**	0.6	0.66 J+	0.88 J	0.25 U	0.15 J	0.85
Phenanthrene	1000	NE	1000	mg/kg	4.2	0.2 J	18	0.84 J	0.42	0.031 U	0.15 U	0.28 U	0.11 J	0.032 U
Pyrene	1000	NE	1000	mg/kg	2.1	0.22 J	8.3	0.46 J	0.34	1.5 J+	1	0.22 U	0.16 J	0.96
2-Methylnaphthalene	NE	NE	NE	mg/kg	1.3	0.22 U	56	3.7 J	0.046 U	0.042 U	1.9	0.38 U	0.11 J	0.13 J
Total PAHS	NE	NE	NE	mg/kg	27	1.1 J	413	37 J	3.3	5.6 J	5.6	ND	0.97 J	7.1
Other SVOCs														
2,4,5-Trichlorophenol	NE	NE	NE	mg/kg	0.25 U	0.29 U	1 U	0.21 U	0.062 U	0.057 U	0.28 U	0.52 U	0.053 U	0.059 U
2,4,6-Trichlorophenol	NE	NE	NE	mg/kg	0.18 U	0.22 U	0.75 U	0.21 U	0.046 U	0.042 U	0.2 U	0.38 U	0.039 U	0.044 U
2,4-Dichlorophenol	NE	NE	NE	mg/kg	0.097 U	0.11 U	0.4 U	0.21 U	0.024 U	0.022 U	0.11 U	0.2 U	0.021 U	0.023 U
2,4-Dimethylphenol	NE	NE	NE	mg/kg	0.22 U	0.26 U	0.91 U	0.21 U	0.055 U	0.051 U	0.25 U	0.46 U	0.048 U	0.053 U
2,4-Dinitrophenol	NE	NE	NE	mg/kg	4.2 U	5 U	17 U	2 U	1.1 U	0.97 U	4.7 U	8.8 U	0.91 U	1 U
2,4-Dinitrotoluene	NE	NE	NE	mg/kg	0.19 U	0.22 U	0.78 U	0.21 U	0.047 U	0.043 U	0.21 U	0.39 U	0.041 U	0.045 U
2,6-Dinitrotoluene	NE	NE	NE	mg/kg	0.11 U	0.13 U	0.44 U	0.21 U	0.027 U	0.025 U	0.12 U	0.22 U	0.023 U	0.026 U
2-Chloronaphthalene	NE	NE	NE	mg/kg	0.15 U	0.18 U	0.62 U	0.21 U	0.038 U	0.035 U	0.17 U	0.31 U	0.032 U	0.036 U
2-Chlorophenol	NE	NE	NE	mg/kg	0.17 U	0.2 U	0.69 U	0.21 U	0.042 U	0.038 U	0.19 U	0.35 U	0.036 U	0.04 U
2-Methylphenol (o-cresol)	1000	NE	0.33	mg/kg	0.11 U	0.13 U	0.44 UJ	0.21 U	0.027 U	0.025 U	0.12 UJ	0.22 UJ	0.023 UJ	0.026 U
2-Nitroaniline	NE	NE	NE	mg/kg	0.13 U	0.16 U	0.55 U	0.4 U	0.034 U	0.031 U	0.15 U	0.28 U	0.029 U	0.032 U
2-Nitrophenol	NE	NE	NE	mg/kg	0.26 U	0.31 U	1.1 U	0.21 U	0.065 U	0.059 U	0.29 U	0.54 U	0.056 U	0.062 U
3,3'-Dichlorobenzidine	NE	NE	NE	mg/kg	1.1 U	1.3 U	4.4 U	0.4 U	0.27 U	0.25 U	1.2 U	2.2 U	0.23 U	0.26 U
3-Nitroaniline	NE	NE	NE	mg/kg	0.25 U	0.3 U	1 U	0.4 U	0.063 U	0.058 U	0.28 U	0.53 U	0.054 U	0.061 U
4,6-Dinitro-2-methylphenol	NE	NE	NE	mg/kg	0.92 U	1.1 U	3.8 U	0.4 U	0.23 U	0.21 U	1 U	1.9 U	0.2 U	0.22 U
4-Bromophenyl phenyl ether	NE	NE	NE	mg/kg	0.13 U	0.15 U	0.53 U	0.21 U	0.032 U	0.03 U	0.14 U	0.27 U	0.028 U	0.031 U
4-Chloro-3-methylphenol	NE	NE	NE	mg/kg	0.23 U	0.27 U	0.93 U	0.21 U	0.057 U	0.052 U	0.25 U	0.47 U	0.049 U	0.054 U
4-Chloroaniline	NE	NE	NE	mg/kg	0.23 U	0.27 U	0.93 U	0.21 U	0.057 U	0.052 U	0.25 U	0.47 U	0.049 U	0.054 U
4-Chlorophenyl phenyl ether	NE	NE	NE	mg/kg	0.11 U	0.13 U	0.47 U	0.21 U	0.028 U	0.026 U	0.13 U	0.24 U	0.024 U	0.027 U
4-Methylphenol	1000	NE	0.33	mg/kg	1.8 U	0.13 U	0.44 U	0.4 U	0.027 U	0.025 U	0.12 U	0.22 U	0.023 U	0.026 U
4-Nitroaniline	NE	NE	NE	mg/kg	0.48 U	0.57 U	2 U	0.4 U	0.12 U	0.11 U	0.53 U	1 U	0.1 U	0.11 U
4-Nitrophenol	NE	NE	NE	mg/kg	0.64 U	0.76 U	2.6 U	0.4 U	0.16 U	0.15 U	0.71 U	1.3 U	0.14 U	0.15 U
Acetophenone	NE	NE	NE	mg/kg	0.12 U	0.15 U	0.51 U	0.21 U	0.031 U	0.028 U	0.14 U	0.26 U	0.027 U	0.04 J
Atrazine	NE	NE	NE	mg/kg	0.32 U	0.38 U	1.3 U	0.21 U	0.079 U	0.073 U	0.35 U	0.66 U	0.068 U	0.076 U
Benzaldehyde	NE	NE	NE	mg/kg	0.73 U	0.86 U	3 U	0.21 UJ	0.18 U	0.17 U	0.81 U	1.5 U	0.16 U	0.17 U
Benzyl butyl phthalate	NE	NE	NE	mg/kg	0.15 U	0.18 U	0.62 U	0.21 U	0.038 U	0.035 U	0.17 U	0.31 U	0.032 U	0.036 U
Biphenyl (Diphenyl)	NE	NE	NE	mg/kg	0.19 J	0.16 U	4.3	0.25 J	0.034 U	0.031 U	0.15 U	0.28 U	0.029 U	0.066 J
bis(2-Chloroethoxy)methane	NE	NE	NE	mg/kg	0.19 U	0.23 U	0.8 U	0.21 U	0.048 U	0.044 U	0.22 U	0.4 U	0.042 U	0.046 U
bis(2-Chloroethyl)ether	NE	NE	NE	mg/kg	0.12 U	0.14 U	0.49 U	0.21 U	0.03 U	0.027 U	0.13 U	0.25 U	0.026 U	0.028 U
bis(2-Chloroisopropyl)ether	NE	NE	NE	mg/kg	0.18 U	0.22 U	0.75 U	0.21 U	0.046 U	0.042 U	0.2 U	0.38 U	0.039 U	0.044 U
bis(2-Ethylhexyl)phthalate	NE	NE	NE	mg/kg	0.31 U	0.37 U	1.3 U	0.21 U	0.078 U	0.087 J	0.35 U	0.65 U	0.067 U	0.075 U
Caprolactam	NE	NE	NE	mg/kg	0.27 U	0.33 U	1.1 U	0.21 U	0.069 U	0.063 U	0.31 U	0.57 U	0.059 U	0.066 U
Carbazole	NE	NE	NE	mg/kg	0.36 J	0.13 U	1.7 J	0.071 J	0.027 U	0.025 U	0.12 U	0.22 U	0.023 U	0.026 U
Dibenzofuran	1000	NE	210	mg/kg	0.93	0.13 U	8	0.38 J	0.18 J	0.025 U	0.12 U	0.22 U	0.023 U	0.026 U
Diethyl phthalate	NE	NE	NE	mg/kg	0.12 U	0.14 U	0.49 U	0.21 U	0.03 U	0.027 U	0.13 U	0.25 U	0.026 U	0.028 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	MW-4S 19-19.6 5/20/2015	MW-4D 29-29.8 5/19/2015	MW-5S 19-20.3 1/26/2017	MW-5 27.7-29.3 1/24/2017	MW-6S 22-23.5 2/3/2017	MW-6D 31-31.9 2/2/2017	MW-7S 20-21.4 2/10/2017	MW-7D 29-30.2 2/9/2017	MW-7D DUP 29-30.2 2/9/2017	MW-8S 23-23.7 2/1/2017
Dimethyl phthalate	NE	NE	NE	mg/kg	0.11 U	0.13 U	0.44 U	0.21 U	0.027 U	0.025 U	0.12 U	0.22 U	0.023 U	0.026 U
dl-n-Butyl phthalate	NE	NE	NE	mg/kg	0.16 U	0.18 U	0.64 U	0.21 U	0.039 U	0.036 U	0.17 U	0.33 U	0.034 U	0.037 U
dl-n-Octyl phthalate	NE	NE	NE	mg/kg	0.11 U	0.13 U	0.44 U	0.21 U	0.027 U	0.025 U	0.12 U	0.22 U	0.023 U	0.026 U
Hexachlorobenzene	12	NE	3.2	mg/kg	0.12 U	0.15 U	0.51 U	0.21 U	0.031 U	0.028 U	0.14 U	0.26 U	0.027 U	0.03 U
Hexachlorobutadiene	NE	NE	NE	mg/kg	0.13 U	0.16 U	0.55 U	0.21 U	0.034 U	0.031 U	0.15 U	0.28 U	0.029 U	0.032 U
Hexachlorocyclopentadiene	NE	NE	NE	mg/kg	0.12 U	0.15 U	0.51 U	0.21 U	0.031 U	0.028 U	0.14 U	0.26 U	0.027 U	0.03 U
Hexachloroethane	NE	NE	NE	mg/kg	0.12 U	0.14 U	0.49 U	0.21 U	0.03 U	0.027 U	0.13 U	0.25 U	0.026 U	0.028 U
Isophorone	NE	NE	NE	mg/kg	0.19 U	0.23 U	0.8 U	0.21 U	0.048 U	0.044 U	0.22 U	0.4 U	0.042 U	0.046 U
Nitrobenzene	NE	NE	NE	mg/kg	0.1 U	0.12 U	0.42 U	0.21 U	0.026 U	0.023 U	0.11 U	0.21 U	0.022 U	0.024 U
N-Nitroso-di-n-propylamine	NE	NE	NE	mg/kg	0.16 U	0.18 U	0.64 U	0.21 U	0.039 U	0.036 U	0.17 U	0.33 U	0.034 U	0.037 U
N-Nitrosodiphenylamine	NE	NE	NE	mg/kg	0.74 U	0.88 U	3.1 U	0.21 U	0.19 U	0.17 U	0.83 U	1.5 U	0.16 U	0.18 U
Pentachlorophenol	55	0.8	0.8	mg/kg	0.92 UJ	1.1 UJ	3.8 UJ	0.4 U	0.23 U	0.21 U	1 UJ	1.9 UJ	0.2 UJ	0.22 U
Phenol	1000	30	0.33	mg/kg	0.14 U	0.17 U	0.58 U	0.21 U	0.035 U	0.032 U	0.16 U	0.29 U	0.03 U	0.033 U
Inorganic Constituents														
Cyanide, total	10000	NE	40	mg/kg	0.76 J	0.62 U	1.4	1.1 U	0.62 U	0.58 U	0.51 U	0.47 U	0.51 U	0.57 U
Aluminum	NE	NE	NE	mg/kg	3820	9840	--	--	--	--	--	--	--	--
Antimony	NE	NE	NE	mg/kg	4.4 U	0.54 U	--	--	--	--	--	--	--	--
Arsenic	16	13	16	mg/kg	**36**	5.1	--	--	--	--	--	--	--	--
Barium	10000	433	820	mg/kg	22.5	61.5	--	--	--	--	--	--	--	--
Beryllium	2700	10	47	mg/kg	2.6	0.56	--	--	--	--	--	--	--	--
Cadmium	60	4	7.5	mg/kg	0.33 U	0.04 U	--	--	--	--	--	--	--	--
Calcium	NE	NE	NE	mg/kg	12400 B	2420 B	--	--	--	--	--	--	--	--
Chromium[b]	800	1	19	mg/kg	**30**	**16.4**	--	--	--	--	--	--	--	--
Cobalt	NE	NE	NE	mg/kg	7.3	9.8	--	--	--	--	--	--	--	--
Copper	10000	50	1720	mg/kg	10.7 J	23.6	--	--	--	--	--	--	--	--
Iron	NE	NE	NE	mg/kg	195000 B	22700 B	--	--	--	--	--	--	--	--
Lead	3900	63	450	mg/kg	13.8	45.9	--	--	--	--	--	--	--	--
Magnesium	NE	NE	NE	mg/kg	1570	4880	--	--	--	--	--	--	--	--
Manganese	10000	1600	2000	mg/kg	**1660 B**	332	--	--	--	--	--	--	--	--
Nickel	10000	30	130	mg/kg	9.2	20.6	--	--	--	--	--	--	--	--
Potassium	NE	NE	NE	mg/kg	398	1830	--	--	--	--	--	--	--	--
Selenium	6800	3.9	4	mg/kg	4.4 U	0.54 U	--	--	--	--	--	--	--	--
Silver	6800	2	8.3	mg/kg	2.2 U	0.27 U	--	--	--	--	--	--	--	--
Sodium	NE	NE	NE	mg/kg	1550 U	188 U	--	--	--	--	--	--	--	--
Thallium	NE	NE	NE	mg/kg	1.7 U	0.4 U	--	--	--	--	--	--	--	--
Vanadium	NE	NE	NE	mg/kg	121	19.1	--	--	--	--	--	--	--	--
Zinc	10000	109	2480	mg/kg	20.9 JB	52.1 B	--	--	--	--	--	--	--	--
Mercury	5.7	0.18	0.73	mg/kg	0.014 J	0.064	--	--	--	--	--	--	--	--
Pesticides														
4,4'-DDD	180	0.0033	14	mg/kg	0.0036 U	0.0041 U	0.014 U	0.01 U	0.00044 U	0.0004 U	0.00039 U	0.00037 U	0.00038 U	0.00041 U
4,4'-DDE	120	0.0033	17	mg/kg	0.0039 U	0.0044 U	0.016 U	0.01 U	0.00048 U	0.00043 U	0.00042 U	0.0004 U	0.00041 U	0.00044 U
4,4'-DDT	94	0.0033	136	mg/kg	0.0043 U	0.005 U	0.017 U	0.01 U	0.00054 U	0.00082 J	0.00047 U	0.00045 U	0.00045 U	0.00049 U
Aldrin	1.4	0.14	0.19	mg/kg	0.0045 U	0.0052 U	0.018 U	0.01 U	0.00056 U	0.0005 U	0.00049 U	0.00047 U	0.00048 U	0.00052 U
alpha Endosulfan (Endosulfan I)	920	NE	102	mg/kg	0.0035 U	0.0041 U	0.014 U	0.01 U	0.00044 U	0.00039 U	0.00038 U	0.00037 U	0.00037 U	0.00041 U
beta Endosulfan (Endosulfan II)	920	NE	102	mg/kg	0.0033 U	0.0038 U	0.013 U	0.01 U	0.00041 U	0.00037 U	0.00036 U	0.00034 U	0.00035 U	0.00038 U
BHC, alpha	6.8	0.04	0.02	mg/kg	0.0033 U	0.0038 U	0.013 U	0.01 U	0.00041 U	0.00037 U	0.00036 U	0.00034 U	0.00035 U	0.00038 U
BHC, beta	14	0.6	0.09	mg/kg	0.0033 U	0.0038 U	0.013 U	0.01 U	0.00041 U	0.00037 U	0.00036 U	0.00034 U	0.00035 U	0.00038 U
BHC, delta	1000	0.04	0.25	mg/kg	0.0034 U	0.0039 U	0.014 U	0.01 U	0.00043 U	0.00038 U	0.00037 U	0.00035 U	0.00036 U	0.00039 U
BHC, gamma (Lindane)	23	6	0.1	mg/kg	0.0034 U	0.0039 U	0.014 U	0.01 U	0.00042 U	0.00037 U	0.00037 U	0.00035 U	0.00036 U	0.00039 U
Chlordane, alpha	47	1.3	2.9	mg/kg	0.0092 U	0.011 U	0.037 U	0.01 U	0.0011 U	0.001 U	0.00099 U	0.00095 U	0.00096 U	0.0011 U
Chlordane, beta	NE	NE	NE	mg/kg	0.0059 U	0.0067 U	0.024 U	0.01 U	0.00073 U	0.00065 U	0.00063 U	0.00061 U	0.00062 U	0.00067 U
Dieldrin	2.8	0.006	0.1	mg/kg	0.0044 U	0.0051 U	0.018 U	0.01 U	0.00055 U	0.00049 U	0.00048 U	0.00046 U	0.00046 U	0.00051 U
Endosulfan sulfate	920	NE	1000	mg/kg	0.0034 U	0.004 U	0.014 U	0.01 U	0.00043 U	0.00038 U	0.00037 U	0.00036 U	0.00036 U	0.00039 U
Endrin	410	0.014	0.06	mg/kg	0.0037 U	0.0042 U	0.015 U	0.01 U	0.00045 U	0.0004 U	0.0004 U	0.00038 U	0.00038 U	0.00042 U
Endrin aldehyde	NE	NE	NE	mg/kg	0.0047 U	0.0054 U	0.019 U	0.01 U	0.00058 U	0.00052 U	0.00051 U	0.00049 U	0.00049 U	0.00054 U
Endrin ketone	NE	NE	NE	mg/kg	0.0045 U	0.0052 U	0.018 U	0.01 U	0.00056 U	0.0005 U	0.00049 U	0.00047 U	0.00048 U	0.00052 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	MW-4S 19-19.6 5/20/2015	MW-4D 29-29.8 5/19/2015	MW-5S 19-20.3 1/26/2017	MW-5 27.7-29.3 1/24/2017	MW-6S 22-23.5 2/3/2017	MW-6D 31-31.9 2/2/2017	MW-7S 20-21.4 2/10/2017	MW-7D 29-30.2 2/9/2017	MW-7D DUP 29-30.2 2/9/2017	MW-8S 23-23.7 2/1/2017
Heptachlor	29	0.14	0.38	mg/kg	0.004 U	0.0046 U	0.016 U	0.01 U	0.0005 U	0.00044 U	0.00043 U	0.00041 U	0.00042 U	0.00046 U
Heptachlor epoxide	NE	NE	NE	mg/kg	0.0048 U	0.0055 U	0.019 U	0.01 U	0.00059 U	0.00052 U	0.00051 U	0.00049 U	0.0005 U	0.00054 U
Methoxychlor	NE	NE	NE	mg/kg	0.0038 U	0.0043 U	0.015 U	0.01 U	0.00047 U	0.00042 U	0.00041 U	0.00039 U	0.00039 U	0.00043 U
Toxaphene	NE	NE	NE	mg/kg	0.11 U	0.12 U	0.43 U	0.1 U	0.013 U	0.012 U	0.012 U	0.011 U	0.011 U	0.012 U
Polychlorinated Biphenyls (PCBs)														
Aroclor 1016	NE	NE	3.2	mg/kg	0.038 U	0.049 U	--	--	--	--	--	--	--	--
Aroclor 1221	NE	NE	3.2	mg/kg	0.038 U	0.049 U	--	--	--	--	--	--	--	--
Aroclor 1232	NE	NE	3.2	mg/kg	0.038 U	0.049 U	--	--	--	--	--	--	--	--
Aroclor 1242	NE	NE	3.2	mg/kg	0.038 U	0.049 U	--	--	--	--	--	--	--	--
Aroclor 1248	NE	NE	3.2	mg/kg	0.038 U	0.049 U	--	--	--	--	--	--	--	--
Aroclor 1254	NE	NE	3.2	mg/kg	0.091 U	0.12 U	--	--	--	--	--	--	--	--
Aroclor 1260	NE	NE	3.2	mg/kg	0.091 U	0.12 U	--	--	--	--	--	--	--	--
Total PCBs	25	1.0	3.2	mg/kg	ND	ND	--	--	--	--	--	--	--	--

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
U1 - The analyte was analyzed for, but was not detected substantially above the level reported in laboratory or field blanks.
J+ - Estimated concentration. Reported value may be biased high. Result is esitmated high
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
N J - The analyte detection if tentative in indentification and estimated in value.
B - Constituent was found in the blank and the sample.
R - Result rejected as determined by the data validator.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related QC is outside acceptance limits.
* - Laboratory Control Sample (LCS) or Laboratory Control Sample Duplicate (LCSD) is outside acceptance limits
NE - Not established.
ND - Not detected
(a) - Zoning determination based on review of City of Troy Official Zoning Map dated 12/19/16. Zoning classification for the Site is identified as Waterfront Trade District, which permits industrial usage of property.
(b) - Chromium analysis was for total chromium. To be conservative, total chromium concentrations were compared to hexavalent chromium SCOs.

Boxes and bolded values indicate concentrations are above New York State Subpart 375 Soil Cleanup Objectives for: Protection of Public Health for Industrially Zoned Properties, Protection of Ecological Resources, and/or Protection of Groundwater.

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	MW-8D 29-30.5 2/10/2017	MW-9 21-22.2 2/2/2017	MW-10 19-20.5 2/7/2017	SB-1 1-2 5/7/2015	SB-1 5-5.7 5/18/2015	SB-1 11-12.3 5/18/2015	SB-1 17-18.2 5/18/2015	SB-1 23-24.3 5/18/2015	SB-1 27-27.8 5/18/2015	SB-2 0-1 5/7/2015
Volatile Organic Compounds (VOCs)														
BTEX														
Benzene	89	70	0.06	mg/kg	**0.55**	0.038 J	0.00021 U	0.0015 J	0.00041 J	0.0009 J	0.00021 U	0.00096 J	0.00031 U	**0.37**
Toluene	1000	36	0.7	mg/kg	0.22	0.083	0.00033 U	0.002 J	0.00048 J	0.00078 J	0.00033 U	0.00073 J	0.00047 U	0.33
Ethylbenzene	780	NE	1	mg/kg	0.021 J	0.065	0.0003 U	0.00064 UJ	0.00031 U	0.00037 UJ	0.0003 U	0.00045 U	0.00043 U	**2.1**
Xylenes, total	1000	0.26	1.6	mg/kg	0.25	0.065 J	0.00072 U	0.0015 UJ	0.00075 U	0.00091 UJ	0.00072 U	0.0011 U	0.0011 U	**5.6**
Total BTEX	NE	NE	NE	mg/kg	1.0	0.25	ND	0.0035 J	0.00089 J	0.0017 J	ND	0.0017 J	ND	8.4
Other VOCs														
1,1,1-Trichloroethane	1000	NE	0.68	mg/kg	0.019 U	0.011 U	0.00031 U	0.00067 UJ	0.00032 U	0.00039 UJ	0.00031 U	0.00048 U	0.00045 U	0.055 U
1,1,2,2-Tetrachloroethane	NE	NE	NE	mg/kg	0.011 U	0.0066 U	0.0007 U	0.0015 UJ	0.00073 UJ	0.00088 UJ	0.0007 UJ	0.0011 U	0.001 UJ	0.032 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NE	NE	NE	mg/kg	0.035 U	0.02 U	0.00098 U	0.0021 UJ	0.001 U	0.0012 UJ	0.00098 U	0.0015 U	0.0014 U	0.099 U
1,1,2-Trichloroethane	NE	NE	NE	mg/kg	0.015 U	0.0086 U	0.00056 U	0.0012 UJ	0.00058 U	0.0007 UJ	0.00056 U	0.00085 U	0.00081 U	0.042 U
1,1-Dichloroethane	480	NE	0.27	mg/kg	0.022 U	0.013 U	0.00053 U	0.0011 UJ	0.00055 U	0.00066 UJ	0.00053 U	0.0008 U	0.00076 U	0.061 U
1,1-Dichloroethene	1000	NE	0.33	mg/kg	0.024 U	0.014 U	0.00053 U	0.0011 UJ	0.00055 U	0.00066 UJ	0.00053 U	0.0008 U	0.00077 U	0.069 U
1,2,4-Trichlorobenzene	NE	NE	NE	mg/kg	0.027 U	0.015 U	0.00026 U	0.00056 UJ	0.00027 U	0.00033 UJ	0.00026 U	0.0004 U	0.00038 U	0.075 U
1,2-Dibromo-3-chloropropane (DBCP)	NE	NE	NE	mg/kg	0.035 U	0.02 U	0.0022 U	0.0046 UJ	0.0022 U	0.0027 UJ	0.0022 U	0.0033 U	0.0031 U	0.099 U
1,2-Dibromoethane (EDB)	NE	NE	NE	mg/kg	0.012 U	0.0071 U	0.00055 U	0.0012 UJ	0.00057 U	0.00069 UJ	0.00055 U	0.00084 U	0.0008 U	0.035 U
1,2-Dichlorobenzene	1000	NE	1.1	mg/kg	0.018 U	0.01 U	0.00034 U	0.00072 UJ	0.00035 U	0.00042 UJ	0.00034 U	0.00051 U	0.00049 U	0.051 U
1,2-Dichloroethane	60	10	0.02	mg/kg	0.029 U	0.017 U	0.00022 U	0.00046 UJ	0.00022 U	0.00027 UJ	0.00022 U	0.00033 U	0.00031 U	0.081 U
1,2-Dichloropropane	NE	NE	NE	mg/kg	0.011 U	0.0066 U	0.0022 U	0.0046 UJ	0.0022 U	0.0027 UJ	0.0022 U	0.0033 U	0.0031 U	0.032 U
1,3-Dichlorobenzene	560	NE	2.4	mg/kg	0.019 U	0.011 U	0.00022 U	0.00047 UJ	0.00023 UJ	0.00028 UJ	0.00022 UJ	0.00034 U	0.00032 UJ	0.053 U
1,4-Dichlorobenzene	250	20	1.8	mg/kg	0.0098 U	0.0057 U	0.0006 U	0.0013 UJ	0.00063 UJ	0.00076 UJ	0.0006 UJ	0.00092 U	0.00088 UJ	0.028 U
2-Butanone (MEK)	1000	100	0.12	mg/kg	0.21 U	0.12 U	0.0042 J	0.0034 UJ	0.0016 U	0.002 UJ	0.0016 U	0.0024 U	0.0023 U	0.59 U
2-Hexanone	NE	NE	NE	mg/kg	0.14 U	0.084 U	0.0022 U	0.0046 UJ	0.0022 U	0.0027 UJ	0.0022 U	0.0033 U	0.0031 U	0.41 U
4-Methyl-2-pentanone (MIBK)	NE	NE	NE	mg/kg	0.022 U	0.013 U	0.0014 U	0.003 UJ	0.0015 U	0.0018 UJ	0.0014 U	0.0022 U	0.0021 U	0.063 U
Acetone	1000	2.2	0.05	mg/kg	0.29 U	0.17 U	0.029 U1	0.0078 UJ	0.0038 U	0.0046 UJ	0.022 U	0.033 U	0.031 U	0.81 U
Bromodichloromethane	NE	NE	NE	mg/kg	0.014 U	0.0082 U	0.00058 U	0.0012 UJ	0.0006 U	0.00072 UJ	0.00058 U	0.00088 U	0.00084 U	0.2 U
Bromoform	NE	NE	NE	mg/kg	0.035 U	0.02 U	0.0022 U	0.0046 UJ	0.0022 U	0.0027 UJ	0.0022 U	0.0033 U	0.0031 U	0.099 U
Bromomethane	NE	NE	NE	mg/kg	0.015 U	0.009 U	0.00039 U	0.00083 UJ	0.0004 U	0.00049 UJ	0.00039 U	0.00059 U	0.00056 U	0.044 U
Carbon disulfide	NE	NE	NE	mg/kg	0.032 U	0.019 U	0.0022 U	0.0046 UJ	0.0022 U	0.0027 UJ	0.0022 U	0.0033 U	0.0031 U	0.09 U
Carbon tetrachloride	44	NE	0.76	mg/kg	0.018 U	0.01 U	0.00042 U	0.00089 UJ	0.00043 U	0.00052 UJ	0.00042 U	0.00064 U	0.00061 U	0.051 U
Chlorobenzene	1000	40	1.1	mg/kg	0.0093 U	0.0054 U	0.00057 U	0.0092 UJ	0.00059 U	0.00071 UJ	0.00057 U	0.00087 U	0.00083 U	0.026 U
Chloroethane	NE	NE	NE	mg/kg	0.015 U	0.0085 U	0.00097 U	0.0021 UJ	0.001 U	0.0012 UJ	0.00097 U	0.0015 U	0.0014 U	0.041 U
Chloroform	700	12	0.37	mg/kg	0.048 U	0.028 U	0.00027 U	0.00057 UJ	0.00028 U	0.00033 UJ	0.00027 U	0.00041 U	0.00039 U	0.14 U
Chloromethane	NE	NE	NE	mg/kg	0.017 U	0.0097 UJ	0.00026 U	0.00056 UJ	0.00027 U	0.00033 UJ	0.00026 U	0.0004 U	0.00038 U	0.047 U
cis-1,2-Dichloroethene	1000	NE	0.25	mg/kg	0.019 U	0.011 U	0.00055 U	0.0012 UJ	0.00057 U	0.00069 UJ	0.00055 U	0.00084 U	0.0008 U	0.055 U
cis-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.017 U	0.0098 U	0.00062 U	0.0013 UJ	0.00064 U	0.00078 UJ	0.00062 U	0.00095 U	0.0009 U	0.047 U
Cyclohexane	NE	NE	NE	mg/kg	0.016 U	0.0091 U	0.0006 U	0.0013 UJ	0.00063 U	0.00076 UJ	0.0006 U	0.00092 U	0.00088 U	3.4
Dibromochloromethane	NE	NE	NE	mg/kg	0.034 U	0.02 U	0.00055 U	0.0012 UJ	0.00057 UJ	0.00069 UJ	0.00055 UJ	0.00084 U	0.0008 UJ	0.096 U
Dichlorodifluoromethane (Freon 12)	NE	NE	NE	mg/kg	0.031 U	0.018 U	0.00036 U	0.00076 UJ	0.00037 U	0.00045 UJ	0.00036 U	0.00054 U	0.00052 U	0.086 U
Isopropylbenzene (Cumene)	NE	NE	NE	mg/kg	0.095	0.016 J	0.00065 U	0.0014 UJ	0.00067 U	0.00082 UJ	0.00065 U	0.00099 U	0.00094 U	0.17 J
Methyl acetate	NE	NE	NE	mg/kg	0.033 U	0.019 U	0.0026 U	0.0056 UJ	0.0027 U	0.0033 UJ	0.0026 U	0.004 U	0.0038 U	0.094 U
Methylcyclohexane	NE	NE	NE	mg/kg	0.033 U	0.092	0.00065 U	0.0014 UJ	0.00068 U	0.00082 UJ	0.00065 U	0.001 U	0.00095 U	10
Methylene chloride	1000	12	0.05	mg/kg	0.031 U1	0.14 U1	0.0041 U1	0.012 J	0.0021 U	0.0025 UJ	0.002 U	0.003 U	0.0029 U	0.039 U
Styrene	NE	NE	NE	mg/kg	0.017 U	0.0098 U	0.00022 U	0.00046 UJ	0.00022 U	0.00027 UJ	0.00022 U	0.00033 U	0.00031 U	0.048 U
tert-Butyl methyl ether (MTBE)	1000	NE	0.93	mg/kg	0.027 U	0.015 U	0.00042 U	0.00091 UJ	0.00044 U	0.00053 UJ	0.00042 U	0.00065 U	0.00061 U	0.075 U
Tetrachloroethene (PCE)	300	2	1.3	mg/kg	0.0094 U	0.0055 U	0.00058 U	0.0012 UJ	0.0006 U	0.00073 UJ	0.00058 U	0.00088 U	0.00084 U	0.027 U
trans-1,2-Dichloroethene	1000	NE	0.19	mg/kg	0.017 U	0.0096 U	0.00044 U	0.00095 UJ	0.00046 U	0.00056 UJ	0.00044 U	0.00068 U	0.00065 U	0.047 U
trans-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.0069 U	0.004 U	0.0019 U	0.0041 UJ	0.002 U	0.0024 UJ	0.0019 U	0.0029 U	0.0028 U	0.019 U
Trichloroethene (TCE)	400	2	0.47	mg/kg	0.019 U	0.011 U	0.00095 U	0.002 UJ	0.00098 U	0.0012 UJ	0.00095 U	0.0014 U	0.0014 U	0.055 U
Trichlorofluoromethane (Freon 11)	NE	NE	NE	mg/kg	0.033 UJ	0.019 U	0.00041 U	0.00087 UJ	0.00042 U	0.00051 UJ	0.00041 U	0.00062 U	0.00059 U	0.093 U
Vinyl chloride	27	NE	0.02	mg/kg	0.023 U	0.014 U	0.00053 U	0.0011 UJ	0.00055 U	0.00066 UJ	0.00053 U	0.0008 U	0.00076 U	0.066 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	MW-8D 29-30.5 2/10/2017	MW-9 21-22.2 2/2/2017	MW-10 19-20.5 2/7/2017	SB-1 1-2 5/7/2015	SB-1 5-5.7 5/18/2015	SB-1 11-12.3 5/18/2015	SB-1 17-18.2 5/18/2015	SB-1 23-24.3 5/18/2015	SB-1 27-27.8 5/18/2015	SB-2 0-1 5/7/2015
Semi-volatile Organic Compounds (SVOCs)														
Polycyclic Aromatic Hydrocarbons (PAHs)														
Acenaphthene	1000	20	98	mg/kg	0.53	0.13 U	0.15 U	0.56 U	0.27 U	0.13 U	0.27 U	0.33 U	0.17 U	2.8 U
Acenaphthylene	1000	NE	107	mg/kg	0.28	0.12 U	0.13 U	2.6 J	0.23 U	0.12 U	0.24 U	0.29 U	0.15 U	2.5 U
Anthracene	1000	NE	1000	mg/kg	0.98	0.22 U	0.25 U	1.8 J	0.45 U	0.22 U	0.46 U	0.56 U	0.28 U	4.7 U
Benzo(a)anthracene	11	NE	1	mg/kg	**2.4**	0.13 J	0.1 U	**8.4**	0.56 J	0.38 J	0.39 J	0.23 U	0.11 U	**4.5 J**
Benzo(a)pyrene	1.1	2.6	22	mg/kg	**2**	0.13 U	0.15 U	**5.8**	0.36 J	0.28 J	0.27 U	0.33 U	0.17 U	**3.5 J**
Benzo(b)fluoranthene	11	NE	1.7	mg/kg	**2.1**	0.14 U	0.16 U	**7.5**	0.62 J	0.42 J	0.29 U	0.36 U	0.18 U	**5.1 J**
Benzo(g,h,i)perylene	1000	NE	1000	mg/kg	1.5	0.096 U	0.11 U	3 J	0.31 J	0.22 J	0.2 U	0.24 U	0.12 U	2.7 J
Benzo(k)fluoranthene	110	NE	1.7	mg/kg	0.91	0.12 U	0.13 U	**5.3**	0.23 U	0.13 J	0.24 U	0.29 U	0.15 U	**3.6 J**
Chrysene	110	NE	1	mg/kg	**2.2**	0.2 U	0.23 U	**7.8**	0.5 J	0.33 J	0.41 U	0.51 U	0.25 U	4.3 U
Dibenz(a,h)anthracene	1.1	NE	1000	mg/kg	0.042 U	0.16 U	0.18 U	1.1 J	0.32 U	0.16 U	0.33 U	0.4 U	0.2 U	3.4 U
Fluoranthene	1000	NE	1000	mg/kg	3.5	0.22 J	0.14 J	13	0.69 J	0.44 J	0.31 J	0.24 U	0.12 U	3.8 J
Fluorene	1000	30	386	mg/kg	0.66	0.11 U	0.12 U	0.61 J	0.21 U	0.11 U	0.22 U	0.27 U	0.13 U	2.3 U
Indeno(1,2,3-c,d)pyrene	11	NE	8.2	mg/kg	1.2	0.11 U	0.13 U	3 J	0.23 J	0.16 J	0.23 U	0.28 U	0.14 U	2.4 U
Naphthalene	1000	NE	12	mg/kg	1	0.57 J	0.13 U	0.71 J	0.23 U	0.12 U	0.24 U	0.29 U	0.15 U	2.5 U
Phenanthrene	1000	NE	1000	mg/kg	2.3	0.24 J	0.15 U	4.8	0.51 J	0.13 U	0.46 J	0.33 U	0.17 U	2.8 U
Pyrene	1000	NE	1000	mg/kg	3.9	0.2 J	0.12 U	11	0.59 J	0.46 J	0.35 J	0.27 U	0.13 U	3.4 J
2-Methylnaphthalene	NE	NE	NE	mg/kg	0.17 J	0.18 U	0.21 U	0.76 U	0.36 U	0.18 U	0.37 U	0.45 U	0.23 U	3.8 U
Total PAHS	NE	NE	NE	mg/kg	26	1.4 J	0.14 J	76	4.4 J	2.8 J	1.5 J	ND	ND	27 J
Other SVOCs														
2,4,5-Trichlorophenol	NE	NE	NE	mg/kg	0.065 U	0.25 U	0.28 U	1 U	0.49 U	0.24 U	0.5 U	0.61 U	0.31 U	5.2 U
2,4,6-Trichlorophenol	NE	NE	NE	mg/kg	0.048 U	0.18 U	0.21 U	0.76 U	0.36 U	0.18 U	0.37 U	0.45 U	0.23 U	3.8 U
2,4-Dichlorophenol	NE	NE	NE	mg/kg	0.025 U	0.096 U	0.11 U	0.4 U	0.19 U	0.095 U	0.2 U	0.24 U	0.12 U	2 U
2,4-Dimethylphenol	NE	NE	NE	mg/kg	0.058 U	0.22 U	0.25 U	0.91 U	0.44 U	0.22 U	0.45 U	0.55 U	0.27 U	4.6 U
2,4-Dinitrophenol	NE	NE	NE	mg/kg	1.1 U	4.2 U	4.7 U	17 U	8.4 U	4.1 U	8.5 U	10 U	5.2 U	89 U
2,4-Dinitrotoluene	NE	NE	NE	mg/kg	0.049 U	0.19 U	0.21 U	0.78 U	0.37 U	0.18 U	0.38 U	0.47 U	0.23 U	4 U
2,6-Dinitrotoluene	NE	NE	NE	mg/kg	0.028 U	0.11 U	0.12 U	0.45 U	0.21 U	0.11 U	0.22 U	0.27 U	0.13 U	2.3 U
2-Chloronaphthalene	NE	NE	NE	mg/kg	0.039 U	0.15 U	0.17 U	0.62 U	0.3 U	0.15 U	0.3 U	0.37 U	0.19 U	3.2 U
2-Chlorophenol	NE	NE	NE	mg/kg	0.044 U	0.17 U	0.19 U	0.69 U	0.33 U	0.16 U	0.34 U	0.41 U	0.21 U	3.5 U
2-Methylphenol (o-cresol)	1000	NE	0.33	mg/kg	0.028 U	0.11 UJ	0.12 UJ	0.45 U	0.21 U	0.11 U	0.22 U	0.27 U	0.13 U	2.3 U
2-Nitroaniline	NE	NE	NE	mg/kg	0.035 U	0.13 U	0.15 U	0.56 U	0.27 U	0.13 U	0.27 U	0.33 U	0.17 U	2.8 U
2-Nitrophenol	NE	NE	NE	mg/kg	0.067 U	0.26 U	0.29 U	1.1 U	0.51 U	0.25 U	0.52 U	0.64 U	0.32 U	5.4 U
3,3'-Dichlorobenzidine	NE	NE	NE	mg/kg	0.28 U	1.1 U	1.2 U	4.5 U	2.1 U	1.1 U	2.2 U	2.7 U	1.3 U	23 U
3-Nitroaniline	NE	NE	NE	mg/kg	0.066 U	0.25 U	0.28 U	1 U	0.5 U	0.25 U	0.51 U	0.63 U	0.31 U	5.3 U
4,6-Dinitro-2-methylphenol	NE	NE	NE	mg/kg	0.24 U	0.91 U	1 U	3.8 U	1.8 U	0.89 U	1.9 U	2.3 U	1.1 U	19 U
4-Bromophenyl phenyl ether	NE	NE	NE	mg/kg	0.034 U	0.13 U	0.14 U	0.54 U	0.26 U	0.13 U	0.26 U	0.32 U	0.16 U	2.7 U
4-Chloro-3-methylphenol	NE	NE	NE	mg/kg	0.059 U	0.22 U	0.25 U	0.94 U	0.45 U	0.22 U	0.46 U	0.56 U	0.28 U	4.7 U
4-Chloroaniline	NE	NE	NE	mg/kg	0.059 U	0.22 U	0.25 U	0.94 U	0.45 U	0.22 U	0.46 U	0.56 U	0.28 U	4.7 U
4-Chlorophenyl phenyl ether	NE	NE	NE	mg/kg	0.03 U	0.11 U	0.13 U	0.47 U	0.22 U	0.11 U	0.23 U	0.28 U	0.14 U	2.4 U
4-Methylphenol	1000	NE	0.33	mg/kg	0.028 U	0.11 U	0.12 U	0.45 U	0.21 U	0.11 U	0.22 U	0.27 U	0.13 U	2.3 U
4-Nitroaniline	NE	NE	NE	mg/kg	0.13 U	0.48 U	0.54 U	2 U	0.95 U	0.47 U	0.97 U	1.2 U	0.59 U	10 U
4-Nitrophenol	NE	NE	NE	mg/kg	0.17 U	0.64 U	0.72 U	2.7 U	1.3 U	0.63 U	1.3 U	1.6 U	0.79 U	13 U
Acetophenone	NE	NE	NE	mg/kg	0.032 U	0.12 U	0.14 U	0.51 U	0.25 U	0.12 U	0.25 U	0.31 U	0.15 U	2.6 U
Atrazine	NE	NE	NE	mg/kg	0.083 U	0.32 U	0.36 U	1.3 U	0.63 U	0.31 U	0.64 U	0.79 U	0.39 U	6.7 U
Benzaldehyde	NE	NE	NE	mg/kg	0.19 U	0.72 U	0.81 U	3 U	1.4 U	0.71 U	1.5 U	1.8 U	0.9 U	15 U
Benzyl butyl phthalate	NE	NE	NE	mg/kg	0.039 U	0.15 U	0.17 U	0.62 U	0.3 U	0.15 U	0.3 U	0.37 U	0.19 U	3.2 U
Biphenyl (Diphenyl)	NE	NE	NE	mg/kg	0.12 J	0.13 U	0.15 U	0.56 U	0.27 U	0.13 U	0.27 U	0.33 U	0.17 U	2.8 U
bis(2-Chloroethoxy)methane	NE	NE	NE	mg/kg	0.051 U	0.19 U	0.22 U	0.8 U	0.38 U	0.19 U	0.39 U	0.48 U	0.24 U	4.1 U
bis(2-Chloroethyl)ether	NE	NE	NE	mg/kg	0.031 U	0.12 U	0.13 U	0.49 U	0.23 U	0.12 U	0.24 U	0.29 U	0.15 U	2.5 U
bis(2-Chloroisopropyl)ether	NE	NE	NE	mg/kg	0.048 U	0.18 U	0.21 U	0.76 U	0.36 U	0.18 U	0.37 U	0.45 U	0.23 U	3.8 U
bis(2-Ethylhexyl)phthalate	NE	NE	NE	mg/kg	0.082 U	0.31 U	0.35 U	1.3 U	0.62 U	0.3 U	0.63 U	0.77 U	0.39 U	6.6 U
Caprolactam	NE	NE	NE	mg/kg	0.072 U	0.27 U	0.31 U	1.1 U	0.54 U	0.27 U	0.56 U	0.68 U	0.34 U	5.8 U
Carbazole	NE	NE	NE	mg/kg	0.13 J	0.11 U	0.12 U	0.45 U	0.21 U	0.11 U	0.22 U	0.27 U	0.13 U	2.3 U
Dibenzofuran	1000	NE	210	mg/kg	0.28	0.11 U	0.12 U	0.45 U	0.21 U	0.11 U	0.22 U	0.27 U	0.13 U	2.3 U
Diethyl phthalate	NE	NE	NE	mg/kg	0.031 U	0.12 U	0.13 U	0.49 U	0.23 U	0.12 U	0.24 U	0.29 U	0.15 U	2.5 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	MW-8D 29-30.5 2/10/2017	MW-9 21-22.2 2/2/2017	MW-10 19-20.5 2/7/2017	SB-1 1-2 5/7/2015	SB-1 5-5.7 5/18/2015	SB-1 11-12.3 5/18/2015	SB-1 17-18.2 5/18/2015	SB-1 23-24.3 5/18/2015	SB-1 27-27.8 5/18/2015	SB-2 0-1 5/7/2015
Dimethyl phthalate	NE	NE	NE	mg/kg	0.028 U	0.11 U	0.12 U	0.45 U	0.21 U	0.11 U	0.22 U	0.27 U	0.13 U	2.3 U
dl-n-Butyl phthalate	NE	NE	NE	mg/kg	0.041 U	0.16 U	0.17 U	0.65 U	0.31 U	0.15 U	0.32 U	0.39 U	0.19 U	3.3 U
dl-n-Octyl phthalate	NE	NE	NE	mg/kg	0.028 U	0.11 U	0.12 U	0.45 U	0.21 U	0.11 U	0.22 U	0.27 U	0.13 U	2.3 U
Hexachlorobenzene	12	NE	3.2	mg/kg	0.032 U	0.12 U	0.14 U	0.51 U	0.25 U	0.12 U	0.25 U	0.31 U	0.15 U	2.6 U
Hexachlorobutadiene	NE	NE	NE	mg/kg	0.035 U	0.13 U	0.15 U	0.56 U	0.27 U	0.13 U	0.27 U	0.33 U	0.17 U	2.8 U
Hexachlorocyclopentadiene	NE	NE	NE	mg/kg	0.032 U	0.12 U	0.14 U	0.51 U	0.25 U	0.12 U	0.25 U	0.31 U	0.15 U	2.6 U
Hexachloroethane	NE	NE	NE	mg/kg	0.031 U	0.12 U	0.13 U	0.49 U	0.23 U	0.12 U	0.24 U	0.29 U	0.15 U	2.5 U
Isophorone	NE	NE	NE	mg/kg	0.051 U	0.19 U	0.22 U	0.8 U	0.38 U	0.19 U	0.39 U	0.48 U	0.24 U	4.1 U
Nitrobenzene	NE	NE	NE	mg/kg	0.027 U	0.1 U	0.11 U	0.42 U	0.2 U	0.1 U	0.21 U	0.25 U	0.13 U	2.1 U
N-Nitroso-di-n-propylamine	NE	NE	NE	mg/kg	0.041 U	0.16 U	0.17 U	0.65 U	0.31 U	0.15 U	0.32 U	0.39 U	0.19 U	3.3 U
N-Nitrosodiphenylamine	NE	NE	NE	mg/kg	0.19 U	0.74 U	0.83 U	3.1 U	1.5 U	0.73 U	1.5 U	1.8 U	0.92 U	16 U
Pentachlorophenol	55	0.8	0.8	mg/kg	0.24 U	0.91 UJ	1 UJ	3.8 U	1.8 U	0.89 U	1.9 U	2.3 U	1.1 U	19 U
Phenol	1000	30	0.33	mg/kg	0.037 U	0.14 U	0.16 U	0.58 U	0.28 U	0.14 U	0.28 U	0.35 U	0.17 U	2.9 U
Inorganic Constituents														
Cyanide, total	10000	NE	40	mg/kg	0.61 U	0.45 U	0.5 U	1.2	0.52 U	0.5 U	0.53 U	0.65 U	0.65 U	7.1
Aluminum	NE	NE	NE	mg/kg	--	--	--	7360	6590 J	4050	2350	8340	7190	1510
Antimony	NE	NE	NE	mg/kg	--	--	--	2.3 U	4 UJ	2 U	2.2 U	0.5 U	0.56 U	0.43 U
Arsenic	16	13	16	mg/kg	--	--	--	**31.3**	**44.7 J**	**17.5**	**15.2**	3	1.8 J	12.6
Barium	10000	433	820	mg/kg	--	--	--	88.5	39.2 J	22.3	18.2	57.2	43.1	62.8
Beryllium	2700	10	47	mg/kg	--	--	--	1.3	2.4 F1	0.81 J	0.83 J	0.89	0.31	0.51
Cadmium	60	4	7.5	mg/kg	--	--	--	0.17 U	0.3 UJ	0.15 U	0.16 U	0.11 JB	0.12 JB	0.045 J
Calcium	NE	NE	NE	mg/kg	--	--	--	20300 B	18300 J	3570 B	4000 B	3180 B	4870 B	1150 B
Chromium[b]	800	1	19	mg/kg	--	--	--	**26**	**78 J**	**31.2**	**17.5**	**10.1**	**8.6**	**8.1**
Cobalt	NE	NE	NE	mg/kg	--	--	--	11	8.6 J	11.3	9.6	8.6	6	2.1
Copper	10000	50	1720	mg/kg	--	--	--	40.8	34.8 F1F2	**81.3**	18.3	16	8	18.1
Iron	NE	NE	NE	mg/kg	--	--	--	89000 B	205000 J	115000 B^	82900 B^	14600 B	11800 B	10900 B
Lead	3900	63	450	mg/kg	--	--	--	**240**	**64.2**	21.2	11	22.7	4.7	**161**
Magnesium	NE	NE	NE	mg/kg	--	--	--	1940	1350 J	396	706	3560	4440	384
Manganese	10000	1600	2000	mg/kg	--	--	--	**1910 B**	**3370 J**	**2180 B^**	643 B^	215 B	139 B	50.7 B
Nickel	10000	30	130	mg/kg	--	--	--	21.8	20.6 J	16.8 J	11.9	14.1	10.7	8.7
Potassium	NE	NE	NE	mg/kg	--	--	--	738	581 F1	433	351	1200	959	615
Selenium	6800	3.9	4	mg/kg	--	--	--	2.3 U	4 UJ	2 U	2.2 U	0.5 U	0.56 U	1.1 J
Silver	6800	2	8.3	mg/kg	--	--	--	1.1 U	2 UJ	1 U	1.1 U	0.25 U	0.28 U	0.21 U
Sodium	NE	NE	NE	mg/kg	--	--	--	798 U	1400 UJ	712 U	759 U	174 U	194 U	150 U
Thallium	NE	NE	NE	mg/kg	--	--	--	1.7 U	3 UJ	1.5 U	1.6 U	0.37 U	0.42 U	0.32 U
Vanadium	NE	NE	NE	mg/kg	--	--	--	53.8	164 J	53	48	18.8	10.9	22.4
Zinc	10000	109	2480	mg/kg	--	--	--	**188 B**	46.3 J	26.3 B	11.8 B	44.3 B	41 B	26.9 B
Mercury	5.7	0.18	0.73	mg/kg	--	--	--	0.12	0.054	0.019 J	0.023	0.032	0.011 U	**7**
Pesticides														
4,4'-DDD	180	0.0033	14	mg/kg	0.00044 U	0.00035 U	0.00039 U	0.018 U	0.0034 U	0.00034 U	0.00036 U	0.00043 U	0.00044 U	0.092 U
4,4'-DDE	120	0.0033	17	mg/kg	0.00048 U	0.00037 U	0.00042 U	0.02 U	0.0037 U	0.00037 U	0.00038 U	0.00047 U	0.00047 U	0.099 U
4,4'-DDT	94	0.0033	136	mg/kg	0.00053 U	0.00042 U	0.00047 U	0.022 U	0.0041 U	0.00041 U	0.00043 U	0.00052 U	0.00053 U	0.11 U
Aldrin	1.4	0.14	0.19	mg/kg	0.00056 U	0.00044 U	0.0005 U	0.023 U	0.0043 U	0.00044 U	0.00045 U	0.00055 U	0.00055 U	0.12 U
alpha Endosulfan (Endosulfan I)	920	NE	102	mg/kg	0.00044 U	0.00034 U	0.00039 U	0.018 U	0.0033 U	0.00034 U	0.00035 U	0.00043 U	0.00043 U	0.09 U
beta Endosulfan (Endosulfan II)	920	NE	102	mg/kg	0.00041 U	0.00032 U	0.00036 U	0.017 U	0.0031 U	0.00032 U	0.00033 U	0.0004 U	0.0004 U	0.085 U
BHC, alpha	6.8	0.04	0.02	mg/kg	0.00041 U	0.00032 U	0.00036 U	0.017 U	0.0031 U	0.0018 U	0.00033 U	0.0004 U	0.0004 U	0.085 U
BHC, beta	14	0.6	0.09	mg/kg	0.00041 U	0.00032 U	0.00036 U	0.017 U	0.0031 U	0.0018 U	0.0018 U	0.0004 U	0.0004 U	0.085 U
BHC, delta	1000	0.04	0.25	mg/kg	0.00042 U	0.00033 U	0.00038 U	0.017 U	0.0032 U	0.00033 U	0.00034 U	0.00042 U	0.00042 U	0.088 U
BHC, gamma (Lindane)	23	6	0.1	mg/kg	0.00042 U	0.00033 U	0.00037 U	0.017 U	0.0032 U	0.00033 U	0.00034 U	0.00041 U	0.00041 U	0.086 U
Chlordane, alpha	47	1.3	2.9	mg/kg	0.0011 U	0.00089 U	0.0011 J	0.047 U	0.0087 U	0.00088 U	0.00091 U	0.0011 U	0.0011 U	0.23 U
Chlordane, beta	NE	NE	NE	mg/kg	0.00073 U	0.00057 U	0.00064 U	0.03 U	0.0055 U	0.00056 U	0.00058 U	0.00071 U	0.00071 U	0.15 U
Dieldrin	2.8	0.006	0.1	mg/kg	0.00055 U	0.00043 U	0.00048 U	0.022 U	0.0042 U	0.00043 U	0.00044 U	0.00054 U	0.00054 U	0.11 U
Endosulfan sulfate	920	NE	1000	mg/kg	0.00043 U	0.00033 U	0.00038 U	0.094 U	0.0033 U	0.00033 U	0.00034 U	0.00042 U	0.00042 U	0.088 U
Endrin	410	0.014	0.06	mg/kg	0.00045 U	0.00035 U	0.0004 U	0.019 U	0.0035 U	0.00035 U	0.00036 U	0.00044 U	0.00044 U	0.093 U
Endrin aldehyde	NE	NE	NE	mg/kg	0.00058 U	0.00045 U	0.00052 U	0.024 U	0.0045 U	0.00045 U	0.00047 U	0.00057 U	0.00057 U	0.12 U
Endrin ketone	NE	NE	NE	mg/kg	0.00056 U	0.00044 U	0.0005 U	0.023 U	0.0043 U	0.0018 U	0.0018 U	0.00055 U	0.00055 U	0.12 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	MW-8D 29-30.5 2/10/2017	MW-9 21-22.2 2/2/2017	MW-10 19-20.5 2/7/2017	SB-1 1-2 5/7/2015	SB-1 5-5.7 5/18/2015	SB-1 11-12.3 5/18/2015	SB-1 17-18.2 5/18/2015	SB-1 23-24.3 5/18/2015	SB-1 27-27.8 5/18/2015	SB-2 0-1 5/7/2015
Heptachlor	29	0.14	0.38	mg/kg	0.00049 U	0.00039 U	0.00044 U	0.02 U	0.0038 U	0.00038 U	0.0004 U	0.00048 U	0.00049 U	0.1 U
Heptachlor epoxide	NE	NE	NE	mg/kg	0.00059 U	0.00046 U	0.00052 U	0.024 U	0.0045 U	0.00046 U	0.00047 U	0.00058 U	0.00058 U	0.12 U
Methoxychlor	NE	NE	NE	mg/kg	0.00047 U	0.00036 U	0.00041 U	0.019 U	0.0036 U	0.00036 U	0.006 U	0.00046 U	0.00046 U	0.096 U
Toxaphene	NE	NE	NE	mg/kg	0.013 U	0.01 U	0.012 U	0.55 U	0.1 U	0.01 U	0.011 U	0.013 U	0.013 U	2.7 U
Polychlorinated Biphenyls (PCBs)														
Aroclor 1016	NE	NE	3.2	mg/kg	--	--	--	0.041 U	0.038 U	0.051 U	0.047 U	0.061 U	0.05 U	0.052 U
Aroclor 1221	NE	NE	3.2	mg/kg	--	--	--	0.041 U	0.038 U	0.051 U	0.047 U	0.061 U	0.05 U	0.052 U
Aroclor 1232	NE	NE	3.2	mg/kg	--	--	--	0.041 U	0.038 U	0.051 U	0.047 U	0.061 U	0.05 U	0.052 U
Aroclor 1242	NE	NE	3.2	mg/kg	--	--	--	0.041 U	0.038 U	0.051 U	0.047 U	0.061 U	0.05 U	0.052 U
Aroclor 1248	NE	NE	3.2	mg/kg	--	--	--	0.041 U	0.038 U	0.051 U	0.047 U	0.061 U	0.05 U	0.052 U
Aroclor 1254	NE	NE	3.2	mg/kg	--	--	--	0.099 U	0.09 U	0.12 U	0.11 U	0.15 U	0.12 U	0.12 U
Aroclor 1260	NE	NE	3.2	mg/kg	--	--	--	0.099 U	0.09 U	0.12 U	0.11 U	0.15 U	0.12 U	0.12 U
Total PCBs	25	1.0	3.2	mg/kg	--	--	--	ND	ND	ND	ND	ND	ND	ND

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
U1 - The analyte was analyzed for, but was not detected substantially above the level reported in laboratory or field blanks.
J+ - Estimated concentration. Reported value may be biased high. Result is esitmated high
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
N J - The analyte detection if tentative in indentification and estimated in value.
B - Constituent was found in the blank and the sample.
R - Result rejected as determined by the data validator.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related QC is outside acceptance limits.
* - Laboratory Control Sample (LCS) or Laboratory Control Sample Duplicate (LCSD) is outside acceptance limits
NE - Not established.
ND - Not detected
(a) - Zoning determination based on review of City of Troy Official Zoning Map dated 12/19/16. Zoning classification for the Site is identified as Waterfront Trade District, which permits industrial usage of property.
(b) - Chromium analysis was for total chromium. To be conservative, total chromium concentrations were compared to hexavalent chromium SCOs.

Boxes and bolded values indicate concentrations are above New York State Subpart 375 Soil Cleanup Objectives for: Protection of Public Health for Industrially Zoned Properties, Protection of Ecological Resources, and/or Protection of Groundwater.

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-2 7-7.9 5/12/2015	SB-2 13-14.5 5/12/2015	SB-2 19-19.3 5/13/2015	SB-2 25-25.8 5/13/2015	SB-2 31-32 5/13/2015	SB-3 3-4 5/5/2015	SB-3 7-8.7 5/14/2015	SB-3 13-14 5/14/2015	SB-3 21-22.3 5/14/2015	SB-3 25-25.4 5/14/2015
Volatile Organic Compounds (VOCs)														
BTEX														
Benzene	89	70	0.06	mg/kg	**0.2 J**	**37**	**2.5**	**1.5**	0.011	0.00027 U	0.00023 U	0.00021 U	0.00026 U	0.00032 U
Toluene	1000	36	0.7	mg/kg	0.54	**54**	**3.2**	**2.1**	0.013	0.00041 U	0.00036 U	0.00033 U	0.00041 U	0.0005 U
Ethylbenzene	780	NE	1	mg/kg	0.093 J	**3.6 J**	0.23 J	0.15 J	0.0014 J	0.00038 U	0.00033 U	0.0003 U	0.00037 U	0.00045 U
Xylenes, total	1000	0.26	1.6	mg/kg	**1.5**	**85**	**5.1**	**3.6**	0.022	0.00092 U	0.0008 U	0.00073 U	0.0009 U	0.0011 U
Total BTEX	NE	NE	NE	mg/kg	2.3	180	11	7.4	0.047	ND	ND	ND	ND	ND
Other VOCs														
1,1,1-Trichloroethane	1000	NE	0.68	mg/kg	0.075 U	1.2 U	0.19 U	0.1 U	0.0004 U	0.0004 U	0.00034 U	0.00031 U	0.00039 U	0.00048 U
1,1,2,2-Tetrachloroethane	NE	NE	NE	mg/kg	0.044 U	0.69 U	0.11 U	0.061 U	0.00089 U	0.00088 U	0.00077 U	0.0007 U	0.00087 U	0.0011 UJ
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NE	NE	NE	mg/kg	0.14 U	2.1 U	0.34 U	0.19 U	0.0013 U	0.0012 U	0.0011 U	0.00099 U	0.0012 U	0.0015 U
1,1,2-Trichloroethane	NE	NE	NE	mg/kg	0.057 U	0.89 U	0.14 U	0.079 U	0.00071 U	0.00071 U	0.00062 U	0.00056 U	0.0007 U	0.00085 U
1,1-Dichloroethane	480	NE	0.27	mg/kg	0.084 U	1.3 U	0.21 U	0.12 U	0.00067 U	0.00067 U	0.00058 U	0.00053 U	0.00065 U	0.0008 U
1,1-Dichloroethene	1000	NE	0.33	mg/kg	0.094 U	1.5 U	0.24 U	0.13 U	0.00067 U	0.00067 U	0.00058 U	0.00053 U	0.00066 U	0.0008 U
1,2,4-Trichlorobenzene	NE	NE	NE	mg/kg	0.1 UJ	1.6 UJ	0.26 U	0.14 U	0.00033 U	0.00033 U	0.00029 U	0.00026 U	0.00033 U	0.0004 U
1,2-Dibromo-3-chloropropane (DBCP)	NE	NE	NE	mg/kg	0.14 U	2.1 U	0.34 U	0.19 U	0.0027 U	0.0027 U	0.0024 U	0.0022 U	0.0027 U	0.0033 U
1,2-Dibromoethane (EDB)	NE	NE	NE	mg/kg	0.047 U	0.74 U	0.12 U	0.066 U	0.0007 U	0.0007 U	0.00061 U	0.00056 U	0.00069 U	0.00084 U
1,2-Dichlorobenzene	1000	NE	1.1	mg/kg	0.069 U	1.1 U	0.18 U	0.096 U	0.00043 U	0.00043 UJ	0.00037 U	0.00034 U	0.00042 U	0.00051 U
1,2-Dichloroethane	60	10	0.02	mg/kg	0.11 U	1.7 U	0.28 U	0.15 U	0.00028 U	0.00027 U	0.00024 U	0.00022 U	0.00027 U	0.00033 U
1,2-Dichloropropane	NE	NE	NE	mg/kg	0.044 U	0.69 U	0.11 U	0.061 U	0.0027 U	0.0027 U	0.0024 U	0.0022 U	0.0027 U	0.0033 U
1,3-Dichlorobenzene	560	NE	2.4	mg/kg	0.072 U	1.1 U	0.18 U	0.1 U	0.00028 U	0.00028 UJ	0.00024 UJ	0.00022 UJ	0.00028 UJ	0.00034 UJ
1,4-Dichlorobenzene	250	20	1.8	mg/kg	0.038 U	0.59 U	0.097 U	0.053 U	0.00077 U	0.00076 U	0.00066 UJ	0.00061 UJ	0.00075 UJ	0.00092 UJ
2-Butanone (MEK)	1000	100	0.12	mg/kg	0.81 U	13 U	2 U	1.1 U	0.002 U	0.002 U	0.0017 U	0.0016 U	0.002 U	0.0024 U
2-Hexanone	NE	NE	NE	mg/kg	0.56 U	8.7 U	1.4 U	0.77 U	0.0027 U	0.0027 U	0.0024 U	0.0022 U	0.0027 U	0.0033 U
4-Methyl-2-pentanone (MIBK)	NE	NE	NE	mg/kg	0.087 U	1.4 U	0.22 U	0.12 U	0.0018 U	0.0018 U	0.0016 U	0.0014 U	0.0018 U	0.0022 U
Acetone	1000	2.2	0.05	mg/kg	1.1 U	17 U	2.8 U	1.6 U	0.027 U	0.0046 U	0.024 U	0.022 U	0.027 U	0.033 U
Bromodichloromethane	NE	NE	NE	mg/kg	0.054 U	0.85 U	0.14 U	0.076 U	0.00073 U	0.00073 U	0.00064 U	0.00058 U	0.00072 U	0.00088 U
Bromoform	NE	NE	NE	mg/kg	0.14 U	2.1 U	0.34 U	0.19 U	0.0027 U	0.0027 U	0.0024 U	0.0022 U	0.0027 U	0.0033 U
Bromomethane	NE	NE	NE	mg/kg	0.06 U	0.93 U	0.15 U	0.083 U	0.00049 U	0.00049 U	0.00043 U	0.00039 U	0.00048 U	0.00059 U
Carbon disulfide	NE	NE	NE	mg/kg	0.12 U	1.9 U	0.31 U	0.17 U	0.0027 U	0.0027 U	0.0024 U	0.0022 U	0.0027 U	0.0033 U
Carbon tetrachloride	44	NE	0.76	mg/kg	0.069 U	1.1 U	0.18 U	0.096 U	0.00053 U	0.00053 U	0.00046 U	0.00042 U	0.00052 U	0.00064 U
Chlorobenzene	1000	40	1.1	mg/kg	0.036 U	0.56 U	0.091 U	0.05 U	0.00072 U	0.00072 U	0.00063 U	0.00057 U	0.00071 U	0.00087 U
Chloroethane	NE	NE	NE	mg/kg	0.056 U	0.88 U	0.14 U	0.079 U	0.0012 U	0.0012 U	0.0011 U	0.00098 U	0.0012 U	0.0015 U
Chloroform	700	12	0.37	mg/kg	0.19 U	2.9 U	0.47 U	0.26 U	0.00034 U	0.00034 U	0.00029 U	0.00027 U	0.00033 U	0.00041 U
Chloromethane	NE	NE	NE	mg/kg	0.065 U	1 U	0.16 U	0.09 U	0.00033 U	0.00033 U	0.00029 U	0.00026 U	0.00032 U	0.0004 U
cis-1,2-Dichloroethene	1000	NE	0.25	mg/kg	0.075 U	1.2 U	0.19 U	0.1 U	0.0007 U	0.0007 U	0.00061 U	0.00055 U	0.00069 U	0.00084 U
cis-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.065 U	1 U	0.16 U	0.09 U	0.00079 U	0.00079 U	0.00068 U	0.00062 U	0.00077 U	0.00095 U
Cyclohexane	NE	NE	NE	mg/kg	0.06 U	0.94 U	0.15 U	0.084 U	0.00077 U	0.00076 U	0.00066 U	0.00061 U	0.00075 U	0.00092 U
Dibromochloromethane	NE	NE	NE	mg/kg	0.13 U	2.1 U	0.33 U	0.18 U	0.0007 U	0.0007 U	0.00061 U	0.00055 U	0.00069 U	0.00084 UJ
Dichlorodifluoromethane (Freon 12)	NE	NE	NE	mg/kg	0.12 U	1.9 U	0.3 U	0.16 U	0.00045 U	0.00045 U	0.00039 U	0.00036 U	0.00044 U	0.00054 U
Isopropylbenzene (Cumene)	NE	NE	NE	mg/kg	0.041 U	0.64 U	0.1 U	0.057 U	0.0031 J	0.00082 U	0.00072 U	0.00065 U	0.00081 U	0.00099 U
Methyl acetate	NE	NE	NE	mg/kg	0.13 U	2 U	0.99	0.18 U	0.0033 U	0.0033 U	0.0029 U	0.0026 U	0.0032 U	0.004 U
Methylcyclohexane	NE	NE	NE	mg/kg	0.22 J	2 U	0.32 U	0.18 U	0.00083 U	0.00083 U	0.00072 U	0.00066 U	0.00081 U	0.001 U
Methylene chloride	1000	12	0.05	mg/kg	0.054 U	0.84 U	0.14 U	0.075 U	0.0025 U	0.0025 U	0.0022 U	0.002 U	0.0025 U	0.003 U
Styrene	NE	NE	NE	mg/kg	0.065 U	6.4	0.24 J	0.31 J	0.0013 J	0.00027 U	0.00024 U	0.00022 U	0.00027 U	0.00033 U
tert-Butyl methyl ether (MTBE)	1000	NE	0.93	mg/kg	0.1 U	1.6 U	0.26 U	0.14 U	0.00054 U	0.00054 U	0.00047 U	0.00043 U	0.00053 U	0.00065 U
Tetrachloroethene (PCE)	300	2	1.3	mg/kg	0.036 U	0.57 U	0.093 U	0.051 U	0.00074 U	0.00073 U	0.00064 U	0.00058 U	0.00072 U	0.00088 U
trans-1,2-Dichloroethene	1000	NE	0.19	mg/kg	0.064 U	1 U	0.16 U	0.089 U	0.00057 U	0.00056 U	0.00049 U	0.00045 U	0.00055 U	0.00068 U
trans-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.027 U	0.42 U	0.068 U	0.037 U	0.0024 U	0.0024 U	0.0021 U	0.0019 U	0.0024 U	0.0029 U
Trichloroethene (TCE)	400	2	0.47	mg/kg	0.075 U	1.2 U	0.19 U	0.11 U	0.0012 U	0.0012 U	0.001 U	0.00095 U	0.0012 U	0.0014 U
Trichlorofluoromethane (Freon 11)	NE	NE	NE	mg/kg	0.13 U	2 U	0.32 U	0.18 U	0.00052 U	0.00052 U	0.00045 U	0.00041 U	0.00051 U	0.00062 U
Vinyl chloride	27	NE	0.02	mg/kg	0.091 U	1.4 U	0.23 U	0.13 U	0.00067 U	0.00067 U	0.00058 U	0.00053 U	0.00065 U	0.0008 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-2 7-7.9 5/12/2015	SB-2 13-14.5 5/12/2015	SB-2 19-19.3 5/13/2015	SB-2 25-25.8 5/13/2015	SB-2 31-32 5/13/2015	SB-3 3-4 5/5/2015	SB-3 7-8.7 5/14/2015	SB-3 13-14 5/14/2015	SB-3 21-22.3 5/14/2015	SB-3 25-25.4 5/14/2015
Semi-volatile Organic Compounds (SVOCs)														
Polycyclic Aromatic Hydrocarbons (PAHs)														
Acenaphthene	1000	20	98	mg/kg	5.8 U	**110 J**	3.2 J	0.74 U	0.62 U	1.3 U	0.14 U	0.13 U	0.031 U	0.18 U
Acenaphthylene	1000	NE	107	mg/kg	21 J	**870**	7.1	6.6	1.2 J	4 J	0.12 U	0.11 U	0.027 U	0.16 U
Anthracene	1000	NE	1000	mg/kg	42	**1400**	14	12	2.3 J	4.7 J	0.24 U	0.22 U	0.052 U	0.3 U
Benzo(a)anthracene	11	NE	1	mg/kg	**72**	**1400**	**14**	**10**	**2.7 J**	**15**	0.53 J	0.088 U	0.021 U	0.12 U
Benzo(a)pyrene	1.1	2.6	22	mg/kg	**52**	**840**	**8.8**	**6.6**	**1.8 J**	**10**	0.26 J	0.13 U	0.031 U	0.18 U
Benzo(b)fluoranthene	11	NE	1.7	mg/kg	**56**	**1200**	**11**	**8.5**	**2.4 J**	**14**	0.38 J	0.14 U	0.034 U	0.19 U
Benzo(g,h,i)perylene	1000	NE	1000	mg/kg	26 J	430	4 J	2.9 J	0.84 J	6.8 J	0.19 J	0.093 U	0.022 U	0.13 U
Benzo(k)fluoranthene	110	NE	1.7	mg/kg	**35 J**	**480**	**7.1**	**7**	1.3 J	**5.9 J**	0.15 J	0.11 U	0.027 U	0.16 U
Chrysene	110	NE	1	mg/kg	**69**	**1200**	**12**	**9**	**2.5 J**	**15**	0.31 J	0.2 U	0.047 U	0.27 U
Dibenz(a,h)anthracene	1.1	NE	1000	mg/kg	6.9 U	76 U	**2 J**	**1.4 J**	0.74 U	1.6 U	0.17 U	0.16 U	0.037 U	0.21 U
Fluoranthene	1000	NE	1000	mg/kg	140	**2800**	31	23	6.1	25	0.42 J	0.093 U	0.022 U	0.13 U
Fluorene	1000	30	386	mg/kg	**37 J**	**1700**	20	17	3.7 J	3.7 J	0.11 U	0.1 U	0.025 U	0.14 U
Indeno(1,2,3-c,d)pyrene	11	NE	8.2	mg/kg	**26 J**	**440**	4.4	3.4 J	0.89 J	6.5 J	0.18 J	0.11 U	0.026 U	0.15 U
Naphthalene	1000	NE	12	mg/kg	**33 J**	**7000**	**66**	**47**	12	1.2 U	0.12 U	0.11 U	0.027 U	0.16 U
Phenanthrene	1000	NE	1000	mg/kg	150	**4400**	47	37	9.1	25	0.45 J	0.13 J	0.031 U	0.18 U
Pyrene	1000	NE	1000	mg/kg	120	**2000**	22	17	4.5	25	0.49 J	0.1 U	0.025 U	0.14 U
2-Methylnaphthalene	NE	NE	NE	mg/kg	17 J	1700	19	14	3.4 J	1.8 U	0.19 U	0.18 U	0.042 U	0.24 U
Total PAHS	NE	NE	NE	mg/kg	896	27970	293	222	55	161	3.4 J	0.13 J	ND	ND
Other SVOCs														
2,4,5-Trichlorophenol	NE	NE	NE	mg/kg	11 U	120 U	1.1 U	1.4 U	1.1 U	2.5 U	0.26 U	0.24 U	0.057 U	0.32 U
2,4,6-Trichlorophenol	NE	NE	NE	mg/kg	7.9 U	86 U	0.84 U	1 U	0.84 U	1.8 U	0.19 U	0.18 U	0.042 U	0.24 U
2,4-Dichlorophenol	NE	NE	NE	mg/kg	4.2 U	45 U	0.45 U	0.53 U	0.44 U	0.96 U	0.1 U	0.093 U	0.022 U	0.13 U
2,4-Dimethylphenol	NE	NE	NE	mg/kg	9.5 U	580	2.6 J	5.6	1 U	2.2 U	0.23 U	0.21 U	0.051 U	0.29 U
2,4-Dinitrophenol	NE	NE	NE	mg/kg	180 U	2000 U	19 U	23 U	19 U	42 U	4.4 U	4.1 U	0.98 U	5.5 U
2,4-Dinitrotoluene	NE	NE	NE	mg/kg	8.1 U	88 U	4.2 U	1 U	0.86 U	1.9 U	0.2 U	0.18 U	0.044 U	0.25 U
2,6-Dinitrotoluene	NE	NE	NE	mg/kg	4.6 U	50 U	4.2 U	0.59 U	0.49 U	1.1 U	0.11 U	0.1 U	0.025 U	0.14 U
2-Chloronaphthalene	NE	NE	NE	mg/kg	6.5 U	70 U	0.69 U	0.83 U	0.69 U	1.5 U	0.16 U	0.15 U	0.035 U	0.2 U
2-Chlorophenol	NE	NE	NE	mg/kg	7.2 U	78 U	0.77 U	0.92 U	0.77 U	1.7 U	0.17 U	0.16 U	0.039 U	0.22 U
2-Methylphenol (o-cresol)	1000	NE	0.33	mg/kg	4.6 U	**480**	**3.9 J**	**2.6 J**	0.49 U	1.1 U	0.11 U	0.1 U	0.025 U	0.14 U
2-Nitroaniline	NE	NE	NE	mg/kg	5.8 U	63 U	0.62 U	0.74 U	0.62 U	1.3 U	0.14 U	0.13 U	0.031 U	0.18 U
2-Nitrophenol	NE	NE	NE	mg/kg	11 U	120 U	1.2 U	1.4 U	1.2 U	2.6 U	0.27 U	0.25 U	0.06 U	0.34 U
3,3'-Dichlorobenzidine	NE	NE	NE	mg/kg	46 U	500 U	5 U	5.9 U	4.9 U	11 U	1.1 U	1 U	0.25 U	1.4 U
3-Nitroaniline	NE	NE	NE	mg/kg	11 U	120 U	1.2 U	1.4 U	1.2 U	2.5 U	0.26 U	0.24 U	0.059 U	0.33 U
4,6-Dinitro-2-methylphenol	NE	NE	NE	mg/kg	39 U	430 U	8.2 U	5 U	4.2 U	9.1 U	0.96 U	0.88 U	0.21 U	1.2 U
4-Bromophenyl phenyl ether	NE	NE	NE	mg/kg	5.6 U	60 U	0.59 U	0.71 U	0.59 U	1.3 U	0.13 U	0.12 U	0.03 U	0.17 U
4-Chloro-3-methylphenol	NE	NE	NE	mg/kg	9.7 U	110 U	1 U	1.2 U	1 U	2.2 U	0.24 U	0.22 U	0.052 U	0.3 U
4-Chloroaniline	NE	NE	NE	mg/kg	9.7 U	110 U	1 U	1.2 U	1 U	2.2 U	0.24 U	0.22 U	0.052 U	0.3 U
4-Chlorophenyl phenyl ether	NE	NE	NE	mg/kg	4.9 U	53 U	0.52 U	0.62 U	0.52 U	1.1 U	0.12 U	0.11 U	0.026 U	0.15 U
4-Methylphenol	1000	NE	0.33	mg/kg	4.6 U	**1300**	**10**	**8.1 J**	**1.8 J**	1.1 U	0.11 U	0.1 U	0.025 U	0.14 U
4-Nitroaniline	NE	NE	NE	mg/kg	21 U	220 U	2.2 U	2.6 U	2.2 U	4.8 U	0.5 U	0.46 U	0.11 U	0.63 U
4-Nitrophenol	NE	NE	NE	mg/kg	28 U	300 U	2.9 U	3.5 U	2.9 U	6.4 U	0.67 U	0.62 U	0.15 U	0.84 U
Acetophenone	NE	NE	NE	mg/kg	5.3 U	58 U	0.57 U	0.68 U	0.57 U	1.2 U	0.13 U	0.12 U	0.029 U	0.16 U
Atrazine	NE	NE	NE	mg/kg	14 U	150 U	4.2 U	1.8 U	1.5 U	3.1 U	0.33 U	0.31 U	0.074 U	0.42 U
Benzaldehyde	NE	NE	NE	mg/kg	31 U	340 U	3.3 U	4 U	3.3 U	7.2 U	0.76 U	0.7 U	0.17 U	0.95 U
Benzyl butyl phthalate	NE	NE	NE	mg/kg	6.5 U	70 U	0.69 U	0.83 U	0.69 U	1.5 U	0.16 U	0.15 U	0.035 U	0.2 U
Biphenyl (Diphenyl)	NE	NE	NE	mg/kg	5.8 U	270 J	3.1 J	0.74 U	0.62 U	1.3 U	0.14 U	0.13 U	0.031 U	0.18 U
bis(2-Chloroethoxy)methane	NE	NE	NE	mg/kg	8.3 U	91 U	0.89 U	1.1 U	0.89 U	1.9 U	0.2 U	0.19 U	0.045 U	0.25 U
bis(2-Chloroethyl)ether	NE	NE	NE	mg/kg	5.1 U	55 U	0.54 U	0.65 U	0.54 U	1.2 U	0.12 U	0.11 U	0.027 U	0.16 U
bis(2-Chloroisopropyl)ether	NE	NE	NE	mg/kg	7.9 U	86 U	0.84 U	1 U	0.84 U	1.8 U	0.19 U	0.18 U	0.042 U	0.24 U
bis(2-Ethylhexyl)phthalate	NE	NE	NE	mg/kg	13 U	150 U	1.4 U	1.7 U	1.4 U	3.1 U	0.33 U	0.3 U	0.072 U	0.41 U
Caprolactam	NE	NE	NE	mg/kg	12 U	130 U	1.3 U	1.5 U	1.3 U	2.7 U	0.29 U	0.26 U	0.064 U	0.36 U
Carbazole	NE	NE	NE	mg/kg	14 J	740	8.7	6.8	1.4 J	1.4 J	0.11 U	0.1 U	0.025 U	0.14 U
Dibenzofuran	1000	NE	210	mg/kg	19 J	**1200**	13	9.2	2.5 J	1.8 J	0.11 U	0.1 U	0.025 U	0.14 U
Diethyl phthalate	NE	NE	NE	mg/kg	5.1 U	55 U	0.54 U	0.65 U	0.54 U	1.2 U	0.12 U	0.11 U	0.027 U	0.16 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-2 7-7.9 5/12/2015	SB-2 13-14.5 5/12/2015	SB-2 19-19.3 5/13/2015	SB-2 25-25.8 5/13/2015	SB-2 31-32 5/13/2015	SB-3 3-4 5/5/2015	SB-3 7-8.7 5/14/2015	SB-3 13-14 5/14/2015	SB-3 21-22.3 5/14/2015	SB-3 25-25.4 5/14/2015
Dimethyl phthalate	NE	NE	NE	mg/kg	4.6 U	50 U	0.5 U	0.59 U	0.49 U	1.1 U	0.11 U	0.1 U	0.025 U	0.14 U
dl-n-Butyl phthalate	NE	NE	NE	mg/kg	6.7 U	73 U	0.72 U	0.86 U	0.72 U	1.5 U	0.16 U	0.15 U	0.036 U	0.2 U
dl-n-Octyl phthalate	NE	NE	NE	mg/kg	4.6 U	50 U	0.5 U	0.59 U	0.49 U	1.1 U	0.11 U	0.1 U	0.025 U	0.14 U
Hexachlorobenzene	12	NE	3.2	mg/kg	5.3 U	58 U	0.57 U	0.68 U	0.57 U	1.2 U	0.13 U	0.12 U	0.029 U	0.16 U
Hexachlorobutadiene	NE	NE	NE	mg/kg	5.8 U	63 U	0.62 U	0.74 U	0.62 U	1.3 U	0.14 U	0.13 U	0.031 U	0.18 U
Hexachlorocyclopentadiene	NE	NE	NE	mg/kg	5.3 U	58 U	0.57 U	0.68 U	0.57 U	1.2 U	0.13 U	0.12 U	0.029 U	0.16 U
Hexachloroethane	NE	NE	NE	mg/kg	5.1 U	55 U	0.54 U	0.65 U	0.54 U	1.2 U	0.12 U	0.11 U	0.027 U	0.16 U
Isophorone	NE	NE	NE	mg/kg	8.3 U	91 U	0.89 U	1.1 U	0.89 U	1.9 U	0.2 U	0.19 U	0.045 U	0.25 U
Nitrobenzene	NE	NE	NE	mg/kg	4.4 U	48 U	0.47 U	0.56 U	0.47 U	1 U	0.11 U	0.099 U	0.024 U	0.13 U
N-Nitroso-di-n-propylamine	NE	NE	NE	mg/kg	6.7 U	73 U	0.72 U	0.86 U	0.72 U	1.5 U	0.16 U	0.15 U	0.036 U	0.2 U
N-Nitrosodiphenylamine	NE	NE	NE	mg/kg	32 U	350 U	1.2 U	4.1 U	3.4 U	7.4 U	0.78 U	0.72 U	0.17 U	0.97 U
Pentachlorophenol	55	0.8	0.8	mg/kg	39 U	430 U	4.2 U	5 U	4.2 U	9.1 U	0.96 U	0.88 U	0.21 U	1.2 U
Phenol	1000	30	0.33	mg/kg	6 U	**810**	**6**	**5**	**1.1 J**	1.4 U	0.15 U	0.14 U	0.032 U	0.18 UJ
Inorganic Constituents														
Cyanide, total	10000	NE	40	mg/kg	0.56 U	7.7	0.56 U	0.73 U	0.61 U	1.7	0.54 U	0.5 U	0.6 U	0.68 U
Aluminum	NE	NE	NE	mg/kg	9050	2370	2130	1160	4310	8440	4370	2790	11300	8740
Antimony	NE	NE	NE	mg/kg	0.43 U	0.49 U	0.51 U	0.57 U	0.55 U	4.1 U	2.2 U	3.8 U	0.88 J	1 J
Arsenic	16	13	16	mg/kg	**15.1**	12.6	**17.3**	9.2	4.4	**31.2**	**23**	**20.3**	4.2	8.5
Barium	10000	433	820	mg/kg	91.9	22.6	13.3	6.5	24.9	61.1	92	22.7	93.4	64.2
Beryllium	2700	10	47	mg/kg	1.2	0.35	0.51	0.43	0.4	2.7	0.98 J	1.5 J	0.69	0.75
Cadmium	60	4	7.5	mg/kg	0.32 U	0.037 U	0.19 U	0.21 U	0.041 U	0.3 U	0.17 U	0.29 U	0.12 J	0.13 J
Calcium	NE	NE	NE	mg/kg	56100 B	1880 B	4310 B	3380 B	3560 B	12200 B	5940 B	7460 B	1820 B	12700 B
Chromium[b]	800	1	19	mg/kg	**28.7**	**11.3**	**12.4**	**10.9**	**8.5**	**63.5**	**41.8**	**52.8**	**14.8**	**19.1**
Cobalt	NE	NE	NE	mg/kg	7.5	6.5	13.7	8.7	6.1	8.3	16.4	13.1	11.8	12.2
Copper	10000	50	1720	mg/kg	21	36.9	26.1	10.3	9.7	19.3	**57.7**	23.1	22.1	25
Iron	NE	NE	NE	mg/kg	178000 B	37600 ^B	57600 B	54500 B	29500 B	203000 B	120000 ^B	168000 B	22800 B	41200 B
Lead	3900	63	450	mg/kg	24	55.4	18.5	12.7	8.3	**123**	34.6	16.5	22.1	18.1
Magnesium	NE	NE	NE	mg/kg	2330	549	337	285	1730	1970 B	1310	716 B	3750	5170
Manganese	10000	1600	2000	mg/kg	**2190 B**	380 ^B	441 B	453 B	372 B	**3970 B**	**4270 B**	**12800 B**	305	649
Nickel	10000	30	130	mg/kg	18.7 J	17.5	**30.7**	14.1	12	14.8	25.1	20.2	20.3	23.4
Potassium	NE	NE	NE	mg/kg	930	618	201	73	747	878 B	644	262 J	1840	1580
Selenium	6800	3.9	4	mg/kg	2.2 U	0.62 J	0.51 U	0.57 U	0.55 U	4.1 U	2.2 U	3.8 U	0.51 U	0.57 U
Silver	6800	2	8.3	mg/kg	0.22 U	0.25 U	0.26 U	0.28 U	0.27 U	2 U	1.1 U	1.9 U	0.25 U	0.28 U
Sodium	NE	NE	NE	mg/kg	756 U	172 U	180 U	199 U	192 U	1420 U	777 U	1350 U	178 U	198 U
Thallium	NE	NE	NE	mg/kg	0.32 U	0.37 U	0.39 U	0.43 U	0.41 U	1.5 U	0.33 U	2.9 U	0.38 U	0.43 U
Vanadium	NE	NE	NE	mg/kg	75.9	37.3	40.5	37.8	19.3	182	104	185	21.8	33.3
Zinc	10000	109	2480	mg/kg	20.5 B	41.6 B	13.2 B	5.6 B	23.7 B	48.4 B	23.4 B	7.4 JB	50.2 B	47.3 B
Mercury	5.7	0.18	0.73	mg/kg	**0.27**	**0.48**	0.032	0.012 U	0.018 J	0.088	0.048	0.013 J	0.032	0.023 J
Pesticides														
4,4'-DDD	180	0.0033	14	mg/kg	0.037 U	0.1 U	0.02 U	0.024 U	0.0041 U	0.017 U	0.00036 U	0.00033 U	0.00041 U	0.00046 U
4,4'-DDE	120	0.0033	17	mg/kg	0.04 U	0.11 U	0.022 U	0.026 U	0.0044 U	0.019 U	0.00039 U	0.00036 U	0.00044 U	0.0005 U
4,4'-DDT	94	0.0033	136	mg/kg	0.045 U	0.12 U	0.024 U	0.028 U	0.0049 U	0.021 U	0.00043 U	0.0004 U	0.00049 U	0.00056 U
Aldrin	1.4	0.14	0.19	mg/kg	0.047 U	0.13 U	0.026 U	0.03 U	0.0051 U	0.022 U	0.00046 U	0.00042 U	0.00051 U	0.00059 U
alpha Endosulfan (Endosulfan I)	920	NE	102	mg/kg	0.037 U	0.1 U	0.02 U	0.023 U	0.004 U	0.017 U	0.00036 U	0.00033 U	0.0004 U	0.00046 U
beta Endosulfan (Endosulfan II)	920	NE	102	mg/kg	0.035 U	0.096 U	0.019 U	0.022 U	0.0038 U	0.016 U	0.00033 U	0.00031 U	0.00038 U	0.00043 U
BHC, alpha	6.8	0.04	0.02	mg/kg	0.035 U	0.096 U	0.019 U	0.022 U	0.0038 U	0.016 U	0.00033 U	0.00031 U	0.00038 U	0.00043 U
BHC, beta	14	0.6	0.09	mg/kg	0.035 U	0.096 U	0.1 U	0.025 J	0.0046 J	0.016 U	0.0019 U	0.00031 U	0.00038 U	0.00043 U
BHC, delta	1000	0.04	0.25	mg/kg	**0.08 NJ**	**0.23 NJ**	0.028 NJ	0.023 U	0.0039 U	0.089 U	0.00034 U	0.00032 U	0.00039 U	0.00044 U
BHC, gamma (Lindane)	23	6	0.1	mg/kg	0.035 U	0.098 U	0.019 U	0.022 U	0.0038 U	0.016 U	0.00034 U	0.00031 U	0.00038 U	0.00044 U
Chlordane, alpha	47	1.3	2.9	mg/kg	0.096 U	0.27 U	0.052 U	0.061 U	0.01 U	0.044 U	0.00092 U	0.00085 U	0.001 U	0.0012 U
Chlordane, beta	NE	NE	NE	mg/kg	0.061 U	0.17 U	0.033 U	0.039 U	0.0067 U	0.028 U	0.00059 U	0.00054 U	0.00066 U	0.00076 U
Dieldrin	2.8	0.006	0.1	mg/kg	0.046 U	0.13 U	0.025 U	0.029 U	0.005 U	0.021 U	0.00044 U	0.00041 U	0.0005 U	0.00057 U
Endosulfan sulfate	920	NE	1000	mg/kg	0.11 J	0.39 J	0.019 U	0.023 U	0.0039 U	0.089 U	0.00035 U	0.00032 U	0.00039 U	0.00044 U
Endrin	410	0.014	0.06	mg/kg	0.038 U	0.11 U	0.021 U	0.024 U	0.0041 U	**0.022 J**	0.00037 U	0.00034 U	0.00041 U	0.00047 U
Endrin aldehyde	NE	NE	NE	mg/kg	0.049 U	0.14 U	0.027 U	0.031 U	0.0053 U	0.023 U	0.0013 NJ	0.00044 U	0.00053 U	0.00061 U
Endrin ketone	NE	NE	NE	mg/kg	0.13 J	0.13 U	0.026 U	0.03 U	0.0051 U	0.022 U	0.0019 U	0.0017	0.00051 U	0.00059 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

	Soil Cleanup Objectives [6 NYCRR Subpart 375-6]													
Constituent	Protection of Public Health - Industrial Zoning[(a)]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-2 7-7.9 5/12/2015	SB-2 13-14.5 5/12/2015	SB-2 19-19.3 5/13/2015	SB-2 25-25.8 5/13/2015	SB-2 31-32 5/13/2015	SB-3 3-4 5/5/2015	SB-3 7-8.7 5/14/2015	SB-3 13-14 5/14/2015	SB-3 21-22.3 5/14/2015	SB-3 25-25.4 5/14/2015
Heptachlor	29	0.14	0.38	mg/kg	0.042 U	0.12 U	0.023 U	0.026 U	0.0045 U	0.019 U	0.0004 U	0.00037 U	0.00045 U	0.00052 U
Heptachlor epoxide	NE	NE	NE	mg/kg	0.05 U	0.14 U	0.027 U	0.031 U	0.0054 U	0.023 U	0.00048 U	0.00044 U	0.00054 U	0.00061 U
Methoxychlor	NE	NE	NE	mg/kg	0.039 U	0.11 U	0.021 U	0.025 U	0.0043 U	0.018 U	0.00038 U	0.00035 U	0.00043 U	0.00049 U
Toxaphene	NE	NE	NE	mg/kg	1.1 U	3.1 U	0.61 U	0.71 U	0.12 U	0.52 U	0.011 U	0.01 U	0.012 U	0.014 U
Polychlorinated Biphenyls (PCBs)														
Aroclor 1016	NE	NE	3.2	mg/kg	0.055 U	0.06 U	0.058 U	0.064 U	0.051 U	0.045 U	0.037 U	0.042 U	0.054 U	0.067 U
Aroclor 1221	NE	NE	3.2	mg/kg	0.055 U	0.06 U	0.058 U	0.064 U	0.051 U	0.045 U	0.037 U	0.042 U	0.054 U	0.067 U
Aroclor 1232	NE	NE	3.2	mg/kg	0.055 U	0.06 U	0.058 U	0.064 U	0.051 U	0.045 U	0.037 U	0.042 U	0.054 U	0.067 U
Aroclor 1242	NE	NE	3.2	mg/kg	0.055 U	0.06 U	0.058 U	0.064 U	0.051 U	0.045 U	0.037 U	0.042 U	0.054 U	0.067 U
Aroclor 1248	NE	NE	3.2	mg/kg	0.055 U	0.06 U	0.058 U	0.064 U	0.051 U	0.045 U	0.037 U	0.042 U	0.054 U	0.067 U
Aroclor 1254	NE	NE	3.2	mg/kg	0.13 U	0.14 U	0.14 U	0.15 U	0.12 U	0.11 U	0.089 U	0.1 U	0.13 U	0.16 U
Aroclor 1260	NE	NE	3.2	mg/kg	0.13 U	0.14 U	0.14 U	0.15 U	0.12 U	0.11 U	0.089 U	0.1 U	0.13 U	0.16 U
Total PCBs	25	1.0	3.2	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
U1 - The analyte was analyzed for, but was not detected substantially above the level reported in laboratory or field blanks.
J+ - Estimated concentration. Reported value may be biased high. Result is esitmated high
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
N J - The analyte detection if tentative in indentification and estimated in value.
B - Constituent was found in the blank and the sample.
R - Result rejected as determined by the data validator.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related QC is outside acceptance limits.
* - Laboratory Control Sample (LCS) or Laboratory Control Sample Duplicate (LCSD) is outside acceptance limits
NE - Not established.
ND - Not detected
(a) - Zoning determination based on review of City of Troy Official Zoning Map dated 12/19/16. Zoning classification for the Site is identified as Waterfront Trade District, which permits industrial usage of property.
(b) - Chromium analysis was for total chromium. To be conservative, total chromium concentrations were compared to hexavalent chromium SCOs.

Boxes and bolded values indicate concentrations are above New York State Subpart 375 Soil Cleanup Objectives for: Protection of Public Health for Industrially Zoned Properties, Protection of Ecological Resources, and/or Protection of Groundwater.

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-3 29-29.7 5/14/2015	SB-4 3-4 5/7/2015	SB-4 9-10.5 5/13/2015	SB-4 15-15.6 5/13/2015	SB-4 21-22.1 5/13/2015	SB-4 27-28.7 5/13/2015	SB-4 35-36.9 5/13/2015	SB-4 39-40.3 5/13/2015	SB-5 3-4 5/6/2015	SB-5 7-8.6 5/12/2015
Volatile Organic Compounds (VOCs)														
BTEX														
Benzene	89	70	0.06	mg/kg	0.00028 U	0.00043 UJ	0.0028 J	0.00025 UJ	0.0021 J	0.00057 J	0.00039 U	0.0002 U	0.00057 J*	**22**
Toluene	1000	36	0.7	mg/kg	0.0048 J	0.00066 UJ	0.0026 J	0.00039 UJ	0.00039 U	0.00078 J	0.0006 U	0.00031 U	0.0005 U	**43**
Ethylbenzene	780	NE	1	mg/kg	0.0004 U	0.0006 UJ	0.0016 J	0.00035 UJ	0.00036 U	0.00037 UJ	0.00055 U	0.00029 U	0.00045 U	**2.3 J**
Xylenes, total	1000	0.26	1.6	mg/kg	0.00098 U	0.0015 UJ	0.0012 UJ	0.00086 UJ	0.00087 U	0.0009 UJ	0.0013 U	0.0007 U	0.0011 U	**76**
Total BTEX	NE	NE	NE	mg/kg	0.0048 J	ND	0.007 J	ND	0.0021 J	0.0014 J	ND	ND	0.00057 J*	143
Other VOCs														
1,1,1-Trichloroethane	1000	NE	0.68	mg/kg	0.00042 U	0.00063 U	0.00051 UJ	0.00037 UJ	0.00038 U	0.00039 U	0.00058 U	0.0003 U	0.00048 U	0.89 U
1,1,2,2-Tetrachloroethane	NE	NE	NE	mg/kg	0.00094 UJ	0.0014 UJ	0.0011 UJ	0.00083 UJ	0.00084 U	0.00087 UJ	0.0013 U	0.00067 UJ	0.0011 U	0.52 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NE	NE	NE	mg/kg	0.0013 U	0.002 U	0.0016 UJ	0.0012 UJ	0.0012 U	0.0012 U	0.0018 U	0.00094 U	0.0015 U	1.6 U
1,1,2-Trichloroethane	NE	NE	NE	mg/kg	0.00076 U	0.0011 UJ	0.00092 UJ	0.00066 UJ	0.00068 U	0.0007 UJ	0.001 U	0.00054 U	0.00086 U	0.67 U
1,1-Dichloroethane	480	NE	0.27	mg/kg	0.00071 U	0.0011 UJ	0.00086 UJ	0.00062 UJ	0.00063 U	0.00066 UJ	0.00097 U	0.00051 U	0.0008 U	0.99 U
1,1-Dichloroethene	1000	NE	0.33	mg/kg	0.00071 U	0.0011 U	0.00086 UJ	0.00063 UJ	0.00064 U	0.00066 U	0.00097 U	0.00051 U	0.00081 U	1.1 U
1,2,4-Trichlorobenzene	NE	NE	NE	mg/kg	0.00035 UJ	0.00053 UJ	0.0071 UJ	0.00031 UJ	0.00032 U	0.00033 UJ	0.0079 U	0.00025 UJ	0.0004 U	1.2 UJ
1,2-Dibromo-3-chloropropane (DBCP)	NE	NE	NE	mg/kg	0.0029 UJ	0.0044 UJ	0.0035 UJ	0.0026 UJ	0.0026 U	0.0027 UJ	0.004 U	0.0021 UJ	0.0033 U	1.6 U
1,2-Dibromoethane (EDB)	NE	NE	NE	mg/kg	0.00075 U	0.0011 UJ	0.00091 UJ	0.00066 UJ	0.00067 U	0.00069 UJ	0.001 U	0.00053 U	0.00085 U	0.56 U
1,2-Dichlorobenzene	1000	NE	1.1	mg/kg	0.00045 UJ	0.00068 UJ	0.00055 UJ	0.0004 UJ	0.00041 U	0.00042 UJ	0.00062 U	0.00032 UJ	0.00052 U	0.82 U
1,2-Dichloroethane	60	10	0.02	mg/kg	0.00029 U	0.00044 UJ	0.00035 UJ	0.00026 UJ	0.00026 U	0.00027 UJ	0.0004 U	0.00021 U	0.00033 U	1.3 U
1,2-Dichloropropane	NE	NE	NE	mg/kg	0.0029 U	0.0044 UJ	0.0035 UJ	0.0026 UJ	0.0026 U	0.0027 UJ	0.004 U	0.0021 U	0.0033 U	0.52 U
1,3-Dichlorobenzene	560	NE	2.4	mg/kg	0.0003 UJ	0.00045 UJ	0.00036 UJ	0.00026 UJ	0.00027 U	0.00028 UJ	0.00041 U	0.00021 UJ	0.00034 U	0.86 U
1,4-Dichlorobenzene	250	20	1.8	mg/kg	0.00081 UJ	0.0012 UJ	0.00099 UJ	0.00072 UJ	0.00073 U	0.00075 UJ	0.0011 U	0.00058 UJ	0.00092 U	0.45 U
2-Butanone (MEK)	1000	100	0.12	mg/kg	0.0021 U	0.0032 UJ	0.0026 UJ	0.0019 UJ	0.0019 U	0.002 UJ	0.0029 U	0.0015 U	0.0024 U	9.5 U
2-Hexanone	NE	NE	NE	mg/kg	0.0029 U	0.0044 UJ	0.0035 UJ	0.0026 UJ	0.0026 U	0.0027 UJ	0.004 U	0.0021 U	0.0033 U	6.6 U
4-Methyl-2-pentanone (MIBK)	NE	NE	NE	mg/kg	0.0019 U	0.0029 U	0.0023 UJ	0.0017 UJ	0.0017 U	0.0018 UJ	0.0026 U	0.0014 U	0.0022 U	1 U
Acetone	1000	2.2	0.05	mg/kg	0.029 U	0.0073 U	0.0059 UJ	0.026 U	0.026 U	0.027 U	0.058 U	0.0035 U	0.033 U	13 U
Bromodichloromethane	NE	NE	NE	mg/kg	0.00078 U	0.0012 UJ	0.00095 UJ	0.00069 UJ	0.0007 U	0.00072 UJ	0.0011 U	0.00056 U	0.00088 U	0.64 U
Bromoform	NE	NE	NE	mg/kg	0.0029 U	0.0044 UJ	0.0035 UJ	0.0026 UJ	0.0026 U	0.0027 UJ	0.004 U	0.0021 U	0.0033 U	1.6 U
Bromomethane	NE	NE	NE	mg/kg	0.00052 U	0.00078 U	0.00064 UJ	0.00046 UJ	0.00047 U	0.00048 U	0.00071 U	0.00037 U	0.00059 U	0.71 U
Carbon disulfide	NE	NE	NE	mg/kg	0.0029 U	0.0044 UJ	0.0035 UJ	0.0026 UJ	0.0026 U	0.0027 UJ	0.004 U	0.0021 U	0.0033 U	1.5 U
Carbon tetrachloride	44	NE	0.76	mg/kg	0.00056 U	0.00084 UJ	0.00068 UJ	0.0005 UJ	0.0005 U	0.00052 U	0.00077 U	0.0004 U	0.00064 U	0.82 U
Chlorobenzene	1000	40	1.1	mg/kg	0.00077 U	0.0087 UJ	0.00093 UJ	0.00068 UJ	0.00069 U	0.00071 UJ	0.001 U	0.00055 U	0.00087 U	0.42 U
Chloroethane	NE	NE	NE	mg/kg	0.0013 U	0.002 U	0.0016 UJ	0.0012 UJ	0.0012 U	0.0012 U	0.0018 U	0.00094 U	0.0015 U	0.67 U
Chloroform	700	12	0.37	mg/kg	0.00036 U	0.00054 UJ	0.00044 UJ	0.00032 UJ	0.00032 U	0.00033 UJ	0.00049 U	0.00026 U	0.00041 U	2.2 U
Chloromethane	NE	NE	NE	mg/kg	0.00035 U	0.00053 U	0.00043 UJ	0.00031 UJ	0.00031 U	0.00033 U	0.00048 U	0.00025 U	0.0004 U	0.76 U
cis-1,2-Dichloroethene	1000	NE	0.25	mg/kg	0.00074 U	0.0011 UJ	0.0009 UJ	0.00065 UJ	0.00066 U	0.00069 UJ	0.001 U	0.00053 U	0.00084 U	0.89 U
cis-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.00084 U	0.0013 UJ	0.001 UJ	0.00074 UJ	0.00075 U	0.00077 UJ	0.0011 U	0.0006 U	0.00095 U	0.77 U
Cyclohexane	NE	NE	NE	mg/kg	0.00081 U	0.0012 U	0.00099 UJ	0.00072 UJ	0.00073 U	0.00075 U	0.0011 U	0.00058 U	0.00092 U	0.71 U
Dibromochloromethane	NE	NE	NE	mg/kg	0.00074 U	0.0011 UJ	0.0009 UJ	0.00065 UJ	0.00066 U	0.00069 UJ	0.001 U	0.00053 U	0.00084 U	1.6 U
Dichlorodifluoromethane (Freon 12)	NE	NE	NE	mg/kg	0.00048 U	0.00072 U	0.00058 UJ	0.00042 UJ	0.00043 U	0.00044 U	0.00066 U	0.00034 U	0.00054 U	1.4 U
Isopropylbenzene (Cumene)	NE	NE	NE	mg/kg	0.00088 UJ	0.0013 UJ	0.0011 UJ	0.00077 UJ	0.0016 J	0.00081 UJ	0.0012 U	0.00062 UJ	0.00099 U	0.48 U
Methyl acetate	NE	NE	NE	mg/kg	0.0035 U	0.0053 U	0.0043 UJ	0.0031 UJ	0.0031 U	0.0033 UJ	0.0048 U	0.0025 U	0.004 U	1.5 U
Methylcyclohexane	NE	NE	NE	mg/kg	0.00088 U	0.0013 U	0.0011 UJ	0.00078 UJ	0.00079 U	0.00082 U	0.0012 U	0.00063 U	0.001 U	1.5 U
Methylene chloride	1000	12	0.05	mg/kg	0.0027 U	0.02 J	0.0036 J	0.0024 UJ	0.0024 U	0.0025 UJ	0.0037 U	0.0019 U	0.0066 U	0.63 U
Styrene	NE	NE	NE	mg/kg	0.00029 U	0.00044 UJ	0.00035 UJ	0.00026 UJ	0.00026 U	0.00027 UJ	0.0004 U	0.00021 U	0.00033 U	8.5
tert-Butyl methyl ether (MTBE)	1000	NE	0.93	mg/kg	0.00057 U	0.00086 U	0.00069 UJ	0.0005 UJ	0.00051 U	0.00053 UJ	0.00078 U	0.00041 U	0.00065 U	1.2 U
Tetrachloroethene (PCE)	300	2	1.3	mg/kg	0.00078 U	0.0012 UJ	0.00095 UJ	0.00069 UJ	0.0007 U	0.00072 UJ	0.0011 U	0.00056 U	0.00088 U	0.43 U
trans-1,2-Dichloroethene	1000	NE	0.19	mg/kg	0.0006 U	0.0009 UJ	0.00073 UJ	0.00053 UJ	0.00054 U	0.00056 UJ	0.00082 U	0.00043 U	0.00068 U	0.76 U
trans-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.0026 U	0.0038 UJ	0.0031 UJ	0.0023 UJ	0.0023 U	0.0024 UJ	0.0035 U	0.0018 U	0.0029 U	0.32 U
Trichloroethene (TCE)	400	2	0.47	mg/kg	0.0013 U	0.0019 UJ	0.0016 UJ	0.0011 UJ	0.0011 U	0.0012 UJ	0.0017 U	0.00091 U	0.0014 U	0.89 U
Trichlorofluoromethane (Freon 11)	NE	NE	NE	mg/kg	0.00055 U	0.00082 U	0.00078 J	0.00048 UJ	0.00049 U	0.00051 U	0.00075 U	0.00039 U	0.00062 U	1.5 U
Vinyl chloride	27	NE	0.02	mg/kg	0.00071 U	0.0011 U	0.00086 UJ	0.00062 UJ	0.00063 U	0.00066 U	0.00097 U	0.00051 U	0.0008 U	1.1 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-3 29-29.7 5/14/2015	SB-4 3-4 5/7/2015	SB-4 9-10.5 5/13/2015	SB-4 15-15.6 5/13/2015	SB-4 21-22.1 5/13/2015	SB-4 27-28.7 5/13/2015	SB-4 35-36.9 5/13/2015	SB-4 39-40.3 5/13/2015	SB-5 3-4 5/6/2015	SB-5 7-8.6 5/12/2015
Semi-volatile Organic Compounds (SVOCs)														
Polycyclic Aromatic Hydrocarbons (PAHs)														
Acenaphthene	1000	20	98	mg/kg	0.03 U	0.26 U	0.68 U	0.28 U	0.29 U	0.032 U	0.68 J	0.026 U	0.54 U	**43 J**
Acenaphthylene	1000	NE	107	mg/kg	0.026 U	0.23 U	0.6 U	0.25 U	0.25 U	0.028 U	0.33 U	0.023 U	3.2 J	**510**
Anthracene	1000	NE	1000	mg/kg	0.05 U	0.44 UF2	1.1 U	0.48 U	0.48 U	0.054 U	1.1 J	0.044 U	4	500
Benzo(a)anthracene	11	NE	1	mg/kg	0.02 U	0.22 J	0.46 U	0.19 U	0.55 J	0.022 UF2	**2.5 J**	0.018 U	**15**	**470**
Benzo(a)pyrene	1.1	2.6	22	mg/kg	0.03 U	0.26 U	0.68 U	0.28 U	0.42 J	0.032 UF2	**1.8 J**	0.026 U	**12**	**330**
Benzo(b)fluoranthene	11	NE	1.7	mg/kg	0.032 U	0.55 J	0.94 J	0.31 U	0.35 J	0.035 UF1F2	**2.2 J**	0.028 U	**15**	**370**
Benzo(g,h,i)perylene	1000	NE	1000	mg/kg	0.021 U	1.8 U	0.49 U	0.2 U	0.21 U	0.023 U	0.68 J	0.019 U	7.4	150 J
Benzo(k)fluoranthene	110	NE	1.7	mg/kg	0.026 U	0.33 J	0.6 U	0.25 U	0.34 J	0.028 U	0.98 J	0.023 U	**9**	**250 J**
Chrysene	110	NE	1	mg/kg	0.045 U	0.4 U	1 U	0.43 U	0.44 U	0.049 UF2	**2.4 J**	0.04 U	**13**	**410**
Dibenz(a,h)anthracene	1.1	NE	1000	mg/kg	0.035 U	0.32 UF2	0.82 U	0.34 U	0.34 U	0.039 U	0.45 U	0.032 U	**2.8 J**	51 U
Fluoranthene	1000	NE	1000	mg/kg	0.021 U	0.29 J	0.49 U	0.2 U	1.1 J	0.023 U	3.4	0.019 U	24	**1100**
Fluorene	1000	30	386	mg/kg	0.024 U	0.21 U	0.54 U	0.23 U	0.23 U	0.026 U	0.97 J	0.021 U	2 J	**670**
Indeno(1,2,3-c,d)pyrene	11	NE	8.2	mg/kg	0.025 U	0.37 J	0.57 U	0.24 U	0.24 U	0.027 U	0.82 J	0.022 U	7.2	**150 J**
Naphthalene	1000	NE	12	mg/kg	0.026 U	0.23 U	0.6 U	0.25 U	1.2 J	0.36 F1	0.71 J	0.14 J	1.2 J	**2400**
Phenanthrene	1000	NE	1000	mg/kg	0.03 U	0.26 U	0.68 U	0.28 U	0.29 U	0.032 U	3.8	0.026 U	16	**1700**
Pyrene	1000	NE	1000	mg/kg	0.024 U	0.21 U	0.54 U	0.23 U	0.85 J	0.026 U	2.9	0.021 U	20	740
2-Methylnaphthalene	NE	NE	NE	mg/kg	0.04 U	0.36 U	0.93 U	0.39 U	0.39 U	0.044 U	0.51 U	0.036 U	0.89 J	570
Total PAHS	NE	NE	NE	mg/kg	ND	3.6 J	0.94 J	ND	4.8 J	0.36 F1	25	0.14 J	153	10363
Other SVOCs														
2,4,5-Trichlorophenol	NE	NE	NE	mg/kg	0.054 U	0.48 U	1.3 U	0.52 U	0.53 U	0.059 U	0.69 U	0.048 U	0.99 U	78 U
2,4,6-Trichlorophenol	NE	NE	NE	mg/kg	0.04 U	0.36 U	0.93 U	0.39 U	0.39 U	0.044 U	0.51 U	0.036 U	0.73 U	58 U
2,4-Dichlorophenol	NE	NE	NE	mg/kg	0.021 U	0.19 UF2	0.49 U	0.2 U	0.21 U	0.023 U	0.27 U	0.019 U	0.39 U	31 U
2,4-Dimethylphenol	NE	NE	NE	mg/kg	0.048 U	0.43 U	1.1 U	0.47 U	0.47 U	0.053 U	0.62 U	0.043 U	0.89 U	70 U
2,4-Dinitrophenol	NE	NE	NE	mg/kg	0.93 U	8.3 U	21 U	8.9 U	9 U	1 U	12 U	0.82 U	17 U	1300 U
2,4-Dinitrotoluene	NE	NE	NE	mg/kg	0.041 U	0.37 UF1	0.95 U	0.4 U	0.4 U	0.045 U	0.53 U	0.037 U	0.76 U	60 U
2,6-Dinitrotoluene	NE	NE	NE	mg/kg	0.024 U	0.21 UF1	0.54 U	0.23 U	0.23 U	0.026 UF1	0.3 U	0.021 U	0.43 U	34 U
2-Chloronaphthalene	NE	NE	NE	mg/kg	0.033 U	0.29 U	0.76 U	0.32 U	0.32 U	0.036 U	0.42 U	0.029 U	0.6 U	48 U
2-Chlorophenol	NE	NE	NE	mg/kg	0.037 U	0.33 UF2	0.84 U	0.35 U	0.36 U	0.04 UF2	0.47 U	0.033 U	0.67 U	53 U
2-Methylphenol (o-cresol)	1000	NE	0.33	mg/kg	0.024 U	0.21 U	0.54 U	0.23 U	0.23 U	0.026 UF2	0.3 U	0.021 U	0.43 U	34 U
2-Nitroaniline	NE	NE	NE	mg/kg	0.03 U	0.26 U	0.68 U	0.28 U	0.29 U	0.032 U	0.38 U	0.026 U	0.54 U	43 U
2-Nitrophenol	NE	NE	NE	mg/kg	0.057 U	0.51 UF1	1.3 U	0.54 U	0.55 U	0.062 UF2	0.72 U	0.05 U	1 U	82 U
3,3'-Dichlorobenzidine	NE	NE	NE	mg/kg	0.24 U	2.1 U	5.4 U	2.3 U	2.3 U	0.26 U	3 U	0.21 U	4.3 U	340 U
3-Nitroaniline	NE	NE	NE	mg/kg	0.056 U	0.49 U	1.3 U	0.53 U	0.54 U	0.061 U	0.71 U	0.049 U	1 U	80 U
4,6-Dinitro-2-methylphenol	NE	NE	NE	mg/kg	0.2 U	1.8 UF1	4.6 U	1.9 U	2 U	0.22 UF2	2.6 U	0.18 U	3.7 U	290 U
4-Bromophenyl phenyl ether	NE	NE	NE	mg/kg	0.028 U	0.25 U	0.65 U	0.27 U	0.28 U	0.031 UF2	0.36 U	0.025 U	0.52 U	41 U
4-Chloro-3-methylphenol	NE	NE	NE	mg/kg	0.05 U	0.44 U	1.1 U	0.48 U	0.48 U	0.054 U	0.63 U	0.044 U	0.91 U	71 U
4-Chloroaniline	NE	NE	NE	mg/kg	0.05 U	0.44 UF2	1.1 U	0.48 U	0.48 U	0.054 UF1F2	0.63 U	0.044 U	0.91 U	71 U
4-Chlorophenyl phenyl ether	NE	NE	NE	mg/kg	0.025 U	0.22 UF2	0.57 U	0.24 U	0.24 U	0.027 U	0.32 U	0.022 U	0.45 U	36 U
4-Methylphenol	1000	NE	0.33	mg/kg	0.024 U	0.21 U	0.54 U	0.23 U	0.23 U	0.026 UF2	0.3 U	0.021 U	0.43 U	**60 J**
4-Nitroaniline	NE	NE	NE	mg/kg	0.11 U	0.94 U	2.4 U	1 U	1 U	0.11 UF1	1.3 U	0.093 U	1.9 U	150 U
4-Nitrophenol	NE	NE	NE	mg/kg	0.14 U	1.3 U	3.2 U	1.3 U	1.4 U	0.15 U	1.8 U	0.13 U	2.6 U	200 U
Acetophenone	NE	NE	NE	mg/kg	0.027 U	0.24 UF2	0.63 U	0.26 U	0.26 U	0.03 UF1F2	0.35 U	0.024 U	0.5 U	39 U
Atrazine	NE	NE	NE	mg/kg	0.07 U	0.62 U	1.6 U	0.67 U	0.68 U	0.076 U	0.89 U	0.062 U	1.3 U	100 U
Benzaldehyde	NE	NE	NE	mg/kg	0.16 U	1.4 UF2	3.7 U	1.5 U	1.6 U	0.17 UF2	2 U	0.14 U	2.9 U	230 U
Benzyl butyl phthalate	NE	NE	NE	mg/kg	0.033 U	0.29 UF2	0.76 U	0.32 U	0.32 U	0.036 UF2	0.42 U	0.029 U	0.6 U	48 U
Biphenyl (Diphenyl)	NE	NE	NE	mg/kg	0.03 U	0.26 U	0.68 U	0.28 U	0.29 U	0.032 UF1	0.38 U	0.026 U	0.54 U	94 J
bis(2-Chloroethoxy)methane	NE	NE	NE	mg/kg	0.043 U	0.38 UF2	0.98 U	0.41 U	0.41 U	0.046 UF1F2	0.54 U	0.038 U	0.78 U	61 U
bis(2-Chloroethyl)ether	NE	NE	NE	mg/kg	0.026 U	0.23 U	0.6 U	0.25 U	0.25 U	0.028 UF2	0.33 U	0.023 U	0.48 U	37 U
bis(2-Chloroisopropyl)ether	NE	NE	NE	mg/kg	0.04 U	0.36 U	0.93 U	0.39 U	0.39 U	0.044 UF2	0.51 U	0.036 U	0.73 U	58 U
bis(2-Ethylhexyl)phthalate	NE	NE	NE	mg/kg	0.069 U	0.61 UF2	1.6 U	0.66 U	0.67 U	0.075 UF2	0.87 U	0.061 U	1.3 U	99 U
Caprolactam	NE	NE	NE	mg/kg	0.06 U	0.54 U	1.4 U	0.58 U	0.59 U	0.066 U	0.77 U	0.054 U	1.1 U	87 U
Carbazole	NE	NE	NE	mg/kg	0.024 U	0.21 U	0.54 U	0.23 U	0.23 U	0.026 U	0.3 U	0.021 U	0.99 J	290
Dibenzofuran	1000	NE	210	mg/kg	0.024 U	0.21 U	0.54 U	0.23 U	0.23 U	0.026 U	0.3 U	0.021 U	1.3 J	**440**
Diethyl phthalate	NE	NE	NE	mg/kg	0.026 U	0.23 U	0.6 U	0.25 U	0.25 U	0.028 U	0.33 U	0.023 U	0.48 U	37 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-3 29-29.7 5/14/2015	SB-4 3-4 5/7/2015	SB-4 9-10.5 5/13/2015	SB-4 15-15.6 5/13/2015	SB-4 21-22.1 5/13/2015	SB-4 27-28.7 5/13/2015	SB-4 35-36.9 5/13/2015	SB-4 39-40.3 5/13/2015	SB-5 3-4 5/6/2015	SB-5 7-8.6 5/12/2015
Dimethyl phthalate	NE	NE	NE	mg/kg	0.024 U	0.21 U	0.54 U	0.23 U	0.23 U	0.026 U	0.3 U	0.021 U	0.43 U	34 U
dl-n-Butyl phthalate	NE	NE	NE	mg/kg	0.034 U	0.31 U	0.79 U	0.33 U	0.33 U	0.037 UF2	0.44 U	0.03 U	0.63 U	49 U
dl-n-Octyl phthalate	NE	NE	NE	mg/kg	0.024 U	0.21 UF2	0.54 U	0.23 U	0.23 U	0.026 U	0.3 U	0.021 U	0.43 U	34 U
Hexachlorobenzene	12	NE	3.2	mg/kg	0.027 U	0.24 U	0.63 U	0.26 U	0.26 U	0.03 UF2	0.35 U	0.024 U	0.5 U	39 U
Hexachlorobutadiene	NE	NE	NE	mg/kg	0.03 U	0.26 U	0.68 U	0.28 U	0.29 U	0.032 U	0.38 U	0.026 U	0.54 U	43 U
Hexachlorocyclopentadiene	NE	NE	NE	mg/kg	0.027 U	0.24 UF1	0.63 U	0.26 U	0.26 U	0.03 U	0.35 U	0.024 U	0.5 U	39 U
Hexachloroethane	NE	NE	NE	mg/kg	0.026 U	0.23 U	0.6 U	0.25 U	0.25 U	0.028 UF1	0.33 U	0.023 U	0.48 U	37 U
Isophorone	NE	NE	NE	mg/kg	0.043 U	0.38 U	0.98 U	0.41 U	0.41 U	0.046 UF2	0.54 U	0.038 U	0.78 U	61 U
Nitrobenzene	NE	NE	NE	mg/kg	0.022 U	0.2 U	0.52 U	0.22 U	0.22 U	0.025 UF2	0.29 U	0.02 U	0.41 U	32 U
N-Nitroso-di-n-propylamine	NE	NE	NE	mg/kg	0.034 U	0.31 U	0.79 U	0.33 U	0.33 U	0.037 UF2	0.44 U	0.03 U	0.63 U	49 U
N-Nitrosodiphenylamine	NE	NE	NE	mg/kg	0.16 U	1.5 UF1F2	3.8 U	1.6 U	1.6 U	0.18 UF2	2.1 U	0.14 U	3 U	230 U
Pentachlorophenol	55	0.8	0.8	mg/kg	0.2 U	1.8 UF1	4.6 U	1.9 U	2 U	0.22 U	2.6 U	0.18 U	3.7 U	290 U
Phenol	1000	30	0.33	mg/kg	0.031 UJ	0.27 U	0.71 U	0.29 U	0.3 U	0.034 U	0.39 U	0.027 U	0.56 U	44 U
Inorganic Constituents														
Cyanide, total	10000	NE	40	mg/kg	0.58 U	0.52 U	0.67 U	0.54 U	0.55 U	0.61 U	0.74 U	0.51 U	1.1	10.3
Aluminum	NE	NE	NE	mg/kg	10400	4480 J	6050 B	2800 B	2960 B	17500 J	6560	17000	4930	5840
Antimony	NE	NE	NE	mg/kg	0.53 J	0.4 UJ	3 U	4.2 U	2.3 U	0.53 UJ	0.62 U	0.42 U	1.8 J	0.47 U
Arsenic	16	13	16	mg/kg	6.3	5.5	**20.5**	**27.3**	**16.9**	5	3.3	11.9	**27.2**	11.2
Barium	10000	433	820	mg/kg	76.8	47.9 J	62.9	20.5	10.2	107 J	54.5	104	39.2	47.1
Beryllium	2700	10	47	mg/kg	0.56	0.45	1 J	1.4 J	0.96 J	1.2 J	0.36	0.76	1.2	0.49
Cadmium	60	4	7.5	mg/kg	0.12 J	0.03 U	0.22 U	0.32 U	0.18 U	0.039 U	0.054 J	0.031 U	0.67	0.035 U
Calcium	NE	NE	NE	mg/kg	17600 B	3510 J	15200 B	8280 B	5160 B	8490 J	4400 B	11300 B	15900 B	10000 B
Chromium[b]	800	1	19	mg/kg	**16.1**	**9.2**	**23**	**48.7**	**32.9**	**20.7 J**	**8.4**	**24.1**	**19.2**	**16.1**
Cobalt	NE	NE	NE	mg/kg	11.3	5.4	13.4	18.5	10.2	15.9	5.6	17.3	9.6	7.3
Copper	10000	50	1720	mg/kg	23.4	17.5	**51.4**	23.9	18.5	23.5 J	13.6	42.3	40.3	**79.7**
Iron	NE	NE	NE	mg/kg	23100 B	13200 B	94700 B	152000 B^	102000 B	34300 J	13100 B	31700 B	70500 B^	41600 ^B
Lead	3900	63	450	mg/kg	14.4	22.3	**87.5**	18.3	9.5	14.1	44.4	17.1	**72.4**	**98.9**
Magnesium	NE	NE	NE	mg/kg	7380	2160 F1	1350 B	812 B	406 B	6120 J	3450	11700	711 B	2320
Manganese	10000	1600	2000	mg/kg	545	190 BF2	**2250 B**	**2200 B**	581 B	384 J	285 B	590 B	1110 B	652 ^B
Nickel	10000	30	130	mg/kg	22.1	15.4	25.3	26.1	17.3	**33**	11.7	**35.4**	**33.1**	16.2
Potassium	NE	NE	NE	mg/kg	2000	855 J	1010	528	174 J	2650 J	848	2440	460	1100
Selenium	6800	3.9	4	mg/kg	0.49 U	0.4 U	3 U	4.2 U	2.3 U	0.53 UF1	0.62 U	0.42 U	1.1 J	0.47 U
Silver	6800	2	8.3	mg/kg	0.24 U	0.2 U	1.5 U	2.1 U	1.2 U	0.26 UF1	0.31 U	0.21 U	0.41 U	0.24 U
Sodium	NE	NE	NE	mg/kg	182 U	162 U	1040 U	1480 U	820 U	273 U	215 U	146 U	289 U	201 B
Thallium	NE	NE	NE	mg/kg	0.37 U	0.3 U	2.2 U	3.2 U	0.35 U	0.39 U	0.46 U	0.31 U	0.62 U	0.35 U
Vanadium	NE	NE	NE	mg/kg	19.7	11.2	95.5	147	68.2	37.2 J	11.7	28.3	46.8	31.2
Zinc	10000	109	2480	mg/kg	61.7 B	32.9 B	89.4 B	14.2 JB	**185 B**	62.3 J	40.5 B	65.5 B	**144 B**	42.5 B
Mercury	5.7	0.18	0.73	mg/kg	0.025	0.0084 U	**0.97**	0.028	0.0093 U	0.024 J	0.05	0.0096 J	0.1	**4.2**
Pesticides														
4,4'-DDD	180	0.0033	14	mg/kg	0.00038 U	0.0069 U	0.022 U	0.00036 U	0.0075 U	0.00042 U	0.025 U	0.00034 U	0.017 U	0.098 U
4,4'-DDE	120	0.0033	17	mg/kg	0.00042 U	0.0075 U	0.024 U	0.00039 U	0.0081 U	0.00045 U	0.026 U	0.00036 U	0.019 U	0.11 U
4,4'-DDT	94	0.0033	136	mg/kg	0.00046 U	0.0084 U	0.027 U	0.00044 U	0.009 U	0.0005 U	0.029 U	0.00041 U	0.021 U	0.51 U
Aldrin	1.4	0.14	0.19	mg/kg	0.00049 U	0.0088 U	0.028 U	0.00046 U	0.0095 U	0.00053 U	0.031 U	0.00043 U	0.022 U	0.12 U
alpha Endosulfan (Endosulfan I)	920	NE	102	mg/kg	0.00038 U	0.0069 UF1	0.022 U	0.00036 U	0.0074 U	0.00041 U	0.024 U	0.00033 U	0.017 U	0.097 U
beta Endosulfan (Endosulfan II)	920	NE	102	mg/kg	0.00036 U	0.0064 U	0.021 U	0.00034 U	0.0069 U	0.00039 U	0.023 U	0.00031 U	0.016 U	0.091 U
BHC, alpha	6.8	0.04	0.02	mg/kg	0.00036 U	0.0064 UF2	0.021 U	0.0019 U	0.0069 U	0.00039 U	0.023 U	0.00031 U	0.016 U	0.51 U
BHC, beta	14	0.6	0.09	mg/kg	0.00036 U	0.0064 U	0.021 U	0.00034 U	0.0069 U	0.00039 U	0.023 U	0.00031 U	0.016 U	0.51 U
BHC, delta	1000	0.04	0.25	mg/kg	0.00037 U	0.0066 U	**0.041 J**	0.00035 U	0.0072 U	0.0004 U	0.023 U	0.00032 U	0.017 U	0.094 U
BHC, gamma (Lindane)	23	6	0.1	mg/kg	0.00036 U	0.0066 U	0.021 U	0.00034 U	0.0071 U	0.00039 U	0.023 U	0.00032 U	0.016 U	0.093 U
Chlordane, alpha	47	1.3	2.9	mg/kg	0.00099 U	0.018 U	0.057 U	0.00093 U	0.019 U	0.0011 U	0.063 U	0.00086 U	0.045 U	0.25 U
Chlordane, beta	NE	NE	NE	mg/kg	0.00063 U	0.011 U	0.037 U	0.00059 U	0.012 U	0.00068 U	0.04 U	0.00055 U	0.028 U	0.16 U
Dieldrin	2.8	0.006	0.1	mg/kg	0.00047 U	0.0086 U	0.028 U	0.00045 U	0.0092 U	0.00051 U	0.03 U	0.00042 U	0.021 U	0.12 U
Endosulfan sulfate	920	NE	1000	mg/kg	0.00037 U	0.0067 U	0.021 U	0.0019 U	0.0072 U	0.0004 U	0.024 U	0.00032 U	0.017 U	0.51 U
Endrin	410	0.014	0.06	mg/kg	0.00039 U	0.0071 U	0.023 U	0.00037 U	0.0076 U	0.00042 U	0.025 U	0.00034 U	0.018 U	0.1 U
Endrin aldehyde	NE	NE	NE	mg/kg	0.00051 U	0.0091 U	0.029 U	0.00048 U	0.0098 U	0.00055 U	0.032 U	0.00044 U	0.023 U	0.13 U
Endrin ketone	NE	NE	NE	mg/kg	0.00049 U	0.0088 U	0.031 NJ	0.0023	0.0095 U	0.00053 U	0.031 U	0.00043 U	0.022 U	0.12 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

	Soil Cleanup Objectives [6 NYCRR Subpart 375-6]													
Constituent	Protection of Public Health - Industrial Zoning[(a)]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-3 29-29.7 5/14/2015	SB-4 3-4 5/7/2015	SB-4 9-10.5 5/13/2015	SB-4 15-15.6 5/13/2015	SB-4 21-22.1 5/13/2015	SB-4 27-28.7 5/13/2015	SB-4 35-36.9 5/13/2015	SB-4 39-40.3 5/13/2015	SB-5 3-4 5/6/2015	SB-5 7-8.6 5/12/2015
Heptachlor	29	0.14	0.38	mg/kg	0.00043 U	0.0077 U	0.025 U	0.0004 U	0.0083 U	0.00046 U	0.027 U	0.00038 U	0.019 U	0.11 U
Heptachlor epoxide	NE	NE	NE	mg/kg	0.00051 U	0.0092 U	0.03 U	0.00048 U	0.0099 U	0.00055 U	0.033 U	0.00045 U	0.023 U	0.13 U
Methoxychlor	NE	NE	NE	mg/kg	0.0004 U	0.0073 U	0.023 U	0.00038 U	0.0079 U	0.00044 U	0.026 U	0.00035 U	0.09 U	0.1 U
Toxaphene	NE	NE	NE	mg/kg	0.012 U	0.21 U	0.67 U	0.011 U	0.22 U	0.012 U	0.73 U	0.01 U	0.52 U	2.9 U
Polychlorinated Biphenyls (PCBs)														
Aroclor 1016	NE	NE	3.2	mg/kg	0.058 U	0.041 U	0.061 U	0.049 U	0.056 U	0.056 U	0.057 U	0.043 U	0.046 U	0.056 U
Aroclor 1221	NE	NE	3.2	mg/kg	0.058 U	0.041 U	0.061 U	0.049 U	0.056 U	0.056 U	0.057 U	0.043 U	0.046 U	0.056 U
Aroclor 1232	NE	NE	3.2	mg/kg	0.058 U	0.041 U	0.061 U	0.049 U	0.056 U	0.056 U	0.057 U	0.043 U	0.046 U	0.056 U
Aroclor 1242	NE	NE	3.2	mg/kg	0.058 U	0.041 U	0.061 U	0.049 U	0.056 U	0.056 U	0.057 U	0.043 U	0.046 U	0.056 U
Aroclor 1248	NE	NE	3.2	mg/kg	0.058 U	0.041 U	0.061 U	0.049 U	0.056 U	0.056 U	0.057 U	0.043 U	0.046 U	0.056 U
Aroclor 1254	NE	NE	3.2	mg/kg	0.14 U	0.097 U	0.15 U	0.12 U	0.13 U	0.13 U	0.14 U	0.1 U	0.11 U	0.14 U
Aroclor 1260	NE	NE	3.2	mg/kg	0.14 U	0.097 U	0.15 U	0.12 U	0.13 U	0.13 U	0.14 U	0.1 U	0.11 U	0.14 U
Total PCBs	25	1.0	3.2	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
U1 - The analyte was analyzed for, but was not detected substantially above the level reported in laboratory or field blanks.
J+ - Estimated concentration. Reported value may be biased high. Result is esitmated high
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
N J - The analyte detection if tentative in indentification and estimated in value.
B - Constituent was found in the blank and the sample.
R - Result rejected as determined by the data validator.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related QC is outside acceptance limits.
* - Laboratory Control Sample (LCS) or Laboratory Control Sample Duplicate (LCSD) is outside acceptance limits
NE - Not established.
ND - Not detected
(a) - Zoning determination based on review of City of Troy Official Zoning Map dated 12/19/16. Zoning classification for the Site is identified as Waterfront Trade District, which permits industrial usage of property.
(b) - Chromium analysis was for total chromium. To be conservative, total chromium concentrations were compared to hexavalent chromium SCOs.

Boxes and bolded values indicate concentrations are above New York State Subpart 375 Soil Cleanup Objectives for: Protection of Public Health for Industrially Zoned Properties, Protection of Ecological Resources, and/or Protection of Groundwater.

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-5 13-14.9 5/12/2015	SB-5 21-21.6 5/12/2015	SB-5 25-26.3 5/12/2015	SB-5 31-32.5 5/12/2015	SB-6 2-3 5/5/2015	SB-6 5-5.8 5/8/2015	SB-6 9.5-10 5/8/2015	SB-6 15-15.5 5/8/2015	SB-6 19.5-20 5/8/2015	SB-6 25-25.5 5/8/2015
Volatile Organic Compounds (VOCs)														
BTEX														
Benzene	89	70	0.06	mg/kg	0.0013 J	0.26 U	0.00027 U	0.0003 U	0.0056 J	0.00086 J	0.0007 J	0.00027 U	0.00029 U	0.0004 U
Toluene	1000	36	0.7	mg/kg	0.0019 J	0.37 U	0.00042 U	0.00046 U	0.0089	0.001 J	0.00045 U	0.00041 U	0.00044 U	0.00062 U
Ethylbenzene	780	NE	1	mg/kg	0.00036 U	0.4 U	0.00038 U	0.00042 U	0.0027 J	0.00031 U	0.00041 U	0.00037 U	0.00057 J*	0.00056 U
Xylenes, total	1000	0.26	1.6	mg/kg	0.0036 J	0.77 U	0.00093 U	0.001 U	0.029	0.0015 J	0.001 U	0.00091 U	0.00099 U	0.0014 U
Total BTEX	NE	NE	NE	mg/kg	0.0068 J	ND	ND	ND	0.046	0.003 J	0.0007 J	ND	0.00057 J*	ND
Other VOCs														
1,1,1-Trichloroethane	1000	NE	0.68	mg/kg	0.00038 U	0.38 U	0.0004 U	0.00044 U	0.00046 U	0.00032 U	0.00044 U	0.00039 U	0.00043 U	0.00059 U
1,1,2,2-Tetrachloroethane	NE	NE	NE	mg/kg	0.00085 U	0.22 U	0.0009 U	0.00098 U	0.001 U	0.00072 U	0.00097 U	0.00088 U	0.00095 U	0.0013 UJ
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NE	NE	NE	mg/kg	0.0012 U	0.69 U	0.0013 U	0.0014 U	0.0015 U	0.001 U	0.0014 U	0.0012 U	0.0013 U	0.0019 U
1,1,2-Trichloroethane	NE	NE	NE	mg/kg	0.00069 U	0.29 U	0.00072 U	0.00079 U	0.00083 U	0.00058 U	0.00078 U	0.00071 U	0.00076 U	0.0011 U
1,1-Dichloroethane	480	NE	0.27	mg/kg	0.00064 U	0.43 U	0.00067 U	0.00074 U	0.00078 U	0.00054 U	0.00073 U	0.00066 U	0.00072 U	0.00099 U
1,1-Dichloroethene	1000	NE	0.33	mg/kg	0.00065 U	0.48 U	0.00068 U	0.00074 U	0.00078 U	0.00054 U	0.00074 U	0.00066 U	0.00072 U	0.001 U
1,2,4-Trichlorobenzene	NE	NE	NE	mg/kg	0.00032 U	0.52 UJ	0.00034 U	0.00037 U	0.00039 U	0.0021 J	0.00037 U	0.00033 U	0.00036 U	0.0005 UJ
1,2-Dibromo-3-chloropropane (DBCP)	NE	NE	NE	mg/kg	0.0026 U	0.69 U	0.0028 U	0.003 U	0.0032 U	0.0022 U	0.003 U	0.0027 U	0.0029 U	0.0041 UJ
1,2-Dibromoethane (EDB)	NE	NE	NE	mg/kg	0.00068 U	0.24 U	0.00071 U	0.00078 U	0.00082 U	0.00057 U	0.00077 U	0.0007 U	0.00076 U	0.001 U
1,2-Dichlorobenzene	1000	NE	1.1	mg/kg	0.00041 U	0.35 U	0.00043 U	0.00047 U	0.0005 UJ	0.00035 U	0.00047 U	0.00042 U	0.00046 U	0.00064 UJ
1,2-Dichloroethane	60	10	0.02	mg/kg	0.00026 U	0.57 U	0.00028 U	0.0003 U	0.00032 U	0.00022 U	0.0003 U	0.00027 U	0.0003 U	0.00041 U
1,2-Dichloropropane	NE	NE	NE	mg/kg	0.0026 U	0.22 U	0.0028 U	0.003 U	0.0032 U	0.0022 U	0.003 U	0.0027 U	0.0029 U	0.0041 U
1,3-Dichlorobenzene	560	NE	2.4	mg/kg	0.00027 U	0.37 U	0.00028 U	0.00031 U	0.00033 UJ	0.00023 U	0.00031 U	0.00028 U	0.0003 U	0.00042 UJ
1,4-Dichlorobenzene	250	20	1.8	mg/kg	0.00074 U	0.19 U	0.00077 U	0.00085 U	0.00089 U	0.00062 U	0.00084 U	0.00076 U	0.00082 U	0.0011 UJ
2-Butanone (MEK)	1000	100	0.12	mg/kg	0.0065 J	4.1 U	0.002 U	0.0027 J	0.0023 U	0.0016 U	0.0022 U	0.002 U	0.0022 U	0.003 U
2-Hexanone	NE	NE	NE	mg/kg	0.0026 U	2.8 U	0.0028 U	0.003 U	0.0032 U	0.0022 U	0.003 U	0.0027 U	0.0029 U	0.0041 U
4-Methyl-2-pentanone (MIBK)	NE	NE	NE	mg/kg	0.0017 U	0.44 U	0.0018 U	0.002 U	0.0021 U	0.0015 U	0.002 U	0.0018 U	0.0019 U	0.0027 U
Acetone	1000	2.2	0.05	mg/kg	0.035 U	5.7 U	0.028 U	0.03 U	0.0054 U	0.022 U	0.0051 U	0.027 U	0.029 U	0.059 U
Bromodichloromethane	NE	NE	NE	mg/kg	0.00071 U	0.28 U	0.00074 U	0.00081 U	0.00085 U	0.0006 U	0.0008 U	0.00073 U	0.00079 U	0.0011 U
Bromoform	NE	NE	NE	mg/kg	0.0026 U	0.69 U	0.0028 U	0.003 U	0.0032 U	0.0022 U	0.003 U	0.0027 U	0.0029 U	0.0041 U
Bromomethane	NE	NE	NE	mg/kg	0.00047 U	0.3 U	0.0005 U	0.00055 U	0.00057 U	0.0004 U	0.00054 U	0.00049 U	0.00053 U	0.00073 U
Carbon disulfide	NE	NE	NE	mg/kg	0.0026 U	0.63 U	0.0028 U	0.003 U	0.0032 U	0.0022 U	0.003 U	0.0027 U	0.0029 U	0.0041 U
Carbon tetrachloride	44	NE	0.76	mg/kg	0.00051 U	0.35 U	0.00054 U	0.00059 U	0.00062 U	0.00043 U	0.00058 U	0.00053 U	0.00057 U	0.00079 U
Chlorobenzene	1000	40	1.1	mg/kg	0.0007 U	0.18 U	0.00073 U	0.0008 U	0.00084 U	0.00059 U	0.00079 U	0.00072 U	0.00078 U	0.0011 U
Chloroethane	NE	NE	NE	mg/kg	0.0012 U	0.29 U	0.0013 U	0.0014 U	0.0014 U	0.001 U	0.0014 U	0.0012 U	0.0013 U	0.0018 U
Chloroform	700	12	0.37	mg/kg	0.00033 U	0.95 U	0.00034 U	0.00037 U	0.00039 U	0.00027 U	0.00037 U	0.00034 U	0.00036 U	0.0005 U
Chloromethane	NE	NE	NE	mg/kg	0.00032 U	0.33 U	0.00033 U	0.00037 U	0.00038 U	0.00027 U	0.00036 U	0.00033 U	0.00036 U	0.00049 U
cis-1,2-Dichloroethene	1000	NE	0.25	mg/kg	0.00067 U	0.38 U	0.00071 U	0.00078 U	0.00082 U	0.00057 U	0.00077 U	0.00069 U	0.0008 J	0.001 U
cis-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.00076 U	0.33 U	0.0008 U	0.00087 U	0.00092 U	0.00064 U	0.00086 U	0.00078 U	0.00085 U	0.0012 U
Cyclohexane	NE	NE	NE	mg/kg	0.00074 U	0.31 U	0.00077 U	0.00085 U	0.00089 U	0.00062 U	0.00084 U	0.00076 U	0.00082 U	0.0011 U
Dibromochloromethane	NE	NE	NE	mg/kg	0.00067 U	0.67 U	0.00071 U	0.00078 U	0.00082 U	0.00057 U	0.00077 U	0.00069 U	0.00075 U	0.001 U
Dichlorodifluoromethane (Freon 12)	NE	NE	NE	mg/kg	0.00044 U	0.6 U	0.00046 U	0.0005 U	0.00053 U	0.00037 U	0.0005 U	0.00045 U	0.00049 U	0.00067 U
Isopropylbenzene (Cumene)	NE	NE	NE	mg/kg	0.00079 U	0.21 U	0.00083 U	0.00091 U	0.00096 U	0.00067 U	0.00091 U	0.00082 U	0.00089 U	0.0012 UJ
Methyl acetate	NE	NE	NE	mg/kg	0.0032 U	0.66 U	0.0033 U	0.0037 U	0.0038 U	0.0027 U	0.0036 U	0.0033 U	0.0036 U	0.0049 U
Methylcyclohexane	NE	NE	NE	mg/kg	0.0008 U	0.65 U	0.00084 U	0.00092 U	0.0025 J	0.00086 J*	0.00091 U	0.00082 U	0.00089 U	0.0012 U
Methylene chloride	1000	12	0.05	mg/kg	0.0024 U	0.27 U	0.0025 U	0.0028 U	0.0033 J	0.002 U	0.0028 U	0.0025 U	0.0027 U	0.0038 U
Styrene	NE	NE	NE	mg/kg	0.00026 U	0.33 U	0.00028 U	0.0003 U	0.0038 J*	0.00033 J	0.0003 U	0.00027 U	0.00029 U	0.00041 U
tert-Butyl methyl ether (MTBE)	1000	NE	0.93	mg/kg	0.00052 U	0.52 U	0.00054 U	0.0006 U	0.00063 U	0.00044 U	0.00059 U	0.00053 U	0.00058 U	0.0008 U
Tetrachloroethene (PCE)	300	2	1.3	mg/kg	0.00071 U	0.19 U	0.00074 U	0.00081 U	0.00085 U	0.0006 U	0.00081 U	0.00073 U	0.00079 U	0.0011 U
trans-1,2-Dichloroethene	1000	NE	0.19	mg/kg	0.00054 U	0.33 U	0.00057 U	0.00063 U	0.00066 U	0.00046 U	0.00062 U	0.00056 U	0.00061 U	0.00084 U
trans-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.0023 U	0.14 U	0.0024 U	0.0027 U	0.0028 U	0.002 U	0.0026 U	0.0024 U	0.0026 U	0.0036 U
Trichloroethene (TCE)	400	2	0.47	mg/kg	0.0012 U	0.38 U	0.0012 U	0.0013 U	0.0014 U	0.00098 U	0.0013 U	0.0012 U	0.0013 U	0.0018 U
Trichlorofluoromethane (Freon 11)	NE	NE	NE	mg/kg	0.0005 U	0.65 U	0.00052 U	0.00057 U	0.0006 U	0.00042 U	0.00057 U	0.00051 U	0.00056 U	0.00077 U
Vinyl chloride	27	NE	0.02	mg/kg	0.00064 U	0.46 U	0.00067 U	0.00074 U	0.00078 U	0.00054 U	0.00073 U	0.00066 U	0.00072 U	0.00099 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-5 13-14.9 5/12/2015	SB-5 21-21.6 5/12/2015	SB-5 25-26.3 5/12/2015	SB-5 31-32.5 5/12/2015	SB-6 2-3 5/5/2015	SB-6 5-5.8 5/8/2015	SB-6 9.5-10 5/8/2015	SB-6 15-15.5 5/8/2015	SB-6 19.5-20 5/8/2015	SB-6 25-25.5 5/8/2015
Semi-volatile Organic Compounds (SVOCs)														
Polycyclic Aromatic Hydrocarbons (PAHs)														
Acenaphthene	1000	20	98	mg/kg	0.3 U	0.34 U	0.32 U	0.34 J	6.3 J	5.1 U	0.56 U	0.15 U	0.28 U	0.18 U
Acenaphthylene	1000	NE	107	mg/kg	0.43 J	0.3 U	0.28 U	0.28 U	16	7.7 J	0.49 U	0.13 U	0.24 U	0.16 U
Anthracene	1000	NE	1000	mg/kg	0.89 J	0.57 U	0.54 U	1.7 J	19	8.5 U	0.94 U	0.25 U	0.47 U	0.3 U
Benzo(a)anthracene	11	NE	1	mg/kg	**1.5 J**	0.57 J	0.39 J	**4**	**50**	**23 J**	**1.3 J**	0.41 J	0.19 U	0.37 J
Benzo(a)pyrene	1.1	2.6	22	mg/kg	**1.2 J**	0.45 J	0.32 U	**3.9**	**33**	**16 J**	**1.4 J**	0.15 U	0.28 U	0.29 J
Benzo(b)fluoranthene	11	NE	1.7	mg/kg	1.1 J	0.65 J	0.35 U	**3.7**	**29**	**14 J**	**2.1 J**	0.25 J	0.3 U	0.2 J
Benzo(g,h,i)perylene	1000	NE	1000	mg/kg	0.62 J	0.25 U	0.23 U	2.3	19	7.4 J	1.3 J	0.11 U	0.2 U	0.13 U
Benzo(k)fluoranthene	110	NE	1.7	mg/kg	0.7 J	0.3 U	0.28 U	**2.1 J**	**16**	**9.5 J**	0.57 J	0.13 U	0.24 U	0.24 J
Chrysene	110	NE	1	mg/kg	**1.4 J**	0.6 J	0.49 U	**3.7**	**47**	**20 J**	**1.2 J**	0.22 U	0.42 U	0.3 J
Dibenz(a,h)anthracene	1.1	NE	1000	mg/kg	0.36 U	0.41 U	0.39 U	0.6 J	**5.4 J**	6.1 U	0.67 U	0.18 U	0.33 U	0.22 U
Fluoranthene	1000	NE	1000	mg/kg	2.9	2.1 J	0.77 J	6.6	68	44	1.6 J	0.26 J	0.2 U	0.55 J
Fluorene	1000	30	386	mg/kg	0.88 J	3.9	0.57 J	0.58 J	**31**	9.2 J	0.45 U	0.12 U	0.22 U	0.15 U
Indeno(1,2,3-c,d)pyrene	11	NE	8.2	mg/kg	0.53 J	0.29 U	0.27 U	2.1 J	**16**	7.3 J	1.1 J	0.12 U	0.23 U	0.15 U
Naphthalene	1000	NE	12	mg/kg	2.5	3.3	1.9 J	0.87 J	**15**	7.4 J	1.2 J	0.13 U	0.24 U	0.16 U
Phenanthrene	1000	NE	1000	mg/kg	3.2	1.9 J	0.32 U	2.7	150	57	1.3 J	0.37 J	0.28 U	0.18 U
Pyrene	1000	NE	1000	mg/kg	3.2	2.7	0.78 J	8.1	120	34 J	1.4 J	0.32 J	0.22 U	0.52 J
2-Methylnaphthalene	NE	NE	NE	mg/kg	0.57 J	1.3 J	0.44 U	0.43 U	37	7.8 J	0.76 U	0.2 U	0.38 U	0.25 U
Total PAHS	NE	NE	NE	mg/kg	22	17	4.4 J	43	678	264	14 J	1.6 J	ND	2.5 J
Other SVOCs														
2,4,5-Trichlorophenol	NE	NE	NE	mg/kg	0.55 U	0.63 U	0.59 U	0.58 U	2.5 U	9.3 U	1 U	0.27 U	0.51 U	0.33 U
2,4,6-Trichlorophenol	NE	NE	NE	mg/kg	0.41 U	0.46 U	0.44 U	0.43 U	1.8 U	6.9 U	0.76 U	0.2 U	0.38 U	0.25 U
2,4-Dichlorophenol	NE	NE	NE	mg/kg	0.22 U	0.25 U	0.23 U	0.23 U	0.97 U	3.7 U	0.4 U	0.11 U	0.2 U	0.13 U
2,4-Dimethylphenol	NE	NE	NE	mg/kg	0.49 U	0.56 U	0.53 U	0.52 U	2.2 U	8.3 U	0.92 U	0.24 U	0.46 U	0.3 U
2,4-Dinitrophenol	NE	NE	NE	mg/kg	9.4 U	11 U	10 U	10 U	42 U	160 U	18 U	4.6 U	8.7 U	5.7 U
2,4-Dinitrotoluene	NE	NE	NE	mg/kg	0.42 U	0.48 U	0.45 U	0.44 U	1.9 U	7.1 U	0.78 U	0.2 U	0.39 U	0.25 U
2,6-Dinitrotoluene	NE	NE	NE	mg/kg	0.24 U	0.27 U	0.26 U	0.25 U	1.1 U	4.1 U	0.45 U	0.12 U	0.22 U	0.15 U
2-Chloronaphthalene	NE	NE	NE	mg/kg	0.33 U	0.38 U	0.36 U	0.36 U	1.5 U	5.7 U	0.63 U	0.16 U	0.31 U	0.2 U
2-Chlorophenol	NE	NE	NE	mg/kg	0.37 U	0.42 U	0.4 U	0.39 U	1.7 U	6.3 U	0.69 U	0.18 U	0.34 U	0.22 U
2-Methylphenol (o-cresol)	1000	NE	0.33	mg/kg	0.24 U	0.27 U	0.26 U	0.25 U	1.1 U	4.1 U	0.45 U	0.12 U	0.22 U	0.15 U
2-Nitroaniline	NE	NE	NE	mg/kg	0.3 U	0.34 U	0.32 U	0.32 U	1.3 U	5.1 U	0.56 U	0.15 U	0.28 U	0.18 U
2-Nitrophenol	NE	NE	NE	mg/kg	0.57 U	0.65 U	0.62 U	0.61 U	2.6 U	9.7 U	1.1 U	0.28 U	0.53 U	0.35 U
3,3'-Dichlorobenzidine	NE	NE	NE	mg/kg	2.4 U	2.7 U	2.6 U	2.5 U	11 U	41 U	4.5 U	1.2 U	2.2 U	1.5 U
3-Nitroaniline	NE	NE	NE	mg/kg	0.56 U	0.64 U	0.61 U	0.6 U	2.5 U	9.5 U	1.1 U	0.28 U	0.52 U	0.34 U
4,6-Dinitro-2-methylphenol	NE	NE	NE	mg/kg	2 U	2.3 U	2.2 U	2.2 U	9.2 U	35 U	3.8 U	1 U	1.9 U	1.2 U
4-Bromophenyl phenyl ether	NE	NE	NE	mg/kg	0.29 U	0.33 U	0.31 U	0.31 U	1.3 U	4.9 U	0.54 U	0.14 U	0.27 U	0.17 U
4-Chloro-3-methylphenol	NE	NE	NE	mg/kg	0.5 U	0.57 U	0.54 U	0.53 U	2.3 U	8.5 U	0.94 U	0.25 U	0.47 U	0.3 U
4-Chloroaniline	NE	NE	NE	mg/kg	0.5 U	0.57 U	0.54 U	0.53 U	2.3 U	8.5 U	0.94 U	0.25 U	0.47 U	0.3 U
4-Chlorophenyl phenyl ether	NE	NE	NE	mg/kg	0.25 U	0.29 U	0.27 U	0.27 U	1.1 U	4.3 U	0.47 U	0.12 U	0.23 U	0.15 U
4-Methylphenol	1000	NE	0.33	mg/kg	0.24 U	0.27 U	0.26 U	0.25 U	1.1 U	4.1 U	0.45 U	0.12 U	0.22 U	0.15 U
4-Nitroaniline	NE	NE	NE	mg/kg	1.1 U	1.2 U	1.2 U	1.1 U	4.8 U	18 U	2 U	0.52 U	0.99 U	0.65 U
4-Nitrophenol	NE	NE	NE	mg/kg	1.4 U	1.6 U	1.5 U	1.5 U	6.4 U	24 U	2.7 U	0.7 U	1.3 U	0.86 U
Acetophenone	NE	NE	NE	mg/kg	0.28 U	0.31 U	0.3 U	0.29 U	1.2 U	4.7 U	0.51 U	0.13 U	0.26 U	0.17 U
Atrazine	NE	NE	NE	mg/kg	0.71 U	0.8 U	0.76 U	0.75 U	3.2 U	12 U	1.3 U	0.35 U	0.66 U	0.43 U
Benzaldehyde	NE	NE	NE	mg/kg	1.6 U	1.8 U	1.7 U	1.7 U	7.3 U	27 U	3 U	0.79 U	1.5 U	0.98 U
Benzyl butyl phthalate	NE	NE	NE	mg/kg	0.33 U	0.38 U	0.36 U	0.36 U	1.5 U	5.7 U	0.63 U	0.16 U	0.31 U	0.2 U
Biphenyl (Diphenyl)	NE	NE	NE	mg/kg	0.3 U	0.34 U	0.32 U	0.32 U	7.5 J*	5.1 U	0.56 U	0.15 U	0.28 U	0.18 U
bis(2-Chloroethoxy)methane	NE	NE	NE	mg/kg	0.43 U	0.49 U	0.47 U	0.46 U	1.9 U	7.3 U	0.8 U	0.21 U	0.4 U	0.26 U
bis(2-Chloroethyl)ether	NE	NE	NE	mg/kg	0.26 U	0.3 U	0.28 U	0.28 U	1.2 U	4.5 U	0.49 U	0.13 U	0.24 U	0.16 U
bis(2-Chloroisopropyl)ether	NE	NE	NE	mg/kg	0.41 U	0.46 U	0.44 U	0.43 U	1.8 U	6.9 U	0.76 U	0.2 U	0.38 U	0.25 U
bis(2-Ethylhexyl)phthalate	NE	NE	NE	mg/kg	0.69 U	0.79 U	0.75 U	0.74 U	3.1 U	12 U	1.3 U	0.34 U	0.65 U	0.42 U
Caprolactam	NE	NE	NE	mg/kg	0.61 U	0.7 U	0.66 U	0.65 U	2.7 U	10 U	1.1 U	0.3 U	0.57 U	0.37 U
Carbazole	NE	NE	NE	mg/kg	0.35 J	0.27 U	0.26 U	0.25 U	2.4 J	4.1 U	0.45 U	0.12 U	0.22 U	0.15 U
Dibenzofuran	1000	NE	210	mg/kg	0.47 J	1.2 J	0.26 U	0.3 J	5.6 J	4.1 U	0.45 U	0.12 U	0.22 U	0.15 U
Diethyl phthalate	NE	NE	NE	mg/kg	0.26 U	0.3 U	0.28 U	0.28 U	1.2 U	4.5 U	0.49 U	0.13 U	0.24 U	0.16 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-5 13-14.9 5/12/2015	SB-5 21-21.6 5/12/2015	SB-5 25-26.3 5/12/2015	SB-5 31-32.5 5/12/2015	SB-6 2-3 5/5/2015	SB-6 5-5.8 5/8/2015	SB-6 9.5-10 5/8/2015	SB-6 15-15.5 5/8/2015	SB-6 19.5-20 5/8/2015	SB-6 25-25.5 5/8/2015
Dimethyl phthalate	NE	NE	NE	mg/kg	0.24 U	0.27 U	0.26 U	0.25 U	1.1 U	4.1 U	0.45 U	0.12 U	0.22 U	0.15 U
dl-n-Butyl phthalate	NE	NE	NE	mg/kg	0.35 U	0.4 U	0.38 U	0.37 U	1.6 U	5.9 U	0.65 U	0.17 U	0.32 U	0.21 U
dl-n-Octyl phthalate	NE	NE	NE	mg/kg	0.24 U	0.27 U	0.26 U	0.25 U	1.1 U	4.1 U	0.45 U	0.12 U	0.22 U	0.15 U
Hexachlorobenzene	12	NE	3.2	mg/kg	0.28 U	0.31 U	0.3 U	0.29 U	1.2 U	4.7 U	0.51 U	0.13 U	0.26 U	0.17 U
Hexachlorobutadiene	NE	NE	NE	mg/kg	0.3 U	0.34 U	0.32 U	0.32 U	1.3 U	5.1 U	0.56 U	0.15 U	0.28 U	0.18 U
Hexachlorocyclopentadiene	NE	NE	NE	mg/kg	0.28 U	0.31 U	0.3 U	0.29 U	1.2 U	4.7 U	0.51 U	0.13 U	0.26 U	0.17 U
Hexachloroethane	NE	NE	NE	mg/kg	0.26 U	0.3 U	0.28 U	0.28 U	1.2 U	4.5 U	0.49 U	0.13 U	0.24 U	0.16 U
Isophorone	NE	NE	NE	mg/kg	0.43 U	0.49 U	0.47 U	0.46 U	1.9 U	7.3 U	0.8 U	0.21 U	0.4 U	0.26 U
Nitrobenzene	NE	NE	NE	mg/kg	0.23 U	0.26 U	0.25 U	0.24 U	1 U	3.9 U	0.42 U	0.11 U	0.21 U	0.14 U
N-Nitroso-di-n-propylamine	NE	NE	NE	mg/kg	0.35 U	0.4 U	0.38 U	0.37 U	1.6 U	5.9 U	0.65 U	0.17 U	0.32 U	0.21 U
N-Nitrosodiphenylamine	NE	NE	NE	mg/kg	1.7 U	1.9 U	1.8 U	1.8 U	7.4 U	28 U	3.1 U	0.81 U	1.5 U	1 U
Pentachlorophenol	55	0.8	0.8	mg/kg	2 U	2.3 U	2.2 U	2.2 U	9.2 U	35 U	3.8 U	1 U	1.9 U	1.2 U
Phenol	1000	30	0.33	mg/kg	0.31 U	0.35 U	0.34 U	0.33 U	1.4 U	5.3 U	0.58 U	0.15 U	0.29 U	0.19 U
Inorganic Constituents														
Cyanide, total	10000	NE	40	mg/kg	0.58 U	0.66 U	0.64 U	0.61 U	0.95 J	0.5 U	1.4	0.57 U	0.92 J	0.71 U
Aluminum	NE	NE	NE	mg/kg	5980	2480	12900	10200	4950	3190	5240	5180	2030	7160
Antimony	NE	NE	NE	mg/kg	0.47 U	0.51 U	0.54 U	0.52 U	2.4 J	0.42 U	2.1 U	4.7 U	0.45 U	0.55 U
Arsenic	16	13	16	mg/kg	13	6.4	8.3	7.3	**26**	10.2	**16.8**	**48.5**	5.4	4
Barium	10000	433	820	mg/kg	48.2	15.8	106	44.5	65	39.7	68	43.7	16.3	44.8
Beryllium	2700	10	47	mg/kg	0.43	0.43	0.82	0.56	1.2	0.54	0.16 J	1.8 J	0.39	0.41
Cadmium	60	4	7.5	mg/kg	0.036 U	0.039 U	0.04 U	0.039 U	0.28 J	0.16 U	0.16 U	0.35 U	0.17 U	0.041 U
Calcium	NE	NE	NE	mg/kg	2470 B	1430 B	24600 B	3190 B	8780 B	5540 B	2640 B	11100 B	1750 B	2460 B
Chromium[b]	800	1	19	mg/kg	**12.2**	**7.9**	**17.5**	**16.4**	**28.4**	**26.8**	**68.9**	**35.2**	**8.1**	**12.6**
Cobalt	NE	NE	NE	mg/kg	6	6.9	13.9	14.3	9	6.5	9.7	14.5	8.6	9.6
Copper	10000	50	1720	mg/kg	20.9	20.5	31.8	30.2	46.3	12.8	**52**	43.4	14.8	11.6
Iron	NE	NE	NE	mg/kg	34500 B	33100 ^B	37400 B	30700 ^B	107000 B	50700 B	98400 B	236000 B	43600 B	25300 B
Lead	3900	63	450	mg/kg	58.2	12.6	17.2	45	**123**	**97.1**	21.5	58.6	19.9	6.7
Magnesium	NE	NE	NE	mg/kg	1790	510	6490	5010	1690 B	1250	885	1440	682	2570
Manganese	10000	1600	2000	mg/kg	435 B	262 ^B	496 B	521 ^B	1220 B	1190 B	**24900 B^**	1170 B^	300 B^	278 B^
Nickel	10000	30	130	mg/kg	16	13.2	28.3	23.4	21.5	14.7 J	18.5 J	24.5	17.4	15
Potassium	NE	NE	NE	mg/kg	984	371	2820	1630	597 B	363	560	743	288	846
Selenium	6800	3.9	4	mg/kg	0.47 U	0.51 U	0.54 U	0.52 U	2.2 U	0.42 U	2.1 U	4.7 U	0.45 U	0.55 U
Silver	6800	2	8.3	mg/kg	0.24 U	0.26 U	0.27 U	0.26 U	1.1 U	1.1 U	1 U	2.3 U	0.22 U	0.28 U
Sodium	NE	NE	NE	mg/kg	166 U	180 U	188 U	182 U	787 U	148 U	146 U	1630 U	157 U	213 U
Thallium	NE	NE	NE	mg/kg	0.36 U	0.39 U	0.4 U	0.39 U	0.34 U	1.6 U	8.8 J	0.35 U	0.34 U	0.41 U
Vanadium	NE	NE	NE	mg/kg	19.8	22	29	21.2	86.6	46.6	282	132	23.1	23.1
Zinc	10000	109	2480	mg/kg	61.2 B	13 B	53.4 B	62.1 B	**115 B**	61 B	45.2 B	105 B	13.8 B	45.2 B
Mercury	5.7	0.18	0.73	mg/kg	**0.26**	0.013 J	0.058	**0.26**	**0.26**	0.099	0.04	**0.24**	0.052	0.027 J
Pesticides														
4,4'-DDD	180	0.0033	14	mg/kg	0.0078 U	0.0043 U	0.00042 U	0.021 U	0.035 U	0.017 U	0.0036 U	0.0019 U	0.0018 U	0.0024 U
4,4'-DDE	120	0.0033	17	mg/kg	0.0084 U	0.0047 U	0.00045 U	0.022 U	0.037 U	0.018 U	0.0039 U	0.002 U	0.002 U	0.0026 U
4,4'-DDT	94	0.0033	136	mg/kg	0.0093 U	0.0052 U	0.0005 U	0.025 U	0.042 U	0.085 U	0.0043 U	0.0023 U	0.0022 U	0.0029 U
Aldrin	1.4	0.14	0.19	mg/kg	0.0098 U	0.0055 U	0.00053 U	0.026 U	0.044 U	0.021 U	0.0045 U	0.0024 U	0.0023 U	0.003 U
alpha Endosulfan (Endosulfan I)	920	NE	102	mg/kg	0.0077 U	0.0043 U	0.00041 U	0.02 U	0.034 U	0.016 U	0.0035 U	0.0019 U	0.0018 U	0.0023 U
beta Endosulfan (Endosulfan II)	920	NE	102	mg/kg	0.0072 U	0.004 U	0.00039 U	0.019 U	0.032 U	0.015 U	0.0033 U	0.0017 U	0.0017 U	0.0022 U
BHC, alpha	6.8	0.04	0.02	mg/kg	0.0072 U	0.004 U	0.00039 U	0.019 U	0.032 U	0.015 U	0.0033 U	0.0017 U	0.0017 U	0.012 U
BHC, beta	14	0.6	0.09	mg/kg	0.0072 U	0.022 U	0.0021 U	0.019 U	0.032 U	0.015 U	0.0033 U	0.0017 U	0.0017 U	0.0022 U
BHC, delta	1000	0.04	0.25	mg/kg	0.04 U	0.01 J	0.0009 J	0.02 U	0.033 U	0.085 U	0.0034 U	0.0018 U	0.0018 U	0.0052 NJ
BHC, gamma (Lindane)	23	6	0.1	mg/kg	0.0073 U	0.0041 U	0.00039 U	0.02 U	0.033 U	0.016 U	0.0034 U	0.0018 U	0.0017 U	0.0022 U
Chlordane, alpha	47	1.3	2.9	mg/kg	0.02 U	0.011 U	0.0011 U	0.053 U	0.089 U	0.042 U	0.0092 U	0.0048 U	0.0047 U	0.0061 U
Chlordane, beta	NE	NE	NE	mg/kg	0.013 U	0.0071 U	0.00068 U	0.034 U	0.057 U	0.027 U	0.0059 U	0.0031 U	0.003 U	0.0039 U
Dieldrin	2.8	0.006	0.1	mg/kg	0.0096 U	0.0053 U	0.00051 U	0.026 U	0.043 U	0.02 U	0.0044 U	0.0023 U	0.0023 U	0.0029 U
Endosulfan sulfate	920	NE	1000	mg/kg	0.017 J	0.0081 NJ	0.0004 U	0.043 J	0.033 U	0.085 U	0.018 U	0.0018 U	0.0095 U	0.0023 U
Endrin	410	0.014	0.06	mg/kg	0.0079 U	0.0044 U	0.00042 U	0.021 U	0.18 U	0.017 U	0.0037 U	0.0019 U	0.0019 U	0.0024 U
Endrin aldehyde	NE	NE	NE	mg/kg	0.01 U	0.0057 U	0.00055 U	0.027 U	0.046 U	0.022 U	0.0047 U	0.0025 U	0.0024 U	0.0031 U
Endrin ketone	NE	NE	NE	mg/kg	0.0098 U	0.0055 U	0.00053 U	0.026 U	0.044 U	0.021 U	0.0045 U	0.0055 J	0.0023 U	0.003 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

	Soil Cleanup Objectives [6 NYCRR Subpart 375-6]													
Constituent	Protection of Public Health - Industrial Zoning[(a)]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-5 13-14.9 5/12/2015	SB-5 21-21.6 5/12/2015	SB-5 25-26.3 5/12/2015	SB-5 31-32.5 5/12/2015	SB-6 2-3 5/5/2015	SB-6 5-5.8 5/8/2015	SB-6 9.5-10 5/8/2015	SB-6 15-15.5 5/8/2015	SB-6 19.5-20 5/8/2015	SB-6 25-25.5 5/8/2015
Heptachlor	29	0.14	0.38	mg/kg	0.0086 U	0.0048 U	0.00046 U	0.023 U	0.039 U	0.018 U	0.004 U	0.0021 U	0.002 U	0.0026 U
Heptachlor epoxide	NE	NE	NE	mg/kg	0.01 U	0.0057 U	0.00055 U	0.028 U	0.046 U	0.022 U	0.018 U	0.0025 U	0.0024 U	0.0032 U
Methoxychlor	NE	NE	NE	mg/kg	0.0081 U	0.0045 U	0.00044 U	0.022 U	0.036 U	0.017 U	0.0038 U	0.002 U	0.0019 U	0.0025 U
Toxaphene	NE	NE	NE	mg/kg	0.23 U	0.13 U	0.012 U	0.62 U	1 U	0.5 U	0.11 U	0.056 U	0.055 U	0.071 U
Polychlorinated Biphenyls (PCBs)														
Aroclor 1016	NE	NE	3.2	mg/kg	0.052 U	0.048 U	0.045 U	0.049 U	0.053 U	0.04 U	0.044 U	0.048 U	0.053 U	0.062 U
Aroclor 1221	NE	NE	3.2	mg/kg	0.052 U	0.048 U	0.045 U	0.049 U	0.053 U	0.04 U	0.044 U	0.048 U	0.053 U	0.062 U
Aroclor 1232	NE	NE	3.2	mg/kg	0.052 U	0.048 U	0.045 U	0.049 U	0.053 U	0.04 U	0.044 U	0.048 U	0.053 U	0.062 U
Aroclor 1242	NE	NE	3.2	mg/kg	0.052 U	0.048 U	0.045 U	0.049 U	0.053 U	0.04 U	0.044 U	0.048 U	0.053 U	0.062 U
Aroclor 1248	NE	NE	3.2	mg/kg	0.052 U	0.048 U	0.045 U	0.049 U	0.053 U	0.14 J	0.044 U	0.048 U	0.053 U	0.062 U
Aroclor 1254	NE	NE	3.2	mg/kg	0.13 U	0.11 U	0.11 U	0.12 U	0.13 U	0.097 U	0.11 U	0.11 U	0.13 U	0.15 U
Aroclor 1260	NE	NE	3.2	mg/kg	0.13 U	0.11 U	0.11 U	0.12 U	0.13 U	0.097 U	0.11 U	0.11 U	0.13 U	0.15 U
Total PCBs	25	1.0	3.2	mg/kg	ND	ND	ND	ND	ND	0.14 J	ND	ND	ND	ND

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
U1 - The analyte was analyzed for, but was not detected substantially above the level reported in laboratory or field blanks.
J+ - Estimated concentration. Reported value may be biased high. Result is esitmated high
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
N J - The analyte detection if tentative in indentification and estimated in value.
B - Constituent was found in the blank and the sample.
R - Result rejected as determined by the data validator.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related QC is outside acceptance limits.
* - Laboratory Control Sample (LCS) or Laboratory Control Sample Duplicate (LCSD) is outside acceptance limits
NE - Not established.
ND - Not detected
(a) - Zoning determination based on review of City of Troy Official Zoning Map dated 12/19/16. Zoning classification for the Site is identified as Waterfront Trade District, which permits industrial usage of property.
(b) - Chromium analysis was for total chromium. To be conservative, total chromium concentrations were compared to hexavalent chromium SCOs.

Boxes and bolded values indicate concentrations are above New York State Subpart 375 Soil Cleanup Objectives for: Protection of Public Health for Industrially Zoned Properties, Protection of Ecological Resources, and/or Protection of Groundwater.

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-6 31-31.5 5/11/2015	SB-7 0-1 5/5/2015	SB-7 DUP 0-1 5/5/2015	SB-7 5-5.7 5/14/2015	SB-7 11-12.1 5/14/2015	SB-7 17-18.3 5/14/2015	SB-7 21-22.6 5/14/2015	SB-7 DUP 21-22.6 5/14/2015	SB-7 25-26.6 5/14/2015	SB-7 31-32.1 5/14/2015
Volatile Organic Compounds (VOCs)														
BTEX														
Benzene	89	70	0.06	mg/kg	0.00028 U	0.0049 J	0.0018 J	0.0011 J	0.00027 J	0.00027 UJ	0.00029 U	0.00028 U	0.00029 U	0.00021 U
Toluene	1000	36	0.7	mg/kg	0.00043 U	0.022	0.0098	0.0011 J	0.00036 U	0.00041 UJ	0.00044 U	0.00043 U	0.00045 U	0.00032 U
Ethylbenzene	780	NE	1	mg/kg	0.00039 U	0.029	0.011	0.00056 J*	0.00033 U	0.00038 UJ	0.0004 U	0.00039 U	0.00041 U	0.00029 U
Xylenes, total	1000	0.26	1.6	mg/kg	0.00096 U	0.18	0.08	0.00083 U	0.0008 U	0.00092 UJ	0.00098 U	0.00096 U	0.001 U	0.00071 U
Total BTEX	NE	NE	NE	mg/kg	ND	0.24	0.10	0.0028 J	0.00027 J	ND	ND	ND	ND	ND
Other VOCs														
1,1,1-Trichloroethane	1000	NE	0.68	mg/kg	0.00041 U	0.00047 U	0.00046 U	0.00036 U	0.00034 U	0.0004 UJ	0.00042 U	0.00041 U	0.00043 U	0.00031 U
1,1,2,2-Tetrachloroethane	NE	NE	NE	mg/kg	0.00092 U	0.001 U	0.001 U	0.0008 U	0.00077 U	0.00088 UJ	0.00094 U	0.00093 U	0.00096 U	0.00068 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NE	NE	NE	mg/kg	0.0013 U	0.0015 U	0.0014 U	0.0011 U	0.0011 U	0.0012 UJ	0.0013 U	0.0013 U	0.0014 U	0.00096 U
1,1,2-Trichloroethane	NE	NE	NE	mg/kg	0.00074 U	0.00084 U	0.00082 U	0.00064 U	0.00062 U	0.00071 UJ	0.00076 U	0.00074 U	0.00077 U	0.00055 U
1,1-Dichloroethane	480	NE	0.27	mg/kg	0.0007 U	0.00078 U	0.00077 U	0.0006 U	0.00058 U	0.00067 UJ	0.00071 U	0.0007 U	0.00072 U	0.00051 U
1,1-Dichloroethene	1000	NE	0.33	mg/kg	0.0007 U	0.00079 U	0.00077 U	0.00061 U	0.00058 U	0.00067 UJ	0.00071 U	0.0007 U	0.00073 U	0.00052 U
1,2,4-Trichlorobenzene	NE	NE	NE	mg/kg	0.00035 U	0.00039 U	0.00038 U	0.0003 U	0.00029 U	0.00033 UJ	0.00035 U	0.00035 U	0.00036 U	0.00026 U
1,2-Dibromo-3-chloropropane (DBCP)	NE	NE	NE	mg/kg	0.0028 U	0.0032 U	0.0032 U	0.0025 U	0.0024 U	0.0027 UJ	0.0029 U	0.0029 U	0.003 U	0.0021 U
1,2-Dibromoethane (EDB)	NE	NE	NE	mg/kg	0.00073 U	0.00083 U	0.00081 U	0.00064 U	0.00061 U	0.0007 UJ	0.00075 U	0.00073 U	0.00076 U	0.00054 U
1,2-Dichlorobenzene	1000	NE	1.1	mg/kg	0.00045 U	0.0005 UJ	0.00049 UJ	0.00039 U	0.00037 U	0.00043 UJ	0.00045 U	0.00045 U	0.00046 U	0.00033 U
1,2-Dichloroethane	60	10	0.02	mg/kg	0.00029 U	0.00032 U	0.00032 U	0.00025 U	0.00024 U	0.00027 UJ	0.00029 U	0.00029 U	0.0003 U	0.00021 U
1,2-Dichloropropane	NE	NE	NE	mg/kg	0.0028 U	0.0032 U	0.0032 U	0.0025 U	0.0024 U	0.0027 UJ	0.0029 U	0.0029 U	0.003 U	0.0021 U
1,3-Dichlorobenzene	560	NE	2.4	mg/kg	0.00029 U	0.00033 UJ	0.00032 UJ	0.00025 UJ	0.00024 UJ	0.00028 UJ	0.0003 UJ	0.00029 UJ	0.00031 UJ	0.00022 UJ
1,4-Dichlorobenzene	250	20	1.8	mg/kg	0.0008 U	0.0009 U	0.00088 U	0.00069 UJ	0.00066 UJ	0.00076 UJ	0.00081 UJ	0.0008 UJ	0.00083 UJ	0.00059 UJ
2-Butanone (MEK)	1000	100	0.12	mg/kg	0.0021 U	0.0024 U	0.0023 U	0.0018 U	0.0017 U	0.002 UJ	0.0021 U	0.0021 U	0.0022 U	0.0015 U
2-Hexanone	NE	NE	NE	mg/kg	0.0028 U	0.0032 U	0.0032 U	0.0025 U	0.0024 U	0.0027 UJ	0.0029 U	0.0029 U	0.003 U	0.0021 U
4-Methyl-2-pentanone (MIBK)	NE	NE	NE	mg/kg	0.0019 U	0.0021 U	0.0021 U	0.0016 U	0.0016 U	0.0018 UJ	0.0019 U	0.0019 U	0.0019 U	0.0014 U
Acetone	1000	2.2	0.05	mg/kg	0.028 U	0.032 U	0.0053 U	0.025 U	0.024 U	0.0046 UJ	0.029 U	0.029 U	0.03 U	0.0036 U
Bromodichloromethane	NE	NE	NE	mg/kg	0.00076 U	0.00086 U	0.00084 U	0.00066 U	0.00064 U	0.00073 UJ	0.00078 U	0.00077 U	0.0008 U	0.00057 U
Bromoform	NE	NE	NE	mg/kg	0.0028 U	0.0032 U	0.0032 U	0.0025 U	0.0024 U	0.0027 UJ	0.0029 U	0.0029 U	0.003 U	0.0021 U
Bromomethane	NE	NE	NE	mg/kg	0.00051 U	0.00058 U	0.00057 U	0.00045 U	0.00043 U	0.00049 UJ	0.00052 U	0.00051 U	0.00053 U	0.00038 U
Carbon disulfide	NE	NE	NE	mg/kg	0.0028 U	0.0032 U	0.0032 U	0.0025 U	0.0024 U	0.0027 UJ	0.0029 U	0.0029 U	0.003 U	0.0021 U
Carbon tetrachloride	44	NE	0.76	mg/kg	0.00055 U	0.00062 U	0.00061 U	0.00048 U	0.00046 U	0.00053 UJ	0.00056 U	0.00055 U	0.00057 U	0.00041 U
Chlorobenzene	1000	40	1.1	mg/kg	0.00075 U	0.00085 U	0.00083 U	0.00065 U	0.00063 U	0.00072 UJ	0.00077 U	0.00075 U	0.00078 U	0.00056 U
Chloroethane	NE	NE	NE	mg/kg	0.0013 U	0.0015 U	0.0014 U	0.0011 U	0.0011 U	0.0012 UJ	0.0013 U	0.0013 U	0.0013 U	0.00095 U
Chloroform	700	12	0.37	mg/kg	0.00035 U	0.0004 U	0.00039 U	0.00031 U	0.00029 U	0.00034 UJ	0.00036 U	0.00035 U	0.00037 U	0.00026 U
Chloromethane	NE	NE	NE	mg/kg	0.00034 U	0.00039 U	0.00038 U	0.0003 U	0.00029 U	0.00033 UJ	0.00035 U	0.00035 U	0.00036 U	0.00025 U
cis-1,2-Dichloroethene	1000	NE	0.25	mg/kg	0.00073 U	0.00082 U	0.00081 U	0.00063 U	0.00061 U	0.0007 UJ	0.00074 U	0.00073 U	0.00076 U	0.00054 U
cis-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.00082 U	0.00093 U	0.00091 U	0.00071 U	0.00068 U	0.00079 UJ	0.00084 U	0.00082 U	0.00086 U	0.00061 U
Cyclohexane	NE	NE	NE	mg/kg	0.0008 U	0.0009 U	0.00088 U	0.00069 U	0.00066 U	0.00076 UJ	0.00081 U	0.0008 U	0.00083 U	0.00059 U
Dibromochloromethane	NE	NE	NE	mg/kg	0.00073 U	0.00082 U	0.00081 U	0.00063 U	0.00061 U	0.0007 UJ	0.00074 U	0.00073 U	0.00076 U	0.00054 U
Dichlorodifluoromethane (Freon 12)	NE	NE	NE	mg/kg	0.00047 U	0.00053 U	0.00052 U	0.00041 U	0.00039 U	0.00045 UJ	0.00048 U	0.00047 U	0.00049 U	0.00035 U
Isopropylbenzene (Cumene)	NE	NE	NE	mg/kg	0.00086 U	0.0095	0.0049 J	0.00075 U	0.00072 U	0.00082 UJ	0.00088 U	0.00086 U	0.0009 U	0.00064 U
Methyl acetate	NE	NE	NE	mg/kg	0.0034 U	0.0039 U	0.0038 U	0.003 U	0.0029 U	0.0033 UJ	0.0035 U	0.0035 U	0.0036 U	0.0025 U
Methylcyclohexane	NE	NE	NE	mg/kg	0.00087 U	0.00098 U	0.00096 U	0.00075 U	0.00072 U	0.00083 UJ	0.00088 U	0.00087 U	0.0009 U	0.00064 U
Methylene chloride	1000	12	0.05	mg/kg	0.0026 U	0.003 U	0.0029 U	0.0023 U	0.0022 U	0.0025 UJ	0.0027 U	0.0026 U	0.0027 U	0.0019 U
Styrene	NE	NE	NE	mg/kg	0.00028 U	0.022 *	0.01 *	0.00025 U	0.00024 U	0.00027 UJ	0.00029 U	0.00029 U	0.0003 U	0.00021 U
tert-Butyl methyl ether (MTBE)	1000	NE	0.93	mg/kg	0.00056 U	0.00063 U	0.00062 U	0.00049 U	0.00047 U	0.00054 UJ	0.00057 U	0.00056 U	0.00058 U	0.00041 U
Tetrachloroethene (PCE)	300	2	1.3	mg/kg	0.00076 U	0.00086 U	0.00085 U	0.00066 U	0.00064 U	0.00073 UJ	0.00078 U	0.00077 U	0.0008 U	0.00057 U
trans-1,2-Dichloroethene	1000	NE	0.19	mg/kg	0.00059 U	0.00066 U	0.00065 U	0.00051 U	0.00049 U	0.00056 UJ	0.0006 U	0.00059 U	0.00061 U	0.00044 U
trans-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.0025 U	0.0028 U	0.0028 U	0.0022 U	0.0021 U	0.0024 UJ	0.0026 U	0.0025 U	0.0026 U	0.0019 U
Trichloroethene (TCE)	400	2	0.47	mg/kg	0.0013 U	0.0014 U	0.0014 U	0.0011 U	0.001 U	0.0012 UJ	0.0013 U	0.0013 U	0.0013 U	0.00093 U
Trichlorofluoromethane (Freon 11)	NE	NE	NE	mg/kg	0.00054 U	0.00061 U	0.0006 U	0.00047 U	0.00045 U	0.00052 UJ	0.00055 U	0.00054 U	0.00056 U	0.0004 U
Vinyl chloride	27	NE	0.02	mg/kg	0.0007 U	0.00078 U	0.00077 U	0.0006 U	0.00058 U	0.00067 UJ	0.00071 U	0.0007 U	0.00072 U	0.00051 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-6 31-31.5 5/11/2015	SB-7 0-1 5/5/2015	SB-7 DUP 0-1 5/5/2015	SB-7 5-5.7 5/14/2015	SB-7 11-12.1 5/14/2015	SB-7 17-18.3 5/14/2015	SB-7 21-22.6 5/14/2015	SB-7 DUP 21-22.6 5/14/2015	SB-7 25-26.6 5/14/2015	SB-7 31-32.1 5/14/2015
Semi-volatile Organic Compounds (SVOCs)														
Polycyclic Aromatic Hydrocarbons (PAHs)														
Acenaphthene	1000	20	98	mg/kg	0.15 U	**57**	14 J	0.97 J	0.14 U	0.15 U	0.033 U	0.033 U	0.17 U	0.028 U
Acenaphthylene	1000	NE	107	mg/kg	0.13 U	52	16 J	1 J	0.12 U	0.13 U	0.029 U	0.029 U	0.15 U	0.025 U
Anthracene	1000	NE	1000	mg/kg	0.26 U	96	27	2.2	0.23 U	0.25 U	0.055 U	0.055 U	0.28 U	0.047 U
Benzo(a)anthracene	11	NE	1	mg/kg	0.17 J	**180**	**64**	**5**	0.63 J	0.1 U	0.022 U	0.022 U	0.13 J	0.019 U
Benzo(a)pyrene	1.1	2.6	22	mg/kg	0.15 U	**130**	**45**	**3.6**	0.49 J	0.15 U	0.033 U	0.033 U	0.17 U	0.028 U
Benzo(b)fluoranthene	11	NE	1.7	mg/kg	0.17 U	**120**	**45**	**3.4**	0.62 J	0.16 U	0.036 U	0.035 U	0.18 U	0.03 U
Benzo(g,h,i)perylene	1000	NE	1000	mg/kg	0.11 U	53	22 J	1.5 J	0.26 J	0.11 U	0.024 U	0.024 U	0.12 U	0.02 U
Benzo(k)fluoranthene	110	NE	1.7	mg/kg	0.13 U	**59**	**17 J**	1.7 J	0.21 J	0.13 U	0.029 U	0.029 U	0.15 U	0.025 U
Chrysene	110	NE	1	mg/kg	0.23 U	**160**	**61**	**4.5**	0.52 J	0.23 U	0.05 U	0.05 U	0.25 U	0.043 U
Dibenz(a,h)anthracene	1.1	NE	1000	mg/kg	0.18 U	**19 J**	4.8 U	0.32 U	0.17 U	0.18 U	0.04 U	0.039 U	0.2 U	0.034 U
Fluoranthene	1000	NE	1000	mg/kg	0.3 J	260	99	7.9	0.9 J	0.11 J	0.024 U	0.024 U	0.17 J	0.02 U
Fluorene	1000	30	386	mg/kg	0.29 J	**150**	**37**	2.9	0.15 J	0.12 U	0.026 U	0.026 U	0.13 U	0.022 U
Indeno(1,2,3-c,d)pyrene	11	NE	8.2	mg/kg	0.13 U	**41 J**	**19 J**	1.3 J	0.26 J	0.13 U	0.028 U	0.027 U	0.14 U	0.024 U
Naphthalene	1000	NE	12	mg/kg	0.14 J	**210**	**45**	1.6 J	0.14 J	0.13 U	0.029 U	0.029 U	0.15 U	0.025 U
Phenanthrene	1000	NE	1000	mg/kg	0.44 J	560	160	12	1	0.15 U	0.033 U	0.033 U	0.17 U	0.028 U
Pyrene	1000	NE	1000	mg/kg	0.21 J	430	150	10	1.1	0.12 U	0.026 U	0.026 U	0.16 J	0.022 U
2-Methylnaphthalene	NE	NE	NE	mg/kg	0.21 U	160	36	1.8	0.19 U	0.21 U	0.045 U	0.044 U	0.22 U	0.038 U
Total PAHS	NE	NE	NE	mg/kg	1.55 J	2737	857	61	6.3	0.11 J	ND	ND	0.46 J	ND
Other SVOCs														
2,4,5-Trichlorophenol	NE	NE	NE	mg/kg	0.28 U	14 U	7.3 U	0.5 U	0.26 U	0.28 U	0.061 U	0.06 U	0.3 U	0.052 U
2,4,6-Trichlorophenol	NE	NE	NE	mg/kg	0.21 U	10 U	5.4 U	0.37 U	0.19 U	0.21 U	0.045 U	0.044 U	0.22 U	0.038 U
2,4-Dichlorophenol	NE	NE	NE	mg/kg	0.11 U	5.5 U	2.9 U	0.19 U	0.1 U	0.11 U	0.024 U	0.024 U	0.12 U	0.02 U
2,4-Dimethylphenol	NE	NE	NE	mg/kg	0.25 U	12 U	6.5 U	0.44 U	0.23 U	0.25 U	0.054 U	0.054 U	0.27 U	0.046 U
2,4-Dinitrophenol	NE	NE	NE	mg/kg	4.8 U	240 U	120 U	8.5 U	4.4 U	4.7 U	1 U	1 U	5.2 U	0.88 U
2,4-Dinitrotoluene	NE	NE	NE	mg/kg	0.21 U	11 U	5.6 U	0.38 U	0.2 U	0.21 U	0.046 U	0.046 U	0.23 U	0.039 U
2,6-Dinitrotoluene	NE	NE	NE	mg/kg	0.12 U	6.1 U	3.2 U	0.22 U	0.11 U	0.12 U	0.026 U	0.026 U	0.13 U	0.022 U
2-Chloronaphthalene	NE	NE	NE	mg/kg	0.17 U	8.5 U	4.5 U	0.3 U	0.16 U	0.17 U	0.037 U	0.037 U	0.18 U	0.031 U
2-Chlorophenol	NE	NE	NE	mg/kg	0.19 U	9.4 U	4.9 U	0.34 U	0.17 U	0.19 U	0.041 U	0.041 U	0.2 U	0.035 U
2-Methylphenol (o-cresol)	1000	NE	0.33	mg/kg	0.12 U	6.1 U	3.2 U	0.22 U	0.11 U	0.12 U	0.026 U	0.026 U	0.13 U	0.022 U
2-Nitroaniline	NE	NE	NE	mg/kg	0.15 U	7.6 U	4 U	0.27 U	0.14 U	0.15 U	0.033 U	0.033 U	0.17 U	0.028 U
2-Nitrophenol	NE	NE	NE	mg/kg	0.29 U	15 U	7.6 U	0.52 U	0.27 U	0.29 U	0.063 U	0.063 U	0.32 U	0.054 U
3,3'-Dichlorobenzidine	NE	NE	NE	mg/kg	1.2 U	61 U	32 U	2.2 U	1.1 U	1.2 U	0.26 U	0.26 U	1.3 U	0.22 U
3-Nitroaniline	NE	NE	NE	mg/kg	0.29 U	14 U	7.5 U	0.51 U	0.26 U	0.28 U	0.062 U	0.061 U	0.31 U	0.053 U
4,6-Dinitro-2-methylphenol	NE	NE	NE	mg/kg	1 U	52 U	27 U	1.8 U	0.95 U	1 U	0.22 U	0.22 U	1.1 U	0.19 U
4-Bromophenyl phenyl ether	NE	NE	NE	mg/kg	0.15 U	7.3 U	3.8 U	0.26 U	0.13 U	0.14 U	0.032 U	0.031 U	0.16 U	0.027 U
4-Chloro-3-methylphenol	NE	NE	NE	mg/kg	0.26 U	13 U	6.7 U	0.45 U	0.23 U	0.25 U	0.055 U	0.055 U	0.28 U	0.047 U
4-Chloroaniline	NE	NE	NE	mg/kg	0.26 U	13 U	6.7 U	0.45 U	0.23 U	0.25 U	0.055 U	0.055 U	0.28 U	0.047 U
4-Chlorophenyl phenyl ether	NE	NE	NE	mg/kg	0.13 U	6.4 U	3.3 U	0.23 U	0.12 U	0.13 U	0.028 U	0.027 U	0.14 U	0.024 U
4-Methylphenol	1000	NE	0.33	mg/kg	0.12 U	6.1 U	3.2 U	0.22 U	0.11 U	0.12 U	0.026 U	0.026 U	0.13 U	0.022 U
4-Nitroaniline	NE	NE	NE	mg/kg	0.54 U	27 U	14 U	0.96 U	0.5 U	0.54 U	0.12 U	0.12 U	0.59 U	0.1 U
4-Nitrophenol	NE	NE	NE	mg/kg	0.73 U	36 U	19 U	1.3 U	0.67 U	0.72 U	0.16 U	0.16 U	0.79 U	0.13 U
Acetophenone	NE	NE	NE	mg/kg	0.14 U	7 U	3.7 U	0.25 U	0.13 U	0.14 U	0.03 U	0.03 U	0.15 U	0.026 U
Atrazine	NE	NE	NE	mg/kg	0.36 U	18 U	9.4 U	0.64 U	0.33 U	0.36 U	0.078 U	0.077 U	0.39 U	0.066 U
Benzaldehyde	NE	NE	NE	mg/kg	0.83 U	41 U	22 U	1.5 U	0.75 U	0.81 U	0.18 U	0.18 U	0.89 U	0.15 U
Benzyl butyl phthalate	NE	NE	NE	mg/kg	0.17 U	8.5 U	4.5 U	0.3 U	0.16 U	0.17 U	0.037 U	0.037 U	0.18 U	0.031 U
Biphenyl (Diphenyl)	NE	NE	NE	mg/kg	0.15 U	21 J*	4.8 J*	0.27 U	0.14 U	0.15 U	0.033 U	0.033 U	0.17 U	0.028 U
bis(2-Chloroethoxy)methane	NE	NE	NE	mg/kg	0.22 U	11 U	5.7 U	0.39 U	0.2 U	0.22 U	0.048 U	0.047 U	0.24 U	0.04 U
bis(2-Chloroethyl)ether	NE	NE	NE	mg/kg	0.13 U	6.7 U	3.5 U	0.24 U	0.12 U	0.13 U	0.029 U	0.029 U	0.15 U	0.025 U
bis(2-Chloroisopropyl)ether	NE	NE	NE	mg/kg	0.21 U	10 U	5.4 U	0.37 U	0.19 U	0.21 U	0.045 U	0.044 U	0.22 U	0.038 U
bis(2-Ethylhexyl)phthalate	NE	NE	NE	mg/kg	0.35 U	18 U	9.2 U	0.63 U	0.32 U	0.35 U	0.077 U	0.076 U	0.38 U	0.065 U
Caprolactam	NE	NE	NE	mg/kg	0.31 U	15 U	8.1 U	0.55 U	0.29 U	0.31 U	0.067 U	0.067 U	0.34 U	0.057 U
Carbazole	NE	NE	NE	mg/kg	0.12 U	16 J	3.8 J	0.49 J	0.11 U	0.12 U	0.026 U	0.026 U	0.13 U	0.022 U
Dibenzofuran	1000	NE	210	mg/kg	0.12 U	45 J	11 J	0.96 J	0.11 U	0.12 U	0.026 U	0.026 U	0.13 U	0.022 U
Diethyl phthalate	NE	NE	NE	mg/kg	0.13 U	6.7 U	3.5 U	0.24 U	0.12 U	0.13 U	0.029 U	0.029 U	0.15 U	0.025 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-6 31-31.5 5/11/2015	SB-7 0-1 5/5/2015	SB-7 DUP 0-1 5/5/2015	SB-7 5-5.7 5/14/2015	SB-7 11-12.1 5/14/2015	SB-7 17-18.3 5/14/2015	SB-7 21-22.6 5/14/2015	SB-7 DUP 21-22.6 5/14/2015	SB-7 25-26.6 5/14/2015	SB-7 31-32.1 5/14/2015
Dimethyl phthalate	NE	NE	NE	mg/kg	0.12 U	6.1 U	3.2 U	0.22 U	0.11 U	0.12 U	0.026 U	0.026 U	0.13 U	0.022 U
dl-n-Butyl phthalate	NE	NE	NE	mg/kg	0.18 U	8.8 U	4.6 U	0.31 U	0.16 U	0.18 U	0.038 U	0.038 U	0.19 U	0.033 U
dl-n-Octyl phthalate	NE	NE	NE	mg/kg	0.12 U	6.1 U	3.2 U	0.22 U	0.11 U	0.12 U	0.026 U	0.026 U	0.13 U	0.022 U
Hexachlorobenzene	12	NE	3.2	mg/kg	0.14 U	7 U	3.7 U	0.25 U	0.13 U	0.14 U	0.03 U	0.03 U	0.15 U	0.026 U
Hexachlorobutadiene	NE	NE	NE	mg/kg	0.15 U	7.6 U	4 U	0.27 U	0.14 U	0.15 U	0.033 U	0.033 U	0.17 U	0.028 U
Hexachlorocyclopentadiene	NE	NE	NE	mg/kg	0.14 U	7 U	3.7 U	0.25 U	0.13 U	0.14 U	0.03 U	0.03 U	0.15 U	0.026 U
Hexachloroethane	NE	NE	NE	mg/kg	0.13 U	6.7 U	3.5 U	0.24 U	0.12 U	0.13 U	0.029 U	0.029 U	0.15 U	0.025 U
Isophorone	NE	NE	NE	mg/kg	0.22 U	11 U	5.7 U	0.39 U	0.2 U	0.22 U	0.048 U	0.047 U	0.24 U	0.04 U
Nitrobenzene	NE	NE	NE	mg/kg	0.12 U	5.8 U	3 U	0.21 U	0.11 U	0.11 U	0.025 U	0.025 U	0.13 U	0.021 U
N-Nitroso-di-n-propylamine	NE	NE	NE	mg/kg	0.18 U	8.8 U	4.6 U	0.31 U	0.16 U	0.18 U	0.038 U	0.038 U	0.19 U	0.033 U
N-Nitrosodiphenylamine	NE	NE	NE	mg/kg	0.84 U	42 U	22 U	1.5 U	0.77 U	0.83 U	0.18 U	0.18 U	0.91 U	0.16 U
Pentachlorophenol	55	0.8	0.8	mg/kg	1 U	52 U	27 U	1.8 U	0.95 U	1 U	0.22 U	0.22 U	1.1 U	0.19 U
Phenol	1000	30	0.33	mg/kg	0.16 U	7.9 U	4.1 U	0.28 U	0.15 U	0.16 U	0.034 U	0.034 U	0.17 U	0.029 U
Inorganic Constituents														
Cyanide, total	10000	NE	40	mg/kg	0.59 UJ	0.64 J	0.71 J	0.52 UJ	0.54 U	0.58 U	0.63 U	0.62 U	0.64 U	0.54 U
Aluminum	NE	NE	NE	mg/kg	4210	7400	9960	5420	4330	3140	18000	15700	10200	10600
Antimony	NE	NE	NE	mg/kg	0.48 U	0.59 J	2.3 U	4.5 U	2.3 U	2.3 U	0.5 U	0.55 U	0.51 U	0.43 U
Arsenic	16	13	16	mg/kg	8.3	11.3	**18.9**	**53**	**23.1**	**13.7**	6.7	4.8	3.7	5.1
Barium	10000	433	820	mg/kg	28.5	78	100	46.1	38.4	30.3	106	125	62.7	94.5
Beryllium	2700	10	47	mg/kg	0.44	0.73	0.99 J	2.5	0.97 J	1.1 J	1.1	0.82	0.55	0.52
Cadmium	60	4	7.5	mg/kg	0.18 U	0.31	0.39 J	0.34 U	0.17 U	0.17 U	0.037 U	0.041 U	0.044 J	0.033 U
Calcium	NE	NE	NE	mg/kg	3220 B	8650 B	11900 B	20700 B	7510 B	5400 B	22900 B	36500 B	5750 B	2870 B
Chromium[b]	800	1	19	mg/kg	**18.7**	**25.4**	**39**	**62.8**	**44.1**	**23.1**	**21.8**	**19.7**	**14.4**	**16.1**
Cobalt	NE	NE	NE	mg/kg	7.7	10.6	12.5	11.3	11.9	10.4	15.2	14.3	9.5	9.9
Copper	10000	50	1720	mg/kg	12.9	22.7	37.3	35.1	47.2	**77.3**	23.2	22.4	20.9	26.5
Iron	NE	NE	NE	mg/kg	47900 B	27800 ^B	65300 ^B	229000 B	162000 ^B	147000 ^B	33900 ^B	29500 ^B	17400 ^B	23300 ^B
Lead	3900	63	450	mg/kg	8.5	**198**	**211**	**82.2**	27.6	16.9	11.5	13	28.6	11.1
Magnesium	NE	NE	NE	mg/kg	2080	6890 B	8970 B	1770 B	1200	708	7950	9630	5060	5070
Manganese	10000	1600	2000	mg/kg	496 B	599 B	1300 B	**3690 B**	**1740 ^B**	1460 B	523 B	827 B	256 B	351 B
Nickel	10000	30	130	mg/kg	14.1	**71.2**	**68.7**	25.3	26.2 J	18.7 J	**33.4**	30	19.4	23.4
Potassium	NE	NE	NE	mg/kg	669	1270 B	1810 B	648	717	357	4130	3340	1580	2130
Selenium	6800	3.9	4	mg/kg	0.48 U	0.41 U	2.3 U	4.5 U	2.3 U	2.3 U	0.5 U	0.55 U	0.51 U	0.43 U
Silver	6800	2	8.3	mg/kg	0.24 U	0.2 U	1.1 U	2.2 U	1.1 U	1.2 U	0.25 U	0.28 U	0.25 U	0.22 U
Sodium	NE	NE	NE	mg/kg	167 U	143 U	791 U	1570 U	792 U	815 U	378 U	281 U	178 U	152 U
Thallium	NE	NE	NE	mg/kg	0.36 U	0.31 U	0.34 U	1.7 U	0.34 U	0.35 U	0.37 U	0.41 U	0.38 U	0.33 U
Vanadium	NE	NE	NE	mg/kg	46.9	52.5	89.1	141	56.3	77.1	38.8	28.1	20.3	19.5
Zinc	10000	109	2480	mg/kg	22.4 B	**136 B**	**186 B**	46.6 B	36.6 B	37.5 B	67 B	63.3 B	58.4 B	60.4 B
Mercury	5.7	0.18	0.73	mg/kg	0.014 J	0.062	0.1	0.038	0.024	0.0091 U	0.024 J	0.017 J	0.081	0.05
Pesticides														
4,4'-DDD	180	0.0033	14	mg/kg	0.002 U	0.082 U	0.086 U	0.017 U	0.0018 U	0.00038 U	0.00043 U	0.00042 U	0.00043 U	0.00037 U
4,4'-DDE	120	0.0033	17	mg/kg	0.0021 U	0.089 U	0.093 U	0.019 U	0.00039 U	0.00041 U	0.00046 U	0.00046 U	0.00047 U	0.00039 U
4,4'-DDT	94	0.0033	136	mg/kg	0.0024 U	0.099 U	0.1 U	0.021 U	0.0018 U	0.00046 U	0.00051 U	0.00051 U	0.00052 U	0.00044 U
Aldrin	1.4	0.14	0.19	mg/kg	0.0025 U	0.1 U	0.11 U	0.022 U	0.00045 U	0.00049 U	0.00054 U	0.00054 U	0.00055 U	0.00046 U
alpha Endosulfan (Endosulfan I)	920	NE	102	mg/kg	0.002 U	0.081 U	0.085 U	0.017 U	0.00035 U	0.00038 U	0.00042 U	0.00042 U	0.00043 U	0.00036 U
beta Endosulfan (Endosulfan II)	920	NE	102	mg/kg	0.0018 U	0.076 U	0.08 U	0.016 U	0.00033 U	0.00035 U	0.00039 U	0.00039 U	0.0004 U	0.00034 U
BHC, alpha	6.8	0.04	0.02	mg/kg	0.0018 U	0.076 U	0.08 U	0.016 U	0.0018 U	0.00035 U	0.00039 U	0.00039 U	0.0004 U	0.0019 U
BHC, beta	14	0.6	0.09	mg/kg	0.0018 U	0.076 U	0.08 U	0.016 U	0.00033 U	0.00035 U	0.00039 U	0.00039 U	0.0022 U	0.00034 U
BHC, delta	1000	0.04	0.25	mg/kg	0.01 U	0.079 U	0.083 U	0.023 J	0.00034 U	0.00037 U	0.00041 U	0.00041 U	0.00042 U	0.00035 U
BHC, gamma (Lindane)	23	6	0.1	mg/kg	0.0019 U	0.078 U	0.082 U	0.016 U	0.00034 U	0.00036 U	0.0004 U	0.0004 U	0.00041 U	0.00034 U
Chlordane, alpha	47	1.3	2.9	mg/kg	0.0051 U	0.21 U	0.22 U	0.045 U	0.00092 U	0.00098 U	0.0011 U	0.0011 U	0.0011 U	0.00094 U
Chlordane, beta	NE	NE	NE	mg/kg	0.0032 U	0.13 U	0.14 U	0.028 U	0.00059 U	0.00063 U	0.0007 U	0.00069 U	0.00071 U	0.0006 U
Dieldrin	2.8	0.006	0.1	mg/kg	0.0025 U	0.1 U	0.11 U	0.021 U	0.00044 U	0.00047 U	0.00053 U	0.00052 U	0.00054 U	0.00045 U
Endosulfan sulfate	920	NE	1000	mg/kg	0.0019 U	0.079 U	0.083 U	0.017 U	0.00034 U	0.00037 U	0.00041 U	0.00041 U	0.00042 U	0.00035 U
Endrin	410	0.014	0.06	mg/kg	0.002 U	0.084 U	0.088 U	0.018 U	0.00037 U	0.00039 U	0.00043 U	0.00043 U	0.00044 U	0.00037 U
Endrin aldehyde	NE	NE	NE	mg/kg	0.0026 U	0.11 U	0.11 U	0.023 U	0.0018 U	0.016	0.00056 U	0.00056 U	0.0026 NJ	0.00048 U
Endrin ketone	NE	NE	NE	mg/kg	0.0025 U	0.1 U	0.11 U	0.022 U	0.0019 U	0.00049 U	0.00054 U	0.00054 U	0.00055 U	0.00046 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

	Soil Cleanup Objectives [6 NYCRR Subpart 375-6]													
Constituent	Protection of Public Health - Industrial Zoning[(a)]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-6 31-31.5 5/11/2015	SB-7 0-1 5/5/2015	SB-7 DUP 0-1 5/5/2015	SB-7 5-5.7 5/14/2015	SB-7 11-12.1 5/14/2015	SB-7 17-18.3 5/14/2015	SB-7 21-22.6 5/14/2015	SB-7 DUP 21-22.6 5/14/2015	SB-7 25-26.6 5/14/2015	SB-7 31-32.1 5/14/2015
Heptachlor	29	0.14	0.38	mg/kg	0.0022 U	0.092 U	0.096 U	0.019 U	0.0004 U	0.00043 U	0.00047 U	0.00047 U	0.00048 U	0.00041 U
Heptachlor epoxide	NE	NE	NE	mg/kg	0.0026 U	0.11 U	0.11 U	0.023 U	0.00048 U	0.00051 U	0.00057 U	0.00056 U	0.00058 U	0.00048 U
Methoxychlor	NE	NE	NE	mg/kg	0.0021 U	0.086 U	0.091 U	0.018 U	0.00038 U	0.0004 U	0.00045 U	0.00044 U	0.00046 U	0.00038 U
Toxaphene	NE	NE	NE	mg/kg	0.059 U	2.5 U	2.6 U	0.52 U	0.011 U	0.011 U	0.013 U	0.013 U	0.013 U	0.011 U
Polychlorinated Biphenyls (PCBs)														
Aroclor 1016	NE	NE	3.2	mg/kg	0.05 U	0.045 U	0.051 U	0.036 U	0.046 U	0.052 U	0.058 U	0.064 U	0.06 U	0.039 U
Aroclor 1221	NE	NE	3.2	mg/kg	0.05 U	0.045 U	0.051 U	0.036 U	0.046 U	0.052 U	0.058 U	0.064 U	0.06 U	0.039 U
Aroclor 1232	NE	NE	3.2	mg/kg	0.05 U	0.045 U	0.051 U	0.036 U	0.046 U	0.052 U	0.058 U	0.064 U	0.06 U	0.039 U
Aroclor 1242	NE	NE	3.2	mg/kg	0.05 U	0.045 U	0.051 U	0.036 U	0.046 U	0.052 U	0.058 U	0.064 U	0.06 U	0.039 U
Aroclor 1248	NE	NE	3.2	mg/kg	0.05 U	0.045 U	0.051 U	0.036 U	0.046 U	0.052 U	0.058 U	0.064 U	0.06 U	0.039 U
Aroclor 1254	NE	NE	3.2	mg/kg	0.12 U	0.11 U	0.12 U	0.086 U	0.11 U	0.13 U	0.14 U	0.15 U	0.14 U	0.094 U
Aroclor 1260	NE	NE	3.2	mg/kg	0.12 U	0.11 U	0.12 U	0.086 U	0.11 U	0.13 U	0.14 U	0.15 U	0.14 U	0.094 U
Total PCBs	25	1.0	3.2	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
U1 - The analyte was analyzed for, but was not detected substantially above the level reported in laboratory or field blanks.
J+ - Estimated concentration. Reported value may be biased high. Result is esitmated high
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
N J - The analyte detection if tentative in indentification and estimated in value.
B - Constituent was found in the blank and the sample.
R - Result rejected as determined by the data validator.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related QC is outside acceptance limits.
* - Laboratory Control Sample (LCS) or Laboratory Control Sample Duplicate (LCSD) is outside acceptance limits
NE - Not established.
ND - Not detected
(a) - Zoning determination based on review of City of Troy Official Zoning Map dated 12/19/16. Zoning classification for the Site is identified as Waterfront Trade District, which permits industrial usage of property.
(b) - Chromium analysis was for total chromium. To be conservative, total chromium concentrations were compared to hexavalent chromium SCOs.

Boxes and bolded values indicate concentrations are above New York State Subpart 375 Soil Cleanup Objectives for: Protection of Public Health for Industrially Zoned Properties, Protection of Ecological Resources, and/or Protection of Groundwater.

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-8 0-1 5/8/2015	SB-8 5-6.3 5/15/2015	SB-8 11-12 5/15/2015	SB-8 17-18.3 5/15/2015	SB-8 21-22.2 5/15/2015	SB-8 25-26.6 5/15/2015	SB-9 1-2 5/6/2015	SB-9 7-8.3 5/19/2015	SB-9 11-11.7 5/19/2015	SB-9 DUP 11-11.7 5/19/2015
Volatile Organic Compounds (VOCs)														
BTEX														
Benzene	89	70	0.06	mg/kg	0.00036 J	0.00033 UJ	0.00034 U	0.00024 U	0.00028 U	0.00032 U	0.00035 U	0.003 J	**580 J**	**3600 J**
Toluene	1000	36	0.7	mg/kg	0.00046 J	0.0005 UJ	0.00052 U	0.00037 U	0.00043 U	0.0005 U	0.00054 U	0.0023 J	**350 J**	**1900 J**
Ethylbenzene	780	NE	1	mg/kg	0.00069 U	0.00046 UJ	0.00047 U	0.00033 U	0.00039 U	0.00045 U	0.00049 U	0.00055 U	**6.3 J**	**29 J**
Xylenes, total	1000	0.26	1.6	mg/kg	0.0011 U	0.0011 UJ	0.0012 U	0.00081 U	0.00095 U	0.0011 U	0.0012 U	0.0013 U	**160 J**	**660 J**
Total BTEX	NE	NE	NE	mg/kg	0.00082 J	ND	ND	ND	ND	ND	ND	0.0053 J	1096 J	6189 J
Other VOCs														
1,1,1-Trichloroethane	1000	NE	0.68	mg/kg	0.00048 U	0.00048 UJ	0.0005 U	0.00035 U	0.00041 U	0.00048 U	0.00052 U	0.00058 U	1.8 U	1.8 U
1,1,2,2-Tetrachloroethane	NE	NE	NE	mg/kg	0.0011 U	0.0011 UJ	0.0011 U	0.00079 U	0.00092 U	0.0011 UJ	0.0012 U	0.0013 UJ	1 U	1 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NE	NE	NE	mg/kg	0.0015 U	0.0015 UJ	0.0016 U	0.0011 U	0.0013 U	0.0015 U	0.0016 U	0.0018 U	3.2 U	3.2 U
1,1,2-Trichloroethane	NE	NE	NE	mg/kg	0.00086 U	0.00087 UJ	0.00089 U	0.00063 U	0.00074 U	0.00086 U	0.00093 U	0.001 U	1.3 U	1.3 U
1,1-Dichloroethane	480	NE	0.27	mg/kg	0.00081 U	0.00081 UJ	0.00084 U	0.00059 U	0.00069 U	0.0008 U	0.00087 U	0.00097 U	2 U	2 U
1,1-Dichloroethene	1000	NE	0.33	mg/kg	0.00081 U	0.00082 UJ	0.00084 U	0.00059 U	0.0007 U	0.00081 U	0.00087 U	0.00097 U	2.2 U	2.2 U
1,2,4-Trichlorobenzene	NE	NE	NE	mg/kg	0.0036 J	0.00041 UJ	0.00042 U	0.00029 U	0.00035 U	0.0004 U	0.00043 U	0.00048 UJ	2.4 U	2.4 U
1,2-Dibromo-3-chloropropane (DBCP)	NE	NE	NE	mg/kg	0.0033 U	0.0033 UJ	0.0034 U	0.0024 U	0.0028 U	0.0033 U	0.0036 U	0.004 UJ	3.2 U	3.2 U
1,2-Dibromoethane (EDB)	NE	NE	NE	mg/kg	0.00085 U	0.00086 UJ	0.00088 U	0.00062 U	0.00073 U	0.00085 U	0.00092 U	0.001 U	1.1 U	1.1 U
1,2-Dichlorobenzene	1000	NE	1.1	mg/kg	0.00066 J	0.00052 UJ	0.00054 U	0.00038 U	0.00044 U	0.00052 U	0.00056 U	0.00062 UJ	1.6 U	1.6 U
1,2-Dichloroethane	60	10	0.02	mg/kg	0.00033 U	0.00033 UJ	0.00035 U	0.00024 U	0.00029 U	0.00033 U	0.00036 U	0.0004 U	2.6 U	2.6 U
1,2-Dichloropropane	NE	NE	NE	mg/kg	0.0033 U	0.0033 UJ	0.0034 U	0.0024 U	0.0028 U	0.0033 U	0.0036 U	0.004 U	1 U	1 U
1,3-Dichlorobenzene	560	NE	2.4	mg/kg	0.00034 U	0.00034 UJ	0.00035 U	0.00025 U	0.00029 U	0.00034 UJ	0.00037 U	0.00041 UJ	1.7 U	1.7 U
1,4-Dichlorobenzene	250	20	1.8	mg/kg	0.0014 J	0.00093 UJ	0.00096 U	0.00068 U	0.0008 U	0.00092 UJ	0.001 U	0.0011 UJ	0.89 U	0.89 U
2-Butanone (MEK)	1000	100	0.12	mg/kg	0.0024 U	0.0024 UJ	0.0025 U	0.0018 U	0.0021 U	0.0024 U	0.0026 U	0.0029 U	19 U	19 U
2-Hexanone	NE	NE	NE	mg/kg	0.0033 U	0.0033 UJ	0.0034 U	0.0024 U	0.0028 U	0.0033 U	0.0036 U	0.004 U	13 U	13 U
4-Methyl-2-pentanone (MIBK)	NE	NE	NE	mg/kg	0.0022 U	0.0022 UJ	0.0023 U	0.0016 U	0.0019 U	0.0022 U	0.0023 U	0.0026 U	2 U	2 U
Acetone	1000	2.2	0.05	mg/kg	0.0056 U	0.0056 UJ	0.0058 U	0.0041 U	0.028 U	0.05 U	0.006 U	0.04 U	26 U	26 U
Bromodichloromethane	NE	NE	NE	mg/kg	0.00089 U	0.00089 UJ	0.00092 U	0.00065 U	0.00076 U	0.00088 U	0.00096 U	0.0011 U	1.3 U	1.3 U
Bromoform	NE	NE	NE	mg/kg	0.0033 U	0.0033 UJ	0.0034 U	0.0024 U	0.0028 U	0.0033 U	0.0036 U	0.004 U	3.2 U	3.2 U
Bromomethane	NE	NE	NE	mg/kg	0.0006 U	0.0006 UJ	0.00062 U	0.00044 U	0.00051 U	0.00059 U	0.00064 U	0.00071 U	1.4 U	1.4 U
Carbon disulfide	NE	NE	NE	mg/kg	0.0033 U	0.0033 UJ	0.0034 U	0.0024 U	0.0028 U	0.0033 U	0.0036 U	0.004 U	2.9 UJ	8.9 J
Carbon tetrachloride	44	NE	0.76	mg/kg	0.00064 U	0.00064 UJ	0.00067 U	0.00047 U	0.00055 U	0.00064 U	0.00069 U	0.00077 U	1.6 U	1.6 U
Chlorobenzene	1000	40	1.1	mg/kg	0.00087 U	0.00088 UJ	0.00091 U	0.00064 U	0.00075 U	0.00087 U	0.00094 U	0.001 U	0.84 U	0.84 U
Chloroethane	NE	NE	NE	mg/kg	0.0015 U	0.0015 UJ	0.0016 U	0.0011 U	0.0013 U	0.0015 U	0.0016 U	0.0018 U	1.3 U	1.3 U
Chloroform	700	12	0.37	mg/kg	0.00041 U	0.00041 UJ	0.00043 U	0.0003 U	0.00035 U	0.00041 U	0.00044 U	0.00049 U	4.4 U	4.4 U
Chloromethane	NE	NE	NE	mg/kg	0.0004 U	0.0004 UJ	0.00042 U	0.00029 U	0.00034 U	0.0004 U	0.00043 U	0.00048 U	1.5 U	1.5 U
cis-1,2-Dichloroethene	1000	NE	0.25	mg/kg	0.00085 U	0.00085 UJ	0.00088 U	0.00062 U	0.00073 U	0.00084 U	0.00091 U	0.001 U	1.8 U	1.8 U
cis-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.00095 U	0.00096 UJ	0.00099 U	0.0007 U	0.00082 U	0.00095 U	0.001 U	0.0011 U	1.5 U	1.5 U
Cyclohexane	NE	NE	NE	mg/kg	0.00093 U	0.00093 UJ	0.00096 U	0.00068 U	0.0008 U	0.00092 U	0.001 U	0.0013 J	1.4 U	1.4 U
Dibromochloromethane	NE	NE	NE	mg/kg	0.00085 U	0.00085 UJ	0.00088 U	0.00062 U	0.00073 U	0.00084 UJ	0.00091 U	0.001 U	3.1 U	3.1 U
Dichlorodifluoromethane (Freon 12)	NE	NE	NE	mg/kg	0.00055 U	0.00055 UJ	0.00057 U	0.0004 U	0.00047 U	0.00054 U	0.00059 U	0.00065 U	2.8 U	2.8 U
Isopropylbenzene (Cumene)	NE	NE	NE	mg/kg	0.001 U	0.001 UJ	0.001 U	0.00073 U	0.00086 U	0.00099 U	0.0011 U	0.0041 J	33 J	130 J
Methyl acetate	NE	NE	NE	mg/kg	0.004 U	0.004 UJ	0.0042 U	0.0029 U	0.0034 U	0.004 U	0.0043 U	0.0048 U	3 U	3 U
Methylcyclohexane	NE	NE	NE	mg/kg	0.001 U	0.001 UJ	0.001 U	0.00074 U	0.00086 U	0.001 U	0.0011 U	0.005 J	3 UJ	8.6 J
Methylene chloride	1000	12	0.05	mg/kg	0.003 U	0.0031 UJ	0.0032 U	0.0022 U	0.0026 U	0.003 U	0.0033 U	0.0036 U	1.3 U	1.3 U
Styrene	NE	NE	NE	mg/kg	0.00033 U	0.00033 UJ	0.00034 U	0.00024 U	0.00028 U	0.00033 U	0.00036 U	0.00068 J	1.5 U	1.5 U
tert-Butyl methyl ether (MTBE)	1000	NE	0.93	mg/kg	0.00065 U	0.00065 UJ	0.00068 U	0.00048 U	0.00056 U	0.00065 U	0.0007 U	0.00078 U	2.4 U	2.4 U
Tetrachloroethene (PCE)	300	2	1.3	mg/kg	0.00089 U	0.00089 UJ	0.00092 U	0.00065 U	0.00076 U	0.00088 U	0.00096 U	0.0011 U	0.85 U	0.86 U
trans-1,2-Dichloroethene	1000	NE	0.19	mg/kg	0.00068 U	0.00069 UJ	0.00071 U	0.0005 U	0.00059 U	0.00068 U	0.00074 U	0.00082 U	1.5 U	1.5 U
trans-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.0029 U	0.0029 UJ	0.003 U	0.0021 U	0.0025 U	0.0029 U	0.0031 U	0.0035 U	0.63 U	0.63 U
Trichloroethene (TCE)	400	2	0.47	mg/kg	0.0015 U	0.0015 UJ	0.0015 U	0.0011 U	0.0012 U	0.0014 U	0.0016 U	0.0017 U	1.8 U	1.8 U
Trichlorofluoromethane (Freon 11)	NE	NE	NE	mg/kg	0.00063 U	0.00063 UJ	0.00065 U	0.00046 U	0.00054 U	0.00062 U	0.00067 U	0.00075 U	3 U	3 U
Vinyl chloride	27	NE	0.02	mg/kg	0.00081 U	0.00081 UJ	0.00084 U	0.00059 U	0.00069 U	0.0008 U	0.00087 U	0.00097 U	2.1 U	2.1 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-8 0-1 5/8/2015	SB-8 5-6.3 5/15/2015	SB-8 11-12 5/15/2015	SB-8 17-18.3 5/15/2015	SB-8 21-22.2 5/15/2015	SB-8 25-26.6 5/15/2015	SB-9 1-2 5/6/2015	SB-9 7-8.3 5/19/2015	SB-9 11-11.7 5/19/2015	SB-9 DUP 11-11.7 5/19/2015
Semi-volatile Organic Compounds (SVOCs)														
Polycyclic Aromatic Hydrocarbons (PAHs)														
Acenaphthene	1000	20	98	mg/kg	5.1 U	0.16 U	0.18 U	0.14 U	0.034 U	0.17 U	0.55 U	1.1 J	9.7 J	14 J
Acenaphthylene	1000	NE	107	mg/kg	4.5 U	0.14 U	0.16 U	0.12 U	0.03 U	0.15 U	3 J	20	48	61
Anthracene	1000	NE	1000	mg/kg	8.6 U	0.26 U	0.3 U	0.24 U	0.057 U	0.29 U	3.1 J	25	150	210
Benzo(a)anthracene	11	NE	1	mg/kg	3.5 U	0.58 J	0.25 J	0.096 U	0.023 U	0.12 U	**14**	**86**	**130**	**180**
Benzo(a)pyrene	1.1	2.6	22	mg/kg	5.1 U	0.24 J	0.18 U	0.14 U	0.034 U	0.17 U	**12**	**59**	**90**	**130**
Benzo(b)fluoranthene	11	NE	1.7	mg/kg	5.5 U	0.29 J	0.2 U	0.15 U	0.036 U	0.19 U	**14**	**87**	**110**	**160**
Benzo(g,h,i)perylene	1000	NE	1000	mg/kg	3.7 U	0.2 J	0.13 U	0.1 U	0.024 U	0.12 U	8.1	33	48	68
Benzo(k)fluoranthene	110	NE	1.7	mg/kg	4.5 U	0.16 J	0.16 U	0.12 U	0.03 U	0.15 U	**8.6**	**37**	**54**	**93**
Chrysene	110	NE	1	mg/kg	7.8 U	0.24 U	0.27 U	0.22 U	0.051 U	0.26 U	**12**	**79**	**110**	**160**
Dibenz(a,h)anthracene	1.1	NE	1000	mg/kg	6.1 U	0.19 U	0.22 U	0.17 U	0.041 U	0.21 U	**3 J**	0.69 U	**19 J**	6.8 U
Fluoranthene	1000	NE	1000	mg/kg	3.7 U	0.42 J	0.29 J	0.1 U	0.024 U	0.12 U	19	130	280	400
Fluorene	1000	30	386	mg/kg	4.1 U	0.12 U	0.14 U	0.11 U	0.027 U	0.14 U	1 J	11	**160**	**200**
Indeno(1,2,3-c,d)pyrene	11	NE	8.2	mg/kg	4.3 U	0.15 J	0.15 U	0.12 U	0.028 U	0.15 U	7.6	**40**	**53**	**78**
Naphthalene	1000	NE	12	mg/kg	4.5 U	0.23 J	0.16 U	0.12 U	0.03 U	0.15 U	1.9 J	4.7	**820**	**1200**
Phenanthrene	1000	NE	1000	mg/kg	5.1 U	0.72 J	0.39 J	0.14 U	0.034 U	0.17 U	11	90	440	610
Pyrene	1000	NE	1000	mg/kg	4.1 U	0.4 J	0.32 J	0.11 U	0.027 U	0.14 U	16	110	200	280
2-Methylnaphthalene	NE	NE	NE	mg/kg	6.9 U	0.35 J	0.25 U	0.19 U	0.046 U	0.24 U	1.3 J	2.8 J	160	210
Total PAHS	NE	NE	NE	mg/kg	ND	3.7 J	1.3 J	ND	ND	ND	136	816	2882	4054
Other SVOCs														
2,4,5-Trichlorophenol	NE	NE	NE	mg/kg	9.4 U	0.29 U	0.33 U	0.26 U	0.062 U	0.32 U	1 U	1.1 U	5.6 U	10 U
2,4,6-Trichlorophenol	NE	NE	NE	mg/kg	6.9 U	0.21 U	0.25 U	0.19 U	0.046 U	0.24 U	0.75 U	0.78 U	4.2 U	7.7 U
2,4-Dichlorophenol	NE	NE	NE	mg/kg	3.7 U	0.11 U	0.13 U	0.1 U	0.024 U	0.12 U	0.4 U	0.41 U	2.2 U	4.1 U
2,4-Dimethylphenol	NE	NE	NE	mg/kg	8.4 U	0.25 U	0.3 U	0.23 U	0.055 U	0.28 U	0.91 U	0.94 U	20 J	25 J
2,4-Dinitrophenol	NE	NE	NE	mg/kg	160 U	4.9 U	5.7 U	4.4 U	1.1 U	5.4 U	17 U	18 U	96 U	180 U
2,4-Dinitrotoluene	NE	NE	NE	mg/kg	7.2 U	0.22 U	0.25 U	0.2 U	0.047 U	0.24 U	0.77 U	0.8 U	4.3 U	8 U
2,6-Dinitrotoluene	NE	NE	NE	mg/kg	4.1 U	0.12 U	0.14 U	0.11 U	0.027 U	0.14 U	0.44 U	0.46 U	2.4 U	4.6 U
2-Chloronaphthalene	NE	NE	NE	mg/kg	5.7 U	0.17 U	0.2 U	0.16 U	0.038 U	0.19 U	0.62 U	0.64 U	3.4 U	6.4 U
2-Chlorophenol	NE	NE	NE	mg/kg	6.3 U	0.19 U	0.22 U	0.18 U	0.042 U	0.21 U	0.68 U	0.71 U	3.8 U	7.1 U
2-Methylphenol (o-cresol)	1000	NE	0.33	mg/kg	4.1 U	0.12 U	0.14 U	0.11 U	0.027 U	0.14 U	0.44 U	0.46 U	**15 J**	**18 J**
2-Nitroaniline	NE	NE	NE	mg/kg	5.1 U	0.16 U	0.18 U	0.14 U	0.034 U	0.17 U	0.55 U	0.57 U	3.1 U	5.7 U
2-Nitrophenol	NE	NE	NE	mg/kg	9.8 U	0.3 U	0.35 U	0.27 U	0.065 U	0.33 U	1.1 U	1.1 U	5.9 U	11 U
3,3'-Dichlorobenzidine	NE	NE	NE	mg/kg	41 U	1.2 U	1.4 U	1.1 U	0.27 U	1.4 U	4.4 U	4.6 U	24 U	46 U
3-Nitroaniline	NE	NE	NE	mg/kg	9.6 U	0.29 U	0.34 U	0.27 U	0.063 U	0.33 U	1 U	1.1 U	5.7 U	11 U
4,6-Dinitro-2-methylphenol	NE	NE	NE	mg/kg	35 U	1.1 U	1.2 U	0.96 U	0.23 U	1.2 U	3.8 U	3.9 U	21 U	39 U
4-Bromophenyl phenyl ether	NE	NE	NE	mg/kg	4.9 U	0.15 U	0.17 U	0.14 U	0.032 U	0.17 U	0.53 U	0.55 U	2.9 U	5.5 U
4-Chloro-3-methylphenol	NE	NE	NE	mg/kg	8.6 U	0.26 U	0.3 U	0.24 U	0.057 U	0.29 U	0.93 U	0.96 U	5.1 U	9.6 U
4-Chloroaniline	NE	NE	NE	mg/kg	8.6 U	0.26 U	0.3 U	0.24 U	0.057 U	0.29 U	0.93 U	0.96 U	5.1 U	9.6 U
4-Chlorophenyl phenyl ether	NE	NE	NE	mg/kg	4.3 U	0.13 U	0.15 U	0.12 U	0.028 U	0.15 U	0.46 U	0.48 U	2.6 U	4.8 U
4-Methylphenol	1000	NE	0.33	mg/kg	4.1 U	0.12 U	0.14 U	0.11 U	0.027 U	0.14 U	0.44 U	0.46 U	**39 J**	**50 J**
4-Nitroaniline	NE	NE	NE	mg/kg	18 U	0.55 U	0.64 U	0.51 U	0.12 U	0.62 U	2 U	2 U	11 U	20 U
4-Nitrophenol	NE	NE	NE	mg/kg	24 U	0.74 U	0.86 U	0.68 U	0.16 U	0.83 U	2.6 U	2.7 U	15 U	27 U
Acetophenone	NE	NE	NE	mg/kg	4.7 U	0.14 U	0.17 U	0.13 U	0.031 U	0.16 U	0.51 U	0.95 J	6.2 J	8.1 J
Atrazine	NE	NE	NE	mg/kg	12 U	0.37 U	0.43 U	0.33 U	0.08 U	0.41 U	1.3 U	1.3 U	7.2 U	13 U
Benzaldehyde	NE	NE	NE	mg/kg	28 U	0.84 U	0.98 U	0.77 U	0.18 U	0.94 U	3 U	3.1 U	17 U	31 U
Benzyl butyl phthalate	NE	NE	NE	mg/kg	5.7 U	0.17 U	0.2 U	0.16 U	0.038 U	0.19 U	0.62 U	0.64 U	3.4 U	6.4 U
Biphenyl (Diphenyl)	NE	NE	NE	mg/kg	5.1 U	0.16 U	0.18 U	0.14 U	0.034 U	0.17 U	0.55 U	0.82 J	23	31 J
bis(2-Chloroethoxy)methane	NE	NE	NE	mg/kg	7.4 U	0.22 U	0.26 U	0.2 U	0.049 U	0.25 U	0.8 U	0.82 U	4.4 U	8.2 U
bis(2-Chloroethyl)ether	NE	NE	NE	mg/kg	4.5 U	0.14 U	0.16 U	0.12 U	0.03 U	0.15 U	0.49 U	0.5 U	2.7 U	5 U
bis(2-Chloroisopropyl)ether	NE	NE	NE	mg/kg	6.9 U	0.21 U	0.25 U	0.19 U	0.046 U	0.24 U	0.75 U	0.78 U	4.2 U	7.7 U
bis(2-Ethylhexyl)phthalate	NE	NE	NE	mg/kg	12 U	0.36 U	0.42 U	0.33 U	0.078 U	0.4 U	1.3 U	1.3 U	7.1 U	13 U
Caprolactam	NE	NE	NE	mg/kg	10 U	0.32 U	0.37 U	0.29 U	0.069 U	0.35 U	1.1 U	1.2 U	6.2 U	12 U
Carbazole	NE	NE	NE	mg/kg	4.1 U	0.12 U	0.14 U	0.11 U	0.027 U	0.14 U	1.1 J	15	61	83
Dibenzofuran	1000	NE	210	mg/kg	4.1 U	0.13 J	0.14 U	0.11 U	0.027 U	0.14 U	1.1 J	6.5	100	140
Diethyl phthalate	NE	NE	NE	mg/kg	4.5 U	0.14 U	0.16 U	0.12 U	0.03 U	0.15 U	0.49 U	0.5 U	2.7 U	5 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-8 0-1 5/8/2015	SB-8 5-6.3 5/15/2015	SB-8 11-12 5/15/2015	SB-8 17-18.3 5/15/2015	SB-8 21-22.2 5/15/2015	SB-8 25-26.6 5/15/2015	SB-9 1-2 5/6/2015	SB-9 7-8.3 5/19/2015	SB-9 11-11.7 5/19/2015	SB-9 DUP 11-11.7 5/19/2015
Dimethyl phthalate	NE	NE	NE	mg/kg	4.1 U	0.12 U	0.14 U	0.11 U	0.027 U	0.14 U	0.44 U	0.46 U	2.4 U	4.6 U
dl-n-Butyl phthalate	NE	NE	NE	mg/kg	5.9 U	0.18 U	0.21 U	0.16 U	0.039 U	0.2 U	0.64 U	0.66 U	3.5 U	6.6 U
dl-n-Octyl phthalate	NE	NE	NE	mg/kg	4.1 U	0.12 U	0.14 U	0.11 U	0.027 U	0.14 U	0.44 U	0.46 U	2.4 U	4.6 U
Hexachlorobenzene	12	NE	3.2	mg/kg	4.7 U	0.14 U	0.17 U	0.13 U	0.031 U	0.16 U	0.51 U	0.53 U	2.8 U	5.2 U
Hexachlorobutadiene	NE	NE	NE	mg/kg	5.1 U	0.16 U	0.18 U	0.14 U	0.034 U	0.17 U	0.55 U	0.57 U	3.1 U	5.7 U
Hexachlorocyclopentadiene	NE	NE	NE	mg/kg	4.7 U	0.14 U	0.17 U	0.13 U	0.031 U	0.16 U	0.51 U	0.53 U	2.8 U	5.2 U
Hexachloroethane	NE	NE	NE	mg/kg	4.5 U	0.14 U	0.16 U	0.12 U	0.03 U	0.15 U	0.49 U	0.5 U	2.7 U	5 U
Isophorone	NE	NE	NE	mg/kg	7.4 U	0.22 U	0.26 U	0.2 U	0.049 U	0.25 U	0.8 U	0.82 U	4.4 U	8.2 U
Nitrobenzene	NE	NE	NE	mg/kg	3.9 U	0.12 U	0.14 U	0.11 U	0.026 U	0.13 U	0.42 U	0.43 U	2.3 U	4.3 U
N-Nitroso-di-n-propylamine	NE	NE	NE	mg/kg	5.9 U	0.18 U	0.21 U	0.16 U	0.039 U	0.2 U	0.64 U	0.66 U	3.5 U	6.6 U
N-Nitrosodiphenylamine	NE	NE	NE	mg/kg	28 U	0.86 U	1 U	0.78 U	0.19 U	0.96 U	3 U	3.2 U	17 U	31 U
Pentachlorophenol	55	0.8	0.8	mg/kg	35 U	1.1 U	1.2 U	0.96 U	0.23 U	1.2 U	3.8 U	3.9 UJ	21 UJ	39 UJ
Phenol	1000	30	0.33	mg/kg	5.3 U	0.16 U	0.19 U	0.15 U	0.035 U	0.18 U	0.57 U	0.59 U	**29**	**32 J**
Inorganic Constituents														
Cyanide, total	10000	NE	40	mg/kg	0.49 U	0.6 U	0.7 U	0.55 U	0.65 U	0.67 U	1.6	3.5	1.3	2.1
Aluminum	NE	NE	NE	mg/kg	11700	2790	4520	2460	16400	9370	3410	2910	7210 J	3540 J
Antimony	NE	NE	NE	mg/kg	2 U	3.1 J	2.9 U	3 J	0.9 J	0.54 U	3.6 J	0.78 J	0.5 U	0.5 U
Arsenic	16	13	16	mg/kg	9 J	12.7	**25.1**	**14.5**	6.9	3.7	**47.2**	7.6	7.9	9.6
Barium	10000	433	820	mg/kg	209	38.8	46.8	16.8	133	78.3	53.3	36.5	53.1	40.5
Beryllium	2700	10	47	mg/kg	1.8	0.87 J	0.51 J	1.4	0.85	0.5	0.59	0.22 J	0.85 J	0.31 J
Cadmium	60	4	7.5	mg/kg	0.15 U	0.17 U	0.22 U	0.17 U	0.21 J	0.16 J	0.15 J	0.035 U	0.19 J	0.056 J
Calcium	NE	NE	NE	mg/kg	48100 B	4970 B	5100 B	6760 B	23700 B	2630 B	2510 B	764 B	9700 J	4410 J
Chromium[b]	800	1	19	mg/kg	**20.4**	**15.1**	**11.9**	**37**	**20.6**	**11.1**	**34.2**	**12**	**14.9**	**13.7**
Cobalt	NE	NE	NE	mg/kg	5.2	16.1	9.9	7.9	17.7	9	6	5.6	11.8	7.1
Copper	10000	50	1720	mg/kg	41.3	**52.2**	26.5	13	32.9	10.5	41.8	36.2	45.1	45.7
Iron	NE	NE	NE	mg/kg	48000 B	60200 B	21500 B	159000 B	39800 B	13600 B	89500 B	23100 B	22900 B	24600 B
Lead	3900	63	450	mg/kg	**110**	46.2	29.2	14.7	19.2	6.8	**126**	55.9	53.9	**77.2**
Magnesium	NE	NE	NE	mg/kg	5500	618	1500	826	8070	3330	779 B	907	2640	1470
Manganese	10000	1600	2000	mg/kg	**2100 B**	1010	905	1450	1050	166	534 B	213	364 J	297 J
Nickel	10000	30	130	mg/kg	16.1 J	12.6	19.6	9.4	**33**	14.6	19	10.8	27.9 J	14.3 J
Potassium	NE	NE	NE	mg/kg	1670	374	961	221	3350	1110	683	749	1720 J	922 J
Selenium	6800	3.9	4	mg/kg	2 U	23.3 U	2.9 U	22 U	5.2 U	0.54 U	2.8 J	0.56 J	0.64 J	0.7 J
Silver	6800	2	8.3	mg/kg	1 U	1.2 U	1.4 U	1.1 U	0.26 U	0.27 U	0.44 U	0.23 U	0.25 U	0.25 U
Sodium	NE	NE	NE	mg/kg	1210 U	124 J	1010 U	770 U	255 U	316 U	183 U	162 U	640 U	527 U
Thallium	NE	NE	NE	mg/kg	1.5 U	0.35 U	0.43 U	1.7 U	0.39 U	0.4 U	0.33 U	0.35 U	0.37 U	0.38 U
Vanadium	NE	NE	NE	mg/kg	65.7	61.8	24.6	143	28.9	14.8	56.6	20.3	21.5	20.3
Zinc	10000	109	2480	mg/kg	**311 B**	37.9 B	25.7 B	21.5 B	64.4 B	49.7 B	82.5 B	26.4 B	72.2 B	51.5 B
Mercury	5.7	0.18	0.73	mg/kg	0.11	0.057	0.012 J	0.012 J	0.029	0.015 J	0.14 F1	**0.3**	0.11 J	**0.28 J**
Pesticides														
4,4'-DDD	180	0.0033	14	mg/kg	0.016 UF1	0.0004 U	0.00046 U	0.00037 U	0.00044 U	0.00045 U	0.018 U	0.015 U	**0.038 J**	0.019 U
4,4'-DDE	120	0.0033	17	mg/kg	0.018 U	0.00043 U	0.0005 U	0.00039 U	0.00048 U	0.00067 J	0.019 U	0.016 U	0.022 U	0.02 U
4,4'-DDT	94	0.0033	136	mg/kg	0.02 U	0.00048 U	0.00056 U	0.00044 U	0.00053 U	0.00054 U	0.022 U	**0.035 J**	**0.048 J**	**0.04 NJ**
Aldrin	1.4	0.14	0.19	mg/kg	0.021 U	0.00051 U	0.00059 U	0.00046 U	0.00056 U	0.00056 U	0.023 U	0.019 U	0.026 U	0.023 U
alpha Endosulfan (Endosulfan I)	920	NE	102	mg/kg	0.016 UF1	0.0004 U	0.00046 U	0.00036 U	0.00044 U	0.00044 U	0.018 U	0.014 U	0.02 U	0.018 U
beta Endosulfan (Endosulfan II)	920	NE	102	mg/kg	0.015 UF1	0.00037 U	0.00043 U	0.00034 U	0.00041 U	0.00041 U	0.017 U	0.014 U	0.019 U	0.017 U
BHC, alpha	6.8	0.04	0.02	mg/kg	0.015 UF1	0.0021 U	0.00043 U	0.00034 U	0.00041 U	0.00041 U	0.017 U	0.014 U	0.1 U	0.096 U
BHC, beta	14	0.6	0.09	mg/kg	0.015 UF1	0.0021 U	0.0024 U	0.00034 U	0.00041 U	0.00041 U	0.017 U	0.014 U	0.1 U	0.096 U
BHC, delta	1000	0.04	0.25	mg/kg	0.016 UF1	0.00038 U	0.00044 U	0.00035 U	0.00042 U	0.00043 U	0.017 U	0.014 U	0.031	0.026 J
BHC, gamma (Lindane)	23	6	0.1	mg/kg	0.016 UF1	0.00038 U	0.00044 U	0.00035 U	0.00042 U	0.00042 U	0.017 U	0.014 U	0.019 U	0.018 U
Chlordane, alpha	47	1.3	2.9	mg/kg	0.042 U	0.001 U	0.0012 U	0.00094 U	0.0011 U	0.0011 U	0.046 U	0.038 U	0.052 U	0.048 U
Chlordane, beta	NE	NE	NE	mg/kg	0.027 U	0.00066 U	0.00076 U	0.0006 U	0.00073 U	0.00073 U	0.041 J	0.024 U	0.033 U	0.03 U
Dieldrin	2.8	0.006	0.1	mg/kg	0.02 U	0.0005 U	0.00057 U	0.00045 U	0.00055 U	0.00055 U	0.022 U	0.018 U	0.025 U	0.023 U
Endosulfan sulfate	920	NE	1000	mg/kg	0.016 UF1	0.00039 U	0.00045 U	0.00035 U	0.00043 U	0.00043 U	0.017 U	0.014 U	0.11 U	0.096 U
Endrin	410	0.014	0.06	mg/kg	0.017 UF1	0.00041 U	0.00047 U	0.00037 U	0.00045 U	0.00045 U	0.018 U	0.015 U	0.021 U	0.019 U
Endrin aldehyde	NE	NE	NE	mg/kg	0.022 U	0.00053 U	0.00061 U	0.00048 U	0.00058 U	0.0011 J	0.023 U	0.019 U	0.027 U	0.024 U
Endrin ketone	NE	NE	NE	mg/kg	0.021 U	0.0027 NJ	0.00059 U	0.00046 U	0.00056 U	0.00056 U	0.023 U	0.084	0.072 J	0.051 J

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[(a)]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-8 0-1 5/8/2015	SB-8 5-6.3 5/15/2015	SB-8 11-12 5/15/2015	SB-8 17-18.3 5/15/2015	SB-8 21-22.2 5/15/2015	SB-8 25-26.6 5/15/2015	SB-9 1-2 5/6/2015	SB-9 7-8.3 5/19/2015	SB-9 11-11.7 5/19/2015	SB-9 DUP 11-11.7 5/19/2015
Heptachlor	29	0.14	0.38	mg/kg	0.018 U	0.00045 U	0.00052 U	0.00041 U	0.00049 U	0.0005 U	0.02 U	0.016 U	0.023 U	0.021 U
Heptachlor epoxide	NE	NE	NE	mg/kg	0.022 U	0.00053 U	0.00062 U	0.00049 U	0.00059 U	0.00059 U	0.024 U	0.019 U	0.027 U	0.025 U
Methoxychlor	NE	NE	NE	mg/kg	0.017 UF1	0.00042 U	0.00049 U	0.00038 U	0.00047 U	0.00047 U	0.019 U	0.55 U	0.44 J	0.3 NJ
Toxaphene	NE	NE	NE	mg/kg	0.49 U	0.012 U	0.014 U	0.011 U	0.013 U	0.013 U	0.53 U	0.44 U	0.61 U	0.56 U
Polychlorinated Biphenyls (PCBs)														
Aroclor 1016	NE	NE	3.2	mg/kg	0.044 U	0.045 U	0.054 U	0.046 U	0.063 U	0.059 U	0.051 U	0.053 U	0.059 U	0.047 U
Aroclor 1221	NE	NE	3.2	mg/kg	0.044 U	0.045 U	0.054 U	0.046 U	0.063 U	0.059 U	0.051 U	0.053 U	0.059 U	0.047 U
Aroclor 1232	NE	NE	3.2	mg/kg	0.044 U	0.045 U	0.054 U	0.046 U	0.063 U	0.059 U	0.051 U	0.053 U	0.059 U	0.047 U
Aroclor 1242	NE	NE	3.2	mg/kg	0.044 U	0.045 U	0.054 U	0.046 U	0.063 U	0.059 U	0.051 U	0.053 U	0.059 U	0.047 U
Aroclor 1248	NE	NE	3.2	mg/kg	0.044 U	0.045 U	0.054 U	0.046 U	0.063 U	0.059 U	0.051 U	0.053 U	0.059 U	0.047 U
Aroclor 1254	NE	NE	3.2	mg/kg	0.11 U	0.11 U	0.13 U	0.11 U	0.15 U	0.14 U	0.12 U	0.13 U	0.14 U	0.11 U
Aroclor 1260	NE	NE	3.2	mg/kg	0.11 U	0.11 U	0.13 U	0.11 U	0.15 U	0.14 U	0.12 U	0.13 U	0.14 U	0.11 U
Total PCBs	25	1.0	3.2	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
U1 - The analyte was analyzed for, but was not detected substantially above the level reported in laboratory or field blanks.
J+ - Estimated concentration. Reported value may be biased high. Result is esitmated high
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
N J - The analyte detection if tentative in indentification and estimated in value.
B - Constituent was found in the blank and the sample.
R - Result rejected as determined by the data validator.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related QC is outside acceptance limits.
* - Laboratory Control Sample (LCS) or Laboratory Control Sample Duplicate (LCSD) is outside acceptance limits
NE - Not established.
ND - Not detected
(a) - Zoning determination based on review of City of Troy Official Zoning Map dated 12/19/16. Zoning classification for the Site is identified as Waterfront Trade District, which permits industrial usage of property.
(b) - Chromium analysis was for total chromium. To be conservative, total chromium concentrations were compared to hexavalent chromium SCOs.

Boxes and bolded values indicate concentrations are above New York State Subpart 375 Soil Cleanup Objectives for: Protection of Public Health for Industrially Zoned Properties, Protection of Ecological Resources, and/or Protection of Groundwater.

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-9 17-18.8 5/19/2015	SB-9 23-24.3 5/19/2015	SB-9 29-29.6 5/19/2015	SB-9 35-36.2 5/19/2015	SB-10 5-6.2 1/25/2017	SB-10 9-10 1/25/2017	SB-10 15-16 1/25/2017	SB-10 19-20.7 1/25/2017	SB-10 25-26.5 1/25/2017	SB-10 31-32.4 1/25/2017
Volatile Organic Compounds (VOCs)														
BTEX														
Benzene	89	70	0.06	mg/kg	0.005	0.02	0.011	0.0068 UJ	0.00019 U	0.00045 J	0.00016 U	0.00022 U	0.00021 U	0.0061 UJ
Toluene	1000	36	0.7	mg/kg	0.00092 J	0.0048 J	0.0033 J	0.0068 UJ	0.0003 U	0.00056 J	0.00024 U	0.00034 U	0.00033 U	0.0061 UJ
Ethylbenzene	780	NE	1	mg/kg	0.00033 U	0.00049 U	0.00036 U	0.00047 UJ	0.00027 U	0.0004 UJ	0.00022 U	0.00031 U	0.0003 U	0.0061 UJ
Xylenes, total	1000	0.26	1.6	mg/kg	0.00081 U	0.0012 U	0.0011 J	0.0011 UJ	0.00067 U	0.00098 UJ	0.00054 U	0.00076 U	0.00073 U	0.012 UJ
Total BTEX	NE	NE	NE	mg/kg	0.0059	0.025	0.015	ND	ND	0.0010 J	ND	ND	ND	ND
Other VOCs														
1,1,1-Trichloroethane	1000	NE	0.68	mg/kg	0.00035 U	0.00052 U	0.00038 U	0.0005 UJ	0.00029 U	0.00042 U	0.00023 U	0.00033 U	0.00031 U	0.0061 UJ
1,1,2,2-Tetrachloroethane	NE	NE	NE	mg/kg	0.00078 U	0.0012 UJ	0.00084 U	0.0011 UJ	0.00064 U	0.00094 UJ	0.00052 U	0.00073 U	0.0007 U	0.0061 UJ
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NE	NE	NE	mg/kg	0.0011 U	0.0016 U	0.0012 U	0.0016 UJ	0.00091 U	0.0013 U	0.00073 U	0.001 U	0.00099 U	0.0061 UJ
1,1,2-Trichloroethane	NE	NE	NE	mg/kg	0.00063 U	0.00092 U	0.00067 U	0.00089 UJ	0.00052 U	0.00076 UJ	0.00042 U	0.00059 U	0.00056 U	0.0061 UJ
1,1-Dichloroethane	480	NE	0.27	mg/kg	0.00059 U	0.00087 U	0.00063 U	0.00083 UJ	0.00048 U	0.00071 U	0.00039 U	0.00055 U	0.00053 U	0.0061 UJ
1,1-Dichloroethene	1000	NE	0.33	mg/kg	0.00059 U	0.00087 U	0.00063 U	0.00084 UJ	0.00049 U	0.00071 U	0.00039 U	0.00055 U	0.00053 U	0.0061 UJ
1,2,4-Trichlorobenzene	NE	NE	NE	mg/kg	0.00029 U	0.00043 UJ	0.00031 U	0.00042 UJ	0.00024 U	0.00035 UJ	0.00019 U	0.00028 U	0.00026 U	0.0061 UJ
1,2-Dibromo-3-chloropropane (DBCP)	NE	NE	NE	mg/kg	0.0024 U	0.0035 UJ	0.0026 U	0.0034 UJ	0.002 U	0.0029 UJ	0.0016 U	0.0023 U	0.0022 U	0.0061 UJ
1,2-Dibromoethane (EDB)	NE	NE	NE	mg/kg	0.00062 U	0.00091 U	0.00066 U	0.00088 UJ	0.00051 U	0.00075 UJ	0.00041 U	0.00058 U	0.00056 U	0.0061 UJ
1,2-Dichlorobenzene	1000	NE	1.1	mg/kg	0.00038 U	0.00055 UJ	0.0004 U	0.00053 UJ	0.00031 U	0.00046 UJ	0.00025 U	0.00035 U	0.00034 U	0.0061 UJ
1,2-Dichloroethane	60	10	0.02	mg/kg	0.00024 U	0.00036 U	0.00026 U	0.00034 UJ	0.0002 U	0.00029 U	0.00016 U	0.00023 U	0.00022 U	0.0061 UJ
1,2-Dichloropropane	NE	NE	NE	mg/kg	0.0024 U	0.0035 U	0.0026 U	0.0034 UJ	0.002 U	0.0029 U	0.0016 U	0.0023 U	0.0022 U	0.0061 UJ
1,3-Dichlorobenzene	560	NE	2.4	mg/kg	0.00025 U	0.00036 UJ	0.00027 U	0.00035 UJ	0.0002 U	0.0003 UJ	0.00016 U	0.00023 U	0.00022 U	0.0061 UJ
1,4-Dichlorobenzene	250	20	1.8	mg/kg	0.00068 U	0.00099 UJ	0.00072 U	0.00096 UJ	0.00056 U	0.00093 J	0.00045 U	0.00063 U	0.00061 U	0.0061 UJ
2-Butanone (MEK)	1000	100	0.12	mg/kg	0.0018 U	0.0026 U	0.0019 U	0.0025 UJ	0.0015 U	0.0021 U	0.0012 U	0.0077 J	0.0089 J	0.0057 J
2-Hexanone	NE	NE	NE	mg/kg	0.0024 U	0.0035 U	0.0026 U	0.0034 UJ	0.002 U	0.0029 UJ	0.0016 U	0.0023 U	0.0022 U	0.031 UJ
4-Methyl-2-pentanone (MIBK)	NE	NE	NE	mg/kg	0.0016 U	0.0023 U	0.0017 U	0.0022 UJ	0.0013 U	0.0019 UJ	0.0011 U	0.0015 U	0.0014 U	0.031 UJ
Acetone	1000	2.2	0.05	mg/kg	0.024 U	0.006 U	0.026 U	0.034 UJ	0.0033 U	0.014 U1	0.0092 U1	0.05 J+	0.041 J+	**0.057 J+**
Bromodichloromethane	NE	NE	NE	mg/kg	0.00065 U	0.00095 U	0.00069 U	0.00092 UJ	0.00053 U	0.00078 U	0.00043 U	0.00061 U	0.00058 U	0.0061 UJ
Bromoform	NE	NE	NE	mg/kg	0.0024 U	0.0035 U	0.0026 U	0.0034 UJ	0.002 U	0.0029 UJ	0.0016 U	0.0023 U	0.0022 U	0.0061 UJ
Bromomethane	NE	NE	NE	mg/kg	0.00044 U	0.00064 U	0.00047 U	0.00062 UJ	0.00036 U	0.00052 U	0.00029 U	0.00041 U	0.00039 U	0.0061 UJ
Carbon disulfide	NE	NE	NE	mg/kg	0.0024 U	0.0035 U	0.0026 U	0.0034 UJ	0.002 U	0.0029 U	0.0016 U	0.0023 U	0.0022 U	0.0061 UJ
Carbon tetrachloride	44	NE	0.76	mg/kg	0.00047 U	0.00069 U	0.0005 U	0.00066 UJ	0.00038 U	0.00056 U	0.00031 U	0.00044 U	0.00042 U	0.0061 UJ
Chlorobenzene	1000	40	1.1	mg/kg	0.00064 U	0.00094 U	0.00068 U	0.0009 UJ	0.00052 U	0.00077 UJ	0.00042 U	0.0006 U	0.00057 U	0.0061 UJ
Chloroethane	NE	NE	NE	mg/kg	0.0011 U	0.0016 U	0.0012 U	0.0015 UJ	0.0009 U	0.0013 U	0.00072 U	0.001 U	0.00098 U	0.0061 UJ
Chloroform	700	12	0.37	mg/kg	0.0003 U	0.00044 U	0.00032 U	0.00042 UJ	0.00025 U	0.00036 U	0.0002 U	0.00028 U	0.00027 U	0.0061 UJ
Chloromethane	NE	NE	NE	mg/kg	0.00029 U	0.00043 U	0.00031 U	0.00041 UJ	0.00024 UJ	0.00035 UJ	0.00019 UJ	0.00027 UJ	0.00026 UJ	0.0061 UJ
cis-1,2-Dichloroethene	1000	NE	0.25	mg/kg	0.00062 U	0.00091 U	0.00066 U	0.00088 UJ	0.00051 U	0.00075 U	0.00041 U	0.00058 U	0.00055 U	0.0061 UJ
cis-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.0007 U	0.001 U	0.00075 U	0.00099 UJ	0.00057 U	0.00084 U	0.00046 U	0.00065 U	0.00062 U	0.0061 UJ
Cyclohexane	NE	NE	NE	mg/kg	0.00068 U	0.00099 U	0.00072 U	0.00096 UJ	0.00056 U	0.00082 U	0.00045 U	0.00063 U	0.00061 U	0.0061 UJ
Dibromochloromethane	NE	NE	NE	mg/kg	0.00062 U	0.00091 U	0.00066 U	0.00088 UJ	0.00051 U	0.00075 UJ	0.00041 U	0.00058 U	0.00055 U	0.0061 UJ
Dichlorodifluoromethane (Freon 12)	NE	NE	NE	mg/kg	0.0004 U	0.00059 U	0.00043 U	0.00057 UJ	0.00033 U	0.00048 U	0.00026 U	0.00037 U	0.00036 U	0.0061 UJ
Isopropylbenzene (Cumene)	NE	NE	NE	mg/kg	0.00073 U	0.0011 UJ	0.002 J	0.013 J	0.0006 U	0.00088 UJ	0.00048 U	0.008 J	0.00065 U	0.0061 UJ
Methyl acetate	NE	NE	NE	mg/kg	0.0029 U	0.0043 U	0.0031 U	0.0041 UJ	0.0024 U	0.0035 U	0.0019 U	0.0027 U	0.0026 U	0.031 UJ
Methylcyclohexane	NE	NE	NE	mg/kg	0.00073 U	0.0011 U	0.00079 U	0.001 UJ	0.0006 U	0.00089 U	0.00049 U	0.01 J	0.00066 U	0.0061 UJ
Methylene chloride	1000	12	0.05	mg/kg	0.0022 U	0.0033 U	0.0024 U	0.0031 UJ	0.0018 U	0.0027 U	0.0015 U	0.0021 U	0.002 U	0.0061 UJ
Styrene	NE	NE	NE	mg/kg	0.00024 U	0.00035 U	0.00026 U	0.00034 UJ	0.0002 U	0.00029 UJ	0.00016 U	0.00023 U	0.00022 U	0.0061 UJ
tert-Butyl methyl ether (MTBE)	1000	NE	0.93	mg/kg	0.00047 U	0.0007 U	0.00051 U	0.00067 UJ	0.00039 U	0.00057 U	0.00031 U	0.00044 U	0.00043 U	0.0061 UJ
Tetrachloroethene (PCE)	300	2	1.3	mg/kg	0.00065 U	0.00095 U	0.00069 U	0.00092 UJ	0.00053 U	0.00078 UJ	0.00043 U	0.00061 U	0.00058 U	0.0061 UJ
trans-1,2-Dichloroethene	1000	NE	0.19	mg/kg	0.0005 U	0.00073 U	0.00053 U	0.00071 UJ	0.00041 U	0.0006 U	0.00033 U	0.00047 U	0.00045 U	0.0061 UJ
trans-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.0021 U	0.0031 U	0.0023 U	0.003 UJ	0.0017 U	0.0026 UJ	0.0014 U	0.002 U	0.0019 U	0.0061 UJ
Trichloroethene (TCE)	400	2	0.47	mg/kg	0.0011 U	0.0016 U	0.0011 U	0.0015 UJ	0.00087 U	0.0013 UJ	0.00071 U	0.001 U	0.00095 U	0.0061 UJ
Trichlorofluoromethane (Freon 11)	NE	NE	NE	mg/kg	0.00046 U	0.00067 U	0.00049 U	0.00065 UJ	0.00038 U	0.00055 U	0.0003 U	0.00043 U	0.00041 U	0.0061 UJ
Vinyl chloride	27	NE	0.02	mg/kg	0.00059 U	0.00087 U	0.00063 U	0.00083 UJ	0.00048 UJ	0.00071 UJ	0.00039 UJ	0.00055 UJ	0.00053 UJ	0.0061 UJ

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-9 17-18.8 5/19/2015	SB-9 23-24.3 5/19/2015	SB-9 29-29.6 5/19/2015	SB-9 35-36.2 5/19/2015	SB-10 5-6.2 1/25/2017	SB-10 9-10 1/25/2017	SB-10 15-16 1/25/2017	SB-10 19-20.7 1/25/2017	SB-10 25-26.5 1/25/2017	SB-10 31-32.4 1/25/2017
Semi-volatile Organic Compounds (SVOCs)														
Polycyclic Aromatic Hydrocarbons (PAHs)														
Acenaphthene	1000	20	98	mg/kg	1.4 U	0.17 U	0.14 U	0.2 J	0.15 U	0.14 U	0.13 U	0.16 U	0.18 J	0.27 U
Acenaphthylene	1000	NE	107	mg/kg	1.3 U	0.15 U	0.13 U	0.13 U	0.18 J	0.12 U	0.11 U	0.14 U	0.14 U	0.27 U
Anthracene	1000	NE	1000	mg/kg	2.4 U	0.28 U	0.24 U	0.37 JF2	0.39 J	0.23 U	0.21 U	0.27 U	0.47 J	0.27 U
Benzo(a)anthracene	11	NE	1	mg/kg	0.98 U	0.18 J	0.26 J	0.99 JF1F2	**1.4 J**	0.26 J	0.28 J	0.11 U	0.74 J	0.078 J
Benzo(a)pyrene	1.1	2.6	22	mg/kg	1.4 U	0.17 U	0.19 J	0.91 JF1F2	1.1 J	0.24 J	0.21 J	0.16 U	0.54 J	0.08 J
Benzo(b)fluoranthene	11	NE	1.7	mg/kg	1.6 U	0.18 U	0.26 J	0.96 JF1F2	1.5 J	0.32 J	0.25 J	0.18 U	0.61 J	0.14 J
Benzo(g,h,i)perylene	1000	NE	1000	mg/kg	1 U	0.12 U	0.13 J	0.47 JF2	0.65 J	0.16 J	0.13 J	0.12 U	0.25 J	0.098 J
Benzo(k)fluoranthene	110	NE	1.7	mg/kg	1.3 U	0.15 U	0.13 U	0.47 JF2	0.75 J	0.14 J	0.17 J	0.14 U	0.29 J	0.27 U
Chrysene	110	NE	1	mg/kg	2.2 U	0.25 U	0.28 J	1 F1F2	**1.3 J**	0.29 J	0.3 J	0.25 U	0.7 J	0.27 U
Dibenz(a,h)anthracene	1.1	NE	1000	mg/kg	1.7 U	0.2 U	0.17 U	0.18 U	0.18 U	0.17 U	0.15 U	0.2 U	0.19 U	0.13 J
Fluoranthene	1000	NE	1000	mg/kg	1 J	0.22 J	0.45 J	1.9 F1F2	2.4 J	0.4 J	0.53 J	0.12 U	1.1 J	0.12 J
Fluorene	1000	30	386	mg/kg	1.2 U	0.13 U	0.12 U	0.15 J	0.17 J	0.11 U	0.1 U	0.16 J	0.34 J	0.042 J
Indeno(1,2,3-c,d)pyrene	11	NE	8.2	mg/kg	1.2 U	0.14 U	0.12 U	0.42 JF2	0.62 J	0.16 J	0.12 J	0.14 U	0.24 J	0.14 J
Naphthalene	1000	NE	12	mg/kg	1.3 J	0.54 J	1	0.21 J	0.17 J	0.12 U	0.11 U	0.14 U	0.14 U	0.27 U
Phenanthrene	1000	NE	1000	mg/kg	1.4 J	0.29 J	0.36 J	0.77 JF1F2	1.4 J	0.29 J	0.39 J	0.25 J	1.1 J	0.087 J
Pyrene	1000	NE	1000	mg/kg	1.2 U	0.19 J	0.43 J	1.8 F1F2	2 J	0.32 J	0.42 J	0.13 U	0.9 J	0.27 U
2-Methylnaphthalene	NE	NE	NE	mg/kg	2 U	0.22 U	0.2 U	0.2 U	0.2 U	0.19 U	0.17 U	0.22 U	0.24 J	0.27 U
Total PAHS	NE	NE	NE	mg/kg	3.7 J	1.4 J	3.4	11	14 J	2.6 J	2.8 J	0.41 J	7.7 J	0.92 J
Other SVOCs														
2,4,5-Trichlorophenol	NE	NE	NE	mg/kg	2.7 U	0.3 U	0.26 U	0.27 U	0.28 U	0.26 U	0.23 U	0.3 U	0.29 U	0.27 U
2,4,6-Trichlorophenol	NE	NE	NE	mg/kg	2 U	0.22 U	0.2 U	0.2 U	0.2 U	0.19 U	0.17 U	0.22 U	0.21 U	0.27 U
2,4-Dichlorophenol	NE	NE	NE	mg/kg	1 U	0.12 U	0.1 U	0.11 U	0.11 U	0.1 U	0.091 U	0.12 U	0.11 U	0.27 U
2,4-Dimethylphenol	NE	NE	NE	mg/kg	2.4 U	0.27 U	0.24 U	0.24 U	0.25 U	0.23 U	0.21 U	0.27 U	0.26 U	0.27 U
2,4-Dinitrophenol	NE	NE	NE	mg/kg	45 U	5.2 U	4.5 U	4.6 U	4.7 U	4.4 U	4 U	5.1 U	4.9 U	2.6 U
2,4-Dinitrotoluene	NE	NE	NE	mg/kg	2 U	0.23 U	0.2 U	0.21 U	0.21 U	0.2 U	0.18 U	0.23 U	0.22 U	0.27 U
2,6-Dinitrotoluene	NE	NE	NE	mg/kg	1.2 U	0.13 U	0.12 U	0.12 U	0.12 U	0.11 U	0.1 U	0.13 U	0.13 U	0.27 U
2-Chloronaphthalene	NE	NE	NE	mg/kg	1.6 U	0.19 U	0.16 U	0.17 U	0.17 U	0.16 U	0.14 U	0.18 U	0.18 U	0.27 U
2-Chlorophenol	NE	NE	NE	mg/kg	1.8 U	0.21 U	0.18 U	0.18 U	0.19 U	0.17 U	0.16 U	0.2 U	0.2 U	0.27 U
2-Methylphenol (o-cresol)	1000	NE	0.33	mg/kg	1.2 U	0.13 U	0.12 U	0.12 U	0.12 U	0.11 U	0.1 U	0.13 U	0.13 U	0.27 U
2-Nitroaniline	NE	NE	NE	mg/kg	1.4 U	0.17 U	0.14 U	0.15 U	0.15 U	0.14 U	0.13 U	0.16 U	0.16 U	0.52 U
2-Nitrophenol	NE	NE	NE	mg/kg	2.8 U	0.32 U	0.28 U	0.28 U	0.29 U	0.27 U	0.24 U	0.31 U	0.3 U	0.27 U
3,3'-Dichlorobenzidine	NE	NE	NE	mg/kg	12 U	1.3 U	1.2 U	1.2 U	1.2 U	1.1 U	1 U	1.3 U	1.3 U	0.52 U
3-Nitroaniline	NE	NE	NE	mg/kg	2.7 U	0.31 U	0.27 U	0.28 U	0.28 U	0.26 U	0.24 U	0.31 U	0.3 U	0.52 U
4,6-Dinitro-2-methylphenol	NE	NE	NE	mg/kg	9.8 U	1.1 U	0.98 U	1 U	1 U	0.95 U	0.86 U	1.1 U	1.1 U	0.52 U
4-Bromophenyl phenyl ether	NE	NE	NE	mg/kg	1.4 U	0.16 U	0.14 U	0.14 U	0.14 U	0.13 U	0.12 U	0.16 U	0.15 U	0.27 U
4-Chloro-3-methylphenol	NE	NE	NE	mg/kg	2.4 U	0.28 U	0.24 U	0.25 U	0.25 U	0.23 U	0.21 U	0.27 U	0.26 U	0.27 U
4-Chloroaniline	NE	NE	NE	mg/kg	2.4 U	0.28 U	0.24 U	0.25 U	0.25 U	0.23 U	0.21 U	0.27 U	0.26 U	0.27 U
4-Chlorophenyl phenyl ether	NE	NE	NE	mg/kg	1.2 U	0.14 U	0.12 U	0.12 U	0.13 U	0.12 U	0.11 U	0.14 U	0.13 U	0.27 U
4-Methylphenol	1000	NE	0.33	mg/kg	1.2 U	0.13 U	0.12 U	0.12 U	0.12 U	0.11 U	0.1 U	0.13 U	0.13 U	0.52 U
4-Nitroaniline	NE	NE	NE	mg/kg	5.1 U	0.59 U	0.51 U	0.53 U	0.53 U	0.5 U	0.45 U	0.58 U	0.56 U	0.52 U
4-Nitrophenol	NE	NE	NE	mg/kg	6.9 U	0.79 U	0.69 U	0.71 U	0.71 U	0.66 U	0.6 U	0.78 U	0.75 U	0.52 U
Acetophenone	NE	NE	NE	mg/kg	1.3 U	0.15 U	0.13 U	0.14 U	0.14 U	0.13 U	0.12 U	0.15 U	0.14 U	0.27 U
Atrazine	NE	NE	NE	mg/kg	3.4 U	0.39 U	0.34 U	0.35 U	0.35 U	0.33 U	0.3 U	0.39 U	0.37 U	0.27 U
Benzaldehyde	NE	NE	NE	mg/kg	7.8 U	0.89 U	0.78 U	0.8 U	0.81 U	0.75 U	0.68 U	0.88 U	0.85 U	0.27 UJ
Benzyl butyl phthalate	NE	NE	NE	mg/kg	1.6 U	0.19 U	0.16 U	0.17 U	0.17 U	0.16 U	0.14 U	0.18 U	0.18 U	0.27 U
Biphenyl (Diphenyl)	NE	NE	NE	mg/kg	1.4 U	0.17 U	0.14 U	0.15 U	0.15 U	0.14 U	0.13 U	0.16 U	0.16 U	0.27 U
bis(2-Chloroethoxy)methane	NE	NE	NE	mg/kg	2.1 U	0.24 U	0.21 U	0.21 U	0.22 U	0.2 U	0.18 U	0.24 U	0.23 U	0.27 U
bis(2-Chloroethyl)ether	NE	NE	NE	mg/kg	1.3 U	0.15 U	0.13 U	0.13 U	0.13 U	0.12 U	0.11 U	0.14 U	0.14 U	0.27 U
bis(2-Chloroisopropyl)ether	NE	NE	NE	mg/kg	2 U	0.22 U	0.2 U	0.2 U	0.2 U	0.19 U	0.17 U	0.22 U	0.21 U	0.27 U
bis(2-Ethylhexyl)phthalate	NE	NE	NE	mg/kg	3.3 U	0.38 U	0.33 U	0.34 U	0.35 U	0.32 U	0.29 U	0.38 U	0.37 U	0.27 U
Caprolactam	NE	NE	NE	mg/kg	2.9 U	0.34 U	0.29 U	0.3 U	0.31 U	0.28 U	0.26 U	0.33 U	0.32 U	0.27 U
Carbazole	NE	NE	NE	mg/kg	1.2 U	0.13 U	0.12 U	0.12 U	0.12 U	0.11 U	0.1 U	0.13 U	0.13 U	0.27 U
Dibenzofuran	1000	NE	210	mg/kg	1.2 U	0.13 U	0.12 U	0.12 U	0.12 U	0.11 U	0.1 U	0.13 U	0.14 J	0.27 U
Diethyl phthalate	NE	NE	NE	mg/kg	1.3 U	0.15 U	0.13 U	0.13 U	0.13 U	0.12 U	0.11 U	0.14 U	0.14 U	0.27 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-9 17-18.8 5/19/2015	SB-9 23-24.3 5/19/2015	SB-9 29-29.6 5/19/2015	SB-9 35-36.2 5/19/2015	SB-10 5-6.2 1/25/2017	SB-10 9-10 1/25/2017	SB-10 15-16 1/25/2017	SB-10 19-20.7 1/25/2017	SB-10 25-26.5 1/25/2017	SB-10 31-32.4 1/25/2017
Dimethyl phthalate	NE	NE	NE	mg/kg	1.2 U	0.13 U	0.12 U	0.12 U	0.12 U	0.11 U	0.1 U	0.13 U	0.13 U	0.27 U
dl-n-Butyl phthalate	NE	NE	NE	mg/kg	1.7 U	0.19 U	0.17 U	0.17 U	0.17 U	0.16 U	0.15 U	0.19 U	0.18 U	0.27 U
dl-n-Octyl phthalate	NE	NE	NE	mg/kg	1.2 U	0.13 U	0.12 U	0.12 U	0.12 U	0.11 U	0.1 U	0.13 U	0.13 U	0.27 U
Hexachlorobenzene	12	NE	3.2	mg/kg	1.3 U	0.15 U	0.13 U	0.14 U	0.14 U	0.13 U	0.12 U	0.15 U	0.14 U	0.27 U
Hexachlorobutadiene	NE	NE	NE	mg/kg	1.4 U	0.17 U	0.14 U	0.15 U	0.15 U	0.14 U	0.13 U	0.16 U	0.16 U	0.27 U
Hexachlorocyclopentadiene	NE	NE	NE	mg/kg	1.3 U	0.15 U	0.13 U	0.14 U	0.14 U	0.13 U	0.12 U	0.15 U	0.14 U	0.27 U
Hexachloroethane	NE	NE	NE	mg/kg	1.3 U	0.15 U	0.13 U	0.13 U	0.13 U	0.12 U	0.11 U	0.14 U	0.14 U	0.27 U
Isophorone	NE	NE	NE	mg/kg	2.1 U	0.24 U	0.21 U	0.21 U	0.22 U	0.2 U	0.18 U	0.24 U	0.23 U	0.27 U
Nitrobenzene	NE	NE	NE	mg/kg	1.1 U	0.13 U	0.11 U	0.11 U	0.11 U	0.11 U	0.096 U	0.12 U	0.12 U	0.27 U
N-Nitroso-di-n-propylamine	NE	NE	NE	mg/kg	1.7 U	0.19 U	0.17 U	0.17 U	0.17 U	0.16 U	0.15 U	0.19 U	0.18 U	0.27 U
N-Nitrosodiphenylamine	NE	NE	NE	mg/kg	8 U	0.91 U	0.79 U	0.82 U	0.83 U	0.77 U	0.7 U	0.9 U	0.87 U	0.27 U
Pentachlorophenol	55	0.8	0.8	mg/kg	9.8 UJ	1.1 UJ	0.98 UJ	1 UJ	1 U	0.95 U	0.86 U	1.1 U	1.1 U	0.52 U
Phenol	1000	30	0.33	mg/kg	1.5 U	0.17 U	0.15 U	0.15 U	0.16 U	0.15 U	0.13 U	0.17 U	0.16 U	0.27 U
Inorganic Constituents														
Cyanide, total	10000	NE	40	mg/kg	0.55 U	0.64 U	0.56 U	0.58 UJ	1.2 J	0.53 U	0.47 U	0.56 U	0.6 U	1.4 U
Aluminum	NE	NE	NE	mg/kg	3860	10700	7710	9680 J	--	--	--	--	--	--
Antimony	NE	NE	NE	mg/kg	8.7 U	2.6 U	0.43 U	0.48 UJ	--	--	--	--	--	--
Arsenic	16	13	16	mg/kg	**84**	**20.7**	7	7.9	--	--	--	--	--	--
Barium	10000	433	820	mg/kg	28.7	84.5	38.7	60.7 J	--	--	--	--	--	--
Beryllium	2700	10	47	mg/kg	2 J	1.3	0.64	0.53	--	--	--	--	--	--
Cadmium	60	4	7.5	mg/kg	0.65 U	0.04 U	0.033 U	0.036 U	--	--	--	--	--	--
Calcium	NE	NE	NE	mg/kg	14100 B	13100 B	2210 B	19200 J	--	--	--	--	--	--
Chromium[b]	800	1	19	mg/kg	**69.9**	**33.2**	**12.6**	**15.6 J**	--	--	--	--	--	--
Cobalt	NE	NE	NE	mg/kg	19.8	16.2	15.7	11.6	--	--	--	--	--	--
Copper	10000	50	1720	mg/kg	**63.4**	28.1	15.9	28.5	--	--	--	--	--	--
Iron	NE	NE	NE	mg/kg	177000 B	82400 B	20400 B	25100 B	--	--	--	--	--	--
Lead	3900	63	450	mg/kg	51.5	18.1	12.4	**249 J**	--	--	--	--	--	--
Magnesium	NE	NE	NE	mg/kg	1170	5290	3880	6400 J	--	--	--	--	--	--
Manganese	10000	1600	2000	mg/kg	**3190**	1480	264	726	--	--	--	--	--	--
Nickel	10000	30	130	mg/kg	**35**	29.1	**33.8**	24.5	--	--	--	--	--	--
Potassium	NE	NE	NE	mg/kg	433 U	2130	1500	1710 J	--	--	--	--	--	--
Selenium	6800	3.9	4	mg/kg	8.7 U	2.6 U	0.43 U	0.48 UF1	--	--	--	--	--	--
Silver	6800	2	8.3	mg/kg	4.3 U	1.3 U	0.22 U	0.24 U	--	--	--	--	--	--
Sodium	NE	NE	NE	mg/kg	3030 U	924 U	152 U	167 U	--	--	--	--	--	--
Thallium	NE	NE	NE	mg/kg	1.6 U	2 U	0.33 U	0.36 U	--	--	--	--	--	--
Vanadium	NE	NE	NE	mg/kg	155	82.2	17.8	19.7 J	--	--	--	--	--	--
Zinc	10000	109	2480	mg/kg	43.7 B	67.9 B	63.2 ^B	56.5 J	--	--	--	--	--	--
Mercury	5.7	0.18	0.73	mg/kg	**0.34**	0.025 J	0.082	0.16	--	--	--	--	--	--
Pesticides														
4,4'-DDD	180	0.0033	14	mg/kg	0.00036 U	0.00043 U	0.00037 U	0.00039 U	0.0039 U	0.0018 U	0.00066 U	0.00087 U	0.00082 U	0.0026 U
4,4'-DDE	120	0.0033	17	mg/kg	0.00039 U	0.00046 U	0.0004 U	0.00042 U	0.0042 U	0.0019 U	0.00071 U	0.0032 J	0.00089 U	0.0026 U
4,4'-DDT	94	0.0033	136	mg/kg	0.00044 U	0.00051 U	0.00045 U	0.00046 U	**0.01 J**	0.0033 J	0.0016 J	0.001 U	0.00099 U	0.0026 U
Aldrin	1.4	0.14	0.19	mg/kg	0.00046 U	0.00054 U	0.00047 U	0.00049 U	0.0049 U	0.0022 U	0.00083 U	0.0011 U	0.001 U	0.0026 U
alpha Endosulfan (Endosulfan I)	920	NE	102	mg/kg	0.00036 U	0.00042 U	0.00037 U	0.00038 U	0.0038 U	0.0017 U	0.00065 U	0.00086 U	0.00081 U	0.0026 U
beta Endosulfan (Endosulfan II)	920	NE	102	mg/kg	0.00034 U	0.00039 U	0.00034 U	0.00036 U	0.0036 U	0.0016 U	0.00061 U	0.0008 U	0.00076 U	0.0026 U
BHC, alpha	6.8	0.04	0.02	mg/kg	0.00034 U	0.00039 U	0.00034 U	0.00036 U	0.0036 U	0.0016 U	0.00061 U	0.0008 U	0.00076 U	0.0026 U
BHC, beta	14	0.6	0.09	mg/kg	0.00034 U	0.00039 U	0.00034 U	0.00036 U	0.0036 U	0.0016 U	0.00061 U	0.00093 J	0.00076 U	0.0026 U
BHC, delta	1000	0.04	0.25	mg/kg	0.00035 U	0.00041 U	0.00036 U	0.00037 U	0.0037 U	0.0017 U	0.00063 U	0.00083 U	0.00078 U	0.00056 J
BHC, gamma (Lindane)	23	6	0.1	mg/kg	0.00034 U	0.0004 U	0.00035 U	0.00036 U	0.0036 U	0.0017 U	0.00062 U	0.001 J	0.00077 U	0.0026 U
Chlordane, alpha	47	1.3	2.9	mg/kg	0.00093 U	0.0011 U	0.00095 U	0.00099 U	0.0099 U	0.0045 U	0.0017 U	0.0022 U	0.0021 U	0.0026 U
Chlordane, beta	NE	NE	NE	mg/kg	0.0006 U	0.0007 U	0.00061 U	0.00063 U	0.0063 U	0.0029 U	0.0011 U	0.0014 U	0.0013 U	0.0026 U
Dieldrin	2.8	0.006	0.1	mg/kg	0.00045 U	0.00053 U	0.00046 U	0.00048 U	0.0048 U	0.0022 U	0.00081 U	0.0011 U	0.001 U	0.0026 U
Endosulfan sulfate	920	NE	1000	mg/kg	0.0019 U	0.00041 U	0.00036 U	NJ	0.0037 U	0.0017 U	0.00063 U	0.00083 U	0.00079 U	0.0026 U
Endrin	410	0.014	0.06	mg/kg	0.00037 U	0.00043 U	0.00038 U	0.00039 U	0.0039 U	0.0018 U	0.00067 U	0.00088 U	0.00083 U	0.0026 U
Endrin aldehyde	NE	NE	NE	mg/kg	0.00048 U	0.00056 U	0.00049 U	0.00051 U	0.0051 U	0.0023 U	0.00087 U	0.0011 U	0.0011 U	0.0026 U
Endrin ketone	NE	NE	NE	mg/kg	0.0027 U	0.00054 U	0.00047 U	0.00049 U	0.0049 U	0.0022 U	0.0015 J	0.0011 U	0.001 U	0.0026 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-9 17-18.8 5/19/2015	SB-9 23-24.3 5/19/2015	SB-9 29-29.6 5/19/2015	SB-9 35-36.2 5/19/2015	SB-10 5-6.2 1/25/2017	SB-10 9-10 1/25/2017	SB-10 15-16 1/25/2017	SB-10 19-20.7 1/25/2017	SB-10 25-26.5 1/25/2017	SB-10 31-32.4 1/25/2017
Heptachlor	29	0.14	0.38	mg/kg	0.00041 U	0.00047 U	0.00041 U	0.00043 U	0.0043 U	0.002 U	0.00073 U	0.00096 U	0.00091 U	0.0026 U
Heptachlor epoxide	NE	NE	NE	mg/kg	0.00048 U	0.00057 U	0.00049 U	0.00051 U	0.0051 U	0.0023 U	0.00088 U	0.0011 U	0.0011 U	0.0026 U
Methoxychlor	NE	NE	NE	mg/kg	0.00038 U	0.00045 U	0.00039 U	0.0027 U	0.0041 U	0.0018 U	0.00069 U	0.00091 U	0.00086 U	0.0026 U
Toxaphene	NE	NE	NE	mg/kg	0.011 U	0.013 U	0.011 U	0.012 U	0.12 U	0.053 U	0.02 U	0.026 U	0.025 U	0.026 U
Polychlorinated Biphenyls (PCBs)														
Aroclor 1016	NE	NE	3.2	mg/kg	0.049 U	0.057 U	0.049 U	0.053 U	--	--	--	--	--	--
Aroclor 1221	NE	NE	3.2	mg/kg	0.049 U	0.057 U	0.049 U	0.053 U	--	--	--	--	--	--
Aroclor 1232	NE	NE	3.2	mg/kg	0.049 U	0.057 U	0.049 U	0.053 U	--	--	--	--	--	--
Aroclor 1242	NE	NE	3.2	mg/kg	0.049 U	0.057 U	0.049 U	0.053 U	--	--	--	--	--	--
Aroclor 1248	NE	NE	3.2	mg/kg	0.049 U	0.057 U	0.049 U	0.053 U	--	--	--	--	--	--
Aroclor 1254	NE	NE	3.2	mg/kg	0.12 U	0.14 U	0.12 U	0.13 U	--	--	--	--	--	--
Aroclor 1260	NE	NE	3.2	mg/kg	0.12 U	0.14 U	0.12 U	0.13 U	--	--	--	--	--	--
Total PCBs	25	1.0	3.2	mg/kg	ND	ND	ND	ND	--	--	--	--	--	--

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
U1 - The analyte was analyzed for, but was not detected substantially above the level reported in laboratory or field blanks.
J+ - Estimated concentration. Reported value may be biased high. Result is esitmated high
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
N J - The analyte detection if tentative in indentification and estimated in value.
B - Constituent was found in the blank and the sample.
R - Result rejected as determined by the data validator.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related QC is outside acceptance limits.
* - Laboratory Control Sample (LCS) or Laboratory Control Sample Duplicate (LCSD) is outside acceptance limits
NE - Not established.
ND - Not detected
(a) - Zoning determination based on review of City of Troy Official Zoning Map dated 12/19/16. Zoning classification for the Site is identified as Waterfront Trade District, which permits industrial usage of property.
(b) - Chromium analysis was for total chromium. To be conservative, total chromium concentrations were compared to hexavalent chromium SCOs.

Boxes and bolded values indicate concentrations are above New York State Subpart 375 Soil Cleanup Objectives for: Protection of Public Health for Industrially Zoned Properties, Protection of Ecological Resources, and/or Protection of Groundwater.

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-11 7-8.1 1/31/2017	SB-11 11-11.8 1/31/2017	SB-11 17-18.4 2/1/2017	SB-11 23-24.2 2/1/2017	SB-11 31-32.2 2/1/2017	SB-11 37-37.4 2/1/2017	SB-12 7-8 1/31/2017	SB-12 13-14.8 1/31/2017	SB-12 19-20 1/31/2017	SB-12 25-26.1 1/31/2017
Volatile Organic Compounds (VOCs)														
BTEX														
Benzene	89	70	0.06	mg/kg	0.022	**2700**	**310**	**0.76**	**0.2**	**0.15**	0.0016 J	**120**	**0.33**	**7.6**
Toluene	1000	36	0.7	mg/kg	0.012	**720**	**10**	0.066 J	0.03 J	0.03 J	0.0012 J	**48**	0.16	0.23 J
Ethylbenzene	780	NE	1	mg/kg	0.00086 J	**33**	**14**	0.11 J	0.016 U	0.012 U	0.00045 U	**1.8**	0.013 J	**5.4**
Xylenes, total	1000	0.26	1.6	mg/kg	0.01 J	**790**	**520**	**29**	**0.46**	0.073 J	0.0011 U	**26**	0.14	**100**
Total BTEX	NE	NE	NE	mg/kg	0.045	4243	854	30	0.69	0.25	0.0028 J	196	0.64	113
Other VOCs														
1,1,1-Trichloroethane	1000	NE	0.68	mg/kg	0.00042 U	1.2 U	0.13 U	0.043 U	0.015 U	0.011 U	0.00047 U	0.18 U	0.012 U	0.12 U
1,1,2,2-Tetrachloroethane	NE	NE	NE	mg/kg	0.00094 U	0.69 U	0.075 U	0.025 U	0.0087 U	0.0066 U	0.0011 U	0.1 U	0.0072 U	0.07 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NE	NE	NE	mg/kg	0.0013 U	2.1 U	0.23 U	0.078 U	0.027 U	0.02 U	0.0015 U	0.32 U	0.022 U	0.21 U
1,1,2-Trichloroethane	NE	NE	NE	mg/kg	0.00075 U	0.89 U	0.098 U	0.033 U	0.011 U	0.0085 U	0.00085 U	0.13 U	0.0093 U	0.09 U
1,1-Dichloroethane	480	NE	0.27	mg/kg	0.0007 U	1.3 U	0.14 U	0.048 U	0.016 U	0.013 U	0.0008 U	0.2 U	0.014 U	0.13 U
1,1-Dichloroethene	1000	NE	0.33	mg/kg	0.00071 U	1.5 U	0.16 U	0.054 U	0.018 U	0.014 U	0.0008 U	0.22 U	0.015 U	0.15 U
1,2,4-Trichlorobenzene	NE	NE	NE	mg/kg	0.00035 U	1.6 U	0.18 U	0.059 U	0.02 U	0.015 U	0.0004 U	0.24 U	0.017 U	0.16 U
1,2-Dibromo-3-chloropropane (DBCP)	NE	NE	NE	mg/kg	0.0029 U	2.1 U	0.23 U	0.078 U	0.027 U	0.02 U	0.0033 U	0.32 U	0.022 U	0.21 U
1,2-Dibromoethane (EDB)	NE	NE	NE	mg/kg	0.00074 U	0.74 U	0.081 U	0.027 U	0.0093 U	0.0071 U	0.00084 U	0.11 U	0.0077 U	0.075 U
1,2-Dichlorobenzene	1000	NE	1.1	mg/kg	0.00045 U	1.1 U	0.12 U	0.04 U	0.014 U	0.01 U	0.00051 U	0.16 U	0.011 U	0.11 U
1,2-Dichloroethane	60	10	0.02	mg/kg	0.00029 U	1.7 U	0.19 U	0.064 U	0.022 U	0.017 U	0.00033 U	0.26 U	0.018 U	0.18 U
1,2-Dichloropropane	NE	NE	NE	mg/kg	0.0029 U	0.69 U	0.075 U	0.025 U	0.0086 U	0.0066 U	0.0033 U	0.1 U	0.0071 U	0.069 U
1,3-Dichlorobenzene	560	NE	2.4	mg/kg	0.0003 U	1.1 U	0.12 U	0.041 U	0.014 U	0.011 U	0.00034 U	0.17 U	0.012 U	0.11 U
1,4-Dichlorobenzene	250	20	1.8	mg/kg	0.00081 U	0.6 U	0.065 U	0.022 U	0.0075 U	0.0057 U	0.00092 U	0.089 U	0.0062 U	0.06 U
2-Butanone (MEK)	1000	100	0.12	mg/kg	0.0021 U	13 U	1.4 U	0.46 U	0.16 U	0.12 U	0.0024 U	1.9 U	0.13 U	1.3 U
2-Hexanone	NE	NE	NE	mg/kg	0.0029 U	8.7 U	0.95 U	0.32 U	0.11 U	0.083 U	0.0033 U	1.3 U	0.09 U	0.88 U
4-Methyl-2-pentanone (MIBK)	NE	NE	NE	mg/kg	0.0037 J	1.4 U	0.15 U	0.05 U	0.017 U	0.013 U	0.0021 U	0.2 U	0.014 U	0.14 U
Acetone	1000	2.2	0.05	mg/kg	0.0049 U	17 U	1.9 U	0.64 U	0.22 U	0.17 U	0.011 J	2.6 U	0.18 U	1.8 U
Bromodichloromethane	NE	NE	NE	mg/kg	0.00077 U	0.85 U	0.093 U	0.031 U	0.011 U	0.0081 U	0.00088 U	0.13 U	0.0088 U	0.086 U
Bromoform	NE	NE	NE	mg/kg	0.0029 U	2.1 U	0.23 U	0.078 U	0.027 U	0.02 U	0.0033 U	0.32 U	0.022 U	0.21 U
Bromomethane	NE	NE	NE	mg/kg	0.00052 U	0.94 U	0.1 U	0.034 U	0.012 U	0.0089 U	0.00059 U	0.14 U	0.0097 U	0.094 U
Carbon disulfide	NE	NE	NE	mg/kg	0.0029 U	2 J	0.21 U	0.071 U	0.024 U	0.018 U	0.0033 U	0.29 U	0.02 U	0.19 U
Carbon tetrachloride	44	NE	0.76	mg/kg	0.00056 U	1.1 U	0.12 U	0.04 U	0.014 U	0.01 U	0.00063 U	0.16 U	0.011 U	0.11 U
Chlorobenzene	1000	40	1.1	mg/kg	0.00076 U	0.56 U	0.061 U	0.021 U	0.007 U	0.0053 U	0.00086 U	0.084 U	0.0058 U	0.057 U
Chloroethane	NE	NE	NE	mg/kg	0.0013 U	0.88 U	0.097 U	0.032 U	0.011 U	0.0084 U	0.0015 U	0.13 U	0.0092 U	0.089 U
Chloroform	700	12	0.37	mg/kg	0.00036 U	2.9 U	0.32 U	0.11 U	0.037 U	0.028 U	0.0004 U	0.43 U	0.03 U	0.29 U
Chloromethane	NE	NE	NE	mg/kg	0.00035 U	1 U	0.11 U	0.037 U	0.013 U	0.0096 U	0.00039 U	0.15 U	0.01 U	0.1 U
cis-1,2-Dichloroethene	1000	NE	0.25	mg/kg	0.00074 U	1.2 U	0.13 U	0.043 U	0.015 U	0.011 U	0.00084 U	0.17 U	0.012 U	0.12 U
cis-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.00083 U	1 U	0.11 U	0.037 U	0.013 U	0.0097 U	0.00094 U	0.15 U	0.011 U	0.1 U
Cyclohexane	NE	NE	NE	mg/kg	0.0034 J	0.94 U	0.1 U	0.058 J	0.012 U	0.009 U	0.0019 J	0.14 U	0.0098 U	0.095 U
Dibromochloromethane	NE	NE	NE	mg/kg	0.00074 U	2.1 U	0.22 U	0.075 U	0.026 U	0.02 U	0.00084 U	0.31 U	0.021 U	0.21 U
Dichlorodifluoromethane (Freon 12)	NE	NE	NE	mg/kg	0.00048 U	1.9 U	0.2 U	0.068 U	0.023 U	0.018 U	0.00054 U	0.28 U	0.019 U	0.19 U
Isopropylbenzene (Cumene)	NE	NE	NE	mg/kg	0.0027 J	120	39	22	0.88	0.063	0.00099 U	7.8	0.065	11
Methyl acetate	NE	NE	NE	mg/kg	0.0035 U	2 U	0.22 U	0.074 U	0.025 U	0.019 U	0.0039 U	0.3 U	0.021 U	0.2 U
Methylcyclohexane	NE	NE	NE	mg/kg	0.0068	3.9 J	0.47	0.15 J	0.025 U	0.019 U	0.0031 J	0.3 U	0.021 U	0.2 U
Methylene chloride	1000	12	0.05	mg/kg	0.0027 U	0.84 U	0.31 U1	0.11 U1	0.046 U1	0.041 U	0.0039 J	0.13 U	0.0099 J	0.085 U
Styrene	NE	NE	NE	mg/kg	0.00072 J	1 U	0.11 U	0.037 U	0.013 U	0.0098 U	0.00033 U	0.15 U	0.011 U	0.1 U
tert-Butyl methyl ether (MTBE)	1000	NE	0.93	mg/kg	0.00057 U	1.6 U	0.18 U	0.059 U	0.02 U	0.015 U	0.00064 U	0.24 U	0.017 U	0.16 U
Tetrachloroethene (PCE)	300	2	1.3	mg/kg	0.00078 U	0.57 U	0.062 U	0.021 U	0.0072 U	0.0054 U	0.00088 U	0.085 U	0.0059 U	0.058 U
trans-1,2-Dichloroethene	1000	NE	0.19	mg/kg	0.0006 U	1 U	0.11 U	0.037 U	0.013 U	0.0095 U	0.00067 U	0.15 U	0.01 U	0.1 U
trans-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.0025 U	0.42 U	0.046 U	0.015 U	0.0052 U	0.004 U	0.0029 U	0.062 U	0.0043 U	0.042 U
Trichloroethene (TCE)	400	2	0.47	mg/kg	0.0013 U	1.2 U	0.13 U	0.043 U	0.015 U	0.011 U	0.0014 U	0.18 U	0.012 U	0.12 U
Trichlorofluoromethane (Freon 11)	NE	NE	NE	mg/kg	0.00055 U	2 U	0.22 UJ	0.073 UJ	0.025 UJ	0.019 UJ	0.00062 U	0.3 U	0.021 U	0.2 U
Vinyl chloride	27	NE	0.02	mg/kg	0.0007 U	1.4 U	0.16 U	0.052 U	0.018 U	0.014 U	0.0008 U	0.21 U	0.015 U	0.14 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-11 7-8.1 1/31/2017	SB-11 11-11.8 1/31/2017	SB-11 17-18.4 2/1/2017	SB-11 23-24.2 2/1/2017	SB-11 31-32.2 2/1/2017	SB-11 37-37.4 2/1/2017	SB-12 7-8 1/31/2017	SB-12 13-14.8 1/31/2017	SB-12 19-20 1/31/2017	SB-12 25-26.1 1/31/2017
Semi-volatile Organic Compounds (SVOCs)														
Polycyclic Aromatic Hydrocarbons (PAHs)														
Acenaphthene	1000	20	98	mg/kg	0.6 U	62 U	1 J	0.14 U	0.029 U	0.027 U	0.15 U	3 U	0.027 U	1.4 U
Acenaphthylene	1000	NE	107	mg/kg	0.52 U	**140 J**	4.3	0.12 U	0.23 J+	0.024 U	0.17 J	2.7 J	0.031 J	1.2 U
Anthracene	1000	NE	1000	mg/kg	1 U	350 J	6.2	0.48 J	0.29 J+	0.046 U	0.25 U	9.1 J	0.12 J	2.3 U
Benzo(a)anthracene	11	NE	1	mg/kg	0.58 J	**280 J**	**5.7**	0.61 J	0.49 J+	0.056 J	0.75 J	**9.5 J**	0.18	0.92 U
Benzo(a)pyrene	1.1	2.6	22	mg/kg	0.6 U	**190 J**	**3.7**	0.37 J	0.3 J+	0.037 J	0.59 J	**6.6 J**	0.13 J	1.4 U
Benzo(b)fluoranthene	11	NE	1.7	mg/kg	0.64 U	**240 J**	**4.3**	0.41 J	0.39 J+	0.038 J	0.81 J	**8.2 J**	0.16 J	1.5 U
Benzo(g,h,i)perylene	1000	NE	1000	mg/kg	0.43 U	98 J	2.1	0.18 J	0.19 J	0.022 J	0.36 J	3.6 J	0.064 J	0.98 U
Benzo(k)fluoranthene	110	NE	1.7	mg/kg	0.52 U	**130 J**	**2.6**	0.26 J	0.17 J	0.027 J	0.44 J	**4 J**	0.08 J	1.2 U
Chrysene	110	NE	1	mg/kg	0.9 U	**230 J**	**5.2**	0.54 J	0.41 J+	0.048 J	0.65 J	**7.5 J**	0.15 J	2.1 U
Dibenz(a,h)anthracene	1.1	NE	1000	mg/kg	0.71 U	75 U	0.33 U	0.16 U	0.035 U	0.033 U	0.18 U	3.6 U	0.032 U	1.6 U
Fluoranthene	1000	NE	1000	mg/kg	0.84 J	650	12	1.2	0.9 J+	0.091 J	1.1	20	0.31	0.98 U
Fluorene	1000	30	386	mg/kg	0.48 U	**370 J**	11	2.1	0.023 U	0.063 J	0.12 U	11 J	0.11 J	1.1 U
Indeno(1,2,3-c,d)pyrene	11	NE	8.2	mg/kg	0.5 U	**100 J**	2.2	0.24 J	0.2 J+	0.023 U	0.36 J	3.9 J	0.065 J	1.1 U
Naphthalene	1000	NE	12	mg/kg	0.52 U	**3900**	**860**	4.1	1 J+	1.3	0.16 J	**110**	0.67	**38**
Phenanthrene	1000	NE	1000	mg/kg	0.6 U	**1100**	21	2	0.69 J+	0.15 J	0.68 J	29	0.35	1.4 U
Pyrene	1000	NE	1000	mg/kg	0.67 J	440	8.9	1.2	0.8 J+	0.078 J	0.97 J	14 J	0.25	1.1 U
2-Methylnaphthalene	NE	NE	NE	mg/kg	0.81 U	600	74 J	0.42 J	0.15 J	0.13 J	0.21 U	15 J	0.11 J	1.8 U
Total PAHS	NE	NE	NE	mg/kg	2.1 J	8818	1024	14	6.2 J	2.0	7.0	254	2.8	38
Other SVOCs														
2,4,5-Trichlorophenol	NE	NE	NE	mg/kg	1.1 U	110 U	0.51 U	0.25 U	0.054 U	0.05 U	0.28 U	5.4 U	0.049 U	2.5 U
2,4,6-Trichlorophenol	NE	NE	NE	mg/kg	0.81 U	85 U	0.37 U	0.18 U	0.04 U	0.037 U	0.21 U	4 U	0.036 U	1.8 U
2,4-Dichlorophenol	NE	NE	NE	mg/kg	0.43 U	45 U	0.2 U	0.097 U	0.021 U	0.02 U	0.11 U	2.1 U	0.019 U	0.98 U
2,4-Dimethylphenol	NE	NE	NE	mg/kg	0.98 U	100 U	0.45 U	0.22 U	0.048 U	0.045 U	0.25 U	4.9 U	0.044 U	2.2 U
2,4-Dinitrophenol	NE	NE	NE	mg/kg	19 U	2000 U	8.6 U	4.2 U	0.92 U	0.86 U	4.8 U	93 U	0.84 U	43 U
2,4-Dinitrotoluene	NE	NE	NE	mg/kg	0.83 U	87 U	0.39 U	0.19 U	0.041 U	0.038 U	0.21 U	4.1 U	0.038 U	1.9 U
2,6-Dinitrotoluene	NE	NE	NE	mg/kg	0.48 U	50 U	0.22 U	0.11 U	0.023 U	0.022 U	0.12 U	2.4 U	0.021 U	1.1 U
2-Chloronaphthalene	NE	NE	NE	mg/kg	0.67 U	70 U	0.31 U	0.15 U	0.033 U	0.031 U	0.17 U	3.3 U	0.03 U	1.5 U
2-Chlorophenol	NE	NE	NE	mg/kg	0.74 U	77 U	0.34 U	0.17 U	0.036 U	0.034 U	0.19 U	3.7 U	0.033 U	1.7 U
2-Methylphenol (o-cresol)	1000	NE	0.33	mg/kg	0.48 U	50 U	**0.42 J**	0.11 U	0.023 U	0.022 U	0.12 U	2.4 U	0.021 U	1.1 U
2-Nitroaniline	NE	NE	NE	mg/kg	0.6 U	62 U	0.28 U	0.14 U	0.029 U	0.027 U	0.15 U	3 U	0.027 U	1.4 U
2-Nitrophenol	NE	NE	NE	mg/kg	1.1 U	120 U	0.53 U	0.26 U	0.056 U	0.053 U	0.29 U	5.7 U	0.051 U	2.6 U
3,3'-Dichlorobenzidine	NE	NE	NE	mg/kg	4.8 U	500 U	2.2 U	1.1 U	0.23 U	0.22 U	1.2 U	24 U	0.21 U	11 U
3-Nitroaniline	NE	NE	NE	mg/kg	1.1 U	120 U	0.52 U	0.25 U	0.055 U	0.051 U	0.28 U	5.6 U	0.05 U	2.6 U
4,6-Dinitro-2-methylphenol	NE	NE	NE	mg/kg	4 U	420 U	1.9 U	0.92 U	0.2 U	0.19 U	1 U	20 U	0.18 U	9.2 U
4-Bromophenyl phenyl ether	NE	NE	NE	mg/kg	0.57 U	60 U	0.26 U	0.13 U	0.028 U	0.026 U	0.15 U	2.8 U	0.026 U	1.3 U
4-Chloro-3-methylphenol	NE	NE	NE	mg/kg	1 U	100 U	0.46 U	0.23 U	0.049 U	0.046 U	0.25 U	5 U	0.045 U	2.3 U
4-Chloroaniline	NE	NE	NE	mg/kg	1 U	100 U	0.46 U	0.23 U	0.049 U	0.046 U	0.25 U	5 U	0.045 U	2.3 U
4-Chlorophenyl phenyl ether	NE	NE	NE	mg/kg	0.5 U	52 U	0.23 U	0.11 U	0.025 U	0.023 U	0.13 U	2.5 U	0.023 U	1.1 U
4-Methylphenol	1000	NE	0.33	mg/kg	0.48 U	**140 J**	**0.61 J**	0.11 U	0.023 U	0.022 U	0.12 U	2.4 U	0.04 J	1.1 U
4-Nitroaniline	NE	NE	NE	mg/kg	2.1 U	220 U	0.98 U	0.48 U	0.1 U	0.098 U	0.54 U	11 U	0.095 U	4.8 U
4-Nitrophenol	NE	NE	NE	mg/kg	2.8 U	300 U	1.3 U	0.64 U	0.14 U	0.13 U	0.72 U	14 U	0.13 U	6.5 U
Acetophenone	NE	NE	NE	mg/kg	0.55 U	57 U	1.2 J	0.12 U	0.027 U	0.025 U	0.14 U	2.7 U	0.025 U	1.2 U
Atrazine	NE	NE	NE	mg/kg	1.4 U	150 U	0.65 U	0.32 U	0.069 U	0.065 U	0.36 U	7 U	0.063 U	3.2 U
Benzaldehyde	NE	NE	NE	mg/kg	3.2 U	340 U	2.2	0.73 U	0.16 U	0.15 U	0.82 U	16 U	0.14 U	7.3 U
Benzyl butyl phthalate	NE	NE	NE	mg/kg	0.67 U	70 U	0.31 U	0.15 U	0.033 U	0.031 U	0.17 U	3.3 U	0.03 U	1.5 U
Biphenyl (Diphenyl)	NE	NE	NE	mg/kg	0.6 U	81 J	8	0.76 J	0.029 U	0.027 J	0.15 U	3.4 J	0.032 J	1.4 U
bis(2-Chloroethoxy)methane	NE	NE	NE	mg/kg	0.86 U	90 U	0.4 U	0.19 U	0.042 U	0.039 U	0.22 U	4.3 U	0.039 U	2 U
bis(2-Chloroethyl)ether	NE	NE	NE	mg/kg	0.52 U	55 U	0.24 U	0.12 U	0.026 U	0.024 U	0.13 U	2.6 U	0.024 U	1.2 U
bis(2-Chloroisopropyl)ether	NE	NE	NE	mg/kg	0.81 U	85 U	0.37 U	0.18 U	0.04 U	0.037 U	0.21 U	4 U	0.036 U	1.8 U
bis(2-Ethylhexyl)phthalate	NE	NE	NE	mg/kg	1.4 U	140 U	0.64 U	0.31 U	0.068 U	0.064 U	0.35 U	6.9 U	0.062 U	3.2 U
Caprolactam	NE	NE	NE	mg/kg	1.2 U	130 U	0.56 U	0.28 U	0.06 U	0.056 U	0.31 U	6 U	0.055 U	2.8 U
Carbazole	NE	NE	NE	mg/kg	0.48 U	120 J	0.22 U	0.11 U	0.023 U	0.022 U	0.12 U	2.4 U	0.026 J	1.1 U
Dibenzofuran	1000	NE	210	mg/kg	0.48 U	**260 J**	9.5	1.8	0.023 U	0.046 J	0.12 U	7.6 J	0.072 J	1.1 U
Diethyl phthalate	NE	NE	NE	mg/kg	0.52 U	55 U	0.24 U	0.12 U	0.026 U	0.024 U	0.13 U	2.6 U	0.024 U	1.2 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-11 7-8.1 1/31/2017	SB-11 11-11.8 1/31/2017	SB-11 17-18.4 2/1/2017	SB-11 23-24.2 2/1/2017	SB-11 31-32.2 2/1/2017	SB-11 37-37.4 2/1/2017	SB-12 7-8 1/31/2017	SB-12 13-14.8 1/31/2017	SB-12 19-20 1/31/2017	SB-12 25-26.1 1/31/2017
Dimethyl phthalate	NE	NE	NE	mg/kg	0.48 U	50 U	0.22 U	0.11 U	0.023 U	0.022 U	0.12 U	2.4 U	0.021 U	1.1 U
dl-n-Butyl phthalate	NE	NE	NE	mg/kg	0.69 U	72 U	0.32 U	0.16 U	0.034 U	0.032 U	0.18 U	3.4 U	0.042 J	1.6 U
dl-n-Octyl phthalate	NE	NE	NE	mg/kg	0.48 U	50 U	0.22 U	0.11 U	0.023 U	0.022 U	0.12 U	2.4 U	0.021 U	1.1 U
Hexachlorobenzene	12	NE	3.2	mg/kg	0.55 U	57 U	0.25 U	0.12 U	0.027 U	0.025 U	0.14 U	2.7 U	0.025 U	1.2 U
Hexachlorobutadiene	NE	NE	NE	mg/kg	0.6 U	62 U	0.28 U	0.14 U	0.029 U	0.027 U	0.15 U	3 U	0.027 U	1.4 U
Hexachlorocyclopentadiene	NE	NE	NE	mg/kg	0.55 U	57 U	0.25 U	0.12 U	0.027 U	0.025 U	0.14 U	2.7 U	0.025 U	1.2 U
Hexachloroethane	NE	NE	NE	mg/kg	0.52 U	55 U	0.24 U	0.12 U	0.026 U	0.024 U	0.13 U	2.6 U	0.024 U	1.2 U
Isophorone	NE	NE	NE	mg/kg	0.86 U	90 U	0.4 U	0.19 U	0.042 U	0.039 U	0.22 U	4.3 U	0.039 U	2 U
Nitrobenzene	NE	NE	NE	mg/kg	0.45 U	47 U	0.21 U	0.1 U	0.022 U	0.021 U	0.12 U	2.3 U	0.02 U	1 U
N-Nitroso-di-n-propylamine	NE	NE	NE	mg/kg	0.69 U	72 U	0.32 U	0.16 U	0.034 U	0.032 U	0.18 U	3.4 U	0.031 U	1.6 U
N-Nitrosodiphenylamine	NE	NE	NE	mg/kg	3.3 U	340 U	4.9	0.75 U	0.16 U	0.15 U	0.84 U	16 U	0.15 U	7.5 U
Pentachlorophenol	55	0.8	0.8	mg/kg	4 U	420 U	1.9 U	0.92 U	0.2 U	0.19 U	1 U	20 U	0.18 U	9.2 U
Phenol	1000	30	0.33	mg/kg	0.62 U	65 U	0.29 U	0.14 U	0.03 U	0.028 U	0.16 U	3.1 U	0.028 U	1.4 U
Inorganic Constituents														
Cyanide, total	10000	NE	40	mg/kg	0.53 U	1.2	0.46 U	0.44 U	0.49 U	0.53 U	3.6	0.52 U	0.48 U	0.51 U
Aluminum	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Antimony	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Arsenic	16	13	16	mg/kg	--	--	--	--	--	--	--	--	--	--
Barium	10000	433	820	mg/kg	--	--	--	--	--	--	--	--	--	--
Beryllium	2700	10	47	mg/kg	--	--	--	--	--	--	--	--	--	--
Cadmium	60	4	7.5	mg/kg	--	--	--	--	--	--	--	--	--	--
Calcium	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Chromium[b]	800	1	19	mg/kg	--	--	--	--	--	--	--	--	--	--
Cobalt	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Copper	10000	50	1720	mg/kg	--	--	--	--	--	--	--	--	--	--
Iron	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Lead	3900	63	450	mg/kg	--	--	--	--	--	--	--	--	--	--
Magnesium	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Manganese	10000	1600	2000	mg/kg	--	--	--	--	--	--	--	--	--	--
Nickel	10000	30	130	mg/kg	--	--	--	--	--	--	--	--	--	--
Potassium	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Selenium	6800	3.9	4	mg/kg	--	--	--	--	--	--	--	--	--	--
Silver	6800	2	8.3	mg/kg	--	--	--	--	--	--	--	--	--	--
Sodium	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Thallium	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Vanadium	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Zinc	10000	109	2480	mg/kg	--	--	--	--	--	--	--	--	--	--
Mercury	5.7	0.18	0.73	mg/kg	--	--	--	--	--	--	--	--	--	--
Pesticides														
4,4'-DDD	180	0.0033	14	mg/kg	0.0019 U	0.02 U	0.0036 U	0.0035 U	0.00037 U	0.00036 U	0.002 U	0.0019 U	0.00035 U	0.00035 U
4,4'-DDE	120	0.0033	17	mg/kg	0.0021 U	**0.08 J**	0.0039 U	0.0038 U	0.0004 U	0.00039 U	0.0021 U	0.0021 U	0.00038 U	0.00038 U
4,4'-DDT	94	0.0033	136	mg/kg	0.0023 U	**0.13**	**0.014 J**	**0.0073 J**	0.00045 U	0.00044 U	**0.0054 J**	**0.0054 J**	0.00061 J	0.00043 U
Aldrin	1.4	0.14	0.19	mg/kg	0.0025 U	0.026 U	0.0046 U	0.0044 U	0.00047 U	0.00046 U	0.0025 U	0.0024 U	0.00044 U	0.00045 U
alpha Endosulfan (Endosulfan I)	920	NE	102	mg/kg	0.0019 U	0.02 U	0.0036 U	0.0035 U	0.00037 U	0.00036 U	0.0019 U	0.0019 U	0.00035 U	0.00035 U
beta Endosulfan (Endosulfan II)	920	NE	102	mg/kg	0.0018 U	0.019 U	0.0033 U	0.0032 U	0.00035 U	0.00034 U	0.0018 U	0.0026 J	0.00032 U	0.00033 U
BHC, alpha	6.8	0.04	0.02	mg/kg	0.0018 U	0.019 U	0.0033 U	0.0032 U	0.00035 U	0.00034 U	0.0018 U	0.0018 U	0.00032 U	0.00033 U
BHC, beta	14	0.6	0.09	mg/kg	0.0018 U	0.019 U	0.0033 U	0.0032 U	0.00035 U	0.00034 U	0.0018 U	0.0018 U	0.00032 U	0.00033 U
BHC, delta	1000	0.04	0.25	mg/kg	0.0019 U	0.038 J	0.0034 U	0.0033 U	0.00036 U	0.00035 U	0.0019 U	0.0019 U	0.00033 U	0.00034 U
BHC, gamma (Lindane)	23	6	0.1	mg/kg	0.0018 U	0.019 U	0.0034 U	0.0033 U	0.00035 U	0.00034 U	0.0019 U	0.0018 U	0.00033 U	0.00033 U
Chlordane, alpha	47	1.3	2.9	mg/kg	0.005 U	0.052 U	0.0092 U	0.009 U	0.00096 U	0.00093 U	0.005 U	0.005 U	0.0009 U	0.00091 U
Chlordane, beta	NE	NE	NE	mg/kg	0.0032 U	0.033 U	0.0059 U	0.0057 U	0.00061 U	0.00059 U	0.0032 U	0.0032 U	0.00057 U	0.00058 U
Dieldrin	2.8	0.006	0.1	mg/kg	0.0024 U	0.025 U	0.0044 U	0.0043 U	0.00046 U	0.00045 U	0.0024 U	0.0024 U	0.00043 U	0.00044 U
Endosulfan sulfate	920	NE	1000	mg/kg	0.0019 U	0.019 U	0.0035 U	0.0034 U	0.00036 U	0.00035 U	0.0019 U	0.0019 U	0.00034 U	0.00034 U
Endrin	410	0.014	0.06	mg/kg	0.002 U	0.021 U	0.0037 U	0.0036 U	0.00038 U	0.00037 U	0.002 U	0.002 U	0.00036 U	0.00036 U
Endrin aldehyde	NE	NE	NE	mg/kg	0.0025 U	0.027 U	0.0047 U	0.0046 U	0.00049 U	0.00048 U	0.0026 U	0.0025 U	0.00046 U	0.00047 U
Endrin ketone	NE	NE	NE	mg/kg	0.0025 U	0.026 U	0.0046 U	0.0044 U	0.00047 U	0.00046 U	0.0025 U	0.0024 U	0.00044 U	0.00045 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-11 7-8.1 1/31/2017	SB-11 11-11.8 1/31/2017	SB-11 17-18.4 2/1/2017	SB-11 23-24.2 2/1/2017	SB-11 31-32.2 2/1/2017	SB-11 37-37.4 2/1/2017	SB-12 7-8 1/31/2017	SB-12 13-14.8 1/31/2017	SB-12 19-20 1/31/2017	SB-12 25-26.1 1/31/2017
Heptachlor	29	0.14	0.38	mg/kg	0.0022 U	0.023 U	0.004 U	0.0039 U	0.00042 U	0.0004 U	0.0022 U	0.0022 U	0.00039 U	0.00039 U
Heptachlor epoxide	NE	NE	NE	mg/kg	0.0026 U	0.031 J	0.0048 U	0.0046 U	0.0005 U	0.00048 U	0.0026 U	0.0026 U	0.00046 U	0.00047 U
Methoxychlor	NE	NE	NE	mg/kg	0.002 U	0.021 U	0.0038 U	0.0037 U	0.00039 U	0.00038 U	0.0021 U	0.002 U	0.00037 U	0.00037 U
Toxaphene	NE	NE	NE	mg/kg	0.058 U	0.61 U	0.11 U	0.1 U	0.011 U	0.011 U	0.059 U	0.058 U	0.01 U	0.011 U
Polychlorinated Biphenyls (PCBs)														
Aroclor 1016	NE	NE	3.2	mg/kg	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	NE	NE	3.2	mg/kg	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	NE	NE	3.2	mg/kg	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	NE	NE	3.2	mg/kg	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	NE	NE	3.2	mg/kg	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	NE	NE	3.2	mg/kg	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	NE	NE	3.2	mg/kg	--	--	--	--	--	--	--	--	--	--
Total PCBs	25	1.0	3.2	mg/kg	--	--	--	--	--	--	--	--	--	--

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
U1 - The analyte was analyzed for, but was not detected substantially above the level reported in laboratory or field blanks.
J+ - Estimated concentration. Reported value may be biased high. Result is esitmated high
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
N J - The analyte detection if tentative in indentification and estimated in value.
B - Constituent was found in the blank and the sample.
R - Result rejected as determined by the data validator.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related QC is outside acceptance limits.
* - Laboratory Control Sample (LCS) or Laboratory Control Sample Duplicate (LCSD) is outside acceptance limits
NE - Not established.
ND - Not detected
(a) - Zoning determination based on review of City of Troy Official Zoning Map dated 12/19/16. Zoning classification for the Site is identified as Waterfront Trade District, which permits industrial usage of property.
(b) - Chromium analysis was for total chromium. To be conservative, total chromium concentrations were compared to hexavalent chromium SCOs.

Boxes and bolded values indicate concentrations are above New York State Subpart 375 Soil Cleanup Objectives for: Protection of Public Health for Industrially Zoned Properties, Protection of Ecological Resources, and/or Protection of Groundwater.

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-12 33-34.1 1/31/2017	SB-12 37-38.2 1/31/2017	SB-13 5-6.6 1/27/2017	SB-13 9-10.3 1/27/2017	SB-13 17-18.2 1/27/2017	SB-13 23-24.2 1/30/2017	SB-13 29-30.2 1/30/2017	SB-13 35-35.5 1/30/2017	SB-13 DUP 35-35.5 1/30/2017	SB-14 5-6.6 1/25/2017
Volatile Organic Compounds (VOCs)														
BTEX														
Benzene	89	70	0.06	mg/kg	**0.47**	0.0048	0.00041 J	2.9 U	0.0067 UJ	0.041 J	0.00021 U	0.0002 U	0.00027 J	0.00021 U
Toluene	1000	36	0.7	mg/kg	0.11	0.00044 J	0.00079 J	**0.92 J**	0.0067 U	0.17	0.00032 U	0.00031 U	0.00032 U	0.00033 U
Ethylbenzene	780	NE	1	mg/kg	0.17	0.00023 U	0.0066 UJ	2.9 U	0.0067 U	0.016 U	0.0003 U	0.00028 U	0.00029 U	0.0003 U
Xylenes, total	1000	0.26	1.6	mg/kg	**5.7**	0.0029 J	0.013 UJ	**3.6 J**	0.013 U	0.23	0.00072 U	0.00069 U	0.0007 U	0.00073 U
Total BTEX	NE	NE	NE	mg/kg	6.5	0.0081	0.0012 J	4.5 J	ND	0.44 J	ND	ND	0.00027 J	ND
Other VOCs														
1,1,1-Trichloroethane	1000	NE	0.68	mg/kg	0.023 U	0.00024 U	0.0066 U	2.9 U	0.0067 U	0.015 U	0.00031 U	0.0003 U	0.0003 U	0.00031 U
1,1,2,2-Tetrachloroethane	NE	NE	NE	mg/kg	0.013 U	0.00054 U	0.0066 UJ	2.9 U	0.0067 UJ	0.0089 U	0.00069 U	0.00067 U	0.00068 U	0.0007 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NE	NE	NE	mg/kg	0.041 U	0.00075 U	0.0066 U	2.9 U	0.0067 U	0.028 U	0.00098 U	0.00094 U	0.00095 U	0.00099 U
1,1,2-Trichloroethane	NE	NE	NE	mg/kg	0.017 U	0.00043 U	0.0066 UJ	2.9 U	0.0067 U	0.012 U	0.00056 U	0.00054 U	0.00054 U	0.00056 U
1,1-Dichloroethane	480	NE	0.27	mg/kg	0.025 U	0.0004 U	0.0066 U	2.9 U	0.0067 U	0.017 U	0.00052 U	0.0005 U	0.00051 U	0.00053 U
1,1-Dichloroethene	1000	NE	0.33	mg/kg	0.028 U	0.0004 U	0.0066 U	2.9 U	0.0067 U	0.019 U	0.00052 U	0.0005 U	0.00051 U	0.00053 U
1,2,4-Trichlorobenzene	NE	NE	NE	mg/kg	0.031 U	0.0002 U	0.0066 UJ	2.9 U	0.0067 UJ	0.021 U	0.00026 U	0.00025 U	0.00025 U	0.00026 U
1,2-Dibromo-3-chloropropane (DBCP)	NE	NE	NE	mg/kg	0.041 U	0.0017 U	0.0066 UJ	2.9 U	0.0067 UJ	0.028 U	0.0021 U	0.0021 U	0.0021 U	0.0022 U
1,2-Dibromoethane (EDB)	NE	NE	NE	mg/kg	0.014 U	0.00042 U	0.0066 UJ	2.9 U	0.0067 U	0.0096 U	0.00055 U	0.00053 U	0.00054 U	0.00056 U
1,2-Dichlorobenzene	1000	NE	1.1	mg/kg	0.021 U	0.00026 U	0.0066 UJ	2.9 U	0.0067 UJ	0.014 U	0.00033 U	0.00032 U	0.00033 U	0.00034 U
1,2-Dichloroethane	60	10	0.02	mg/kg	0.034 U	0.00017 U	0.0066 U	2.9 U	0.0067 U	0.023 U	0.00021 U	0.00021 U	0.00021 U	0.00022 U
1,2-Dichloropropane	NE	NE	NE	mg/kg	0.013 U	0.0017 U	0.0066 U	2.9 U	0.0067 U	0.0089 U	0.0021 U	0.0021 U	0.0021 U	0.0022 U
1,3-Dichlorobenzene	560	NE	2.4	mg/kg	0.022 U	0.00017 U	0.0066 UJ	2.9 U	0.0067 UJ	0.015 U	0.00022 U	0.00021 U	0.00022 U	0.00022 U
1,4-Dichlorobenzene	250	20	1.8	mg/kg	0.012 U	0.00046 U	0.0066 UJ	2.9 U	0.0067 UJ	0.0077 U	0.0006 U	0.00058 U	0.00059 U	0.00061 U
2-Butanone (MEK)	1000	100	0.12	mg/kg	0.24 U	0.0012 U	0.033 UJ	15 U	0.034 UJ	0.16 U	0.0016 U	0.0015 U	0.0029 J	0.0016 U
2-Hexanone	NE	NE	NE	mg/kg	0.17 U	0.0017 U	0.033 UJ	15 U	0.034 U	0.11 U	0.0021 U	0.0021 U	0.0021 U	0.0022 U
4-Methyl-2-pentanone (MIBK)	NE	NE	NE	mg/kg	0.026 U	0.0011 U	0.033 UJ	15 U	0.034 U	0.018 U	0.0014 U	0.0014 U	0.0014 U	0.0014 U
Acetone	1000	2.2	0.05	mg/kg	0.34 U	0.004 J	0.012 U1	15 U	0.014 U1	0.23 U	0.017 J	0.014 J	0.022	0.01 U1
Bromodichloromethane	NE	NE	NE	mg/kg	0.016 U	0.00044 U	0.0066 U	2.9 U	0.0067 U	0.011 U	0.00057 U	0.00055 U	0.00056 U	0.00058 U
Bromoform	NE	NE	NE	mg/kg	0.041 U	0.0017 U	0.0066 UJ	2.9 U	0.0067 U	0.028 U	0.0021 U	0.0021 U	0.0021 U	0.0022 U
Bromomethane	NE	NE	NE	mg/kg	0.018 U	0.0003 U	0.0066 U	2.9 U	0.0067 U	0.012 U	0.00039 U	0.00037 U	0.00038 U	0.00039 U
Carbon disulfide	NE	NE	NE	mg/kg	0.037 U	0.0017 U	0.0066 U	2.9 U	0.0067 U	0.025 U	0.0021 U	0.0021 U	0.0021 U	0.0022 U
Carbon tetrachloride	44	NE	0.76	mg/kg	0.021 U	0.00032 U	0.0066 U	2.9 U	0.0067 U	0.014 U	0.00041 U	0.0004 U	0.00041 U	0.00042 U
Chlorobenzene	1000	40	1.1	mg/kg	0.011 U	0.00044 U	0.0066 UJ	2.9 U	0.0067 UJ	0.0073 U	0.00057 U	0.00054 U	0.00055 U	0.00057 U
Chloroethane	NE	NE	NE	mg/kg	0.017 U	0.00075 U	0.0066 U	2.9 U	0.0067 U	0.011 U	0.00097 U	0.00093 U	0.00095 U	0.00098 U
Chloroform	700	12	0.37	mg/kg	0.056 U	0.0002 U	0.0066 U	2.9 U	0.0067 U	0.038 U	0.00026 U	0.00025 U	0.00026 U	0.00027 U
Chloromethane	NE	NE	NE	mg/kg	0.02 U	0.0002 U	0.0066 U	2.9 U	0.0067 U	0.013 U	0.00026 U	0.00025 U	0.00025 U	0.00026 U
cis-1,2-Dichloroethene	1000	NE	0.25	mg/kg	0.023 U	0.00042 U	0.0066 U	2.9 U	0.0067 U	0.015 U	0.00055 U	0.00053 U	0.00054 U	0.00055 U
cis-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.02 U	0.00048 U	0.0066 U	2.9 U	0.0067 U	0.013 U	0.00062 U	0.00059 U	0.0006 U	0.00062 U
Cyclohexane	NE	NE	NE	mg/kg	0.018 U	0.00046 U	0.0015 J	2.9 U	0.0067 U	0.012 U	0.0006 U	0.00058 U	0.00059 U	0.00061 U
Dibromochloromethane	NE	NE	NE	mg/kg	0.04 U	0.00042 U	0.0066 UJ	2.9 U	0.0067 U	0.027 U	0.00055 U	0.00053 U	0.00054 U	0.00055 U
Dichlorodifluoromethane (Freon 12)	NE	NE	NE	mg/kg	0.036 U	0.00027 U	0.0066 U	2.9 U	0.0067 U	0.024 U	0.00035 U	0.00034 U	0.00035 U	0.00036 U
Isopropylbenzene (Cumene)	NE	NE	NE	mg/kg	0.97	0.0005 J	0.0066 UJ	2.9 U	0.0067 UJ	0.0083 U	0.00065 U	0.00062 U	0.00063 U	0.00065 U
Methyl acetate	NE	NE	NE	mg/kg	0.039 U	0.002 U	0.033 U	15 U	0.034 U	0.026 U	0.0026 U	0.0025 U	0.0025 U	0.0026 U
Methylcyclohexane	NE	NE	NE	mg/kg	0.038 U	0.0005 U	0.0025 J	2.9 U	0.0067 U	0.029 J	0.00065 U	0.00063 U	0.00064 U	0.00092 J
Methylene chloride	1000	12	0.05	mg/kg	0.021 J	0.0015 U	0.0066 U	2.9 U	0.0067 U	0.011 U	0.013	0.016	0.016	0.002 U
Styrene	NE	NE	NE	mg/kg	0.02 U	0.00017 U	0.0066 UJ	2.9 U	0.0067 U	0.013 U	0.00021 U	0.00021 U	0.00021 U	0.00022 U
tert-Butyl methyl ether (MTBE)	1000	NE	0.93	mg/kg	0.031 U	0.00032 U	0.0066 U	2.9 U	0.0067 U	0.021 U	0.00042 U	0.0004 U	0.00041 U	0.00042 U
Tetrachloroethene (PCE)	300	2	1.3	mg/kg	0.011 U	0.00044 U	0.0066 UJ	2.9 U	0.0067 U	0.0074 U	0.00057 U	0.00055 U	0.00056 U	0.00058 U
trans-1,2-Dichloroethene	1000	NE	0.19	mg/kg	0.019 U	0.00034 U	0.0066 U	2.9 U	0.0067 U	0.013 U	0.00044 U	0.00043 U	0.00043 U	0.00045 U
trans-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.0081 U	0.0015 U	0.0066 UJ	2.9 U	0.0067 U	0.0054 U	0.0019 U	0.0018 U	0.0018 U	0.0019 U
Trichloroethene (TCE)	400	2	0.47	mg/kg	0.023 U	0.00073 U	0.0066 U	2.9 U	0.0067 U	0.015 U	0.00094 U	0.00091 U	0.00092 U	0.00095 U
Trichlorofluoromethane (Freon 11)	NE	NE	NE	mg/kg	0.039 U	0.00031 U	0.0066 U	2.9 U	0.0067 U	0.026 U	0.00041 U	0.00039 U	0.0004 U	0.00041 U
Vinyl chloride	27	NE	0.02	mg/kg	0.028 U	0.0004 U	0.0066 U	2.9 U	0.0067 U	0.018 U	0.00052 U	0.0005 U	0.00051 U	0.00053 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-12 33-34.1 1/31/2017	SB-12 37-38.2 1/31/2017	SB-13 5-6.6 1/27/2017	SB-13 9-10.3 1/27/2017	SB-13 17-18.2 1/27/2017	SB-13 23-24.2 1/30/2017	SB-13 29-30.2 1/30/2017	SB-13 35-35.5 1/30/2017	SB-13 DUP 35-35.5 1/30/2017	SB-14 5-6.6 1/25/2017
Semi-volatile Organic Compounds (SVOCs)														
Polycyclic Aromatic Hydrocarbons (PAHs)														
Acenaphthene	1000	20	98	mg/kg	0.55 U	0.028 U	4.1 U	8.6 J	0.2 U	0.23 J	0.15 U	0.25 J	0.33 J	0.15 U
Acenaphthylene	1000	NE	107	mg/kg	0.48 U	0.024 U	2.4 J	83 J	0.089 J	1.7	0.13 U	0.13 U	0.13 U	0.25 J
Anthracene	1000	NE	1000	mg/kg	0.92 U	0.046 U	4.6 J	130 J	0.12 J	2.4	0.36 J	0.43 J	0.52 J	0.44 J
Benzo(a)anthracene	11	NE	1	mg/kg	0.37 U	0.028 J	**10 J**	**180 J**	0.28 J	**2.3**	0.58 J	**1.2**	**1.2**	**1.2 J**
Benzo(a)pyrene	1.1	2.6	22	mg/kg	0.55 U	0.028 U	**9.5 J**	**120 J**	0.29 J	**1.4**	0.44 J	1	1	0.9 J
Benzo(b)fluoranthene	11	NE	1.7	mg/kg	0.59 U	0.03 U	**11 J**	**170 J**	0.39 J	**2**	0.52 J	1.2	1.3	1.3 J
Benzo(g,h,i)perylene	1000	NE	1000	mg/kg	0.39 U	0.02 U	6.3 J	73 J	0.23 J	0.69 J	0.24 J	0.56 J	0.53 J	0.53 J
Benzo(k)fluoranthene	110	NE	1.7	mg/kg	0.48 U	0.024 U	**6.8 J**	**77 J**	0.13 J	0.84 J	0.22 J	0.5 J	0.43 J	0.66 J
Chrysene	110	NE	1	mg/kg	0.83 U	0.042 U	**9.3 J**	**150 J**	0.22 J	**1.8**	0.48 J	**1.1**	**1.1**	**1.3 J**
Dibenz(a,h)anthracene	1.1	NE	1000	mg/kg	0.66 U	0.033 U	4.1 U	**35 J**	0.14 J	0.32 J	0.18 U	0.17 U	0.18 U	0.18 U
Fluoranthene	1000	NE	1000	mg/kg	0.64 J	0.056 J	20 J	410 J	0.4 J	5.4	1.1	1.9	2	2.1 J
Fluorene	1000	30	386	mg/kg	0.55 J	0.037 J	1.8 J	**130 J**	0.12 J	3.1	0.16 J	0.13 J	0.2 J	0.29 J
Indeno(1,2,3-c,d)pyrene	11	NE	8.2	mg/kg	0.46 U	0.023 U	6.8 J	**78 J**	0.25 J	0.67 J	0.24 J	0.49 J	0.5 J	0.52 J
Naphthalene	1000	NE	12	mg/kg	6.4	1.1	1.2 J	**190 J**	0.33 J	7	0.37 J	0.17 J	0.32 J	0.36 J
Phenanthrene	1000	NE	1000	mg/kg	0.91 J	0.085 J	12 J	510 J	0.36 J	8.7	0.76 J	0.92 J	1.1	1.7 J
Pyrene	1000	NE	1000	mg/kg	0.46 J	0.039 J	14 J	260 J	0.29 J	3.8	0.96 J	1.9	1.9	1.8 J
2-Methylnaphthalene	NE	NE	NE	mg/kg	1.9 J	0.13 J	0.83 J	84 J	0.1 J	2.6	0.2 U	0.2 U	0.21 U	0.26 J
Total PAHS	NE	NE	NE	mg/kg	11	1.5 J	117 J	2689 J	3.7 J	45	6.4	12	12	14 J
Other SVOCs														
2,4,5-Trichlorophenol	NE	NE	NE	mg/kg	1 U	0.051 U	4.1 U	11 U	0.2 U	0.31 U	0.27 U	0.26 U	0.28 U	0.27 U
2,4,6-Trichlorophenol	NE	NE	NE	mg/kg	0.74 U	0.037 U	4.1 U	11 U	0.2 U	0.23 U	0.2 U	0.2 U	0.21 U	0.2 U
2,4-Dichlorophenol	NE	NE	NE	mg/kg	0.39 U	0.02 U	4.1 U	11 U	0.2 U	0.12 U	0.11 U	0.1 U	0.11 U	0.11 U
2,4-Dimethylphenol	NE	NE	NE	mg/kg	0.9 U	0.045 U	4.1 U	11 U	0.2 U	0.28 U	0.24 U	0.24 U	0.25 U	0.24 U
2,4-Dinitrophenol	NE	NE	NE	mg/kg	17 U	0.86 U	40 U	110 U	2 U	5.3 U	4.6 U	4.5 U	4.7 U	4.7 U
2,4-Dinitrotoluene	NE	NE	NE	mg/kg	0.76 U	0.039 U	4.1 U	11 U	0.2 U	0.24 U	0.21 U	0.2 U	0.21 U	0.21 U
2,6-Dinitrotoluene	NE	NE	NE	mg/kg	0.44 U	0.022 U	4.1 U	11 U	0.2 U	0.13 U	0.12 U	0.12 U	0.12 U	0.12 U
2-Chloronaphthalene	NE	NE	NE	mg/kg	0.61 U	0.031 U	4.1 U	11 U	0.2 U	0.19 U	0.17 U	0.16 U	0.17 U	0.17 U
2-Chlorophenol	NE	NE	NE	mg/kg	0.68 U	0.034 U	4.1 U	11 U	0.2 U	0.21 U	0.18 U	0.18 U	0.19 U	0.19 U
2-Methylphenol (o-cresol)	1000	NE	0.33	mg/kg	0.44 U	0.022 U	4.1 U	11 U	0.2 U	0.13 U	0.12 U	0.12 U	0.12 U	0.12 U
2-Nitroaniline	NE	NE	NE	mg/kg	0.55 U	0.028 U	8 U	21 U	0.4 U	0.17 U	0.15 U	0.14 U	0.15 U	0.15 U
2-Nitrophenol	NE	NE	NE	mg/kg	1 U	0.053 U	4.1 U	11 U	0.2 U	0.32 U	0.28 U	0.28 U	0.29 U	0.29 U
3,3'-Dichlorobenzidine	NE	NE	NE	mg/kg	4.4 U	0.22 U	8 U	21 U	0.4 U	1.3 U	1.2 U	1.2 U	1.2 U	1.2 U
3-Nitroaniline	NE	NE	NE	mg/kg	1 U	0.052 U	8 U	21 U	0.4 U	0.32 U	0.28 U	0.27 U	0.28 U	0.28 U
4,6-Dinitro-2-methylphenol	NE	NE	NE	mg/kg	3.7 U	0.19 U	8 U	21 U	0.4 U	1.1 U	1 U	0.98 U	1 U	1 U
4-Bromophenyl phenyl ether	NE	NE	NE	mg/kg	0.52 U	0.026 U	4.1 U	11 U	0.2 U	0.16 U	0.14 U	0.14 U	0.15 U	0.14 U
4-Chloro-3-methylphenol	NE	NE	NE	mg/kg	0.92 U	0.046 U	4.1 U	11 U	0.2 U	0.28 U	0.25 U	0.24 U	0.25 U	0.25 U
4-Chloroaniline	NE	NE	NE	mg/kg	0.92 U	0.046 U	4.1 U	11 U	0.2 U	0.28 U	0.25 U	0.24 U	0.25 U	0.25 U
4-Chlorophenyl phenyl ether	NE	NE	NE	mg/kg	0.46 U	0.023 U	4.1 U	11 U	0.2 U	0.14 U	0.12 U	0.12 U	0.13 U	0.13 U
4-Methylphenol	1000	NE	0.33	mg/kg	0.44 U	0.022 U	8 U	**2.9 J**	0.4 U	**0.4 J**	0.12 U	0.12 U	0.12 U	0.12 U
4-Nitroaniline	NE	NE	NE	mg/kg	1.9 U	0.098 U	8 U	21 U	0.4 U	0.6 U	0.53 U	0.51 U	0.54 U	0.53 U
4-Nitrophenol	NE	NE	NE	mg/kg	2.6 U	0.13 U	8 U	21 U	0.4 U	0.8 U	0.7 U	0.68 U	0.72 U	0.71 U
Acetophenone	NE	NE	NE	mg/kg	0.5 U	0.025 U	4.1 U	11 U	0.2 U	0.15 U	0.14 U	0.13 U	0.14 U	0.14 U
Atrazine	NE	NE	NE	mg/kg	1.3 U	0.065 U	4.1 U	11 U	0.2 U	0.4 U	0.35 U	0.34 U	0.36 U	0.35 U
Benzaldehyde	NE	NE	NE	mg/kg	3 U	0.15 U	4.1 UJ	11 UJ	0.2 UJ	0.91 U	0.8 U	0.78 U	0.82 U	0.81 U
Benzyl butyl phthalate	NE	NE	NE	mg/kg	0.61 U	0.031 U	4.1 U	11 U	0.2 U	0.19 U	0.17 U	0.16 U	0.17 U	0.17 U
Biphenyl (Diphenyl)	NE	NE	NE	mg/kg	0.55 U	0.028 U	4.1 U	16 J	0.2 U	0.43 J	0.15 U	0.14 U	0.15 U	0.15 U
bis(2-Chloroethoxy)methane	NE	NE	NE	mg/kg	0.79 U	0.04 U	4.1 U	11 U	0.2 U	0.24 U	0.21 U	0.21 U	0.22 U	0.22 U
bis(2-Chloroethyl)ether	NE	NE	NE	mg/kg	0.48 U	0.024 U	4.1 U	11 U	0.2 U	0.15 U	0.13 U	0.13 U	0.13 U	0.13 U
bis(2-Chloroisopropyl)ether	NE	NE	NE	mg/kg	0.74 U	0.037 U	4.1 U	11 U	0.2 U	0.23 U	0.2 U	0.2 U	0.21 U	0.2 U
bis(2-Ethylhexyl)phthalate	NE	NE	NE	mg/kg	1.3 U	0.064 U	4.1 U	11 U	0.2 U	0.39 U	0.34 U	0.34 J	0.35 U	0.35 U
Caprolactam	NE	NE	NE	mg/kg	1.1 U	0.056 U	4.1 U	11 U	0.2 U	0.34 U	0.3 U	0.29 U	0.31 U	0.3 U
Carbazole	NE	NE	NE	mg/kg	0.44 U	0.022 U	1 J	59 J	0.06 J	1.3	0.12 U	0.12 U	0.12 U	0.13 J
Dibenzofuran	1000	NE	210	mg/kg	0.46 J	0.032 J	1.1 J	76 J	0.073 J	1.9	0.12 U	0.12 U	0.12 U	0.23 J
Diethyl phthalate	NE	NE	NE	mg/kg	0.48 U	0.024 U	4.1 U	11 U	0.2 U	0.15 U	0.13 U	0.13 U	0.13 U	0.13 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-12 33-34.1 1/31/2017	SB-12 37-38.2 1/31/2017	SB-13 5-6.6 1/27/2017	SB-13 9-10.3 1/27/2017	SB-13 17-18.2 1/27/2017	SB-13 23-24.2 1/30/2017	SB-13 29-30.2 1/30/2017	SB-13 35-35.5 1/30/2017	SB-13 DUP 35-35.5 1/30/2017	SB-14 5-6.6 1/25/2017
Dimethyl phthalate	NE	NE	NE	mg/kg	0.44 U	0.022 U	4.1 U	11 U	0.2 U	0.13 U	0.12 U	0.12 U	0.12 U	0.12 U
dl-n-Butyl phthalate	NE	NE	NE	mg/kg	0.63 U	0.032 U	4.1 U	11 U	0.2 U	0.2 U	0.17 U	0.17 U	0.18 U	0.17 U
dl-n-Octyl phthalate	NE	NE	NE	mg/kg	0.44 U	0.022 U	4.1 U	11 U	0.2 U	0.13 U	0.12 U	0.12 U	0.12 U	0.12 U
Hexachlorobenzene	12	NE	3.2	mg/kg	0.5 U	0.025 U	4.1 U	11 U	0.2 U	0.15 U	0.14 U	0.13 U	0.14 U	0.14 U
Hexachlorobutadiene	NE	NE	NE	mg/kg	0.55 U	0.028 U	4.1 U	11 U	0.2 U	0.17 U	0.15 U	0.14 U	0.15 U	0.15 U
Hexachlorocyclopentadiene	NE	NE	NE	mg/kg	0.5 U	0.025 U	4.1 U	11 U	0.2 U	0.15 U	0.14 U	0.13 U	0.14 U	0.14 U
Hexachloroethane	NE	NE	NE	mg/kg	0.48 U	0.024 U	4.1 U	11 U	0.2 U	0.15 U	0.13 U	0.13 U	0.13 U	0.13 U
Isophorone	NE	NE	NE	mg/kg	0.79 U	0.04 U	4.1 U	11 U	0.2 U	0.24 U	0.21 U	0.21 U	0.22 U	0.22 U
Nitrobenzene	NE	NE	NE	mg/kg	0.42 U	0.021 U	4.1 U	11 U	0.2 U	0.13 U	0.11 U	0.11 U	0.12 U	0.11 U
N-Nitroso-di-n-propylamine	NE	NE	NE	mg/kg	0.63 U	0.032 U	4.1 U	11 U	0.2 U	0.2 U	0.17 U	0.17 U	0.18 U	0.17 U
N-Nitrosodiphenylamine	NE	NE	NE	mg/kg	3 U	0.15 U	4.1 U	11 U	0.2 U	0.93 U	0.81 U	0.79 U	0.84 U	0.82 U
Pentachlorophenol	55	0.8	0.8	mg/kg	3.7 U	0.19 U	8 U	21 U	0.4 U	1.1 U	1 U	0.98 U	1 U	1 U
Phenol	1000	30	0.33	mg/kg	0.57 U	0.029 U	4.1 U	**1.8 J**	0.2 U	0.17 U	0.15 U	0.15 U	0.16 U	0.16 U
Inorganic Constituents														
Cyanide, total	10000	NE	40	mg/kg	0.51 U	0.5 U	1.1 J	9.5 J	7.3 J	0.61 U	0.52 U	0.56 U	0.6 U	0.56 U
Aluminum	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Antimony	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Arsenic	16	13	16	mg/kg	--	--	--	--	--	--	--	--	--	--
Barium	10000	433	820	mg/kg	--	--	--	--	--	--	--	--	--	--
Beryllium	2700	10	47	mg/kg	--	--	--	--	--	--	--	--	--	--
Cadmium	60	4	7.5	mg/kg	--	--	--	--	--	--	--	--	--	--
Calcium	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Chromium[b]	800	1	19	mg/kg	--	--	--	--	--	--	--	--	--	--
Cobalt	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Copper	10000	50	1720	mg/kg	--	--	--	--	--	--	--	--	--	--
Iron	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Lead	3900	63	450	mg/kg	--	--	--	--	--	--	--	--	--	--
Magnesium	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Manganese	10000	1600	2000	mg/kg	--	--	--	--	--	--	--	--	--	--
Nickel	10000	30	130	mg/kg	--	--	--	--	--	--	--	--	--	--
Potassium	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Selenium	6800	3.9	4	mg/kg	--	--	--	--	--	--	--	--	--	--
Silver	6800	2	8.3	mg/kg	--	--	--	--	--	--	--	--	--	--
Sodium	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Thallium	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Vanadium	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Zinc	10000	109	2480	mg/kg	--	--	--	--	--	--	--	--	--	--
Mercury	5.7	0.18	0.73	mg/kg	--	--	--	--	--	--	--	--	--	--
Pesticides														
4,4'-DDD	180	0.0033	14	mg/kg	0.0018 U	0.00035 U	0.04 U	0.042 U	0.002 U	0.00087 U	0.00038 U	0.00037 U	0.00039 U	0.0039 U
4,4'-DDE	120	0.0033	17	mg/kg	0.0019 U	0.00038 U	0.04 U	0.042 U	0.002 U	0.00094 U	0.00041 U	0.0004 U	0.00042 U	0.0042 U
4,4'-DDT	94	0.0033	136	mg/kg	0.0026 J	0.00042 U	**0.015 J**	**0.013 J**	0.002 U	0.0017 J	0.00077 J	0.00061 J	0.00075 J	0.0047 U
Aldrin	1.4	0.14	0.19	mg/kg	0.0022 U	0.00044 U	0.04 U	0.042 U	0.002 U	0.0011 U	0.00048 U	0.00047 U	0.00049 U	0.0049 U
alpha Endosulfan (Endosulfan I)	920	NE	102	mg/kg	0.0017 U	0.00035 U	0.04 U	0.042 U	0.002 U	0.00086 U	0.00038 U	0.00037 U	0.00039 U	0.0038 U
beta Endosulfan (Endosulfan II)	920	NE	102	mg/kg	0.0016 U	0.00032 U	0.04 U	0.042 U	0.002 U	0.00081 U	0.00035 U	0.00035 U	0.00036 U	0.0036 U
BHC, alpha	6.8	0.04	0.02	mg/kg	0.0016 U	0.00032 U	0.04 U	0.042 U	0.002 U	0.00081 U	0.00035 U	0.00035 U	0.00036 U	0.0036 U
BHC, beta	14	0.6	0.09	mg/kg	0.0016 U	0.00032 U	0.04 U	0.042 U	0.002 U	0.00081 U	0.00035 U	0.00035 U	0.00036 U	0.0036 U
BHC, delta	1000	0.04	0.25	mg/kg	0.0017 U	0.00034 U	0.04 U	0.042 U	0.00063 J	0.00083 U	0.00037 U	0.00036 U	0.00037 U	0.0037 U
BHC, gamma (Lindane)	23	6	0.1	mg/kg	0.0017 U	0.00033 U	0.04 U	0.042 U	0.002 U	0.00082 U	0.00036 U	0.00035 U	0.00037 U	0.0037 U
Chlordane, alpha	47	1.3	2.9	mg/kg	0.0045 U	0.0009 U	0.04 U	0.042 U	0.002 U	0.0022 U	0.00098 U	0.00096 U	0.001 U	0.01 U
Chlordane, beta	NE	NE	NE	mg/kg	0.0029 U	0.00057 U	0.04 U	0.042 U	0.002 U	0.0014 U	0.00062 U	0.00061 U	0.00064 U	0.0064 U
Dieldrin	2.8	0.006	0.1	mg/kg	0.0022 U	0.00043 U	0.04 U	0.042 U	0.002 U	0.0011 U	0.00047 U	0.00046 U	0.00048 U	0.0048 U
Endosulfan sulfate	920	NE	1000	mg/kg	0.0017 U	0.00034 U	0.017 J	0.067 J	0.002 U	0.0027 J	0.0021	0.00036 U	0.00037 U	0.0037 U
Endrin	410	0.014	0.06	mg/kg	0.0018 U	0.00036 U	0.04 U	**0.023 J**	0.002 U	0.00089 U	0.00039 U	0.00038 U	0.0004 U	0.004 U
Endrin aldehyde	NE	NE	NE	mg/kg	0.0023 U	0.00046 U	0.04 U	0.042 U	0.002 U	0.0011 U	0.0005 U	0.00049 U	0.00051 U	0.0051 U
Endrin ketone	NE	NE	NE	mg/kg	0.0022 U	0.00044 U	0.04 U	0.042 U	0.002 U	0.0017 J	0.00048 U	0.00047 U	0.00049 U	0.014 J

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-12 33-34.1 1/31/2017	SB-12 37-38.2 1/31/2017	SB-13 5-6.6 1/27/2017	SB-13 9-10.3 1/27/2017	SB-13 17-18.2 1/27/2017	SB-13 23-24.2 1/30/2017	SB-13 29-30.2 1/30/2017	SB-13 35-35.5 1/30/2017	SB-13 DUP 35-35.5 1/30/2017	SB-14 5-6.6 1/25/2017
Heptachlor	29	0.14	0.38	mg/kg	0.002 U	0.00039 U	0.04 U	0.042 U	0.002 U	0.00097 U	0.00043 U	0.00042 U	0.00044 U	0.0043 U
Heptachlor epoxide	NE	NE	NE	mg/kg	0.0023 U	0.00047 U	0.04 U	0.042 U	0.002 U	0.0012 U	0.00051 U	0.0005 U	0.00052 U	0.0052 U
Methoxychlor	NE	NE	NE	mg/kg	0.0018 U	0.00037 U	0.04 U	0.042 U	0.002 U	0.00091 U	0.0004 U	0.00039 U	0.00041 U	0.0041 U
Toxaphene	NE	NE	NE	mg/kg	0.053 U	0.011 U	0.4 U	0.42 U	0.02 U	0.026 U	0.011 U	0.011 U	0.012 U	0.12 U
Polychlorinated Biphenyls (PCBs)														
Aroclor 1016	NE	NE	3.2	mg/kg	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	NE	NE	3.2	mg/kg	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	NE	NE	3.2	mg/kg	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	NE	NE	3.2	mg/kg	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	NE	NE	3.2	mg/kg	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	NE	NE	3.2	mg/kg	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	NE	NE	3.2	mg/kg	--	--	--	--	--	--	--	--	--	--
Total PCBs	25	1.0	3.2	mg/kg	--	--	--	--	--	--	--	--	--	--

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
U1 - The analyte was analyzed for, but was not detected substantially above the level reported in laboratory or field blanks.
J+ - Estimated concentration. Reported value may be biased high. Result is esitmated high
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
N J - The analyte detection if tentative in indentification and estimated in value.
B - Constituent was found in the blank and the sample.
R - Result rejected as determined by the data validator.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related QC is outside acceptance limits.
* - Laboratory Control Sample (LCS) or Laboratory Control Sample Duplicate (LCSD) is outside acceptance limits
NE - Not established.
ND - Not detected
(a) - Zoning determination based on review of City of Troy Official Zoning Map dated 12/19/16. Zoning classification for the Site is identified as Waterfront Trade District, which permits industrial usage of property.
(b) - Chromium analysis was for total chromium. To be conservative, total chromium concentrations were compared to hexavalent chromium SCOs.

Boxes and bolded values indicate concentrations are above New York State Subpart 375 Soil Cleanup Objectives for: Protection of Public Health for Industrially Zoned Properties, Protection of Ecological Resources, and/or Protection of Groundwater.

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-14 9-10.3 1/25/2017	SB-14 15-16.8 1/25/2017	SB-14 DUP 15-16.8 1/25/2017	SB-14 19-20.6 1/25/2017	SB-14 23-24 1/25/2017	SB-14 29-30.4 1/25/2017	SB-15 4-5 1/26/2017	SB-15 9-10.2 1/27/2017	SB-15 15-17 1/27/2017	SB-15 21-22.8 1/27/2017
Volatile Organic Compounds (VOCs)														
BTEX														
Benzene	89	70	0.06	mg/kg	0.0012 J	0.0002 U	0.00018 U	0.0003 U	0.00019 U	0.00025 U	0.00085 J	0.0003 J	0.004 UJ	0.0049 U
Toluene	1000	36	0.7	mg/kg	0.0014 J	0.00031 U	0.00027 U	0.00047 U	0.00029 U	0.00039 U	0.00087 J	0.0037 U	0.004 UJ	0.0049 U
Ethylbenzene	780	NE	1	mg/kg	0.00041 U	0.00028 U	0.00025 U	0.00043 U	0.00027 U	0.00036 U	0.0045 UJ	0.0037 U	0.004 UJ	0.0049 U
Xylenes, total	1000	0.26	1.6	mg/kg	0.001 U	0.00068 U	0.0006 U	0.001 U	0.00065 U	0.00087 U	0.009 UJ	0.0074 U	0.0081 UJ	0.0098 U
Total BTEX	NE	NE	NE	mg/kg	0.0026 J	ND	ND	ND	ND	ND	0.0017 J	0.0003 J	ND	ND
Other VOCs														
1,1,1-Trichloroethane	1000	NE	0.68	mg/kg	0.00043 U	0.0003 U	0.00026 U	0.00045 U	0.00028 U	0.00038 U	0.0045 U	0.0037 U	0.004 U	0.0049 U
1,1,2,2-Tetrachloroethane	NE	NE	NE	mg/kg	0.00097 UJ	0.00066 U	0.00058 UJ	0.001 U	0.00063 U	0.00084 U	0.0045 UJ	0.0037 U	0.004 UJ	0.0049 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NE	NE	NE	mg/kg	0.0014 U	0.00093 U	0.00082 U	0.0014 U	0.00089 U	0.0012 U	0.0045 U	0.0037 U	0.004 U	0.0049 U
1,1,2-Trichloroethane	NE	NE	NE	mg/kg	0.00078 U	0.00053 U	0.00047 U	0.00081 U	0.0005 U	0.00067 U	0.0045 UJ	0.0037 U	0.004 UJ	0.0049 U
1,1-Dichloroethane	480	NE	0.27	mg/kg	0.00073 U	0.0005 U	0.00044 U	0.00076 U	0.00047 U	0.00063 U	0.0045 U	0.0037 U	0.004 U	0.0049 U
1,1-Dichloroethene	1000	NE	0.33	mg/kg	0.00073 U	0.0005 U	0.00044 U	0.00076 U	0.00048 U	0.00063 U	0.0045 U	0.0037 U	0.004 U	0.0049 U
1,2,4-Trichlorobenzene	NE	NE	NE	mg/kg	0.00036 UJ	0.00025 U	0.00022 UJ	0.00038 U	0.00024 U	0.00031 U	0.0045 UJ	0.0037 U	0.004 UJ	0.0049 U
1,2-Dibromo-3-chloropropane (DBCP)	NE	NE	NE	mg/kg	0.003 UJ	0.002 U	0.0018 UJ	0.0031 U	0.0019 U	0.0026 U	0.0045 UJ	0.0037 U	0.004 UJ	0.0049 U
1,2-Dibromoethane (EDB)	NE	NE	NE	mg/kg	0.00077 U	0.00052 U	0.00046 U	0.0008 U	0.0005 U	0.00066 U	0.0045 UJ	0.0037 U	0.004 UJ	0.0049 U
1,2-Dichlorobenzene	1000	NE	1.1	mg/kg	0.00047 UJ	0.00032 U	0.00028 UJ	0.00048 U	0.0003 U	0.0004 U	0.0045 UJ	0.0037 U	0.004 UJ	0.0049 U
1,2-Dichloroethane	60	10	0.02	mg/kg	0.0003 U	0.0002 U	0.00018 U	0.00031 U	0.00019 U	0.00026 U	0.0045 UJ	0.0037 U	0.004 U	0.0049 U
1,2-Dichloropropane	NE	NE	NE	mg/kg	0.003 U	0.002 U	0.0018 U	0.0031 U	0.0019 U	0.0026 U	0.0045 U	0.0037 U	0.004 U	0.0049 U
1,3-Dichlorobenzene	560	NE	2.4	mg/kg	0.00031 UJ	0.00021 U	0.00018 UJ	0.00032 U	0.0002 U	0.00027 U	0.0045 UJ	0.0037 U	0.004 UJ	0.0049 U
1,4-Dichlorobenzene	250	20	1.8	mg/kg	0.00084 UJ	0.00057 U	0.0005 UJ	0.00087 U	0.00054 U	0.00072 U	0.0045 UJ	0.0037 U	0.00068 J	0.0049 U
2-Butanone (MEK)	1000	100	0.12	mg/kg	0.0022 U	0.0015 U	0.0013 U	0.0082 J	0.0014 U	0.0046 J	0.023 U	0.018 U	0.02 UJ	0.025 UJ
2-Hexanone	NE	NE	NE	mg/kg	0.003 U	0.002 U	0.0018 U	0.0031 U	0.0019 U	0.0026 U	0.023 U	0.018 U	0.02 UJ	0.025 U
4-Methyl-2-pentanone (MIBK)	NE	NE	NE	mg/kg	0.002 U	0.0013 U	0.0012 U	0.002 U	0.0013 U	0.0017 U	0.023 U	0.018 U	0.02 UJ	0.025 U
Acetone	1000	2.2	0.05	mg/kg	0.021 U1	0.004 U1	0.0033 U1	0.044 J+	0.025 U1	0.032 U1	0.011 U1	0.0091 U1	0.016 U1	0.013 U1
Bromodichloromethane	NE	NE	NE	mg/kg	0.0008 U	0.00055 U	0.00048 U	0.00083 U	0.00052 U	0.00069 U	0.0045 U	0.0037 U	0.004 U	0.0049 U
Bromoform	NE	NE	NE	mg/kg	0.003 U	0.002 U	0.0018 U	0.0031 U	0.0019 U	0.0026 U	0.0045 UJ	0.0037 U	0.004 UJ	0.0049 U
Bromomethane	NE	NE	NE	mg/kg	0.00054 U	0.00037 U	0.00032 U	0.00056 U	0.00035 U	0.00047 U	0.0045 U	0.0037 U	0.004 U	0.0049 U
Carbon disulfide	NE	NE	NE	mg/kg	0.003 U	0.002 U	0.0018 U	0.0031 U	0.0019 U	0.0026 U	0.0045 U	0.0037 U	0.004 U	0.0049 U
Carbon tetrachloride	44	NE	0.76	mg/kg	0.00058 U	0.00039 U	0.00035 U	0.0006 U	0.00038 U	0.0005 U	0.0045 U	0.0037 U	0.004 U	0.0049 U
Chlorobenzene	1000	40	1.1	mg/kg	0.00079 UJ	0.00054 U	0.00048 U	0.00082 U	0.00051 U	0.00068 U	0.0045 UJ	0.0037 U	0.004 UJ	0.0049 U
Chloroethane	NE	NE	NE	mg/kg	0.0013 U	0.00092 U	0.00081 U	0.0014 U	0.00088 U	0.0012 U	0.0045 U	0.0037 U	0.004 U	0.0049 U
Chloroform	700	12	0.37	mg/kg	0.00038 J	0.00025 U	0.00022 U	0.00038 U	0.00024 U	0.00032 U	0.0045 U	0.0037 U	0.00027 J	0.0049 U
Chloromethane	NE	NE	NE	mg/kg	0.00036 UJ	0.00025 UJ	0.00022 UJ	0.00037 U	0.00023 U	0.00031 UJ	0.0045 UJ	0.0037 UJ	0.004 U	0.0049 U
cis-1,2-Dichloroethene	1000	NE	0.25	mg/kg	0.00076 U	0.00052 U	0.00046 U	0.00079 U	0.0005 U	0.00066 U	0.0045 UJ	0.0037 U	0.004 U	0.0049 U
cis-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.00086 U	0.00059 U	0.00052 U	0.00089 U	0.00056 U	0.00074 U	0.0045 UJ	0.0037 U	0.004 U	0.0049 U
Cyclohexane	NE	NE	NE	mg/kg	0.00084 U	0.00057 U	0.0005 U	0.00087 U	0.00054 U	0.00072 U	0.0045 U	0.0037 U	0.004 U	0.0049 U
Dibromochloromethane	NE	NE	NE	mg/kg	0.00076 U	0.00052 U	0.00046 U	0.00079 U	0.0005 U	0.00066 U	0.0045 U	0.0037 U	0.004 UJ	0.0049 U
Dichlorodifluoromethane (Freon 12)	NE	NE	NE	mg/kg	0.00049 U	0.00034 U	0.0003 U	0.00051 U	0.00032 U	0.00043 U	0.0045 U	0.0037 U	0.004 U	0.0049 U
Isopropylbenzene (Cumene)	NE	NE	NE	mg/kg	0.0009 UJ	0.00061 U	0.00054 UJ	0.00094 U	0.00059 U	0.00078 U	0.0045 UJ	0.0037 U	0.004 UJ	0.0049 U
Methyl acetate	NE	NE	NE	mg/kg	0.0036 U	0.0025 U	0.0022 U	0.0037 U	0.0023 U	0.0031 U	0.023 U	0.018 U	0.02 U	0.025 U
Methylcyclohexane	NE	NE	NE	mg/kg	0.00091 U	0.00062 U	0.00055 U	0.00094 U	0.00059 U	0.00079 U	0.0045 U	0.0037 U	0.004 U	0.0049 U
Methylene chloride	1000	12	0.05	mg/kg	0.0027 U	0.0019 U	0.0017 U	0.0029 U	0.0018 U	0.0024 U	0.0045 U	0.0037 U	0.004 U	0.0049 U
Styrene	NE	NE	NE	mg/kg	0.0003 U	0.0002 U	0.00018 U	0.00031 U	0.00019 U	0.00026 U	0.0045 UJ	0.0037 U	0.004 UJ	0.0049 U
tert-Butyl methyl ether (MTBE)	1000	NE	0.93	mg/kg	0.00059 U	0.0004 U	0.00035 U	0.00061 U	0.00038 U	0.00051 U	0.0045 U	0.0037 U	0.004 U	0.0049 U
Tetrachloroethene (PCE)	300	2	1.3	mg/kg	0.0008 U	0.00055 U	0.00048 U	0.00083 U	0.00052 U	0.00069 U	0.0045 UJ	0.0037 U	0.004 UJ	0.0049 U
trans-1,2-Dichloroethene	1000	NE	0.19	mg/kg	0.00062 U	0.00042 U	0.00037 U	0.00064 U	0.0004 U	0.00053 U	0.0045 UJ	0.0037 U	0.004 U	0.0049 U
trans-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.0026 U	0.0018 U	0.0016 U	0.0027 U	0.0017 U	0.0023 U	0.0045 UJ	0.0037 U	0.004 UJ	0.0049 U
Trichloroethene (TCE)	400	2	0.47	mg/kg	0.0013 U	0.0009 U	0.00079 U	0.0014 U	0.00085 U	0.0011 U	0.0045 UJ	0.0037 U	0.004 U	0.0049 U
Trichlorofluoromethane (Freon 11)	NE	NE	NE	mg/kg	0.00056 U	0.00039 U	0.00034 U	0.00059 U	0.00037 U	0.00049 U	0.0045 U	0.0037 U	0.004 U	0.0049 U
Vinyl chloride	27	NE	0.02	mg/kg	0.00073 UJ	0.0005 UJ	0.00044 UJ	0.00076 U	0.00047 U	0.00063 UJ	0.0045 UJ	0.0037 UJ	0.004 U	0.0049 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-14 9-10.3 1/25/2017	SB-14 15-16.8 1/25/2017	SB-14 DUP 15-16.8 1/25/2017	SB-14 19-20.6 1/25/2017	SB-14 23-24 1/25/2017	SB-14 29-30.4 1/25/2017	SB-15 4-5 1/26/2017	SB-15 9-10.2 1/27/2017	SB-15 15-17 1/27/2017	SB-15 21-22.8 1/27/2017
Semi-volatile Organic Compounds (SVOCs)														
Polycyclic Aromatic Hydrocarbons (PAHs)														
Acenaphthene	1000	20	98	mg/kg	0.16 U	0.14 U	0.14 U	0.17 U	0.14 U	0.16 U	0.94 U	0.18 U	0.19 U	0.21 U
Acenaphthylene	1000	NE	107	mg/kg	0.16 J	0.18 J	0.16 J	0.15 U	0.12 U	0.14 U	0.17 J	0.18 U	0.19 U	0.21 U
Anthracene	1000	NE	1000	mg/kg	0.26 U	0.36 J	0.41 J	0.29 U	0.23 U	0.27 U	0.94 U	0.18 U	0.19 U	0.21 U
Benzo(a)anthracene	11	NE	1	mg/kg	0.78 J	**1.7 J**	**1.6 J**	0.12 U	0.094 U	0.17 J	0.75 J	0.18 U	0.051 J	0.21 U
Benzo(a)pyrene	1.1	2.6	22	mg/kg	0.73 J	**1.3 J**	**1.2 J**	0.17 U	0.14 U	0.16 U	0.55 J	0.18 U	0.068 J	0.21 U
Benzo(b)fluoranthene	11	NE	1.7	mg/kg	0.96 J	**2.4 J**	1.6 J	0.19 U	0.15 U	0.17 J	0.94 J	0.072 J	0.13 J	0.21 U
Benzo(g,h,i)perylene	1000	NE	1000	mg/kg	0.52 J	0.65 J	0.61 J	0.12 U	0.1 U	0.12 U	0.64 J	0.18 U	0.092 J	0.21 U
Benzo(k)fluoranthene	110	NE	1.7	mg/kg	0.43 J	0.12 U	0.81 J	0.15 U	0.12 U	0.14 U	0.26 J	0.18 U	0.19 U	0.21 U
Chrysene	110	NE	1	mg/kg	0.82 J	**1.6 J**	**1.6 J**	0.26 U	0.21 U	0.25 U	0.52 J	0.18 U	0.05 J	0.21 U
Dibenz(a,h)anthracene	1.1	NE	1000	mg/kg	0.19 U	0.17 U	0.17 J	0.21 U	0.17 U	0.19 U	0.94 U	0.18 U	0.19 U	0.21 U
Fluoranthene	1000	NE	1000	mg/kg	1.3 J	2.2 J	2.1 J	0.12 U	0.22 J	0.21 J	1.3 J	0.18 U	0.09 J	0.21 U
Fluorene	1000	30	386	mg/kg	0.12 U	0.11 J	0.12 U	0.14 U	0.11 U	0.13 U	0.11 J	0.18 U	0.19 U	0.21 U
Indeno(1,2,3-c,d)pyrene	11	NE	8.2	mg/kg	0.47 J	0.61 J	0.57 J	0.15 U	0.12 U	0.14 U	0.7 J	0.18 U	0.11 J	0.21 U
Naphthalene	1000	NE	12	mg/kg	0.14 U	0.16 J	0.13 U	0.15 U	0.14 J	0.14 U	0.94 U	0.18 U	0.19 U	0.21 U
Phenanthrene	1000	NE	1000	mg/kg	0.69 J	1 J	1.3 J	0.17 U	0.78 J	0.19 J	0.9 J	0.055 J	0.088 J	0.21 U
Pyrene	1000	NE	1000	mg/kg	1.1 J	2 J	2 J	0.14 U	0.31 J	0.15 J	1.3 J	0.18 U	0.038 J	0.21 U
2-Methylnaphthalene	NE	NE	NE	mg/kg	0.21 U	0.19 U	0.2 U	0.23 U	0.88 J	0.22 U	0.94 U	0.18 U	0.19 U	0.21 U
Total PAHS	NE	NE	NE	mg/kg	8.0 J	14 J	14 J	ND	2.3 J	0.89 J	8.1 J	0.13 J	0.72 J	ND
Other SVOCs														
2,4,5-Trichlorophenol	NE	NE	NE	mg/kg	0.29 U	0.26 U	0.27 U	0.32 U	0.25 U	0.3 U	0.94 U	0.18 U	0.19 U	0.21 U
2,4,6-Trichlorophenol	NE	NE	NE	mg/kg	0.21 U	0.19 U	0.2 U	0.23 U	0.19 U	0.22 U	0.94 U	0.18 U	0.19 U	0.21 U
2,4-Dichlorophenol	NE	NE	NE	mg/kg	0.11 U	0.1 U	0.1 U	0.12 U	0.1 U	0.12 U	0.94 U	0.18 U	0.19 U	0.21 U
2,4-Dimethylphenol	NE	NE	NE	mg/kg	0.26 U	0.23 U	0.24 U	0.28 U	0.23 U	0.26 U	0.94 U	0.18 U	0.19 U	0.21 U
2,4-Dinitrophenol	NE	NE	NE	mg/kg	4.9 U	4.5 U	4.5 U	5.4 U	4.3 U	5.1 U	9.2 U	1.8 U	1.8 U	2.1 U
2,4-Dinitrotoluene	NE	NE	NE	mg/kg	0.22 U	0.2 U	0.2 U	0.24 U	0.19 U	0.23 U	0.94 U	0.18 U	0.19 U	0.21 U
2,6-Dinitrotoluene	NE	NE	NE	mg/kg	0.12 U	0.11 U	0.12 U	0.14 U	0.11 U	0.13 U	0.94 U	0.18 U	0.19 U	0.21 U
2-Chloronaphthalene	NE	NE	NE	mg/kg	0.17 U	0.16 U	0.16 U	0.19 U	0.16 U	0.18 U	0.94 U	0.18 U	0.19 U	0.21 U
2-Chlorophenol	NE	NE	NE	mg/kg	0.19 U	0.18 U	0.18 U	0.21 U	0.17 U	0.2 U	0.94 U	0.18 U	0.19 U	0.21 U
2-Methylphenol (o-cresol)	1000	NE	0.33	mg/kg	0.12 U	0.11 U	0.12 U	0.14 U	0.11 U	0.13 U	0.94 U	0.18 U	0.19 U	0.21 U
2-Nitroaniline	NE	NE	NE	mg/kg	0.16 U	0.14 U	0.14 U	0.17 U	0.14 U	0.16 U	1.8 U	0.35 U	0.37 U	0.41 U
2-Nitrophenol	NE	NE	NE	mg/kg	0.3 U	0.27 U	0.28 U	0.33 U	0.27 U	0.31 U	0.94 U	0.18 U	0.19 U	0.21 U
3,3'-Dichlorobenzidine	NE	NE	NE	mg/kg	1.2 U	1.1 U	1.2 U	1.4 U	1.1 U	1.3 U	1.8 U	0.35 U	0.37 U	0.41 U
3-Nitroaniline	NE	NE	NE	mg/kg	0.29 U	0.27 U	0.27 U	0.32 U	0.26 U	0.3 U	1.8 U	0.35 U	0.37 U	0.41 U
4,6-Dinitro-2-methylphenol	NE	NE	NE	mg/kg	1.1 U	0.97 U	0.98 U	1.2 U	0.94 U	1.1 U	1.8 U	0.35 U	0.37 U	0.41 U
4-Bromophenyl phenyl ether	NE	NE	NE	mg/kg	0.15 U	0.14 U	0.14 U	0.17 U	0.13 U	0.16 U	0.94 U	0.18 U	0.19 U	0.21 U
4-Chloro-3-methylphenol	NE	NE	NE	mg/kg	0.26 U	0.24 U	0.24 U	0.29 U	0.23 U	0.27 U	0.94 U	0.18 U	0.19 U	0.21 U
4-Chloroaniline	NE	NE	NE	mg/kg	0.26 U	0.24 U	0.24 U	0.29 U	0.23 U	0.27 U	0.94 U	0.18 U	0.19 U	0.21 U
4-Chlorophenyl phenyl ether	NE	NE	NE	mg/kg	0.13 U	0.12 U	0.12 U	0.15 U	0.12 U	0.14 U	0.94 U	0.18 U	0.19 U	0.21 U
4-Methylphenol	1000	NE	0.33	mg/kg	0.12 U	0.11 U	0.12 U	0.14 U	0.11 U	0.13 U	1.8 U	0.35 U	0.37 U	0.41 U
4-Nitroaniline	NE	NE	NE	mg/kg	0.56 U	0.51 U	0.51 U	0.61 U	0.49 U	0.58 U	1.8 U	0.35 U	0.37 U	0.41 U
4-Nitrophenol	NE	NE	NE	mg/kg	0.74 U	0.68 U	0.69 U	0.82 U	0.66 U	0.77 U	1.8 U	0.35 U	0.37 U	0.41 U
Acetophenone	NE	NE	NE	mg/kg	0.14 U	0.13 U	0.13 U	0.16 U	0.13 U	0.15 U	0.94 U	0.18 U	0.19 U	0.21 U
Atrazine	NE	NE	NE	mg/kg	0.37 U	0.33 U	0.34 U	0.41 U	0.33 U	0.38 U	0.94 U	0.18 U	0.19 U	0.21 U
Benzaldehyde	NE	NE	NE	mg/kg	0.84 U	0.77 U	0.78 U	0.93 U	0.75 U	0.87 U	0.94 UJ	0.18 UJ	0.19 UJ	0.21 UJ
Benzyl butyl phthalate	NE	NE	NE	mg/kg	0.17 U	0.16 U	0.16 U	0.19 U	0.16 U	0.18 U	0.94 U	0.18 U	0.19 U	0.21 U
Biphenyl (Diphenyl)	NE	NE	NE	mg/kg	0.16 U	0.14 U	0.14 U	0.17 U	0.14 U	0.16 U	0.94 U	0.18 U	0.19 U	0.21 U
bis(2-Chloroethoxy)methane	NE	NE	NE	mg/kg	0.22 U	0.2 U	0.21 U	0.25 U	0.2 U	0.23 U	0.94 U	0.18 U	0.19 U	0.21 U
bis(2-Chloroethyl)ether	NE	NE	NE	mg/kg	0.14 U	0.12 U	0.13 U	0.15 U	0.12 U	0.14 U	0.94 U	0.18 U	0.19 U	0.21 U
bis(2-Chloroisopropyl)ether	NE	NE	NE	mg/kg	0.21 U	0.19 U	0.2 U	0.23 U	0.19 U	0.22 U	0.94 U	0.18 U	0.19 U	0.21 U
bis(2-Ethylhexyl)phthalate	NE	NE	NE	mg/kg	0.36 U	0.33 U	0.33 U	0.4 U	0.32 U	0.37 U	0.94 U	0.18 U	0.19 U	0.21 U
Caprolactam	NE	NE	NE	mg/kg	0.32 U	0.29 U	0.29 U	0.35 U	0.28 U	0.33 U	0.94 U	0.18 U	0.19 U	0.21 U
Carbazole	NE	NE	NE	mg/kg	0.12 U	0.11 U	0.12 U	0.14 U	0.11 U	0.13 U	0.94 U	0.18 U	0.19 U	0.21 U
Dibenzofuran	1000	NE	210	mg/kg	0.12 U	0.11 U	0.12 U	0.14 U	0.11 U	0.13 U	0.94 U	0.18 U	0.19 U	0.21 U
Diethyl phthalate	NE	NE	NE	mg/kg	0.14 U	0.12 U	0.13 U	0.15 U	0.12 U	0.14 U	0.94 U	0.18 U	0.059 J	0.21 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-14 9-10.3 1/25/2017	SB-14 15-16.8 1/25/2017	SB-14 DUP 15-16.8 1/25/2017	SB-14 19-20.6 1/25/2017	SB-14 23-24 1/25/2017	SB-14 29-30.4 1/25/2017	SB-15 4-5 1/26/2017	SB-15 9-10.2 1/27/2017	SB-15 15-17 1/27/2017	SB-15 21-22.8 1/27/2017
Dimethyl phthalate	NE	NE	NE	mg/kg	0.12 U	0.11 U	0.12 U	0.14 U	0.11 U	0.13 U	0.94 U	0.18 U	0.19 U	0.21 U
dl-n-Butyl phthalate	NE	NE	NE	mg/kg	0.18 U	0.16 U	0.17 U	0.2 U	0.16 U	0.19 U	0.94 U	0.18 U	0.19 U	0.21 U
dl-n-Octyl phthalate	NE	NE	NE	mg/kg	0.12 U	0.11 U	0.12 U	0.14 U	0.11 U	0.13 U	0.94 U	0.18 U	0.19 U	0.21 U
Hexachlorobenzene	12	NE	3.2	mg/kg	0.14 U	0.13 U	0.13 U	0.16 U	0.13 U	0.15 U	0.94 U	0.18 U	0.19 U	0.21 U
Hexachlorobutadiene	NE	NE	NE	mg/kg	0.16 U	0.14 U	0.14 U	0.17 U	0.14 U	0.16 U	0.94 U	0.18 U	0.19 U	0.21 U
Hexachlorocyclopentadiene	NE	NE	NE	mg/kg	0.14 U	0.13 U	0.13 U	0.16 U	0.13 U	0.15 U	0.94 U	0.18 U	0.19 U	0.21 U
Hexachloroethane	NE	NE	NE	mg/kg	0.14 U	0.12 U	0.13 U	0.15 U	0.12 U	0.14 U	0.94 U	0.18 U	0.19 U	0.21 U
Isophorone	NE	NE	NE	mg/kg	0.22 U	0.2 U	0.21 U	0.25 U	0.2 U	0.23 U	0.94 U	0.18 U	0.19 U	0.21 U
Nitrobenzene	NE	NE	NE	mg/kg	0.12 U	0.11 U	0.11 U	0.13 U	0.11 U	0.12 U	0.94 U	0.18 U	0.19 U	0.21 U
N-Nitroso-di-n-propylamine	NE	NE	NE	mg/kg	0.18 U	0.16 U	0.17 U	0.2 U	0.16 U	0.19 U	0.94 U	0.18 U	0.19 U	0.21 U
N-Nitrosodiphenylamine	NE	NE	NE	mg/kg	0.86 U	0.78 U	0.8 U	0.95 U	0.76 U	0.89 U	0.94 U	0.18 U	0.19 U	0.21 U
Pentachlorophenol	55	0.8	0.8	mg/kg	1.1 U	0.97 U	0.98 U	1.2 U	0.94 U	1.1 U	1.8 U	0.35 U	0.37 U	0.41 U
Phenol	1000	30	0.33	mg/kg	0.16 U	0.15 U	0.15 U	0.18 U	0.14 U	0.17 U	0.94 U	0.18 U	0.19 U	0.21 U
Inorganic Constituents														
Cyanide, total	10000	NE	40	mg/kg	0.57 U	0.52 U	0.5 U	0.61 U	0.48 U	0.56 U	1 UJ	1.1 U	1.1 U	1.1 U
Aluminum	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Antimony	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Arsenic	16	13	16	mg/kg	--	--	--	--	--	--	--	--	--	--
Barium	10000	433	820	mg/kg	--	--	--	--	--	--	--	--	--	--
Beryllium	2700	10	47	mg/kg	--	--	--	--	--	--	--	--	--	--
Cadmium	60	4	7.5	mg/kg	--	--	--	--	--	--	--	--	--	--
Calcium	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Chromium[b]	800	1	19	mg/kg	--	--	--	--	--	--	--	--	--	--
Cobalt	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Copper	10000	50	1720	mg/kg	--	--	--	--	--	--	--	--	--	--
Iron	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Lead	3900	63	450	mg/kg	--	--	--	--	--	--	--	--	--	--
Magnesium	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Manganese	10000	1600	2000	mg/kg	--	--	--	--	--	--	--	--	--	--
Nickel	10000	30	130	mg/kg	--	--	--	--	--	--	--	--	--	--
Potassium	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Selenium	6800	3.9	4	mg/kg	--	--	--	--	--	--	--	--	--	--
Silver	6800	2	8.3	mg/kg	--	--	--	--	--	--	--	--	--	--
Sodium	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Thallium	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Vanadium	NE	NE	NE	mg/kg	--	--	--	--	--	--	--	--	--	--
Zinc	10000	109	2480	mg/kg	--	--	--	--	--	--	--	--	--	--
Mercury	5.7	0.18	0.73	mg/kg	--	--	--	--	--	--	--	--	--	--
Pesticides														
4,4'-DDD	180	0.0033	14	mg/kg	0.00079 U	0.00073 U	0.0073 U	0.00045 U	0.00035 U	0.00043 U	0.018 UJ	0.0018 U	0.0019 U	0.0021 U
4,4'-DDE	120	0.0033	17	mg/kg	0.00085 U	0.00078 U	0.0079 U	0.00048 U	0.00038 U	0.00046 U	0.018 U	0.0018 U	0.0019 U	0.0021 U
4,4'-DDT	94	0.0033	136	mg/kg	0.00095 U	0.00087 U	0.0088 U	0.00067 J	0.00042 U	0.00052 U	0.018 U	0.0018 U	0.0019 U	0.0021 U
Aldrin	1.4	0.14	0.19	mg/kg	0.001 U	0.00092 U	0.0093 U	0.00057 U	0.00045 U	0.00054 U	0.018 U	0.0018 U	0.0019 U	0.0021 U
alpha Endosulfan (Endosulfan I)	920	NE	102	mg/kg	0.00078 U	0.00072 U	0.0072 U	0.00044 U	0.00035 U	0.00042 U	0.018 U	0.0018 U	0.0019 U	0.0021 U
beta Endosulfan (Endosulfan II)	920	NE	102	mg/kg	0.00073 U	0.00067 U	0.0068 U	0.00042 U	0.00033 U	0.0004 U	0.018 U	0.0018 U	0.0019 U	0.0021 U
BHC, alpha	6.8	0.04	0.02	mg/kg	0.00073 U	0.00067 U	0.0068 U	0.00042 U	0.00033 U	0.0004 U	0.018 U	0.0018 U	0.0019 U	0.0021 U
BHC, beta	14	0.6	0.09	mg/kg	0.00073 U	0.00067 U	0.0068 U	0.00042 U	0.00033 U	0.0004 U	0.018 U	0.0018 U	0.0019 U	0.0021 U
BHC, delta	1000	0.04	0.25	mg/kg	0.00075 U	0.0007 U	0.007 U	0.00043 U	0.00034 U	0.00041 U	0.018 U	0.0018 U	0.0019 U	0.0021 U
BHC, gamma (Lindane)	23	6	0.1	mg/kg	0.00075 U	0.00069 U	0.0069 U	0.00042 U	0.00033 U	0.00041 U	0.018 U	0.0018 U	0.0019 U	0.0021 U
Chlordane, alpha	47	1.3	2.9	mg/kg	0.002 U	0.0019 U	0.019 U	0.0011 U	0.0009 U	0.0011 U	0.018 U	0.0018 U	0.0019 U	0.0021 U
Chlordane, beta	NE	NE	NE	mg/kg	0.0013 U	0.0012 U	0.012 U	0.00073 U	0.00058 U	0.0007 U	0.018 U	0.0018 U	0.0019 U	0.0021 U
Dieldrin	2.8	0.006	0.1	mg/kg	0.00097 U	0.0009 U	0.009 U	0.00055 U	0.00044 U	0.00053 U	0.018 UJ	0.0018 U	0.0019 U	0.0021 U
Endosulfan sulfate	920	NE	1000	mg/kg	0.00076 U	0.0007 U	0.007 U	0.00043 U	0.00034 U	0.00041 U	0.018 U	0.0018 U	0.00053 J	0.0021 U
Endrin	410	0.014	0.06	mg/kg	0.0008 U	0.00074 U	0.0075 U	0.00046 U	0.00036 U	0.00044 U	0.018 U	0.0018 U	0.0019 U	0.0021 U
Endrin aldehyde	NE	NE	NE	mg/kg	0.001 U	0.00096 U	0.0096 U	0.00059 U	0.00046 U	0.00056 U	0.018 U	0.0018 U	0.0019 U	0.0021 U
Endrin ketone	NE	NE	NE	mg/kg	0.0017 J	0.00092 U	0.0093 U	0.00057 U	0.00045 U	0.00054 U	0.018 U	0.0018 U	0.0015 J	0.0021 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-14 9-10.3 1/25/2017	SB-14 15-16.8 1/25/2017	SB-14 DUP 15-16.8 1/25/2017	SB-14 19-20.6 1/25/2017	SB-14 23-24 1/25/2017	SB-14 29-30.4 1/25/2017	SB-15 4-5 1/26/2017	SB-15 9-10.2 1/27/2017	SB-15 15-17 1/27/2017	SB-15 21-22.8 1/27/2017
Heptachlor	29	0.14	0.38	mg/kg	0.00088 U	0.00081 U	0.0082 U	0.0005 U	0.00039 U	0.00048 U	0.018 U	0.0018 U	0.0019 U	0.0021 U
Heptachlor epoxide	NE	NE	NE	mg/kg	0.001 U	0.00096 U	0.0097 U	0.0006 U	0.00047 U	0.00057 U	0.018 U	0.0018 U	0.0019 U	0.0021 U
Methoxychlor	NE	NE	NE	mg/kg	0.00083 U	0.00076 U	0.0077 U	0.0007 J	0.00037 U	0.00045 U	0.018 UJ	0.0018 U	0.0019 U	0.0021 U
Toxaphene	NE	NE	NE	mg/kg	0.024 U	0.022 U	0.22 U	0.013 U	0.011 U	0.013 U	0.18 U	0.018 U	0.019 U	0.021 U
Polychlorinated Biphenyls (PCBs)														
Aroclor 1016	NE	NE	3.2	mg/kg	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	NE	NE	3.2	mg/kg	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	NE	NE	3.2	mg/kg	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	NE	NE	3.2	mg/kg	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	NE	NE	3.2	mg/kg	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	NE	NE	3.2	mg/kg	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	NE	NE	3.2	mg/kg	--	--	--	--	--	--	--	--	--	--
Total PCBs	25	1.0	3.2	mg/kg	--	--	--	--	--	--	--	--	--	--

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
U1 - The analyte was analyzed for, but was not detected substantially above the level reported in laboratory or field blanks.
J+ - Estimated concentration. Reported value may be biased high. Result is esitmated high
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
N J - The analyte detection if tentative in indentification and estimated in value.
B - Constituent was found in the blank and the sample.
R - Result rejected as determined by the data validator.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related QC is outside acceptance limits.
* - Laboratory Control Sample (LCS) or Laboratory Control Sample Duplicate (LCSD) is outside acceptance limits
NE - Not established.
ND - Not detected
(a) - Zoning determination based on review of City of Troy Official Zoning Map dated 12/19/16. Zoning classification for the Site is identified as Waterfront Trade District, which permits industrial usage of property.
(b) - Chromium analysis was for total chromium. To be conservative, total chromium concentrations were compared to hexavalent chromium SCOs.

Boxes and bolded values indicate concentrations are above New York State Subpart 375 Soil Cleanup Objectives for: Protection of Public Health for Industrially Zoned Properties, Protection of Ecological Resources, and/or Protection of Groundwater.

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-15 27-28.3 1/27/2017	SB-16 5-6.7 1/30/2017	SB-16 9-10.1 1/30/2017	SB-16 15-16.7 1/30/2017	SB-16 19-21 1/30/2017	SB-16 25-27 1/30/2017	TP-1 8-9 5/27/2015	TP-1 DUP 8-9 5/27/2015	TP-1B 9-10 5/27/2015	TP-2 4-5 5/28/2015
Volatile Organic Compounds (VOCs)														
BTEX														
Benzene	89	70	0.06	mg/kg	0.0051 UJ	0.00022 U	0.00068 J	0.00017 U	0.00024 U	0.00034 U	0.0006 U	0.00063 U	0.00043 J	0.00046 U
Toluene	1000	36	0.7	mg/kg	0.0051 U	0.00033 U	0.00055 J	0.00026 U	0.00038 U	0.00053 U	0.00093 U	0.00097 U	0.00052 U	0.00071 U
Ethylbenzene	780	NE	1	mg/kg	0.0051 U	0.00031 U	0.00037 U	0.00024 U	0.00034 U	0.00048 U	0.00085 U	0.00089 U	0.00048 U	0.00065 U
Xylenes, total	1000	0.26	1.6	mg/kg	0.01 U	0.00074 U	0.00091 U	0.00058 U	0.00084 U	0.0012 U	0.0021 U	0.0022 U	0.0012 U	0.0016 U
Total BTEX	NE	NE	NE	mg/kg	ND	ND	0.0012 J	ND	ND	ND	ND	ND	0.00043 J	ND
Other VOCs														
1,1,1-Trichloroethane	1000	NE	0.68	mg/kg	0.0051 U	0.00032 U	0.00039 U	0.00025 U	0.00036 U	0.00051 U	0.00089 U	0.00093 U	0.0005 U	0.00068 U
1,1,2,2-Tetrachloroethane	NE	NE	NE	mg/kg	0.0051 U	0.00072 U	0.00088 U	0.00056 U	0.00081 U	0.0011 U	0.002 UJ	0.0021 UJ	0.0011 UJ	0.0015 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NE	NE	NE	mg/kg	0.0051 U	0.001 U	0.0012 U	0.00078 U	0.0011 U	0.0016 U	0.0028 U	0.0029 U	0.0016 U	0.0021 U
1,1,2-Trichloroethane	NE	NE	NE	mg/kg	0.0051 U	0.00058 U	0.0007 U	0.00045 U	0.00065 U	0.00091 U	0.0016 U	0.0017 U	0.0009 U	0.0012 U
1,1-Dichloroethane	480	NE	0.27	mg/kg	0.0051 U	0.00054 U	0.00066 U	0.00042 U	0.00061 U	0.00085 U	0.0015 U	0.0016 U	0.00084 U	0.0011 U
1,1-Dichloroethene	1000	NE	0.33	mg/kg	0.0051 U	0.00054 U	0.00066 U	0.00042 U	0.00061 U	0.00085 U	0.0015 U	0.0016 U	0.00085 U	0.0011 U
1,2,4-Trichlorobenzene	NE	NE	NE	mg/kg	0.0051 UJ	0.00027 U	0.00033 U	0.00021 U	0.0003 U	0.00042 U	0.00075 UJ	0.00078 UJ	0.00042 UJ	0.00057 U
1,2-Dibromo-3-chloropropane (DBCP)	NE	NE	NE	mg/kg	0.0051 UJ	0.0022 U	0.0027 U	0.0017 U	0.0025 U	0.0035 U	0.0062 UJ	0.0064 UJ	0.0035 UJ	0.0047 U
1,2-Dibromoethane (EDB)	NE	NE	NE	mg/kg	0.0051 U	0.00057 U	0.00069 U	0.00044 U	0.00064 U	0.0009 U	0.0016 U	0.0017 U	0.00089 U	0.0012 U
1,2-Dichlorobenzene	1000	NE	1.1	mg/kg	0.0051 UJ	0.00035 U	0.00042 U	0.00027 U	0.00039 U	0.00055 U	0.00096 UJ	0.001 UJ	0.00054 UJ	0.00073 U
1,2-Dichloroethane	60	10	0.02	mg/kg	0.0051 U	0.00022 U	0.00027 U	0.00017 U	0.00025 U	0.00035 U	0.00062 U	0.00065 U	0.00035 U	0.00047 U
1,2-Dichloropropane	NE	NE	NE	mg/kg	0.0051 U	0.0022 U	0.0027 U	0.0017 U	0.0025 U	0.0035 U	0.0062 U	0.0064 U	0.0035 U	0.0047 U
1,3-Dichlorobenzene	560	NE	2.4	mg/kg	0.0051 UJ	0.00023 U	0.00028 U	0.00018 U	0.00026 U	0.00036 U	0.00063 UJ	0.00066 UJ	0.00036 UJ	0.00048 U
1,4-Dichlorobenzene	250	20	1.8	mg/kg	0.0051 UJ	0.00062 U	0.00076 U	0.00048 U	0.0007 U	0.00098 U	0.0017 UJ	0.0018 UJ	0.00097 UJ	0.0013 U
2-Butanone (MEK)	1000	100	0.12	mg/kg	0.008 J	0.0016 U	0.002 U	0.0013 U	0.0018 U	0.068	0.0045 U	0.0047 U	0.0025 U	0.0034 U
2-Hexanone	NE	NE	NE	mg/kg	0.025 U	0.0022 U	0.0027 U	0.0017 U	0.0025 U	0.0035 U	0.0062 U	0.0064 U	0.0035 U	0.0047 U
4-Methyl-2-pentanone (MIBK)	NE	NE	NE	mg/kg	0.025 U	0.0015 U	0.0018 U	0.0011 U	0.0016 U	0.0023 U	0.004 U	0.0042 U	0.0023 U	0.0031 U
Acetone	1000	2.2	0.05	mg/kg	**0.055 J+**	0.0037 U	0.012 J	0.029	0.045	**0.24**	0.01 U	0.011 U	0.0058 U	0.0079 U
Bromodichloromethane	NE	NE	NE	mg/kg	0.0051 U	0.00059 U	0.00072 U	0.00046 U	0.00067 U	0.00094 U	0.0016 U	0.0017 U	0.00093 U	0.0013 U
Bromoform	NE	NE	NE	mg/kg	0.0051 U	0.0022 U	0.0027 U	0.0017 U	0.0025 U	0.0035 U	0.0062 U	0.0064 U	0.0035 U	0.0047 U
Bromomethane	NE	NE	NE	mg/kg	0.0051 U	0.0004 U	0.00049 U	0.00031 U	0.00045 U	0.00063 U	0.0011 U	0.0012 U	0.00062 U	0.00084 U
Carbon disulfide	NE	NE	NE	mg/kg	0.0051 U	0.0022 U	0.0027 U	0.0017 U	0.0025 U	0.0035 U	0.0062 U	0.0064 U	0.0035 U	0.0047 U
Carbon tetrachloride	44	NE	0.76	mg/kg	0.0051 U	0.00043 U	0.00052 U	0.00033 U	0.00048 U	0.00068 U	0.0012 U	0.0012 U	0.00067 U	0.00091 U
Chlorobenzene	1000	40	1.1	mg/kg	0.0051 UJ	0.00058 U	0.00071 U	0.00045 U	0.00066 U	0.00092 U	0.0016 U	0.0017 U	0.00091 U	0.0012 U
Chloroethane	NE	NE	NE	mg/kg	0.0051 U	0.001 U	0.0012 U	0.00078 U	0.0011 U	0.0016 U	0.0028 U	0.0029 U	0.0016 U	0.0021 U
Chloroform	700	12	0.37	mg/kg	0.0051 U	0.00027 U	0.00033 U	0.00021 U	0.00031 U	0.00043 U	0.00076 U	0.0008 U	0.00043 U	0.00058 U
Chloromethane	NE	NE	NE	mg/kg	0.0051 U	0.00027 U	0.00033 U	0.00021 U	0.0003 U	0.00042 U	0.00074 U	0.00078 U	0.00042 U	0.00057 U
cis-1,2-Dichloroethene	1000	NE	0.25	mg/kg	0.0051 U	0.00057 U	0.00069 U	0.00044 U	0.00064 U	0.00089 U	0.0016 U	0.0016 U	0.00088 U	0.0012 U
cis-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.0051 U	0.00064 U	0.00078 U	0.0005 U	0.00072 U	0.001 U	0.0018 U	0.0019 U	0.001 U	0.0014 U
Cyclohexane	NE	NE	NE	mg/kg	0.0051 U	0.00062 U	0.00076 U	0.00048 U	0.0014 J	0.00098 U	0.0017 U	0.0018 U	0.00097 U	0.0013 U
Dibromochloromethane	NE	NE	NE	mg/kg	0.0051 U	0.00057 U	0.00069 U	0.00044 U	0.00064 U	0.00089 U	0.0016 U	0.0016 U	0.00088 U	0.0012 U
Dichlorodifluoromethane (Freon 12)	NE	NE	NE	mg/kg	0.0051 U	0.00037 U	0.00045 U	0.00028 U	0.00041 U	0.00058 U	0.001 U	0.0011 U	0.00057 U	0.00077 U
Isopropylbenzene (Cumene)	NE	NE	NE	mg/kg	0.0051 U	0.00067 U	0.00082 U	0.00052 U	0.00075 U	0.0011 U	0.0019 UJ	0.0019 UJ	0.001 UJ	0.0014 U
Methyl acetate	NE	NE	NE	mg/kg	0.025 U	0.0027 U	0.0033 U	0.0021 U	0.003 U	0.0042 U	0.0074 U	0.0078 U	0.0042 U	0.0057 U
Methylcyclohexane	NE	NE	NE	mg/kg	0.0051 U	0.00067 U	0.00082 U	0.00052 U	0.0019 J	0.0011 U	0.0019 U	0.002 U	0.0011 U	0.0014 U
Methylene chloride	1000	12	0.05	mg/kg	0.014 U1	0.002 U	0.024	0.0016 J	0.0024 J	0.0032 U	0.0057 U	0.0059 U	0.0032 U	0.0043 U
Styrene	NE	NE	NE	mg/kg	0.0051 U	0.00022 U	0.00027 U	0.00017 U	0.00025 U	0.00035 U	0.00062 U	0.00064 U	0.00035 U	0.00047 U
tert-Butyl methyl ether (MTBE)	1000	NE	0.93	mg/kg	0.0051 U	0.00043 U	0.00053 U	0.00034 U	0.00049 U	0.00069 U	0.0012 U	0.0013 U	0.00068 U	0.00092 U
Tetrachloroethene (PCE)	300	2	1.3	mg/kg	0.0051 U	0.00059 U	0.00073 U	0.00046 U	0.00067 U	0.00094 U	0.0017 U	0.0017 U	0.00093 U	0.0013 U
trans-1,2-Dichloroethene	1000	NE	0.19	mg/kg	0.0051 U	0.00046 U	0.00056 U	0.00035 U	0.00051 U	0.00072 U	0.0013 U	0.0013 U	0.00071 U	0.00097 U
trans-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.0051 U	0.0019 U	0.0024 U	0.0015 U	0.0022 U	0.0031 U	0.0054 U	0.0057 U	0.003 U	0.0041 U
Trichloroethene (TCE)	400	2	0.47	mg/kg	0.0051 U	0.00097 U	0.0012 U	0.00076 U	0.0011 U	0.0015 U	0.0027 U	0.0028 U	0.0015 U	0.0021 U
Trichlorofluoromethane (Freon 11)	NE	NE	NE	mg/kg	0.0051 U	0.00042 U	0.00051 U	0.00033 U	0.00047 U	0.00066 U	0.0012 U	0.0012 U	0.00065 U	0.00089 U
Vinyl chloride	27	NE	0.02	mg/kg	0.0051 U	0.00054 U	0.00066 U	0.00042 U	0.00061 U	0.00085 U	0.0015 U	0.0016 U	0.00084 U	0.0011 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-15 27-28.3 1/27/2017	SB-16 5-6.7 1/30/2017	SB-16 9-10.1 1/30/2017	SB-16 15-16.7 1/30/2017	SB-16 19-21 1/30/2017	SB-16 25-27 1/30/2017	TP-1 8-9 5/27/2015	TP-1 DUP 8-9 5/27/2015	TP-1B 9-10 5/27/2015	TP-2 4-5 5/28/2015
Semi-volatile Organic Compounds (SVOCs)														
Polycyclic Aromatic Hydrocarbons (PAHs)														
Acenaphthene	1000	20	98	mg/kg	1.1 U	0.15 U	0.14 U	0.13 U	0.14 U	0.2 U	0.16 U	0.16 U	0.27 U	0.58 U
Acenaphthylene	1000	NE	107	mg/kg	1.1 U	0.37 J	0.13 J	0.12 U	0.12 U	0.18 U	0.43 J	0.14 U	1.4 J	0.51 U
Anthracene	1000	NE	1000	mg/kg	1.1 U	0.4 J	0.23 U	0.22 U	0.24 U	0.34 U	0.62 J	0.26 U	0.54 J	0.97 U
Benzo(a)anthracene	11	NE	1	mg/kg	1.1 U	**1.1**	0.5 J	0.091 U	0.17 J	0.14 U	**1.9**	0.45 J	**6.4**	**6**
Benzo(a)pyrene	1.1	2.6	22	mg/kg	1.1 U	0.87 J	0.48 J	0.13 U	0.14 J	0.2 U	**1.4**	0.32 J	**6**	**7.7**
Benzo(b)fluoranthene	11	NE	1.7	mg/kg	1.1 U	1.1	0.58 J	0.14 U	0.15 U	0.22 U	**1.9**	0.46 J	**4.9**	**8.8**
Benzo(g,h,i)perylene	1000	NE	1000	mg/kg	1.1 U	0.55 J	0.32 J	0.096 U	0.11 J	0.15 U	0.58 J	0.11 U	3.9	6.1
Benzo(k)fluoranthene	110	NE	1.7	mg/kg	1.1 U	0.5 J	0.26 J	0.12 U	0.12 U	0.18 U	1.2	0.23 J	**3.6**	**6.3**
Chrysene	110	NE	1	mg/kg	1.1 U	**1.1**	0.47 J	0.2 U	0.23 J	0.31 U	**2**	0.48 J	**6**	**6.1**
Dibenz(a,h)anthracene	1.1	NE	1000	mg/kg	1.1 U	0.18 U	0.17 U	0.16 U	0.17 U	0.24 U	0.19 U	0.19 U	0.98 J	**1.9 J**
Fluoranthene	1000	NE	1000	mg/kg	1.1 U	2	0.8 J	0.14 J	0.24 J	0.15 U	4.1	0.81 J	5.7	5.4
Fluorene	1000	30	386	mg/kg	1.1 U	0.24 J	0.11 U	0.11 U	0.11 U	0.16 U	0.49 J	0.13 U	0.28 J	0.46 U
Indeno(1,2,3-c,d)pyrene	11	NE	8.2	mg/kg	1.1 U	0.46 J	0.31 J	0.11 U	0.12 U	0.17 U	0.67 J	0.15 J	2.9	7.5
Naphthalene	1000	NE	12	mg/kg	1.1 U	0.15 J	0.12 J	0.12 U	0.12 U	0.18 U	0.14 U	0.14 U	0.24 U	0.51 U
Phenanthrene	1000	NE	1000	mg/kg	1.1 U	1.7	0.6 J	0.13 U	0.26 J	0.2 U	2.9	0.49 J	1.3 J	2.8 J
Pyrene	1000	NE	1000	mg/kg	1.1 U	1.8	0.73 J	0.11 J	0.19 J	0.16 U	3.4	0.68 J	14	5.9
2-Methylnaphthalene	NE	NE	NE	mg/kg	1.1 U	0.21 U	0.19 U	0.18 U	0.19 U	0.28 U	0.22 U	0.21 U	0.37 U	0.78 U
Total PAHS	NE	NE	NE	mg/kg	ND	12	5.3 J	0.25 J	1.3 J	ND	22	4.1 J	58	65
Other SVOCs														
2,4,5-Trichlorophenol	NE	NE	NE	mg/kg	1.1 U	0.28 U	0.25 U	0.25 U	0.26 U	0.37 U	0.3 U	0.29 U	0.51 U	1.1 U
2,4,6-Trichlorophenol	NE	NE	NE	mg/kg	1.1 U	0.21 U	0.19 U	0.18 U	0.19 U	0.28 U	0.22 U	0.21 U	0.37 U	0.78 U
2,4-Dichlorophenol	NE	NE	NE	mg/kg	1.1 U	0.11 U	0.099 U	0.096 U	0.1 U	0.15 U	0.12 U	0.11 U	0.2 U	0.42 U
2,4-Dimethylphenol	NE	NE	NE	mg/kg	1.1 U	0.25 U	0.23 U	0.22 U	0.23 U	0.33 U	0.26 U	0.26 U	0.45 U	0.95 U
2,4-Dinitrophenol	NE	NE	NE	mg/kg	11 U	4.8 U	4.3 U	4.2 U	4.4 U	6.4 U	5 U	4.9 U	8.6 U	18 U
2,4-Dinitrotoluene	NE	NE	NE	mg/kg	1.1 U	0.21 U	0.19 U	0.19 U	0.2 U	0.28 U	0.23 U	0.22 U	0.38 U	0.81 U
2,6-Dinitrotoluene	NE	NE	NE	mg/kg	1.1 U	0.12 U	0.11 U	0.11 U	0.11 U	0.16 U	0.13 U	0.13 U	0.22 U	0.46 U
2-Chloronaphthalene	NE	NE	NE	mg/kg	1.1 U	0.17 U	0.15 U	0.15 U	0.16 U	0.23 U	0.18 U	0.18 U	0.31 U	0.65 U
2-Chlorophenol	NE	NE	NE	mg/kg	1.1 U	0.19 U	0.17 U	0.17 U	0.17 U	0.25 U	0.2 U	0.19 U	0.34 U	0.72 U
2-Methylphenol (o-cresol)	1000	NE	0.33	mg/kg	1.1 U	0.12 U	0.11 U	0.11 U	0.11 U	0.16 U	0.13 U	0.13 U	0.22 U	0.46 U
2-Nitroaniline	NE	NE	NE	mg/kg	2.2 U	0.15 U	0.14 U	0.13 U	0.14 U	0.2 U	0.16 U	0.16 U	0.27 U	0.58 U
2-Nitrophenol	NE	NE	NE	mg/kg	1.1 U	0.29 U	0.26 U	0.26 U	0.27 U	0.39 U	0.31 U	0.3 U	0.53 U	1.1 U
3,3'-Dichlorobenzidine	NE	NE	NE	mg/kg	2.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.6 U	1.3 U	1.3 U	2.2 U	4.6 U
3-Nitroaniline	NE	NE	NE	mg/kg	2.2 U	0.28 U	0.26 U	0.25 U	0.26 U	0.38 U	0.3 U	0.29 U	0.52 U	1.1 U
4,6-Dinitro-2-methylphenol	NE	NE	NE	mg/kg	2.2 U	1 U	0.94 U	0.91 U	0.95 U	1.4 U	1.1 U	1.1 U	1.9 U	3.9 U
4-Bromophenyl phenyl ether	NE	NE	NE	mg/kg	1.1 U	0.15 U	0.13 U	0.13 U	0.13 U	0.19 U	0.15 U	0.15 U	0.26 U	0.55 U
4-Chloro-3-methylphenol	NE	NE	NE	mg/kg	1.1 U	0.25 U	0.23 U	0.22 U	0.24 U	0.34 U	0.27 U	0.26 U	0.46 U	0.97 U
4-Chloroaniline	NE	NE	NE	mg/kg	1.1 U	0.25 U	0.23 U	0.22 U	0.24 U	0.34 U	0.27 U	0.26 U	0.46 U	0.97 U
4-Chlorophenyl phenyl ether	NE	NE	NE	mg/kg	1.1 U	0.13 U	0.12 U	0.11 U	0.12 U	0.17 U	0.14 U	0.13 U	0.23 U	0.48 U
4-Methylphenol	1000	NE	0.33	mg/kg	2.2 U	0.12 U	0.11 U	0.11 U	0.11 U	0.16 U	0.13 U	0.13 U	0.22 U	0.46 U
4-Nitroaniline	NE	NE	NE	mg/kg	2.2 U	0.54 U	0.49 U	0.48 U	0.5 U	0.72 U	0.57 U	0.56 U	0.98 U	2.1 U
4-Nitrophenol	NE	NE	NE	mg/kg	2.2 U	0.72 U	0.66 U	0.64 U	0.67 U	0.96 U	0.77 U	0.74 U	1.3 U	2.7 U
Acetophenone	NE	NE	NE	mg/kg	1.1 U	0.14 U	0.13 U	0.12 U	0.13 U	0.19 U	0.15 U	0.14 U	0.25 U	0.53 U
Atrazine	NE	NE	NE	mg/kg	1.1 U	0.36 U	0.33 U	0.32 U	0.33 U	0.48 U	0.38 U	0.37 U	0.65 U	1.4 U
Benzaldehyde	NE	NE	NE	mg/kg	1.1 UJ	0.82 U	0.74 U	0.72 U	0.76 U	1.1 U	0.87 U	0.84 U	1.5 U	3.1 U
Benzyl butyl phthalate	NE	NE	NE	mg/kg	1.1 U	0.17 U	0.15 U	0.15 U	0.16 U	0.23 U	0.18 U	0.18 U	0.31 U	0.65 U
Biphenyl (Diphenyl)	NE	NE	NE	mg/kg	1.1 U	0.15 U	0.14 U	0.13 U	0.14 U	0.2 U	0.16 U	0.16 U	0.27 U	0.58 U
bis(2-Chloroethoxy)methane	NE	NE	NE	mg/kg	1.1 U	0.22 U	0.2 U	0.19 U	0.2 U	0.29 U	0.23 U	0.23 U	0.4 U	0.83 U
bis(2-Chloroethyl)ether	NE	NE	NE	mg/kg	1.1 U	0.13 U	0.12 U	0.12 U	0.12 U	0.18 U	0.14 U	0.14 U	0.24 U	0.51 U
bis(2-Chloroisopropyl)ether	NE	NE	NE	mg/kg	1.1 U	0.21 U	0.19 U	0.18 U	0.19 U	0.28 U	0.22 U	0.21 U	0.37 U	0.78 U
bis(2-Ethylhexyl)phthalate	NE	NE	NE	mg/kg	1.1 U	0.35 U	0.32 U	0.31 U	0.32 U	0.47 U	0.37 U	0.36 U	0.64 U	1.3 U
Caprolactam	NE	NE	NE	mg/kg	1.1 U	0.31 U	0.28 U	0.27 U	0.29 U	0.41 U	0.33 U	0.32 U	0.56 U	1.2 U
Carbazole	NE	NE	NE	mg/kg	1.1 U	0.12 U	0.11 U	0.11 U	0.11 U	0.16 U	0.23 J	0.13 U	0.22 U	0.46 U
Dibenzofuran	1000	NE	210	mg/kg	1.1 U	0.12 U	0.11 U	0.11 U	0.11 U	0.16 U	0.21 J	0.13 U	0.22 U	0.46 U
Diethyl phthalate	NE	NE	NE	mg/kg	1.1 U	0.13 U	0.12 U	0.12 U	0.12 U	0.18 U	0.14 U	0.14 U	0.24 U	0.51 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-15 27-28.3 1/27/2017	SB-16 5-6.7 1/30/2017	SB-16 9-10.1 1/30/2017	SB-16 15-16.7 1/30/2017	SB-16 19-21 1/30/2017	SB-16 25-27 1/30/2017	TP-1 8-9 5/27/2015	TP-1 DUP 8-9 5/27/2015	TP-1B 9-10 5/27/2015	TP-2 4-5 5/28/2015
Dimethyl phthalate	NE	NE	NE	mg/kg	1.1 U	0.12 U	0.11 U	0.11 U	0.11 U	0.16 U	0.13 U	0.13 U	0.22 U	0.46 U
dl-n-Butyl phthalate	NE	NE	NE	mg/kg	1.1 U	0.19 J	0.16 U	0.15 U	0.16 U	0.24 U	0.19 U	0.18 U	0.32 U	0.67 U
dl-n-Octyl phthalate	NE	NE	NE	mg/kg	1.1 U	0.12 U	0.11 U	0.11 U	0.11 U	0.16 U	0.13 U	0.13 U	0.22 U	0.46 U
Hexachlorobenzene	12	NE	3.2	mg/kg	1.1 U	0.14 U	0.13 U	0.12 U	0.13 U	0.19 U	0.15 U	0.14 U	0.25 U	0.53 U
Hexachlorobutadiene	NE	NE	NE	mg/kg	1.1 U	0.15 U	0.14 U	0.13 U	0.14 U	0.2 U	0.16 U	0.16 U	0.27 U	0.58 U
Hexachlorocyclopentadiene	NE	NE	NE	mg/kg	1.1 U	0.14 U	0.13 U	0.12 U	0.13 U	0.19 U	0.15 U	0.14 U	0.25 U	0.53 U
Hexachloroethane	NE	NE	NE	mg/kg	1.1 U	0.13 U	0.12 U	0.12 U	0.12 U	0.18 U	0.14 U	0.14 U	0.24 U	0.51 U
Isophorone	NE	NE	NE	mg/kg	1.1 U	0.22 U	0.2 U	0.19 U	0.2 U	0.29 U	0.23 U	0.23 U	0.4 U	0.83 U
Nitrobenzene	NE	NE	NE	mg/kg	1.1 U	0.12 U	0.1 U	0.1 U	0.11 U	0.15 U	0.12 U	0.12 U	0.21 U	0.44 U
N-Nitroso-di-n-propylamine	NE	NE	NE	mg/kg	1.1 U	0.18 U	0.16 U	0.15 U	0.16 U	0.24 U	0.19 U	0.18 U	0.32 U	0.67 U
N-Nitrosodiphenylamine	NE	NE	NE	mg/kg	1.1 U	0.84 U	0.76 U	0.74 U	0.77 U	1.1 U	0.89 U	0.86 U	1.5 U	3.2 U
Pentachlorophenol	55	0.8	0.8	mg/kg	2.2 U	1 U	0.94 U	0.91 U	0.95 U	1.4 U	1.1 U	1.1 U	1.9 U	3.9 U
Phenol	1000	30	0.33	mg/kg	1.1 U	0.16 U	0.14 U	0.14 U	0.15 U	0.21 U	0.17 R	0.16 R	0.29 R	0.6 U
Inorganic Constituents														
Cyanide, total	10000	NE	40	mg/kg	1.4 U	0.9 J	0.81 J	0.45 U	0.51 U	0.67 U	1.8	0.61 U	0.53 U	0.57 U
Aluminum	NE	NE	NE	mg/kg	--	--	--	--	--	--	1760	1780	3800	7080
Antimony	NE	NE	NE	mg/kg	--	--	--	--	--	--	0.5 J	0.47 U	0.44 U	0.47 U
Arsenic	16	13	16	mg/kg	--	--	--	--	--	--	**15**	**15**	**14.6**	8.7
Barium	10000	433	820	mg/kg	--	--	--	--	--	--	34.8	32.8	35.3	53.4
Beryllium	2700	10	47	mg/kg	--	--	--	--	--	--	0.18 J	0.2 J	0.49	0.52
Cadmium	60	4	7.5	mg/kg	--	--	--	--	--	--	0.14 J	0.15 J	0.23	0.066 J
Calcium	NE	NE	NE	mg/kg	--	--	--	--	--	--	1260 B	1360 B	2040 B	4040 B
Chromium[b]	800	1	19	mg/kg	--	--	--	--	--	--	**5.8 B**	**5.4 B**	**10.7 B**	**13.3**
Cobalt	NE	NE	NE	mg/kg	--	--	--	--	--	--	2.1	2	9.4	6.2
Copper	10000	50	1720	mg/kg	--	--	--	--	--	--	14	15.7	34.9	21.7
Iron	NE	NE	NE	mg/kg	--	--	--	--	--	--	15700 B	15900 B	24600 B	17200 B
Lead	3900	63	450	mg/kg	--	--	--	--	--	--	19.5	16.4	43.1	31.1
Magnesium	NE	NE	NE	mg/kg	--	--	--	--	--	--	203	160	898	2550 B
Manganese	10000	1600	2000	mg/kg	--	--	--	--	--	--	59.4 B	58.5 B	559 B	290 B^
Nickel	10000	30	130	mg/kg	--	--	--	--	--	--	6 J	5.7 J	18.4	18.2
Potassium	NE	NE	NE	mg/kg	--	--	--	--	--	--	461	411	702	1340 B
Selenium	6800	3.9	4	mg/kg	--	--	--	--	--	--	1.3 J	1.6 J	0.82 J	0.47 U
Silver	6800	2	8.3	mg/kg	--	--	--	--	--	--	0.25 U	0.24 U	0.22 U	0.24 U
Sodium	NE	NE	NE	mg/kg	--	--	--	--	--	--	201	184	379	165 U
Thallium	NE	NE	NE	mg/kg	--	--	--	--	--	--	0.38 U	0.35 U	0.33 U	0.35 U
Vanadium	NE	NE	NE	mg/kg	--	--	--	--	--	--	14.5	14.6	25.2	20.9
Zinc	10000	109	2480	mg/kg	--	--	--	--	--	--	14.7 B	15.3 B	46.4 B	48.4 B
Mercury	5.7	0.18	0.73	mg/kg	--	--	--	--	--	--	0.054	0.049	**0.38**	**0.23**
Pesticides														
4,4'-DDD	180	0.0033	14	mg/kg	0.011 U	0.00076 U	0.00035 U	0.00034 U	0.00037 U	0.00052 U	0.00083 U	0.00081 U	0.0071 U	0.019 U
4,4'-DDE	120	0.0033	17	mg/kg	0.011 U	0.00082 U	0.00038 U	0.00037 U	0.0004 U	0.00056 U	0.0009 U	0.00088 U	0.0077 U	0.02 U
4,4'-DDT	94	0.0033	136	mg/kg	0.011 U	0.00092 U	0.0012 J	0.00041 U	0.00045 U	0.00063 U	0.0015 J	0.0016 J	0.0086 U	0.023 U
Aldrin	1.4	0.14	0.19	mg/kg	0.011 U	0.00097 U	0.00044 U	0.00044 U	0.00047 U	0.00066 U	0.0011 U	0.001 U	0.009 U	0.024 U
alpha Endosulfan (Endosulfan I)	920	NE	102	mg/kg	0.011 U	0.00075 U	0.00034 U	0.00034 U	0.00037 U	0.00051 U	0.00082 U	0.0008 U	0.007 U	0.019 U
beta Endosulfan (Endosulfan II)	920	NE	102	mg/kg	0.011 U	0.00071 U	0.00032 U	0.00032 U	0.00034 U	0.00048 U	0.00077 U	0.00075 U	0.0066 U	0.017 U
BHC, alpha	6.8	0.04	0.02	mg/kg	0.011 U	0.00071 U	0.00032 U	0.00032 U	0.00034 U	0.00048 U	0.00077 U	0.0042 U	0.0066 U	0.017 U
BHC, beta	14	0.6	0.09	mg/kg	0.011 U	0.00071 U	0.00032 U	0.00032 U	0.00034 U	0.00048 U	0.00077 U	0.0042 U	0.0066 U	0.017 U
BHC, delta	1000	0.04	0.25	mg/kg	0.011 U	0.00073 U	0.00033 U	0.00033 U	0.00035 U	0.0005 U	0.0008 U	0.0042 U	0.0068 U	0.018 U
BHC, gamma (Lindane)	23	6	0.1	mg/kg	0.011 U	0.00072 U	0.00033 U	0.00032 U	0.00035 U	0.00049 U	0.0018 NJ	0.0063 J	0.0067 UJ	0.018 U
Chlordane, alpha	47	1.3	2.9	mg/kg	0.011 U	0.002 U	0.00089 U	0.00088 U	0.00095 U	0.0013 U	0.0021 U	0.0021 U	0.018 U	0.048 U
Chlordane, beta	NE	NE	NE	mg/kg	0.011 U	0.0012 U	0.00057 U	0.00056 U	0.0006 U	0.00085 U	0.0014 U	0.0013 U	0.012 U	0.031 U
Dieldrin	2.8	0.006	0.1	mg/kg	0.011 U	0.00094 U	0.00043 U	0.00042 U	0.00046 U	0.00064 U	0.001 U	0.001 U	0.0088 U	0.023 U
Endosulfan sulfate	920	NE	1000	mg/kg	0.011 U	0.00073 U	0.00036 J	0.00033 U	0.00035 U	0.0005 U	0.0043 U	0.0015 J	0.0069 U	0.018 U
Endrin	410	0.014	0.06	mg/kg	0.011 U	0.00078 U	0.00035 U	0.00035 U	0.00038 U	0.00053 U	0.00085 U	0.00083 U	0.0073 U	0.019 U
Endrin aldehyde	NE	NE	NE	mg/kg	0.011 U	0.001 U	0.00046 U	0.00045 U	0.00049 U	0.00068 U	0.0011 U	0.0011 U	0.0094 U	0.025 U
Endrin ketone	NE	NE	NE	mg/kg	0.011 U	0.00097 U	0.00044 U	0.00044 U	0.0011 J	0.00066 U	0.0011 U	0.001 U	0.009 U	0.024 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	SB-15 27-28.3 1/27/2017	SB-16 5-6.7 1/30/2017	SB-16 9-10.1 1/30/2017	SB-16 15-16.7 1/30/2017	SB-16 19-21 1/30/2017	SB-16 25-27 1/30/2017	TP-1 8-9 5/27/2015	TP-1 DUP 8-9 5/27/2015	TP-1B 9-10 5/27/2015	TP-2 4-5 5/28/2015
Heptachlor	29	0.14	0.38	mg/kg	0.011 U	0.00085 U	0.00039 U	0.00038 U	0.00041 U	0.00058 U	0.00093 U	0.0009 U	0.008 U	0.021 U
Heptachlor epoxide	NE	NE	NE	mg/kg	0.011 U	0.001 U	0.00046 U	0.00046 U	0.00049 U	0.00069 U	0.0011 U	0.0011 U	0.0095 U	0.025 U
Methoxychlor	NE	NE	NE	mg/kg	0.011 U	0.0017 J	0.00037 U	0.00064 J	0.00039 U	0.00055 U	0.0056 U	0.0076 U	0.037 U	0.02 U
Toxaphene	NE	NE	NE	mg/kg	0.11 U	0.023 U	0.01 U	0.01 U	0.011 U	0.016 U	0.025 U	0.024 U	0.21 U	0.56 U
Polychlorinated Biphenyls (PCBs)														
Aroclor 1016	NE	NE	3.2	mg/kg	--	--	--	--	--	--	0.049 U	0.052 U	0.044 U	0.053 U
Aroclor 1221	NE	NE	3.2	mg/kg	--	--	--	--	--	--	0.049 U	0.052 U	0.044 U	0.053 U
Aroclor 1232	NE	NE	3.2	mg/kg	--	--	--	--	--	--	0.049 U	0.052 U	0.044 U	0.053 U
Aroclor 1242	NE	NE	3.2	mg/kg	--	--	--	--	--	--	0.049 U	0.052 U	0.044 U	0.053 U
Aroclor 1248	NE	NE	3.2	mg/kg	--	--	--	--	--	--	0.049 U	0.052 U	0.044 U	0.053 U
Aroclor 1254	NE	NE	3.2	mg/kg	--	--	--	--	--	--	0.12 U	0.12 U	0.11 U	0.13 U
Aroclor 1260	NE	NE	3.2	mg/kg	--	--	--	--	--	--	0.12 U	0.12 U	0.11 U	0.13 U
Total PCBs	25	1.0	3.2	mg/kg	--	--	--	--	--	--	ND	ND	ND	ND

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
U1 - The analyte was analyzed for, but was not detected substantially above the level reported in laboratory or field blanks.
J+ - Estimated concentration. Reported value may be biased high. Result is esitmated high
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
N J - The analyte detection if tentative in indentification and estimated in value.
B - Constituent was found in the blank and the sample.
R - Result rejected as determined by the data validator.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related QC is outside acceptance limits.
* - Laboratory Control Sample (LCS) or Laboratory Control Sample Duplicate (LCSD) is outside acceptance limits
NE - Not established.
ND - Not detected
(a) - Zoning determination based on review of City of Troy Official Zoning Map dated 12/19/16. Zoning classification for the Site is identified as Waterfront Trade District, which permits industrial usage of property.
(b) - Chromium analysis was for total chromium. To be conservative, total chromium concentrations were compared to hexavalent chromium SCOs.

Boxes and bolded values indicate concentrations are above New York State Subpart 375 Soil Cleanup Objectives for: Protection of Public Health for Industrially Zoned Properties, Protection of Ecological Resources, and/or Protection of Groundwater.

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	TP-3 4-5 5/28/2015	TP-4 7.5-8 5/27/2015	TP-5 7-7.5 5/28/2015	TP-6 4 2/8/2017	TP-6 8.5 2/8/2017	TP-7 3.5 2/8/2017	TP-7 8.5 2/8/2017
Volatile Organic Compounds (VOCs)											
BTEX											
Benzene	89	70	0.06	mg/kg	0.00023 U	0.00022 U	0.0052 J	0.01 UJ	0.0047 J	0.00025 U	0.00022 U
Toluene	1000	36	0.7	mg/kg	0.00044 J	0.00033 U	0.003 J	0.048 J	0.01	0.00039 U	0.00034 U
Ethylbenzene	780	NE	1	mg/kg	0.00033 U	0.0003 U	0.00054 UJ	0.016 UJ	0.0023 J	0.00036 U	0.00031 U
Xylenes, total	1000	0.26	1.6	mg/kg	0.00079 U	0.00074 U	0.0013 UJ	0.11 J	0.023	0.00087 U	0.00075 U
Total BTEX	NE	NE	NE	mg/kg	0.00044 J	ND	0.0082 J	0.16 J	0.04	ND	ND
Other VOCs											
1,1,1-Trichloroethane	1000	NE	0.68	mg/kg	0.00034 U	0.00032 U	0.00057 UJ	0.015 UJ	0.00035 U	0.00038 U	0.00033 U
1,1,2,2-Tetrachloroethane	NE	NE	NE	mg/kg	0.00077 U	0.00071 U	0.0013 UJ	0.0087 UJ	0.00079 U	0.00084 U	0.00073 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NE	NE	NE	mg/kg	0.0011 U	0.001 U	0.0018 UJ	0.027 UJ	0.0011 U	0.0012 U	0.001 U
1,1,2-Trichloroethane	NE	NE	NE	mg/kg	0.00061 U	0.00057 U	0.001 UJ	0.011 UJ	0.00063 U	0.00068 U	0.00058 U
1,1-Dichloroethane	480	NE	0.27	mg/kg	0.00058 U	0.00054 U	0.00095 UJ	0.016 UJ	0.0006 U	0.00063 U	0.00055 U
1,1-Dichloroethene	1000	NE	0.33	mg/kg	0.00058 U	0.00054 U	0.00095 UJ	0.018 UJ	0.0006 U	0.00064 U	0.00055 U
1,2,4-Trichlorobenzene	NE	NE	NE	mg/kg	0.00029 U	0.00027 UJ	0.00047 UJ	0.02 UJ	0.0003 U	0.00032 U	0.00027 U
1,2-Dibromo-3-chloropropane (DBCP)	NE	NE	NE	mg/kg	0.0024 U	0.0022 U	0.0039 UJ	0.027 UJ	0.0024 U	0.0026 U	0.0022 U
1,2-Dibromoethane (EDB)	NE	NE	NE	mg/kg	0.00061 U	0.00056 UJ	0.001 UJ	0.0093 UJ	0.00063 U	0.00067 U	0.00058 U
1,2-Dichlorobenzene	1000	NE	1.1	mg/kg	0.00037 U	0.00034 U	0.00061 UJ	0.014 UJ	0.00038 U	0.00041 U	0.00035 U
1,2-Dichloroethane	60	10	0.02	mg/kg	0.00024 U	0.00022 UJ	0.00039 UJ	0.022 UJ	0.00024 U	0.00026 U	0.00023 U
1,2-Dichloropropane	NE	NE	NE	mg/kg	0.0024 U	0.0022 U	0.0039 UJ	0.0086 UJ	0.0024 U	0.0026 U	0.0022 U
1,3-Dichlorobenzene	560	NE	2.4	mg/kg	0.00024 U	0.00023 U	0.0004 UJ	0.014 UJ	0.00025 U	0.00027 U	0.00023 U
1,4-Dichlorobenzene	250	20	1.8	mg/kg	0.00066 U	0.00062 U	0.0011 UJ	0.0075 UJ	0.00068 U	0.00073 U	0.00063 U
2-Butanone (MEK)	1000	100	0.12	mg/kg	0.0017 U	0.0016 UF1	0.0028 UJ	0.16 UJ	0.0018 U	0.0019 U	0.0016 U
2-Hexanone	NE	NE	NE	mg/kg	0.0024 U	0.0022 U	0.0039 UJ	0.11 UJ	0.0024 U	0.0026 U	0.0022 U
4-Methyl-2-pentanone (MIBK)	NE	NE	NE	mg/kg	0.0015 U	0.0014 UF1	0.0026 UJ	0.017 UJ	0.0016 U	0.0017 U	0.0015 U
Acetone	1000	2.2	0.05	mg/kg	0.004 U	0.0037 UF1	0.0066 UJ	0.22 UJ	0.0041 U	0.01 U1	0.0038 U
Bromodichloromethane	NE	NE	NE	mg/kg	0.00063 U	0.00059 U	0.001 UJ	0.011 UJ	0.00065 U	0.0007 U	0.0006 U
Bromoform	NE	NE	NE	mg/kg	0.0024 U	0.0022 UJ	0.0039 UJ	0.027 UJ	0.0024 U	0.0026 U	0.0022 U
Bromomethane	NE	NE	NE	mg/kg	0.00043 U	0.0004 U	0.0007 UJ	0.012 UJ	0.00044 U	0.00047 U	0.0004 U
Carbon disulfide	NE	NE	NE	mg/kg	0.0024 U	0.0022 U	0.0039 UJ	0.024 UJ	0.0024 U	0.0026 U	0.0022 U
Carbon tetrachloride	44	NE	0.76	mg/kg	0.00046 U	0.00043 U	0.00075 UJ	0.014 UJ	0.00047 U	0.0005 U	0.00043 U
Chlorobenzene	1000	40	1.1	mg/kg	0.00062 U	0.00058 U	0.001 UJ	0.007 UJ	0.00064 U	0.00069 U	0.00059 U
Chloroethane	NE	NE	NE	mg/kg	0.0011 U	0.00099 U	0.0018 UJ	0.011 UJ	0.0011 U	0.0012 U	0.001 U
Chloroform	700	12	0.37	mg/kg	0.00029 U	0.00027 U	0.00048 UJ	0.037 UJ	0.0003 U	0.00032 U	0.00028 U
Chloromethane	NE	NE	NE	mg/kg	0.00029 U	0.00027 U	0.00047 UJ	0.013 UJ	0.00029 U	0.00031 U	0.00027 U
cis-1,2-Dichloroethene	1000	NE	0.25	mg/kg	0.0006 U	0.00056 U	0.001 UJ	0.015 UJ	0.00062 U	0.00066 U	0.00057 U
cis-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.00068 U	0.00063 UJ	0.0011 UJ	0.013 UJ	0.0007 U	0.00075 U	0.00065 U
Cyclohexane	NE	NE	NE	mg/kg	0.00066 U	0.00062 U	0.0011 UJ	0.012 UJ	0.00068 U	0.00073 U	0.00063 U
Dibromochloromethane	NE	NE	NE	mg/kg	0.0006 U	0.00056 U	0.001 UJ	0.026 UJ	0.00062 U	0.00066 U	0.00057 U
Dichlorodifluoromethane (Freon 12)	NE	NE	NE	mg/kg	0.00039 U	0.00036 U	0.00064 UJ	0.023 UJ	0.0004 U	0.00043 U	0.00037 U
Isopropylbenzene (Cumene)	NE	NE	NE	mg/kg	0.00071 U	0.00066 U	0.0012 UJ	0.008 UJ	0.00074 U	0.00078 U	0.00068 U
Methyl acetate	NE	NE	NE	mg/kg	0.0029 U	0.0027 U	0.0047 UJ	0.025 UJ	0.0029 U	0.0031 U	0.0027 U
Methylcyclohexane	NE	NE	NE	mg/kg	0.00072 U	0.00067 U	0.0012 UJ	0.077 J	0.00074 U	0.00079 U	0.00068 U
Methylene chloride	1000	12	0.05	mg/kg	0.0022 U	0.002 U	0.0036 UJ	0.044 U1	0.005 U1	0.0041 U1	0.0021 UJ
Styrene	NE	NE	NE	mg/kg	0.00024 U	0.00022 UF1	0.00039 UJ	0.02 J	0.0039 J	0.00026 U	0.00022 U
tert-Butyl methyl ether (MTBE)	1000	NE	0.93	mg/kg	0.00046 U	0.00043 U	0.00076 UJ	0.02 UJ	0.00048 U	0.00051 U	0.00044 U
Tetrachloroethene (PCE)	300	2	1.3	mg/kg	0.00063 U	0.00059 U	0.001 UJ	0.0072 UJ	0.00065 U	0.0007 U	0.0006 U
trans-1,2-Dichloroethene	1000	NE	0.19	mg/kg	0.00049 U	0.00045 U	0.0008 UJ	0.013 UJ	0.0005 U	0.00054 U	0.00046 U
trans-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.0021 U	0.0019 U	0.0034 UJ	0.0052 UJ	0.0021 U	0.0023 U	0.002 U
Trichloroethene (TCE)	400	2	0.47	mg/kg	0.001 U	0.00097 U	0.0017 UJ	0.015 UJ	0.0011 U	0.0011 U	0.00099 U
Trichlorofluoromethane (Freon 11)	NE	NE	NE	mg/kg	0.00045 U	0.00042 U	0.0024 J	0.025 UJ	0.00046 UJ	0.00049 U	0.00042 U
Vinyl chloride	27	NE	0.02	mg/kg	0.00058 U	0.00054 U	0.00095 UJ	0.018 UJ	0.0006 U	0.00063 U	0.00055 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	TP-3 4-5 5/28/2015	TP-4 7.5-8 5/27/2015	TP-5 7-7.5 5/28/2015	TP-6 4 2/8/2017	TP-6 8.5 2/8/2017	TP-7 3.5 2/8/2017	TP-7 8.5 2/8/2017
Semi-volatile Organic Compounds (SVOCs)											
Polycyclic Aromatic Hydrocarbons (PAHs)											
Acenaphthene	1000	20	98	mg/kg	0.54 U	0.14 U	0.33 U	15 J	0.15 U	1.1 J	2 J
Acenaphthylene	1000	NE	107	mg/kg	4	0.12 U	0.29 U	11 J	0.19 J	0.65 J	0.75 J
Anthracene	1000	NE	1000	mg/kg	3.7	0.23 U	0.56 U	19 J	0.25 U	2.8 J	4.5
Benzo(a)anthracene	11	NE	1	mg/kg	**13**	0.17 J	0.4 J	**38 J**	0.48 J	**7.4**	**8.5**
Benzo(a)pyrene	1.1	2.6	22	mg/kg	**10**	0.15 J	0.33 U	**28 J**	0.42 J	**5.6**	**6.1**
Benzo(b)fluoranthene	11	NE	1.7	mg/kg	**13**	0.23 J	0.36 U	**31 J**	0.59 J	**6.6**	**7.7**
Benzo(g,h,i)perylene	1000	NE	1000	mg/kg	5.6	0.099 U	0.24 U	15 J	0.31 J	2.9 J	2.9 J
Benzo(k)fluoranthene	110	NE	1.7	mg/kg	**7.4**	0.12 U	0.29 U	**13 J**	0.22 J	**3.4 J**	**3.5 J**
Chrysene	110	NE	1	mg/kg	**14**	0.21 U	0.5 U	**36 J**	0.65 J	**6.1**	**7.8**
Dibenz(a,h)anthracene	1.1	NE	1000	mg/kg	**2.1 J**	0.17 U	0.4 U	3.2 U	0.18 U	0.65 U	0.66 U
Fluoranthene	1000	NE	1000	mg/kg	21	0.2 J	0.31 J	72 J	0.71 J	12	17
Fluorene	1000	30	386	mg/kg	1.6 J	0.11 U	0.27 U	30 J	0.12 U	2.4 J	2.4 J
Indeno(1,2,3-c,d)pyrene	11	NE	8.2	mg/kg	6.5	0.12 U	0.28 U	**12 J**	0.26 J	2.7 J	2.6 J
Naphthalene	1000	NE	12	mg/kg	1.1 J	0.12 U	0.36 J	**27 J**	0.2 J	1.4 J	1.2 J
Phenanthrene	1000	NE	1000	mg/kg	13	0.14 U	0.41 J	120 J	0.67 J	12	16
Pyrene	1000	NE	1000	mg/kg	21	0.25 J	0.31 J	99 J	0.97 J	11	16
2-Methylnaphthalene	NE	NE	NE	mg/kg	0.85 J	0.19 U	0.45 U	27 J	0.2 U	0.97 J	0.86 J
Total PAHS	NE	NE	NE	mg/kg	138	1.0 J	1.8 J	593 J	5.7 J	79	100
Other SVOCs											
2,4,5-Trichlorophenol	NE	NE	NE	mg/kg	0.99 U	0.25 U	0.61 U	4.9 U	0.27 U	0.99 U	1 U
2,4,6-Trichlorophenol	NE	NE	NE	mg/kg	0.73 U	0.19 U	0.45 U	3.6 U	0.2 U	0.74 U	0.75 U
2,4-Dichlorophenol	NE	NE	NE	mg/kg	0.39 U	0.099 U	0.24 U	1.9 U	0.11 U	0.39 U	0.4 U
2,4-Dimethylphenol	NE	NE	NE	mg/kg	0.88 U	0.23 U	0.54 U	4.4 U	0.24 U	0.89 U	0.9 U
2,4-Dinitrophenol	NE	NE	NE	mg/kg	17 U	4.3 U	10 U	84 U	4.6 U	17 U	17 U
2,4-Dinitrotoluene	NE	NE	NE	mg/kg	0.75 U	0.19 U	0.46 U	3.8 U	0.21 U	0.76 U	0.77 U
2,6-Dinitrotoluene	NE	NE	NE	mg/kg	0.43 U	0.11 U	0.27 U	2.1 U	0.12 U	0.43 U	0.44 U
2-Chloronaphthalene	NE	NE	NE	mg/kg	0.6 U	0.15 U	0.37 U	3 U	0.16 U	0.61 U	0.62 U
2-Chlorophenol	NE	NE	NE	mg/kg	0.67 U	0.17 U	0.41 U	3.3 U	0.18 U	0.67 U	0.68 U
2-Methylphenol (o-cresol)	1000	NE	0.33	mg/kg	0.43 U	0.11 U	0.27 U	2.1 UJ	0.12 UJ	0.43 UJ	0.44 UJ
2-Nitroaniline	NE	NE	NE	mg/kg	0.54 U	0.14 U	0.33 U	2.7 U	0.15 U	0.54 U	0.55 U
2-Nitrophenol	NE	NE	NE	mg/kg	1 U	0.27 U	0.64 U	5.1 U	0.28 U	1 U	1.1 U
3,3'-Dichlorobenzidine	NE	NE	NE	mg/kg	4.3 U	1.1 U	2.7 U	21 U	1.2 U	4.3 U	4.4 U
3-Nitroaniline	NE	NE	NE	mg/kg	1 U	0.26 U	0.62 U	5 U	0.28 U	1 U	1 U
4,6-Dinitro-2-methylphenol	NE	NE	NE	mg/kg	3.7 U	0.94 U	2.3 U	18 U	1 U	3.7 U	3.7 U
4-Bromophenyl phenyl ether	NE	NE	NE	mg/kg	0.52 U	0.13 U	0.32 U	2.6 U	0.14 U	0.52 U	0.53 U
4-Chloro-3-methylphenol	NE	NE	NE	mg/kg	0.9 U	0.23 U	0.56 U	4.5 U	0.25 U	0.91 U	0.92 U
4-Chloroaniline	NE	NE	NE	mg/kg	0.9 U	0.23 U	0.56 U	4.5 U	0.25 U	0.91 U	0.92 U
4-Chlorophenyl phenyl ether	NE	NE	NE	mg/kg	0.45 U	0.12 U	0.28 U	2.3 U	0.12 U	0.45 U	0.46 U
4-Methylphenol	1000	NE	0.33	mg/kg	0.43 U	0.11 U	0.27 U	2.1 U	0.12 U	0.43 U	0.44 U
4-Nitroaniline	NE	NE	NE	mg/kg	1.9 U	0.49 U	1.2 U	9.5 U	0.52 U	1.9 U	2 U
4-Nitrophenol	NE	NE	NE	mg/kg	2.6 U	0.66 U	1.6 U	13 U	0.7 U	2.6 U	2.6 U
Acetophenone	NE	NE	NE	mg/kg	0.49 U	0.13 U	0.31 U	2.5 U	0.14 U	0.5 U	0.51 U
Atrazine	NE	NE	NE	mg/kg	1.3 U	0.33 U	0.78 U	6.3 U	0.35 U	1.3 U	1.3 U
Benzaldehyde	NE	NE	NE	mg/kg	2.9 U	0.75 U	1.8 U	14 U	0.79 U	2.9 U	3 U
Benzyl butyl phthalate	NE	NE	NE	mg/kg	0.6 U	0.15 U	0.37 U	3 U	0.16 U	0.61 U	0.62 U
Biphenyl (Diphenyl)	NE	NE	NE	mg/kg	0.54 U	0.14 U	0.33 U	3.2 J	0.15 U	0.54 U	0.55 U
bis(2-Chloroethoxy)methane	NE	NE	NE	mg/kg	0.77 U	0.2 U	0.48 U	3.9 U	0.21 U	0.78 U	0.79 U
bis(2-Chloroethyl)ether	NE	NE	NE	mg/kg	0.47 U	0.12 U	0.29 U	2.4 U	0.13 U	0.48 U	0.48 U
bis(2-Chloroisopropyl)ether	NE	NE	NE	mg/kg	0.73 U	0.19 U	0.45 U	3.6 U	0.2 U	0.74 U	0.75 U
bis(2-Ethylhexyl)phthalate	NE	NE	NE	mg/kg	1.2 U	0.32 U	0.77 U	6.2 U	0.34 U	1.3 U	1.3 U
Caprolactam	NE	NE	NE	mg/kg	1.1 U	0.28 U	0.68 U	5.5 U	0.3 U	1.1 U	1.1 U
Carbazole	NE	NE	NE	mg/kg	0.56 J	0.11 U	0.27 U	2.1 U	0.12 U	0.93 J	1.6 J
Dibenzofuran	1000	NE	210	mg/kg	0.8 J	0.11 U	0.27 U	9.6 J	0.12 U	1.5 J	1.6 J
Diethyl phthalate	NE	NE	NE	mg/kg	0.47 U	0.12 U	0.29 U	2.4 U	0.13 U	0.48 U	0.48 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	TP-3 4-5 5/28/2015	TP-4 7.5-8 5/27/2015	TP-5 7-7.5 5/28/2015	TP-6 4 2/8/2017	TP-6 8.5 2/8/2017	TP-7 3.5 2/8/2017	TP-7 8.5 2/8/2017
Dimethyl phthalate	NE	NE	NE	mg/kg	0.43 U	0.11 U	0.27 U	2.1 U	0.12 U	0.43 U	0.44 U
dl-n-Butyl phthalate	NE	NE	NE	mg/kg	0.62 U	0.16 U	0.39 U	3.1 U	0.17 U	0.63 U	0.64 U
dl-n-Octyl phthalate	NE	NE	NE	mg/kg	0.43 U	0.11 U	0.27 U	2.1 U	0.12 U	0.43 U	0.44 U
Hexachlorobenzene	12	NE	3.2	mg/kg	0.49 U	0.13 U	0.31 U	2.5 U	0.14 U	0.5 U	0.51 U
Hexachlorobutadiene	NE	NE	NE	mg/kg	0.54 U	0.14 U	0.33 U	2.7 U	0.15 U	0.54 U	0.55 U
Hexachlorocyclopentadiene	NE	NE	NE	mg/kg	0.49 U	0.13 U	0.31 U	2.5 U	0.14 U	0.5 U	0.51 U
Hexachloroethane	NE	NE	NE	mg/kg	0.47 U	0.12 U	0.29 U	2.4 U	0.13 U	0.48 U	0.48 U
Isophorone	NE	NE	NE	mg/kg	0.77 U	0.2 U	0.48 U	3.9 U	0.21 U	0.78 U	0.79 U
Nitrobenzene	NE	NE	NE	mg/kg	0.41 U	0.1 U	0.25 U	2 U	0.11 U	0.41 U	0.42 U
N-Nitroso-di-n-propylamine	NE	NE	NE	mg/kg	0.62 U	0.16 U	0.39 U	3.1 U	0.17 U	0.63 U	0.64 U
N-Nitrosodiphenylamine	NE	NE	NE	mg/kg	3 U	0.76 U	1.8 U	15 U	0.81 U	3 U	3 U
Pentachlorophenol	55	0.8	0.8	mg/kg	3.7 U	0.94 U	2.3 U	18 UJ	1 UJ	3.7 UJ	3.7 UJ
Phenol	1000	30	0.33	mg/kg	0.56 U	0.14 R	0.35 U	2.8 U	0.15 U	0.56 U	0.57 U
Inorganic Constituents											
Cyanide, total	10000	NE	40	mg/kg	0.52 U	0.54 UF1F2	0.64 U	0.47 UJ	0.53 U	0.45 U	0.54 U
Aluminum	NE	NE	NE	mg/kg	6330 J	6800 J	3610 J	--	--	--	--
Antimony	NE	NE	NE	mg/kg	4 UJ	2.1 UJ	2.5 UJ	--	--	--	--
Arsenic	16	13	16	mg/kg	**50.3 F1**	12.9	**23.1**	--	--	--	--
Barium	10000	433	820	mg/kg	91.1 J	47.8 J	56.4 F1	--	--	--	--
Beryllium	2700	10	47	mg/kg	2.1 J	0.95 JF1	0.67 J	--	--	--	--
Cadmium	60	4	7.5	mg/kg	0.3 UJ	0.28 JF1	0.19 U	--	--	--	--
Calcium	NE	NE	NE	mg/kg	13300 J	4700 J	2950 J	--	--	--	--
Chromium[b]	800	1	19	mg/kg	**154 J**	**46.2 J**	**16.2 J**	--	--	--	--
Cobalt	NE	NE	NE	mg/kg	10.4	6.8	12.4	--	--	--	--
Copper	10000	50	1720	mg/kg	2.1 UF2	23 F1	**88.7 F1F2**	--	--	--	--
Iron	NE	NE	NE	mg/kg	198000 J	93700 J	70600 ^	--	--	--	--
Lead	3900	63	450	mg/kg	**64.7 F2F1**	40.9 J	57.8 F1	--	--	--	--
Magnesium	NE	NE	NE	mg/kg	1940 J	1800 J	903 J	--	--	--	--
Manganese	10000	1600	2000	mg/kg	**5110 J**	**1730 J**	**1890 ^F2**	--	--	--	--
Nickel	10000	30	130	mg/kg	22.5 F1	18 J	28.1	--	--	--	--
Potassium	NE	NE	NE	mg/kg	560 BF1	809	538	--	--	--	--
Selenium	6800	3.9	4	mg/kg	4 UJ	2.1 UF1	2.5 U	--	--	--	--
Silver	6800	2	8.3	mg/kg	2 UJ	1.1 UJ	1.2 UF1F2	--	--	--	--
Sodium	NE	NE	NE	mg/kg	1390 U	197 JF1	867 U	--	--	--	--
Thallium	NE	NE	NE	mg/kg	3 U	1.6 UF1	1.9 U	--	--	--	--
Vanadium	NE	NE	NE	mg/kg	267 J	74.1 J	40.4 J	--	--	--	--
Zinc	10000	109	2480	mg/kg	58.9 J	52.3 J	**147 J**	--	--	--	--
Mercury	5.7	0.18	0.73	mg/kg	0.088	0.059	0.15	--	--	--	--
Pesticides											
4,4'-DDD	180	0.0033	14	mg/kg	0.017 U	0.0018 U	0.0043 U	0.035 U	0.00077 U	0.0018 U	0.0018 U
4,4'-DDE	120	0.0033	17	mg/kg	0.019 U	0.0019 U	**0.0048 J**	0.038 U	0.00084 U	0.0019 U	0.002 U
4,4'-DDT	94	0.0033	136	mg/kg	**0.024 J**	0.0022 U	0.0052 U	**0.05 J**	0.0019 J	**0.005 J**	0.0022 U
Aldrin	1.4	0.14	0.19	mg/kg	0.022 U	0.0023 U	0.0054 U	0.044 U	0.00098 U	0.0023 U	0.0023 U
alpha Endosulfan (Endosulfan I)	920	NE	102	mg/kg	0.017 U	0.0018 U	0.0042 U	0.034 U	0.00076 U	0.0018 U	0.0018 U
beta Endosulfan (Endosulfan II)	920	NE	102	mg/kg	0.016 U	0.0017 U	0.004 U	0.032 U	0.00072 U	0.0016 U	0.0017 U
BHC, alpha	6.8	0.04	0.02	mg/kg	0.016 U	0.0017 U	0.004 U	0.032 U	0.00072 U	0.0016 U	0.0017 U
BHC, beta	14	0.6	0.09	mg/kg	0.016 U	0.0017 U	0.004 U	0.032 U	0.00072 U	0.0016 U	0.0017 U
BHC, delta	1000	0.04	0.25	mg/kg	0.017 U	0.0017 U	0.0041 U	0.033 U	0.0014 J	0.0027 J	0.002 J
BHC, gamma (Lindane)	23	6	0.1	mg/kg	0.016 U	0.0017 UJ	0.004 U	0.033 U	0.00073 U	0.0017 U	0.0017 U
Chlordane, alpha	47	1.3	2.9	mg/kg	0.044 U	0.0046 U	0.011 U	0.089 U	0.002 U	0.0046 U	0.0047 U
Chlordane, beta	NE	NE	NE	mg/kg	0.028 U	0.0029 U	0.007 U	0.057 U	0.0013 U	0.0029 U	0.003 U
Dieldrin	2.8	0.006	0.1	mg/kg	0.021 U	0.0022 U	0.0053 U	0.043 U	0.00096 U	0.0022 U	0.0022 U
Endosulfan sulfate	920	NE	1000	mg/kg	0.017 U	0.0017 U	0.022 U	0.033 U	0.00074 U	0.0017 U	0.0017 U
Endrin	410	0.014	0.06	mg/kg	0.018 U	0.0018 U	0.0044 U	0.036 U	0.0018 J	0.0018 U	0.0019 U
Endrin aldehyde	NE	NE	NE	mg/kg	0.023 U	0.0023 U	0.0056 U	0.046 U	0.001 U	0.0023 U	0.0024 U
Endrin ketone	NE	NE	NE	mg/kg	0.022 U	0.0023 U	0.0054 U	0.044 U	0.0029 J	0.0023 U	0.0023 U

TABLE 8
SUBSURFACE SOIL ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

	Soil Cleanup Objectives [6 NYCRR Subpart 375-6]										
Constituent	Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	TP-3 4-5 5/28/2015	TP-4 7.5-8 5/27/2015	TP-5 7-7.5 5/28/2015	TP-6 4 2/8/2017	TP-6 8.5 2/8/2017	TP-7 3.5 2/8/2017	TP-7 8.5 2/8/2017
Heptachlor	29	0.14	0.38	mg/kg	0.019 U	0.002 U	0.0048 U	0.039 U	0.00086 U	0.002 U	0.002 U
Heptachlor epoxide	NE	NE	NE	mg/kg	0.023 U	0.0024 U	0.0057 U	0.046 U	0.001 U	0.0024 U	0.0024 U
Methoxychlor	NE	NE	NE	mg/kg	0.018 U	0.0019 U	0.022 U	0.037 U	0.0027 J	0.0019 U	0.0019 U
Toxaphene	NE	NE	NE	mg/kg	0.52 U	0.053 U	0.13 U	1 U	0.023 U	0.053 U	0.054 U
Polychlorinated Biphenyls (PCBs)											
Aroclor 1016	NE	NE	3.2	mg/kg	0.038 U	0.04 U	0.057 U	--	--	--	--
Aroclor 1221	NE	NE	3.2	mg/kg	0.038 U	0.04 U	0.057 U	--	--	--	--
Aroclor 1232	NE	NE	3.2	mg/kg	0.038 U	0.04 U	0.057 U	--	--	--	--
Aroclor 1242	NE	NE	3.2	mg/kg	0.038 U	0.04 U	0.057 U	--	--	--	--
Aroclor 1248	NE	NE	3.2	mg/kg	0.038 U	0.04 U	0.057 U	--	--	--	--
Aroclor 1254	NE	NE	3.2	mg/kg	0.09 U	0.095 U	0.14 U	--	--	--	--
Aroclor 1260	NE	NE	3.2	mg/kg	0.09 U	0.095 U	0.14 U	--	--	--	--
Total PCBs	25	1.0	3.2	mg/kg	ND	ND	ND	--	--	--	--

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
U1 - The analyte was analyzed for, but was not detected substantially above the level reported in laboratory or field blanks.
J+ - Estimated concentration. Reported value may be biased high. Result is esitmated high
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
N J - The analyte detection if tentative in indentification and estimated in value.
B - Constituent was found in the blank and the sample.
R - Result rejected as determined by the data validator.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related QC is outside acceptance limits.
* - Laboratory Control Sample (LCS) or Laboratory Control Sample Duplicate (LCSD) is outside acceptance limits
NE - Not established.
ND - Not detected
(a) - Zoning determination based on review of City of Troy Official Zoning Map dated 12/19/16. Zoning classification for the Site is identified as Waterfront Trade District, which permits industrial usage of property.
(b) - Chromium analysis was for total chromium. To be conservative, total chromium concentrations were compared to hexavalent chromium SCOs.

Boxes and bolded values indicate concentrations are above New York State Subpart 375 Soil Cleanup Objectives for: Protection of Public Health for Industrially Zoned Properties, Protection of Ecological Resources, and/or Protection of Groundwater.

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-1S-REP 2/28/2017	MW-1S-REP 6/26/2017	MW-1 6/11/2015	MW-1 9/21/2015	MW-1 DUP 9/21/2015	MW-1 2/28/2017	MW-1 6/27/2017
Volatile Organic Compounds (VOCs)										
BTEX										
Benzene	NE	1	µg/L	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
Toluene	NE	5	µg/L	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
Ethylbenzene	NE	5	µg/L	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U
Xylenes, total	NE	5	µg/L	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U
Total BTEX	NE	NE	µg/L	ND	ND	ND	ND	ND	ND	ND
Other VOCs										
1,1,1-Trichloroethane	NE	5	µg/L	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U
1,1,2,2-Tetrachloroethane	NE	5	µg/L	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NE	5	µg/L	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
1,1,2-Trichloroethane	NE	1	µg/L	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,1-Dichloroethane	NE	5	µg/L	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,1-Dichloroethene	NE	5	µg/L	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
1,2,4-Trichlorobenzene	10	5	µg/L	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
1,2-Dibromo-3-chloropropane (DBCP)	NE	0.04	µg/L	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
1,2-Dibromoethane (EDB)	NE	0.0006	µg/L	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
1,2-Dichlorobenzene	NE	3	µg/L	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U
1,2-Dichloroethane	NE	0.6	µg/L	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,2-Dichloropropane	NE	1	µg/L	0.72 U	0.72 U	0.72 UF1	0.72 U	0.72 U	0.72 U	0.72 U
1,3-Dichlorobenzene	NE	3	µg/L	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U
1,4-Dichlorobenzene	NE	3	µg/L	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U
2-Butanone (MEK)	50	NE	µg/L	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
2-Hexanone	50	NE	µg/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
4-Methyl-2-pentanone (MIBK)	NE	NE	µg/L	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U
Acetone	50	NE	µg/L	3 U	3 U	3 U	3 U	3 U	3 U	4.1 U1
Bromodichloromethane	50	NE	µg/L	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
Bromoform	50	NE	µg/L	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromomethane	NE	5	µg/L	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U
Carbon disulfide	60	60	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Carbon tetrachloride	NE	5	µg/L	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	NE	5	µg/L	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U
Chloroethane	NE	5	µg/L	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Chloroform	NE	7	µg/L	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Chloromethane	NE	5	µg/L	0.35 U	0.35 U	0.35 UF1	0.35 U	0.35 U	0.35 U	0.35 U
cis-1,2-Dichloroethene	NE	5	µg/L	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U
cis-1,3-Dichloropropene	NE	0.4	µg/L	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Cyclohexane	NE	NE	µg/L	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Dibromochloromethane	50	NE	µg/L	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Dichlorodifluoromethane (Freon 12)	NE	5	µg/L	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U
Isopropylbenzene (Cumene)	NE	5	µg/L	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-1S-REP 2/28/2017	MW-1S-REP 6/26/2017	MW-1 6/11/2015	MW-1 9/21/2015	MW-1 DUP 9/21/2015	MW-1 2/28/2017	MW-1 6/27/2017
Methyl acetate	NE	NE	µg/L	1.3 U	1.3 U	0.5 U	1.3 U	1.3 U	1.3 U	1.3 U
Methylcyclohexane	NE	NE	µg/L	0.38 J	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Methylene chloride	NE	5	µg/L	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
Styrene	NE	5	µg/L	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
tert-Butyl methyl ether (MTBE)	10	NE	µg/L	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Tetrachloroethene (PCE)	NE	5	µg/L	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
trans-1,2-Dichloroethene	NE	5	µg/L	0.9 U	0.9 U	0.9 UF1	0.9 U	0.9 U	0.9 U	0.9 U
trans-1,3-Dichloropropene	NE	0.4	µg/L	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
Trichloroethene (TCE)	NE	5	µg/L	0.46 U	0.46 U	0.46 UF1	0.46 U	0.46 U	0.46 U	0.46 U
Trichlorofluoromethane (Freon 11)	NE	5	µg/L	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U
Vinyl chloride	NE	2	µg/L	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U
Semi-Volatile Organic Compounds (SVOCs)										
Polycyclic Aromatic Hydrocarbons (PAHs)										
Acenaphthene	20	NE	µg/L	0.97 J	0.41 U	0.4 U	0.38 U	0.51 U	0.45 U	0.45 U
Acenaphthylene	NE	NE	µg/L	0.44 U	0.38 U	0.38 UF2	0.35 U	0.47 U	0.42 U	0.41 U
Anthracene	50	NE	µg/L	0.32 U	0.28 U	0.28 UF2	0.26 U	0.35 U	0.31 U	0.3 U
Benzo(a)anthracene	0.002	NE	µg/L	0.41 U	0.36 U	0.36 UF2	0.33 U	0.45 U	0.39 U	0.39 U
Benzo(a)pyrene	NE	0	µg/L	0.54 U	0.47 U	0.46 UF1F2	0.44 U	0.59 U	0.51 U	0.51 U
Benzo(b)fluoranthene	0.002	NE	µg/L	0.39 U	0.34 U	0.34 UF1F2	0.31 U	0.42 U	0.37 U	0.37 U
Benzo(g,h,i)perylene	NE	NE	µg/L	0.4 U	0.35 U	0.35 UF1F2	0.32 U	0.44 U	0.38 U	0.38 U
Benzo(k)fluoranthene	0.002	NE	µg/L	0.84 U	0.73 U	0.72 UF1F2	0.68 U	0.91 U	0.8 U	0.79 U
Chrysene	0.002	NE	µg/L	0.38 U	0.33 U	0.33 UF1F2	0.31 U	0.41 U	0.36 U	0.36 U
Dibenz(a,h)anthracene	NE	NE	µg/L	0.48 U	0.42 U	0.41 UF1F2	0.39 U	0.52 U	0.46 U	0.46 U
Fluoranthene	50	NE	µg/L	0.46 U	0.4 U	0.4 UF2	0.37 U	0.5 U	0.44 U	0.43 U
Fluorene	50	NE	µg/L	0.41 U	0.36 U	0.36 UF2	0.33 U	0.45 U	0.39 U	0.39 U
Indeno(1,2,3-c,d)pyrene	0.002	NE	µg/L	0.54 U	0.47 U	0.46 UF1F2	0.44 U	0.59 U	0.51 U	0.51 U
Naphthalene	10	NE	µg/L	0.87 U	0.76 U	0.75 U	0.7 U	0.95 U	0.83 U	0.83 U
Phenanthrene	50	NE	µg/L	0.87 J	0.44 U	0.43 UF2	0.41 U	0.55 U	0.48 U	0.48 U
Pyrene	50	NE	µg/L	0.39 U	0.34 U	0.34 UF2	0.31 U	0.42 U	0.37 U	0.37 U
2-Methylnaphthalene	NE	NE	µg/L	0.69 U	0.6 U	0.59 UF2	0.56 U	0.75 U	0.66 U	0.65 U
Total PAHs	NE	NE	µg/L	1.8 J	ND	ND	ND	ND	ND	ND
Other SVOCs										
2,4,5-Trichlorophenol	NE	1	µg/L	0.55 UJ	0.48 U	0.47 UF2	0.44 U	0.6 U	0.53 UJ	0.52 U
2,4,6-Trichlorophenol	NE	1	µg/L	0.7 UJ	0.61 U	0.6 UF2	0.57 U	0.76 U	0.67 UJ	0.66 U
2,4-Dichlorophenol	NE	1	µg/L	0.58 U	0.51 U	0.5 UF2	0.47 U	0.63 U	0.56 U	0.55 U
2,4-Dimethylphenol	50	1	µg/L	0.57 U	0.5 U	0.49 U	0.46 U	0.62 U	0.55 U	0.54 U
2,4-Dinitrophenol	10	1	µg/L	2.5 U	2.2 U	2.2 U	2.1 U	2.8 U	2.4 U	2.4 U
2,4-Dinitrotoluene	NE	5	µg/L	0.51 U	0.45 U	0.44 UF2	0.41 U	0.56 U	0.49 U	0.49 U
2,6-Dinitrotoluene	NE	5	µg/L	0.46 U	0.4 U	0.4 UF2	0.37 U	0.5 U	0.44 U	0.43 U
2-Chloronaphthalene	10	NE	µg/L	0.53 U	0.46 U	0.45 UF2	0.43 U	0.57 U	0.5 U	0.5 U
2-Chlorophenol	NE	1	µg/L	0.61 U	0.53 U	0.52 U	0.49 U	0.66 U	0.58 U	0.58 U
2-Methylphenol (o-cresol)	NE	1	µg/L	0.46 U	0.4 U	0.4 UF2	0.37 U	0.5 U	0.44 U	0.43 U
2-Nitroaniline	NE	5	µg/L	0.48 U	0.42 U	0.41 UF2	0.39 U	0.52 U	0.46 U	0.46 U

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-1S-REP 2/28/2017	MW-1S-REP 6/26/2017	MW-1 6/11/2015	MW-1 9/21/2015	MW-1 DUP 9/21/2015	MW-1 2/28/2017	MW-1 6/27/2017
2-Nitrophenol	NE	1	µg/L	0.55 U	0.48 U	0.47 UF2	0.44 U	0.6 U	0.53 U	0.52 U
3,3'-Dichlorobenzidine	NE	5	µg/L	0.46 U	0.4 U	0.4 U	0.37 U	0.5 U	0.44 U	0.43 U
3-Nitroaniline	NE	5	µg/L	0.55 U	0.48 UJ	0.47 UF2	0.44 U	0.6 U	0.53 U	0.52 UJ
4,6-Dinitro-2-methylphenol	NE	1	µg/L	2.5 U	2.2 U	2.2 UF2	2 U	2.7 U	2.4 U	2.4 U
4-Bromophenyl phenyl ether	NE	NE	µg/L	0.52 U	0.45 U	0.44 UF2	0.42 U	0.56 U	0.49 U	0.49 U
4-Chloro-3-methylphenol	NE	1	µg/L	0.52 U	0.45 U	0.44 U	0.42 U	0.56 U	0.49 U	0.49 U
4-Chloroaniline	NE	5	µg/L	0.68 U	0.59 U	0.58 UF1F2	0.55 U	0.73 U	0.65 U	0.64 U
4-Chlorophenyl phenyl ether	NE	NE	µg/L	0.4 UJ	0.35 U	0.35 UF2	0.32 U	0.44 U	0.38 UJ	0.38 U
4-Methylphenol	NE	1	µg/L	0.41 U	0.36 U	0.36 UF2	0.33 U	0.45 U	0.39 U	0.39 U
4-Nitroaniline	NE	5	µg/L	0.29 U	0.25 U	0.25 UF2	0.23 U	0.31 U	0.27 U	0.27 U
4-Nitrophenol	NE	1	µg/L	1.7 UJ	1.5 UJ	1.5 U	1.4 U	1.9 U	1.7 UJ	1.7 UJ
Acetophenone	NE	NE	µg/L	0.62 U	0.54 U	0.53 U	0.5 U	0.67 U	0.59 U	0.59 U
Atrazine	NE	7.5	µg/L	0.53 UJ	0.46 UJ	0.45 UF2	0.43 U	0.57 U	0.5 UJ	0.5 UJ
Benzaldehyde	NE	NE	µg/L	0.31 U	0.27 U	4.9 U	4.6 U	6.2 U	0.29 U	0.29 U
Benzyl butyl phthalate	50	NE	µg/L	1.1 U	1 U	0.41 UF2	0.39 U	0.52 U	1.1 U	1.1 U
Biphenyl (Diphenyl)	NE	5	µg/L	0.75 U	0.65 U	0.65 UF2	0.6 U	0.81 U	0.72 U	0.71 U
bis(2-Chloroethoxy)methane	NE	5	µg/L	0.4 U	0.35 U	0.35 UF2	0.32 U	0.44 U	0.38 U	0.38 U
bis(2-Chloroethyl)ether	NE	1	µg/L	0.46 U	0.4 U	0.4 U	0.37 U	0.5 U	0.44 U	0.43 U
bis(2-Chloroisopropyl)ether	NE	5	µg/L	0.6 UJ	0.52 UJ	0.51 UJ	0.48 U	0.65 U	0.57 UJ	0.57 UJ
bis(2-Ethylhexyl)phthalate	NE	5	µg/L	2.5 U	2.2 U	1.8 UJ	4.6 U	6.2 U	2.4 U	2.4 U
Caprolactam	NE	NE	µg/L	2.5 U	2.2 U	2.2 UF1F2	2 U	2.7 U	2.4 U	2.4 U
Carbazole	NE	NE	µg/L	0.34 U	0.3 U	0.3 UF2	0.28 U	0.37 U	0.33 U	0.33 U
Dibenzofuran	NE	NE	µg/L	0.58 U	0.51 U	0.5 UF2	0.47 U	0.63 U	0.56 U	0.55 U
Diethyl phthalate	50	NE	µg/L	0.25 UJ	0.22 U	0.22 UF2	0.2 U	0.27 U	0.24 UJ	0.24 U
Dimethyl phthalate	50	NE	µg/L	0.41 UJ	0.36 U	0.36 UF2	0.33 U	0.45 U	0.39 UJ	0.39 U
dI-n-Butyl phthalate	NE	50	µg/L	0.36 U	0.31 U	4.9 U	0.29 U	0.39 U	0.34 U	0.34 U
dI-n-Octyl phthalate	50	NE	µg/L	0.54 U	0.47 U	0.46 UF1F2	0.44 U	0.59 U	0.51 U	0.51 U
Hexachlorobenzene	NE	0.04	µg/L	0.58 U	0.51 U	0.5 UF2	0.47 U	0.63 U	0.56 U	0.55 U
Hexachlorobutadiene	NE	0.5	µg/L	0.78 UJ	0.68 UJ	0.67 U	0.63 U	0.85 U	0.74 UJ	0.74 UJ
Hexachlorocyclopentadiene	NE	5	µg/L	0.68 UJ	0.59 U	0.58 U	0.55 U	0.73 U	0.65 UJ	0.64 U
Hexachloroethane	NE	5	µg/L	0.68 U	0.59 U	0.58 U	0.55 U	0.73 U	0.65 U	0.64 U
Isophorone	50	NE	µg/L	0.49 U	0.43 U	0.42 UF2	0.4 U	0.54 U	0.47 U	0.47 U
Nitrobenzene	NE	0.4	µg/L	0.33 U	0.29 U	0.29 UF2	0.27 U	0.36 U	0.32 U	0.32 U
N-Nitroso-di-n-propylamine	NE	NE	µg/L	0.62 U	0.54 UJ	0.53 U	0.5 U	0.67 U	0.59 U	0.59 UJ
N-Nitrosodiphenylamine	50	NE	µg/L	0.58 U	0.51 U	0.5 UF2	0.47 U	0.63 U	0.56 U	0.55 U
Pentachlorophenol	NE	1	µg/L	2.5 U	2.2 U	2.2 U	2 U	2.7 U	2.4 U	2.4 U
Phenol	NE	1	µg/L	0.45 U	0.39 UJ	0.39 U	0.36 U	0.49 U	0.43 U	0.42 UJ
Inorganic Constituents										
Cyanide, total	NE	200	µg/L	5 U	10 U	23 B	26	24	28	27
Aluminum	NE	NE	µg/L	--	--	71 J	60 U	60 U	--	--
Antimony	NE	3	µg/L	--	--	6.8 U	6.8 U	6.8 U	--	--
Arsenic	NE	25	µg/L	--	--	5.6 U	5.6 U	5.6 U	--	--
Barium	NE	1000	µg/L	--	--	80	89	87	--	--
Beryllium	3	NE	µg/L	--	--	0.3 U	0.3 U	0.3 U	--	--

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-1S-REP 2/28/2017	MW-1S-REP 6/26/2017	MW-1 6/11/2015	MW-1 9/21/2015	MW-1 DUP 9/21/2015	MW-1 2/28/2017	MW-1 6/27/2017
Cadmium	NE	5	µg/L	--	--	0.5 U	0.5 U	0.5 U	--	--
Calcium	NE	NE	µg/L	--	--	98400 B	113000	110000	--	--
Chromium	NE	50	µg/L	--	--	1 U	1 U	1 U	--	--
Cobalt	NE	NE	µg/L	--	--	0.63 U	0.63 U	0.63 U	--	--
Copper	NE	200	µg/L	--	--	1.6 U	1.6 U	1.6 U	--	--
Iron	NE	300	µg/L	--	--	**25200**	**24700**	**23900**	--	--
Lead	NE	25	µg/L	--	--	11	6.4 J	5.5 J	--	--
Magnesium	35000	NE	µg/L	--	--	10900	11600	11200	--	--
Manganese	NE	300	µg/L	--	--	**890**	**1000**	**970**	--	--
Nickel	NE	100	µg/L	--	--	3.1 J	1.6 J	2.2 J	--	--
Potassium	NE	NE	µg/L	--	--	4100	4700	4500	--	--
Selenium	NE	10	µg/L	--	--	8.7 U	8.7 U	8.7 U	--	--
Silver	NE	50	µg/L	--	--	1.7 U	1.7 U	1.7 U	--	--
Sodium	NE	20000	µg/L	--	--	16500 J	**28300**	**24900**	--	--
Thallium	0.5	NE	µg/L	--	--	10 U	10 U	10 U	--	--
Vanadium	NE	NE	µg/L	--	--	1.5 U	1.5 U	1.5 U	--	--
Zinc	2000	NE	µg/L	--	--	6.4 J	10 U	10 U	--	--
Mercury	NE	0.7	µg/L	--	--	0.12 U	0.12 U	0.12 U	--	--
Pesticides										
4,4'-DDD	NE	0.3	µg/L	0.011 U	0.01 U	0.011 U	0.018 J	0.022 J	0.01 U	0.0092 U
4,4'-DDE	NE	0.2	µg/L	0.014 U	0.013 U	0.013 U	0.011 U	0.011 U	0.013 U	0.012 U
4,4'-DDT	NE	0.2	µg/L	0.013 U	0.012 U	0.013 U	0.049 U	0.048 U	0.012 U	0.011 U
Aldrin	NE	0	µg/L	0.0098 U	0.0088 U	0.0093 U	0.008 U	0.0078 U	0.009 U	0.0081 U
alpha Endosulfan (Endosulfan I)	NE	NE	µg/L	0.013 U	0.012 U	0.013 U	0.011 U	0.011 U	0.012 U	0.011 U
beta Endosulfan (Endosulfan II)	NE	NE	µg/L	0.015 U	0.013 U	0.057 U	0.012 U	0.012 U	0.013 U	0.012 U
BHC, alpha	NE	0.01	µg/L	0.0094 U	0.0084 U	0.057 U	0.0076 U	0.0074 U	0.0085 U	0.0077 U
BHC, beta	NE	0.04	µg/L	0.03 U	0.027 U	0.028 U	0.024 U	0.024 U	0.027 U	0.025 U
BHC, delta	NE	0.04	µg/L	0.012 U	0.011 U	0.011 U	0.013 J	0.0097 U	0.011 U	0.01 U
BHC, gamma (Lindane)	NE	0.05	µg/L	0.0097 U	0.0087 U	0.0092 U	0.0079 U	0.0077 U	0.0089 U	0.0084 J
Chlordane, alpha	NE	NE	µg/L	0.018 U	0.016 U	0.02 J	0.015 U	0.014 U	0.016 U	0.015 U
Chlordane, beta	NE	NE	µg/L	0.013 U	0.012 U	0.013 U	0.011 U	0.011 U	0.012 U	0.011 U
Dieldrin	NE	0.004	µg/L	0.012 U	0.011 U	0.011 U	0.0097 U	0.0095 U	0.011 U	0.0098 U
Endosulfan sulfate	NE	NE	µg/L	0.019 U	0.017 U	0.018 U	0.015 U	0.015 U	0.017 U	0.016 U
Endrin	NE	0	µg/L	0.017 U	0.015 U	0.016 U	0.014 U	0.013 U	0.015 U	0.014 U
Endrin aldehyde	NE	5	µg/L	0.02 U	0.018 U	0.019 U	0.049 U	0.024 J	0.018 U	0.016 U
Endrin ketone	NE	5	µg/L	0.015 U	0.013 U	0.014 U	0.049 U	0.048 U	0.013 U	0.012 U
Heptachlor	NE	0.04	µg/L	0.01 U	0.0092 U	0.0098 U	0.0084 U	0.0082 U	0.0094 U	0.0085 U
Heptachlor epoxide	NE	0.03	µg/L	0.009 U	0.008 U	0.0085 U	0.0073 U	0.0071 U	0.0082 U	0.0074 U
Methoxychlor	NE	35	µg/L	0.017 U	0.015 U	0.016 U	0.039 J	0.042 J	0.016 U	0.014 U
Toxaphene	NE	0.06	µg/L	0.15 U	0.13 U	0.14 U	0.12 U	0.12 U	0.13 U	0.12 U

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-1S-REP 2/28/2017	MW-1S-REP 6/26/2017	MW-1 6/11/2015	MW-1 9/21/2015	MW-1 DUP 9/21/2015	MW-1 2/28/2017	MW-1 6/27/2017
Polychlorinated Biphenyls (PCBs)										
Aroclor 1016	NE	0.09	µg/L	--	--	0.16 U	0.16 U	0.17 U	--	--
Aroclor 1221	NE	0.09	µg/L	--	--	0.16 U	0.16 U	0.17 U	--	--
Aroclor 1232	NE	0.09	µg/L	--	--	0.16 U	0.16 U	0.17 U	--	--
Aroclor 1242	NE	0.09	µg/L	--	--	0.16 U	0.16 U	0.17 U	--	--
Aroclor 1248	NE	0.09	µg/L	--	--	0.16 U	0.16 U	0.17 U	--	--
Aroclor 1254	NE	0.09	µg/L	--	--	0.23 U	0.23 U	0.24 U	--	--
Aroclor 1260	NE	0.09	µg/L	--	--	0.23 U	0.23 U	0.24 U	--	--
Total PCBs	NE	0.09	µg/L	--	--	ND	ND	ND	--	--

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
J+ - Estimated concentration. Reported value may be biased high. Result is estimated high.
J- - Estimated concentration. Reported value may be baiased low. Result is estimated low.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
U1 - The analyte was analyzed for, but was not detected substantially above the level reported in laboratory or field blanks.
B - Constituent was found in the blank and the sample.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related Quality Control (QC) is outside acceptance limits.

NE - Standard and/or guidance value not established.
ND - Not detected

Boxed and bolded values indicates concentration above New York State Class GA Groundwater Standards or Guidance values.

(1) - Notes applicable to NYS Part 703 Standards:
(a) - Any detected concentration for Benzo(a)pyrene, aldrin, or endrin is considered above the Part 703 Standard.
(b) - The standard for the sum of phenolic compounds is 1 µg/L
(c) - The standard of the sum of PCBs in 0.9 µg/L

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-1D 6/12/2015	MW-1D 9/22/2015	MW-1D 2/28/2017	MW-1D 6/27/2017	MW-2S 6/12/2015	MW-2S 9/23/2015	MW-2S 3/2/2017
Volatile Organic Compounds (VOCs)										
BTEX										
Benzene	NE	1	µg/L	0.41 U	0.41 U	0.41 U	0.41 U	**1300**	**18**	0.41 U
Toluene	NE	5	µg/L	0.51 U	0.51 U	0.51 U	0.51 U	**320**	0.51 U	0.51 U
Ethylbenzene	NE	5	µg/L	0.74 U	0.74 U	0.74 U	0.74 U	7.4 U	0.74 U	0.74 U
Xylenes, total	NE	5	µg/L	0.66 U	0.66 U	0.66 U	0.66 U	**150**	0.66 U	0.66 U
Total BTEX	NE	NE	µg/L	ND	ND	ND	ND	1770	18	ND
Other VOCs										
1,1,1-Trichloroethane	NE	5	µg/L	0.82 U	0.82 U	0.82 U	0.82 U	8.2 U	0.82 U	0.82 U
1,1,2,2-Tetrachloroethane	NE	5	µg/L	0.21 U	0.21 U	0.21 U	0.21 U	2.1 U	0.21 U	0.21 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NE	5	µg/L	0.31 U	0.31 U	0.31 U	0.31 U	3.1 U	0.31 U	0.31 U
1,1,2-Trichloroethane	NE	1	µg/L	0.23 U	0.23 U	0.23 U	0.23 U	2.3 U	0.23 U	0.23 U
1,1-Dichloroethane	NE	5	µg/L	0.38 U	0.38 U	0.38 U	0.38 U	3.8 U	0.38 U	0.38 U
1,1-Dichloroethene	NE	5	µg/L	0.29 U	0.29 U	0.29 U	0.29 U	2.9 U	0.29 U	0.29 U
1,2,4-Trichlorobenzene	10	5	µg/L	0.41 U	0.41 U	0.41 U	0.41 U	4.1 U	0.41 U	0.41 U
1,2-Dibromo-3-chloropropane (DBCP)	NE	0.04	µg/L	0.39 U	0.39 U	0.39 U	0.39 U	3.9 U	0.39 U	0.39 U
1,2-Dibromoethane (EDB)	NE	0.0006	µg/L	0.73 U	0.73 U	0.73 U	0.73 U	7.3 U	0.73 U	0.73 U
1,2-Dichlorobenzene	NE	3	µg/L	0.79 U	0.79 U	0.79 U	0.79 U	7.9 U	0.79 U	0.79 U
1,2-Dichloroethane	NE	0.6	µg/L	0.21 U	0.21 U	0.21 U	0.21 U	2.1 U	0.21 U	0.21 U
1,2-Dichloropropane	NE	1	µg/L	0.72 U	0.72 U	0.72 U	0.72 U	7.2 U	0.72 U	0.72 U
1,3-Dichlorobenzene	NE	3	µg/L	0.78 U	0.78 U	0.78 U	0.78 U	7.8 U	0.78 U	0.78 U
1,4-Dichlorobenzene	NE	3	µg/L	0.84 U	0.84 U	0.84 U	0.84 U	8.4 U	0.84 U	0.84 U
2-Butanone (MEK)	50	NE	µg/L	1.3 U	1.3 U	1.3 U	1.3 U	13 U	1.3 U	1.3 U
2-Hexanone	50	NE	µg/L	1.2 U	1.2 U	1.2 U	1.2 U	12 U	1.2 U	1.2 U
4-Methyl-2-pentanone (MIBK)	NE	NE	µg/L	2.1 U	2.1 U	2.1 U	2.1 U	21 U	2.1 U	2.1 U
Acetone	50	NE	µg/L	3 U	3 U	3 U	3 U	30 U	3 U	3.8 J
Bromodichloromethane	50	NE	µg/L	0.39 U	0.39 U	0.39 U	0.39 U	3.9 U	0.39 U	0.39 U
Bromoform	50	NE	µg/L	0.26 U	0.26 U	0.26 U	0.26 U	2.6 U	0.26 U	0.26 U
Bromomethane	NE	5	µg/L	0.69 U	0.69 U	0.69 U	0.69 U	6.9 U	0.69 U	0.69 U
Carbon disulfide	60	60	µg/L	0.62 J	0.19 U	0.19 U	0.19 U	1.9 U	0.19 U	0.19 U
Carbon tetrachloride	NE	5	µg/L	0.27 U	0.27 U	0.27 U	0.27 U	2.7 U	0.27 U	0.27 U
Chlorobenzene	NE	5	µg/L	0.75 U	0.75 U	0.75 U	0.75 U	7.5 U	0.75 U	0.75 U
Chloroethane	NE	5	µg/L	0.32 U	0.32 U	0.32 U	0.32 U	3.2 U	0.32 U	0.32 U
Chloroform	NE	7	µg/L	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	0.34 U	0.34 U
Chloromethane	NE	5	µg/L	0.35 U	0.35 U	0.35 U	0.35 U	3.5 U	0.35 U	0.35 UJ
cis-1,2-Dichloroethene	NE	5	µg/L	0.81 U	0.81 U	0.81 U	0.81 U	8.1 U	0.81 U	0.81 U
cis-1,3-Dichloropropene	NE	0.4	µg/L	0.36 U	0.36 U	0.36 U	0.36 U	3.6 U	0.36 U	0.36 U
Cyclohexane	NE	NE	µg/L	0.18 U	0.18 U	0.18 U	0.18 U	3.1 J^	0.18 U	0.18 U
Dibromochloromethane	50	NE	µg/L	0.32 U	0.32 U	0.32 U	0.32 U	3.2 U	0.32 U	0.32 U
Dichlorodifluoromethane (Freon 12)	NE	5	µg/L	0.68 U	0.68 U	0.68 U	0.68 U	6.8 U	0.68 U	0.68 U
Isopropylbenzene (Cumene)	NE	5	µg/L	0.79 U	0.79 U	0.79 U	0.79 U	**64**	0.79 U	0.79 U

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[1] Standard	Units	MW-1D 6/12/2015	MW-1D 9/22/2015	MW-1D 2/28/2017	MW-1D 6/27/2017	MW-2S 6/12/2015	MW-2S 9/23/2015	MW-2S 3/2/2017
Methyl acetate	NE	NE	µg/L	0.5 U	1.3 U	1.3 U	1.3 U	5 U	1.3 U	1.3 U
Methylcyclohexane	NE	NE	µg/L	0.33 J	0.16 U	0.16 U	0.17 J	2.4 J	0.16 U	0.16 U
Methylene chloride	NE	5	µg/L	0.44 U	0.44 U	0.44 U	0.44 U	4.4 U	0.44 U	0.44 U
Styrene	NE	5	µg/L	0.73 U	0.73 U	0.73 U	0.73 U	7.3 U	0.73 U	0.73 U
tert-Butyl methyl ether (MTBE)	10	NE	µg/L	0.16 U	0.16 U	0.16 U	0.16 U	1.6 U	0.16 U	0.16 U
Tetrachloroethene (PCE)	NE	5	µg/L	0.36 U	0.36 U	0.36 U	0.36 U	3.6 U	0.36 U	0.36 U
trans-1,2-Dichloroethene	NE	5	µg/L	0.9 U	0.9 U	0.9 U	0.9 U	9 U	0.9 U	0.9 U
trans-1,3-Dichloropropene	NE	0.4	µg/L	0.37 U	0.37 U	0.37 U	0.37 U	3.7 U	0.37 U	0.37 U
Trichloroethene (TCE)	NE	5	µg/L	0.46 U	0.46 U	0.46 U	0.46 U	4.6 U	0.46 U	0.46 U
Trichlorofluoromethane (Freon 11)	NE	5	µg/L	0.88 U	0.88 U	0.88 U	0.88 U	8.8 U	0.88 U	0.88 U
Vinyl chloride	NE	2	µg/L	0.9 U	0.9 U	0.9 U	0.9 U	9 U	0.9 U	0.9 U
Semi-Volatile Organic Compounds (SVOCs)										
Polycyclic Aromatic Hydrocarbons (PAHs)										
Acenaphthene	20	NE	µg/L	1.3 J	0.81 J	1.5 J	1.3 J	0.42 J	0.42 U	28 U
Acenaphthylene	NE	NE	µg/L	1.7 J	1.2 J	0.39 U	0.38 U	0.48 J	0.39 U	26 U
Anthracene	50	NE	µg/L	0.65 J	0.44 J	0.29 U	0.28 U	0.99 J	0.45 J	19 U
Benzo(a)anthracene	0.002	NE	µg/L	0.36 U	0.37 U	0.37 U	0.36 U	**0.64 J**	**0.45 J**	24 U
Benzo(a)pyrene	NE	0	µg/L	0.47 U	0.48 U	0.49 U	0.47 U	**0.52 J**	0.48 U	32 U
Benzo(b)fluoranthene	0.002	NE	µg/L	0.34 U	0.35 U	0.35 U	0.34 U	**0.7 J**	**0.39 J**	23 U
Benzo(g,h,i)perylene	NE	NE	µg/L	0.35 U	0.36 U	0.36 U	0.35 U	0.58 J	0.36 U	24 U
Benzo(k)fluoranthene	0.002	NE	µg/L	0.74 U	0.74 U	0.76 U	0.73 U	0.72 U	0.74 U	49 U
Chrysene	0.002	NE	µg/L	0.33 U	0.34 U	0.34 U	0.33 U	**0.6 J**	**0.35 J**	22 U
Dibenz(a,h)anthracene	NE	NE	µg/L	0.42 U	0.43 U	0.44 U	0.42 U	0.65 J	0.43 U	28 U
Fluoranthene	50	NE	µg/L	0.65 J	0.6 J	0.42 U	0.4 U	1.2 J	1.4 J	27 U
Fluorene	50	NE	µg/L	1.9 J	1.2 J	1.1 J	1.1 J	3.7 J	1.4 J	24 U
Indeno(1,2,3-c,d)pyrene	0.002	NE	µg/L	0.47 U	0.48 U	0.49 U	0.47 U	**0.65 J**	0.48 U	32 U
Naphthalene	10	NE	µg/L	0.77 U	2.4 J	1.4 J	1 J	7.4	1.9 J	51 U
Phenanthrene	50	NE	µg/L	2.7 J	2 J	1.2 J	1.1 J	3.8 J	1.3 J	30 U
Pyrene	50	NE	µg/L	0.44 J	0.49 J	0.35 U	0.34 U	0.67 J	0.89 J	23 U
2-Methylnaphthalene	NE	NE	µg/L	0.61 U	0.7 J	0.62 U	0.6 U	1.6 J	0.61 U	40 U
Total PAHs	NE	NE	µg/L	9.34 J	9.84 J	5.2 J	4.5	24.6	8.53 J	ND
Other SVOCs										
2,4,5-Trichlorophenol	NE	1	µg/L	0.48 U	0.49 U	0.5 UJ	0.48 U	0.47 U	0.49 U	32 U
2,4,6-Trichlorophenol	NE	1	µg/L	0.62 U	0.62 U	0.63 UJ	0.61 U	0.6 U	0.62 U	41 U
2,4-Dichlorophenol	NE	1	µg/L	0.51 U	0.52 U	0.53 U	0.51 U	0.5 U	0.52 U	34 U
2,4-Dimethylphenol	50	1	µg/L	5 U	0.71 J	0.52 U	0.5 U	**22**	0.51 U	34 U
2,4-Dinitrophenol	10	1	µg/L	2.2 U	2.3 U	2.3 U	2.2 U	2.2 U	2.3 U	150 U
2,4-Dinitrotoluene	NE	5	µg/L	0.45 U	0.45 U	0.46 U	0.45 U	4.9 U	0.46 U	30 U
2,6-Dinitrotoluene	NE	5	µg/L	0.4 U	0.41 U	0.42 U	0.4 U	0.39 U	0.41 U	27 U
2-Chloronaphthalene	10	NE	µg/L	0.46 U	0.47 U	0.48 U	0.46 U	0.45 U	0.47 U	31 U
2-Chlorophenol	NE	1	µg/L	0.53 U	0.54 U	0.55 U	0.53 U	0.52 U	0.54 U	36 U
2-Methylphenol (o-cresol)	NE	1	µg/L	0.93 J	0.41 U	0.42 U	0.4 U	**3.3 J**	0.41 U	27 U
2-Nitroaniline	NE	5	µg/L	0.42 U	0.43 U	0.44 U	0.42 U	0.41 U	0.43 U	28 U

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

	Class GA Groundwater Criteria									
	TOGS 1.1.1	NYS Part 703[1]		MW-1D	MW-1D	MW-1D	MW-1D	MW-2S	MW-2S	MW-2S
Constituent	Guidance	Standard	Units	6/12/2015	9/22/2015	2/28/2017	6/27/2017	6/12/2015	9/23/2015	3/2/2017
2-Nitrophenol	NE	1	µg/L	0.48 U	0.49 U	0.5 U	0.48 U	0.47 U	0.49 U	32 U
3,3'-Dichlorobenzidine	NE	5	µg/L	0.4 U	0.41 U	0.42 U	0.4 U	0.39 U	0.41 U	27 U
3-Nitroaniline	NE	5	µg/L	0.48 U	0.49 U	0.5 U	0.48 UJ	0.47 U	0.49 U	32 U
4,6-Dinitro-2-methylphenol	NE	1	µg/L	2.2 U	2.2 U	2.3 U	2.2 U	2.2 U	2.2 U	150 U
4-Bromophenyl phenyl ether	NE	NE	µg/L	0.45 U	0.46 U	0.47 U	0.45 U	0.44 U	0.46 U	30 U
4-Chloro-3-methylphenol	NE	1	µg/L	0.45 U	0.46 U	0.47 U	0.45 U	0.44 U	0.46 U	30 U
4-Chloroaniline	NE	5	µg/L	0.59 U	0.6 U	0.61 U	0.59 U	0.58 U	0.6 U	40 U
4-Chlorophenyl phenyl ether	NE	NE	µg/L	0.35 U	0.36 U	0.36 UJ	0.35 U	0.34 U	0.36 U	24 U
4-Methylphenol	NE	1	µg/L	**2.2 J**	0.37 U	0.37 U	0.36 U	0.35 U	0.37 U	24 U
4-Nitroaniline	NE	5	µg/L	0.25 U	0.25 U	0.26 U	0.25 U	0.25 U	0.25 U	17 U
4-Nitrophenol	NE	1	µg/L	1.5 U	1.5 U	1.6 UJ	1.5 UJ	1.5 U	1.5 U	100 U
Acetophenone	NE	NE	µg/L	0.54 U	0.55 U	0.56 U	0.54 U	3.3 J	0.8 J	36 U
Atrazine	NE	7.5	µg/L	0.46 U	0.47 U	0.48 UJ	0.46 UJ	0.54 J	0.47 U	31 U
Benzaldehyde	NE	NE	µg/L	0.27 UJ	5.1 U	0.28 U	0.27 U	4.9 UJ	5.1 U	18 U
Benzyl butyl phthalate	50	NE	µg/L	0.45 J	0.43 U	1 U	1 U	0.58 J	0.45 J	67 U
Biphenyl (Diphenyl)	NE	5	µg/L	0.66 U	0.66 U	0.68 U	0.65 U	0.64 U	0.67 U	44 U
bis(2-Chloroethoxy)methane	NE	5	µg/L	0.35 U	0.36 U	0.36 U	0.35 U	0.34 U	0.36 U	24 U
bis(2-Chloroethyl)ether	NE	1	µg/L	0.4 U	0.41 U	0.42 U	0.4 U	0.39 U	0.41 U	27 U
bis(2-Chloroisopropyl)ether	NE	5	µg/L	0.52 UJ	0.53 U	0.54 UJ	0.52 UJ	0.51 UJ	0.53 U	35 U
bis(2-Ethylhexyl)phthalate	NE	5	µg/L	1.8 U	5.1 U	2.3 U	2.2 U	1.8 U	5.1 U	150 U
Caprolactam	NE	NE	µg/L	2.2 U	2.2 U	2.3 U	2.2 U	2.2 U	2.2 U	150 U
Carbazole	NE	NE	µg/L	1.8 J	1 J	1.2 J	0.62 J	2.4 J	1 J	20 U
Dibenzofuran	NE	NE	µg/L	0.92 J	0.52 U	0.53 U	0.51 U	1.9 J	0.74 J	34 U
Diethyl phthalate	50	NE	µg/L	0.22 U	0.22 U	0.23 UJ	0.22 U	6.3	5.1 U	15 U
Dimethyl phthalate	50	NE	µg/L	0.36 U	0.37 U	0.37 UJ	0.36 U	0.35 U	0.37 U	24 U
dI-n-Butyl phthalate	NE	50	µg/L	5 U	0.31 U	0.32 U	0.31 U	4.9 U	0.32 U	21 U
dI-n-Octyl phthalate	50	NE	µg/L	0.47 U	0.48 U	0.49 U	0.47 U	0.77 J	0.48 U	32 U
Hexachlorobenzene	NE	0.04	µg/L	0.51 U	0.52 U	0.53 U	0.51 U	0.5 U	0.52 U	34 U
Hexachlorobutadiene	NE	0.5	µg/L	0.69 U	0.69 U	0.71 UJ	0.68 UJ	0.67 U	0.69 U	46 U
Hexachlorocyclopentadiene	NE	5	µg/L	0.59 U	0.6 U	0.61 UJ	0.59 U	0.58 U	0.6 U	40 UJ
Hexachloroethane	NE	5	µg/L	0.59 U	0.6 U	0.61 U	0.59 U	0.58 U	0.6 U	40 U
Isophorone	50	NE	µg/L	0.43 U	0.44 U	0.45 U	0.43 U	0.42 U	0.44 U	29 U
Nitrobenzene	NE	0.4	µg/L	0.29 U	0.29 U	0.3 U	0.29 U	0.28 U	0.3 U	20 U
N-Nitroso-di-n-propylamine	NE	NE	µg/L	0.54 U	0.55 U	0.56 U	0.54 UJ	0.53 U	0.55 U	36 U
N-Nitrosodiphenylamine	50	NE	µg/L	1.3 J	0.52 U	0.53 U	0.51 U	0.5 U	0.52 U	34 U
Pentachlorophenol	NE	1	µg/L	2.2 U	2.2 U	2.3 U	2.2 U	2.2 U	2.2 U	150 U
Phenol	NE	1	µg/L	1 J	0.4 U	0.41 U	0.39 UJ	**7.9**	**2.5 J**	26 U
Inorganic Constituents										
Cyanide, total	NE	200	µg/L	5 U	5 U	5 U	10 U	40	23	27 J+
Aluminum	NE	NE	µg/L	3700	1100	--	--	100 J	6300	--
Antimony	NE	3	µg/L	6.8 U	6.8 U	--	--	6.8 U	6.8 U	--
Arsenic	NE	25	µg/L	5.6 U	5.6 U	--	--	5.6 U	16	--
Barium	NE	1000	µg/L	200	180	--	--	21	63	--
Beryllium	3	NE	µg/L	0.3 U	0.3 U	--	--	0.3 U	1.1 J	--

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-1D 6/12/2015	MW-1D 9/22/2015	MW-1D 2/28/2017	MW-1D 6/27/2017	MW-2S 6/12/2015	MW-2S 9/23/2015	MW-2S 3/2/2017
Cadmium	NE	5	µg/L	0.5 U	0.5 U	--	--	0.5 U	0.5 U	--
Calcium	NE	NE	µg/L	133000	120000	--	--	432000	245000	--
Chromium	NE	50	µg/L	4.6	1.9 J	--	--	1 U	12	--
Cobalt	NE	NE	µg/L	1.7 J	0.63 U	--	--	0.63 U	5.7	--
Copper	NE	200	µg/L	5.6 J	2.2 J	--	--	1.6 U	14	--
Iron	NE	300	µg/L	**22800**	**22200**	--	--	**26400**	**98900**	--
Lead	NE	25	µg/L	7.2 J	9.7 J	--	--	3 U	15	--
Magnesium	35000	NE	µg/L	**41700**	**39400**	--	--	16800	15100	--
Manganese	NE	300	µg/L	**720 B**	**650**	--	--	**9300 B**	**3800**	--
Nickel	NE	100	µg/L	4.8 J	1.9 J	--	--	1.5 J	14	--
Potassium	NE	NE	µg/L	11500	11700	--	--	9400	9000	--
Selenium	NE	10	µg/L	8.7 U	8.7 U	--	--	8.7 U	8.7 U	--
Silver	NE	50	µg/L	1.7 U	1.7 U	--	--	1.7 U	1.7 U	--
Sodium	NE	20000	µg/L	**266000**	**219000**	--	--	**128000**	**85800**	--
Thallium	0.5	NE	µg/L	10 U	10 U	--	--	10 U	10 U	--
Vanadium	NE	NE	µg/L	7.3	2.6 J	--	--	1.5 U	33	--
Zinc	2000	NE	µg/L	13	10 U	--	--	4.9 J	58	--
Mercury	NE	0.7	µg/L	0.12 U	0.12 U	--	--	0.12 U	0.12 U	--
Pesticides										
4,4'-DDD	NE	0.3	µg/L	0.0088 U	0.0096 U	0.0093 U	0.0092 U	0.051 U	0.018 U	0.01 U
4,4'-DDE	NE	0.2	µg/L	0.013 NJ	0.012 U	0.012 U	0.012 U	0.048 J	0.023 U	0.013 U
4,4'-DDT	NE	0.2	µg/L	0.011 U	0.012 U	0.011 J	0.011 U	0.043 J	0.022 U	0.013 U
Aldrin	NE	0	µg/L	**0.0084 J**	0.0085 U	0.0081 U	0.0081 U	0.0083 U	0.016 U	0.0092 U
alpha Endosulfan (Endosulfan I)	NE	NE	µg/L	0.011 U	0.012 U	0.011 U	0.011 U	0.011 U	0.022 U	0.013 U
beta Endosulfan (Endosulfan II)	NE	NE	µg/L	0.011 U	0.013 U	0.012 U	0.012 U	0.012 U	0.024 U	0.014 U
BHC, alpha	NE	0.01	µg/L	0.048 U	0.052 U	0.0077 U	0.0077 U	**0.012 J**	0.015 U	0.0088 U
BHC, beta	NE	0.04	µg/L	0.024 U	0.026 U	0.025 U	0.025 U	0.051 U	0.049 U	0.028 U
BHC, delta	NE	0.04	µg/L	0.023 J	0.014 J	0.01 U	0.01 U	0.01 U	0.02 U	0.011 U
BHC, gamma (Lindane)	NE	0.05	µg/L	0.048 U	0.011 J	0.008 U	0.008 U	0.021 J	0.016 U	0.015 J
Chlordane, alpha	NE	NE	µg/L	0.014 U	0.015 U	0.015 U	0.015 U	0.015 U	0.029 U	0.017 U
Chlordane, beta	NE	NE	µg/L	0.011 U	0.012 U	0.011 U	0.011 U	0.31	0.022 U	0.013 U
Dieldrin	NE	0.004	µg/L	0.0094 U	0.01 U	0.0099 U	0.0098 U	**0.027 J**	0.019 U	0.011 U
Endosulfan sulfate	NE	NE	µg/L	0.015 U	0.016 U	0.016 U	0.016 U	0.051 U	0.031 U	0.018 U
Endrin	NE	0	µg/L	0.013 U	0.014 U	0.014 U	0.014 U	0.051 U	0.027 U	0.016 U
Endrin aldehyde	NE	5	µg/L	0.016 U	0.017 U	0.016 U	0.016 U	0.051 U	0.032 U	0.019 U
Endrin ketone	NE	5	µg/L	0.011 U	0.052 U	0.012 U	0.012 U	0.012 U	0.099 U	0.014 U
Heptachlor	NE	0.04	µg/L	0.0081 U	0.0089 U	0.0085 U	0.0085 U	0.051 U	0.017 U	0.019 J
Heptachlor epoxide	NE	0.03	µg/L	0.0071 U	0.0077 U	0.0074 U	0.0074 U	0.0076 U	0.015 U	0.0084 U
Methoxychlor	NE	35	µg/L	0.013 U	0.038	0.014 U	0.014 U	0.051 U	0.079 J	0.016 U
Toxaphene	NE	0.06	µg/L	0.11 U	0.13 U	0.12 U	0.12 U	0.12 U	0.24 U	0.14 U

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-1D 6/12/2015	MW-1D 9/22/2015	MW-1D 2/28/2017	MW-1D 6/27/2017	MW-2S 6/12/2015	MW-2S 9/23/2015	MW-2S 3/2/2017
Polychlorinated Biphenyls (PCBs)										
Aroclor 1016	NE	0.09	µg/L	0.17 U	0.19 U	--	--	0.17 U	0.2 U	--
Aroclor 1221	NE	0.09	µg/L	0.17 U	0.19 U	--	--	0.17 U	0.2 U	--
Aroclor 1232	NE	0.09	µg/L	0.17 U	0.19 U	--	--	0.17 U	0.2 U	--
Aroclor 1242	NE	0.09	µg/L	0.17 U	0.19 U	--	--	0.17 U	0.2 U	--
Aroclor 1248	NE	0.09	µg/L	0.17 U	0.19 U	--	--	0.17 U	0.2 U	--
Aroclor 1254	NE	0.09	µg/L	0.24 U	0.27 U	--	--	0.25 U	0.28 U	--
Aroclor 1260	NE	0.09	µg/L	0.24 U	0.27 U	--	--	0.25 U	0.28 U	--
Total PCBs	NE	0.09	µg/L	ND	ND	--	--	ND	ND	--

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
J+ - Estimated concentration. Reported value may be biased high. Result is estimated high.
J- - Estimated concentration. Reported value may be baiased low. Result is estimated low.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
U1 - The analyte was analyzed for, but was not detected substantially above the level reported in laboratory or field blanks.
B - Constituent was found in the blank and the sample.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related Quality Control (QC) is outside acceptance limits.

NE - Standard and/or guidance value not established.
ND - Not detected

Boxed and bolded values indicates concentration above New York State Class GA Groundwater Standards or Guidance values.

(1) - Notes applicable to NYS Part 703 Standards:
(a) - Any detected concentration for Benzo(a)pyrene, aldrin, or endrin is considered above the Part 703 Standard.
(b) - The standard for the sum of phenolic compounds is 1 µg/L
(c) - The standard of the sum of PCBs in 0.9 µg/L

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[1] Standard	Units	MW-2S 6/29/2017	MW-2D 6/11/2015	MW-2D DUP 6/11/2015	MW-2D 9/23/2015	MW-2D 3/2/2017	MW-2D 6/28/2017	MW-3S 6/12/2015
Volatile Organic Compounds (VOCs)										
BTEX										
Benzene	NE	1	µg/L	0.41 U	**10**	**10**	**4.9**	0.41 U	0.41 U	**8900 J**
Toluene	NE	5	µg/L	0.51 U	2.7	2.9	0.51 U	0.51 U	0.51 U	**1300**
Ethylbenzene	NE	5	µg/L	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	**21**
Xylenes, total	NE	5	µg/L	0.66 U	1.3 J	1.4 J	0.66 U	0.66 U	0.66 U	**340**
Total BTEX	NE	NE	µg/L	ND	14	14.3	4.9	ND	ND	10561
Other VOCs										
1,1,1-Trichloroethane	NE	5	µg/L	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	16 U
1,1,2,2-Tetrachloroethane	NE	5	µg/L	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	4.2 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NE	5	µg/L	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	6.2 U
1,1,2-Trichloroethane	NE	1	µg/L	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	4.6 U
1,1-Dichloroethane	NE	5	µg/L	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	7.6 U
1,1-Dichloroethene	NE	5	µg/L	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	5.8 U
1,2,4-Trichlorobenzene	10	5	µg/L	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	8.2 U
1,2-Dibromo-3-chloropropane (DBCP)	NE	0.04	µg/L	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	7.8 U
1,2-Dibromoethane (EDB)	NE	0.0006	µg/L	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	15 U
1,2-Dichlorobenzene	NE	3	µg/L	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	16 U
1,2-Dichloroethane	NE	0.6	µg/L	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	4.2 U
1,2-Dichloropropane	NE	1	µg/L	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	14 U
1,3-Dichlorobenzene	NE	3	µg/L	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	16 U
1,4-Dichlorobenzene	NE	3	µg/L	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U	17 U
2-Butanone (MEK)	50	NE	µg/L	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	26 U
2-Hexanone	50	NE	µg/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	25 U
4-Methyl-2-pentanone (MIBK)	NE	NE	µg/L	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 UJ	42 U
Acetone	50	NE	µg/L	3 U	3 U	3 U	3 U	3 U	3 U	60 U
Bromodichloromethane	50	NE	µg/L	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	7.8 U
Bromoform	50	NE	µg/L	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	5.2 U
Bromomethane	NE	5	µg/L	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	14 U
Carbon disulfide	60	60	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	7.3 J
Carbon tetrachloride	NE	5	µg/L	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	5.4 U
Chlorobenzene	NE	5	µg/L	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	15 U
Chloroethane	NE	5	µg/L	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	6.4 U
Chloroform	NE	7	µg/L	0.34 U	0.34 J	0.36 J	0.34 U	0.34 U	0.34 U	6.8 U
Chloromethane	NE	5	µg/L	0.35 U	0.35 U	0.35 U	0.35 U	0.35 UJ	0.35 U	7 U
cis-1,2-Dichloroethene	NE	5	µg/L	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	16 U
cis-1,3-Dichloropropene	NE	0.4	µg/L	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	7.2 U
Cyclohexane	NE	NE	µg/L	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	3.6 U
Dibromochloromethane	50	NE	µg/L	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	6.4 U
Dichlorodifluoromethane (Freon 12)	NE	5	µg/L	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	14 U
Isopropylbenzene (Cumene)	NE	5	µg/L	0.79 U	0.8 J	0.82 J	0.79 U	0.79 U	0.79 U	**47**

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-2S 6/29/2017	MW-2D 6/11/2015	MW-2D DUP 6/11/2015	MW-2D 9/23/2015	MW-2D 3/2/2017	MW-2D 6/28/2017	MW-3S 6/12/2015
Methyl acetate	NE	NE	µg/L	1.3 U	0.5 U	0.5 U	1.3 U	1.3 U	1.3 U	10 U
Methylcyclohexane	NE	NE	µg/L	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	3.2 U
Methylene chloride	NE	5	µg/L	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	8.8 U
Styrene	NE	5	µg/L	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	15 U
tert-Butyl methyl ether (MTBE)	10	NE	µg/L	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	3.2 U
Tetrachloroethene (PCE)	NE	5	µg/L	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	7.2 U
trans-1,2-Dichloroethene	NE	5	µg/L	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	18 U
trans-1,3-Dichloropropene	NE	0.4	µg/L	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	7.4 U
Trichloroethene (TCE)	NE	5	µg/L	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	9.2 U
Trichlorofluoromethane (Freon 11)	NE	5	µg/L	0.88 UJ	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	18 U
Vinyl chloride	NE	2	µg/L	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	18 U
Semi-Volatile Organic Compounds (SVOCs)										
Polycyclic Aromatic Hydrocarbons (PAHs)										
Acenaphthene	20	NE	µg/L	0.41 U	1 J	0.84 J	1.1 J	2 J	1 J	2.5 J
Acenaphthylene	NE	NE	µg/L	0.38 U	0.5 J	0.41 U	0.41 U	0.36 U	0.38 U	0.36 U
Anthracene	50	NE	µg/L	0.28 U	0.49 J	0.37 J	0.3 U	0.27 U	0.28 U	0.26 U
Benzo(a)anthracene	0.002	NE	µg/L	0.36 U	0.38 U	0.39 U	0.38 U	0.35 U	0.36 U	0.34 U
Benzo(a)pyrene	NE	0	µg/L	0.47 U	0.49 U	0.51 U	0.5 U	0.45 U	0.47 U	0.44 U
Benzo(b)fluoranthene	0.002	NE	µg/L	**0.43 J**	0.36 U	0.37 U	0.36 U	0.33 U	0.34 U	0.32 U
Benzo(g,h,i)perylene	NE	NE	µg/L	0.35 U	0.37 U	0.38 UJ	0.37 U	0.34 U	0.35 U	0.33 U
Benzo(k)fluoranthene	0.002	NE	µg/L	0.73 U	0.76 U	0.8 U	0.78 U	0.7 U	0.73 U	0.69 U
Chrysene	0.002	NE	µg/L	0.33 U	0.34 U	0.36 U	0.35 U	0.32 U	0.33 U	0.31 U
Dibenz(a,h)anthracene	NE	NE	µg/L	0.42 U	0.44 U	0.46 UJ	0.45 U	0.4 U	0.42 U	0.4 U
Fluoranthene	50	NE	µg/L	0.48 J	0.51 J	0.48 J	0.58 J	0.38 U	0.4 U	0.6 J
Fluorene	50	NE	µg/L	0.36 U	1.3 J	0.86 J	0.49 J	0.35 U	0.36 U	0.34 U
Indeno(1,2,3-c,d)pyrene	0.002	NE	µg/L	0.47 U	0.49 U	0.51 UJ	0.5 U	0.45 U	0.47 U	0.44 U
Naphthalene	10	NE	µg/L	1.1 J	4.6 J	0.83 U	1 J	0.73 U	0.76 U	0.72 U
Phenanthrene	50	NE	µg/L	0.67 J	2.2 J	1.3 J	1 J	0.42 U	0.44 U	0.42 U
Pyrene	50	NE	µg/L	0.34 U	0.36 U	0.37 U	0.36 U	0.33 U	0.34 U	0.64 J
2-Methylnaphthalene	NE	NE	µg/L	0.6 U	0.92 J	0.65 U	0.64 U	0.58 U	0.6 U	0.57 U
Total PAHs	NE	NE	µg/L	2.7 J	11.52 J	3.85 J	4.17 J	2 J	1 J	3.74 J
Other SVOCs										
2,4,5-Trichlorophenol	NE	1	µg/L	0.48 U	0.5 U	0.52 U	0.51 U	0.46 U	0.48 U	0.45 U
2,4,6-Trichlorophenol	NE	1	µg/L	0.61 U	0.64 U	0.67 U	0.65 U	0.58 U	0.61 U	0.58 U
2,4-Dichlorophenol	NE	1	µg/L	0.51 U	0.53 U	0.56 U	0.54 U	0.49 U	0.51 U	0.48 U
2,4-Dimethylphenol	50	1	µg/L	0.5 U	0.52 U	0.55 U	0.53 U	0.48 U	0.5 U	**45**
2,4-Dinitrophenol	10	1	µg/L	2.2 U	2.3 U	2.4 U	2.4 U	2.1 U	2.2 U	2.1 U
2,4-Dinitrotoluene	NE	5	µg/L	0.45 U	0.47 U	0.49 U	0.48 U	0.43 U	0.45 U	0.42 U
2,6-Dinitrotoluene	NE	5	µg/L	0.4 U	0.42 U	0.44 U	0.43 U	0.38 U	0.4 U	0.38 U
2-Chloronaphthalene	10	NE	µg/L	0.46 U	0.48 U	0.5 U	0.49 U	0.44 U	0.46 U	0.43 U
2-Chlorophenol	NE	1	µg/L	0.53 U	0.55 U	0.58 U	0.57 U	0.51 U	0.53 U	0.5 U
2-Methylphenol (o-cresol)	NE	1	µg/L	0.4 U	0.42 U	0.44 U	0.43 U	0.38 U	0.4 U	**57**
2-Nitroaniline	NE	5	µg/L	0.42 U	0.44 U	0.46 U	0.45 U	0.4 U	0.42 U	0.4 UF1

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[1] Standard	Units	MW-2S 6/29/2017	MW-2D 6/11/2015	MW-2D DUP 6/11/2015	MW-2D 9/23/2015	MW-2D 3/2/2017	MW-2D 6/28/2017	MW-3S 6/12/2015
2-Nitrophenol	NE	1	µg/L	0.48 U	0.5 U	0.52 U	0.51 U	0.46 U	0.48 U	0.45 U
3,3'-Dichlorobenzidine	NE	5	µg/L	0.4 U	0.42 U	0.44 U	0.43 U	0.38 U	0.4 U	0.38 U
3-Nitroaniline	NE	5	µg/L	0.48 U	0.5 U	0.52 U	0.51 U	0.46 U	0.48 U	0.45 U
4,6-Dinitro-2-methylphenol	NE	1	µg/L	2.2 U	2.3 U	2.4 UJ	2.3 U	2.1 U	2.2 U	2.1 U
4-Bromophenyl phenyl ether	NE	NE	µg/L	0.45 U	0.47 U	0.49 U	0.48 U	0.43 U	0.45 U	0.43 U
4-Chloro-3-methylphenol	NE	1	µg/L	0.45 U	0.47 U	0.49 U	0.48 U	0.43 U	0.45 U	0.43 U
4-Chloroaniline	NE	5	µg/L	0.59 U	0.62 U	0.64 U	0.63 U	0.57 U	0.59 U	0.56 U
4-Chlorophenyl phenyl ether	NE	NE	µg/L	0.35 U	0.37 U	0.38 U	0.37 U	0.34 U	0.35 U	0.33 U
4-Methylphenol	NE	1	µg/L	0.36 U	0.72 J	**5.1 J**	0.38 U	0.35 U	0.36 U	**29 F1**
4-Nitroaniline	NE	5	µg/L	0.25 U	0.26 U	0.27 U	0.27 U	0.24 U	0.25 U	0.24 UF1
4-Nitrophenol	NE	1	µg/L	1.5 U	1.6 U	1.7 U	1.6 U	1.5 U	1.5 U	1.4 U
Acetophenone	NE	NE	µg/L	0.54 U	0.56 U	0.59 U	0.58 U	0.52 U	0.54 U	25
Atrazine	NE	7.5	µg/L	0.46 U	0.48 U	0.5 U	0.49 U	0.44 U	0.46 U	0.43 U
Benzaldehyde	NE	NE	µg/L	0.28 J	5.2 U	0.29 UJ	5.3 U	0.26 U	0.27 U	0.25 UJ
Benzyl butyl phthalate	50	NE	µg/L	1 U	0.44 U	0.46 U	0.45 U	0.96 U	1 U	4.7 U
Biphenyl (Diphenyl)	NE	5	µg/L	0.65 U	0.68 U	0.71 U	0.7 U	0.63 U	0.65 U	0.62 U
bis(2-Chloroethoxy)methane	NE	5	µg/L	0.35 U	0.37 U	0.38 U	0.37 U	0.34 U	0.35 U	0.33 U
bis(2-Chloroethyl)ether	NE	1	µg/L	0.4 U	0.42 U	0.44 U	0.43 U	0.38 U	0.4 U	0.38 U
bis(2-Chloroisopropyl)ether	NE	5	µg/L	0.52 U	0.54 UJ	0.57 U	0.55 U	0.5 U	0.52 U	0.49 UJ
bis(2-Ethylhexyl)phthalate	NE	5	µg/L	2.2 U	1.9 U	2 U	5.3 U	2.1 U	2.2 U	1.7 UF2
Caprolactam	NE	NE	µg/L	2.2 U	2.3 U	2.4 U	2.3 U	2.1 U	2.2 U	2.1 U
Carbazole	NE	NE	µg/L	0.3 U	0.95 J	0.91 J	0.41 J	0.29 U	0.3 U	0.28 U
Dibenzofuran	NE	NE	µg/L	0.51 U	0.71 J	0.56 U	0.54 U	0.49 U	0.51 U	0.48 U
Diethyl phthalate	50	NE	µg/L	0.22 U	0.23 U	0.24 U	0.23 U	0.21 U	0.22 U	0.21 U
Dimethyl phthalate	50	NE	µg/L	0.36 U	0.38 U	0.39 U	0.38 U	0.35 U	0.36 U	0.34 U
dI-n-Butyl phthalate	NE	50	µg/L	0.31 U	0.32 U	0.34 U	0.33 U	0.61 U1	0.31 U	0.29 U
dI-n-Octyl phthalate	50	NE	µg/L	0.47 U	0.49 U	0.51 U	0.5 U	0.45 U	0.47 U	0.44 U
Hexachlorobenzene	NE	0.04	µg/L	0.51 U	0.53 U	0.56 U	0.54 U	0.49 U	0.51 U	0.48 U
Hexachlorobutadiene	NE	0.5	µg/L	0.68 U	0.71 U	0.74 U	0.73 U	0.65 U	0.68 U	0.64 U
Hexachlorocyclopentadiene	NE	5	µg/L	0.59 U	0.62 U	0.64 U	0.63 U	0.57 UJ	0.59 U	0.56 U
Hexachloroethane	NE	5	µg/L	0.59 U	0.62 U	0.64 U	0.63 U	0.57 U	0.59 U	0.56 U
Isophorone	50	NE	µg/L	0.43 U	0.45 U	0.47 U	0.46 U	0.41 U	0.43 U	0.41 U
Nitrobenzene	NE	0.4	µg/L	0.29 U	0.3 U	0.32 U	0.31 U	0.28 U	0.29 U	0.27 U
N-Nitroso-di-n-propylamine	NE	NE	µg/L	0.54 U	0.56 U	0.59 U	0.58 U	0.52 U	0.54 U	0.51 U
N-Nitrosodiphenylamine	50	NE	µg/L	0.51 U	0.53 U	0.56 U	0.54 U	0.49 U	0.51 U	0.48 U
Pentachlorophenol	NE	1	µg/L	2.2 U	2.3 U	2.4 UJ	2.3 U	2.1 U	2.2 U	2.1 U
Phenol	NE	1	µg/L	0.39 U	0.41 U	**2.2 J**	0.42 U	0.37 U	0.39 U	**56 F1**
Inorganic Constituents										
Cyanide, total	NE	200	µg/L	32 J+	12	14	14	27 J+	18 J+	130 B
Aluminum	NE	NE	µg/L	--	850	690	5400	--	--	130 J
Antimony	NE	3	µg/L	--	6.8 U	6.8 U	6.8 U	--	--	6.8 U
Arsenic	NE	25	µg/L	--	5.6 U	5.6 U	5.6 U	--	--	5.6 U
Barium	NE	1000	µg/L	--	180	170	170	--	--	1.7 J
Beryllium	3	NE	µg/L	--	0.3 U	0.3 U	0.3 U	--	--	0.3 U

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-2S 6/29/2017	MW-2D 6/11/2015	MW-2D DUP 6/11/2015	MW-2D 9/23/2015	MW-2D 3/2/2017	MW-2D 6/28/2017	MW-3S 6/12/2015
Cadmium	NE	5	µg/L	--	0.5 U	0.5 U	0.5 U	--	--	0.5 U
Calcium	NE	NE	µg/L	--	129000 B	127000 B	120000	--	--	57400
Chromium	NE	50	µg/L	--	1.1 J	1.4 J	7.1	--	--	1 U
Cobalt	NE	NE	µg/L	--	0.63 U	0.63 U	2.7 J	--	--	1.9 J
Copper	NE	200	µg/L	--	1.6 U	1.6 U	6.7 J	--	--	1.6 U
Iron	NE	300	µg/L	--	**21200**	**20900**	**29200**	--	--	**40800**
Lead	NE	25	µg/L	--	14	11	3 U	--	--	3 U
Magnesium	35000	NE	µg/L	--	21800	21400	21100	--	--	6700
Manganese	NE	300	µg/L	--	**730**	**700**	**640**	--	--	**720 B**
Nickel	NE	100	µg/L	--	3.2 J	2.5 J	5.7 J	--	--	5.4 J
Potassium	NE	NE	µg/L	--	10300	10200	11900	--	--	2700
Selenium	NE	10	µg/L	--	8.7 U	8.7 U	8.7 U	--	--	8.7 U
Silver	NE	50	µg/L	--	1.7 U	1.7 U	1.7 U	--	--	1.7 U
Sodium	NE	20000	µg/L	--	**281000**	**278000**	**266000**	--	--	7900
Thallium	0.5	NE	µg/L	--	10 U	10 U	10 U	--	--	10 U
Vanadium	NE	NE	µg/L	--	2.1 J	1.5 U	9.2	--	--	1.5 U
Zinc	2000	NE	µg/L	--	8.3 J	4.3 J	21	--	--	54
Mercury	NE	0.7	µg/L	--	0.12 U	0.12 U	0.12 U	--	--	0.12 U
Pesticides										
4,4'-DDD	NE	0.3	µg/L	0.0092 U	0.0088 U	0.0092 U	0.011 U	0.0096 U	0.0092 U	0.02 J
4,4'-DDE	NE	0.2	µg/L	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.011 U
4,4'-DDT	NE	0.2	µg/L	0.011 U	0.01 U	0.011 U	0.058 U	0.011 U	0.011 U	0.021 J
Aldrin	NE	0	µg/L	0.0081 U	0.0077 U	0.0081 U	0.0094 U	0.0084 U	0.0081 U	0.048 U
alpha Endosulfan (Endosulfan I)	NE	NE	µg/L	0.011 U	0.01 U	0.011 U	0.013 U	0.011 U	0.011 U	0.01 U
beta Endosulfan (Endosulfan II)	NE	NE	µg/L	0.012 U	0.011 U	0.012 U	0.014 U	0.013 U	0.012 U	0.011 U
BHC, alpha	NE	0.01	µg/L	0.0077 U	0.0073 U	0.0077 U	0.009 U	0.008 U	0.0077 U	0.097 U
BHC, beta	NE	0.04	µg/L	0.025 U	0.024 U	0.025 U	0.029 U	0.026 U	0.025 U	0.024 U
BHC, delta	NE	0.04	µg/L	0.01 U	0.0095 U	0.01 U	0.012 U	0.01 U	0.01 U	0.059 U
BHC, gamma (Lindane)	NE	0.05	µg/L	0.008 U	0.0076 U	0.008 U	0.0093 U	0.0083 U	0.008 U	0.0076 U
Chlordane, alpha	NE	NE	µg/L	0.015 U	0.014 U	0.015 U	0.017 U	0.015 U	0.015 U	0.048 U
Chlordane, beta	NE	NE	µg/L	0.011 U	0.01 U	0.011 U	0.013 U	0.011 U	0.011 U	0.048 U
Dieldrin	NE	0.004	µg/L	0.0098 U	0.0093 U	0.0098 U	0.011 U	0.01 U	0.0098 U	0.0093 U
Endosulfan sulfate	NE	NE	µg/L	0.016 U	0.015 U	0.016 U	0.018 U	0.016 U	0.016 U	0.015 U
Endrin	NE	0	µg/L	0.014 U	0.013 U	0.014 U	0.016 U	0.014 U	0.014 U	0.048 U
Endrin aldehyde	NE	5	µg/L	0.016 U	0.016 U	0.016 U	0.019 U	0.017 U	0.016 U	0.048 U
Endrin ketone	NE	5	µg/L	0.023 J	0.011 U	0.012 U	0.058 U	0.013 U	0.012 U	0.011 U
Heptachlor	NE	0.04	µg/L	0.0085 U	0.0081 U	0.0085 U	0.012 J	0.0089 U	0.0085 U	0.048 U
Heptachlor epoxide	NE	0.03	µg/L	0.0074 U	0.0071 U	0.0074 U	0.0086 U	0.0077 U	0.0074 U	0.048 U
Methoxychlor	NE	35	µg/L	0.014 U	0.013 U	0.014 U	0.048 J	0.015 U	0.014 U	0.013 U
Toxaphene	NE	0.06	µg/L	0.12 U	0.11 U	0.12 U	0.14 U	0.13 U	0.12 U	0.11 U

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-2S 6/29/2017	MW-2D 6/11/2015	MW-2D DUP 6/11/2015	MW-2D 9/23/2015	MW-2D 3/2/2017	MW-2D 6/28/2017	MW-3S 6/12/2015
Polychlorinated Biphenyls (PCBs)										
Aroclor 1016	NE	0.09	µg/L	--	0.17 U	0.17 U	0.19 U	--	--	0.18 U
Aroclor 1221	NE	0.09	µg/L	--	0.17 U	0.17 U	0.19 U	--	--	0.18 U
Aroclor 1232	NE	0.09	µg/L	--	0.17 U	0.17 U	0.19 U	--	--	0.18 U
Aroclor 1242	NE	0.09	µg/L	--	0.17 U	0.17 U	0.19 U	--	--	0.18 U
Aroclor 1248	NE	0.09	µg/L	--	0.17 U	0.17 U	0.19 U	--	--	0.18 U
Aroclor 1254	NE	0.09	µg/L	--	0.24 U	0.25 U	0.27 U	--	--	0.25 U
Aroclor 1260	NE	0.09	µg/L	--	0.24 U	0.25 U	0.27 U	--	--	0.25 U
Total PCBs	NE	0.09	µg/L	--	ND	ND	ND	--	--	ND

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
J+ - Estimated concentration. Reported value may be biased high. Result is estimated high.
J- - Estimated concentration. Reported value may be baiased low. Result is estimated low.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
U1 - The analyte was analyzed for, but was not detected substantially above the level reported in laboratory or field blanks.
B - Constituent was found in the blank and the sample.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related Quality Control (QC) is outside acceptance limits.

NE - Standard and/or guidance value not established.
ND - Not detected

Boxed and bolded values indicates concentration above New York State Class GA Groundwater Standards or Guidance values.

(1) - Notes applicable to NYS Part 703 Standards:
(a) - Any detected concentration for Benzo(a)pyrene, aldrin, or endrin is considered above the Part 703 Standard.
(b) - The standard for the sum of phenolic compounds is 1 µg/L
(c) - The standard of the sum of PCBs in 0.9 µg/L

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-3S 9/23/2015	MW-3S 3/2/2017	MW-3R 2/28/2017	MW-3R 6/28/2017	MW-4S 6/12/2015	MW-4S 9/23/2015	MW-4S 3/1/2017
Volatile Organic Compounds (VOCs)										
BTEX										
Benzene	NE	1	µg/L	**7500**	**880**	**6.8**	**2**	**18**	**4.9**	0.41 U
Toluene	NE	5	µg/L	**260**	10 U	0.83 J	0.51 U	3.6	0.64 J	0.51 U
Ethylbenzene	NE	5	µg/L	74 U	15 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U
Xylenes, total	NE	5	µg/L	**160 J**	13 U	0.66 U	0.66 U	0.72 J	0.66 U	0.66 U
Total BTEX	NE	NE	µg/L	7920	880	7.6	2	22	5.5	ND
Other VOCs										
1,1,1-Trichloroethane	NE	5	µg/L	82 U	16 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U
1,1,2,2-Tetrachloroethane	NE	5	µg/L	21 U	4.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NE	5	µg/L	31 U	6.2 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
1,1,2-Trichloroethane	NE	1	µg/L	23 U	4.6 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,1-Dichloroethane	NE	5	µg/L	38 U	7.6 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,1-Dichloroethene	NE	5	µg/L	29 U	5.8 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
1,2,4-Trichlorobenzene	10	5	µg/L	41 U	8.2 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
1,2-Dibromo-3-chloropropane (DBCP)	NE	0.04	µg/L	39 U	7.8 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
1,2-Dibromoethane (EDB)	NE	0.0006	µg/L	73 U	15 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
1,2-Dichlorobenzene	NE	3	µg/L	79 U	16 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U
1,2-Dichloroethane	NE	0.6	µg/L	21 U	4.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,2-Dichloropropane	NE	1	µg/L	72 U	14 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U
1,3-Dichlorobenzene	NE	3	µg/L	78 U	16 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U
1,4-Dichlorobenzene	NE	3	µg/L	84 U	17 U	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U
2-Butanone (MEK)	50	NE	µg/L	130 U	26 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
2-Hexanone	50	NE	µg/L	120 U	25 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
4-Methyl-2-pentanone (MIBK)	NE	NE	µg/L	210 U	42 U	2.1 U	2.1 UJ	2.1 U	2.1 U	2.1 U
Acetone	50	NE	µg/L	300 U	60 U	3 U	3 U	7.3 J	3 U	3 U
Bromodichloromethane	50	NE	µg/L	39 U	7.8 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
Bromoform	50	NE	µg/L	26 U	5.2 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromomethane	NE	5	µg/L	69 U	14 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U
Carbon disulfide	60	60	µg/L	19 U	3.8 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Carbon tetrachloride	NE	5	µg/L	27 U	5.4 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	NE	5	µg/L	75 U	15 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U
Chloroethane	NE	5	µg/L	32 U	6.4 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Chloroform	NE	7	µg/L	34 U	6.8 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Chloromethane	NE	5	µg/L	35 U	7 UJ	0.35 U	0.35 U	0.35 U	0.35 U	0.35 UJ
cis-1,2-Dichloroethene	NE	5	µg/L	81 U	16 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U
cis-1,3-Dichloropropene	NE	0.4	µg/L	36 U	7.2 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Cyclohexane	NE	NE	µg/L	18 U	3.6 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Dibromochloromethane	50	NE	µg/L	32 U	6.4 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Dichlorodifluoromethane (Freon 12)	NE	5	µg/L	68 U	14 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U
Isopropylbenzene (Cumene)	NE	5	µg/L	79 U	16 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-3S 9/23/2015	MW-3S 3/2/2017	MW-3R 2/28/2017	MW-3R 6/28/2017	MW-4S 6/12/2015	MW-4S 9/23/2015	MW-4S 3/1/2017
Methyl acetate	NE	NE	µg/L	130 U	26 U	1.3 U	1.3 U	0.5 U	1.3 U	1.3 U
Methylcyclohexane	NE	NE	µg/L	16 U	3.2 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Methylene chloride	NE	5	µg/L	44 U	8.8 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
Styrene	NE	5	µg/L	73 U	15 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
tert-Butyl methyl ether (MTBE)	10	NE	µg/L	16 U	3.2 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Tetrachloroethene (PCE)	NE	5	µg/L	36 U	7.2 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
trans-1,2-Dichloroethene	NE	5	µg/L	90 U	18 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U
trans-1,3-Dichloropropene	NE	0.4	µg/L	37 U	7.4 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
Trichloroethene (TCE)	NE	5	µg/L	46 U	9.2 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
Trichlorofluoromethane (Freon 11)	NE	5	µg/L	88 U	18 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U
Vinyl chloride	NE	2	µg/L	90 U	18 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U
Semi-Volatile Organic Compounds (SVOCs)										
Polycyclic Aromatic Hydrocarbons (PAHs)										
Acenaphthene	20	NE	µg/L	0.46 U	8.2 U	0.46 U	0.41 U	0.39 U	0.42 U	0.47 U
Acenaphthylene	NE	NE	µg/L	0.43 U	7.6 U	0.43 U	0.38 U	0.36 U	0.39 U	0.44 U
Anthracene	50	NE	µg/L	0.32 U	5.6 U	0.32 U	0.28 U	0.27 U	0.29 U	0.32 U
Benzo(a)anthracene	0.002	NE	µg/L	0.41 U	7.2 U	0.41 U	0.36 U	0.34 U	0.37 U	0.41 U
Benzo(a)pyrene	NE	0	µg/L	0.53 U	9.4 U	0.53 U	0.47 U	0.45 U	0.48 U	0.54 U
Benzo(b)fluoranthene	0.002	NE	µg/L	**0.47 J**	6.8 U	0.39 U	0.34 U	0.32 U	0.35 U	0.39 U
Benzo(g,h,i)perylene	NE	NE	µg/L	0.39 U	7 U	0.4 U	0.35 U	0.33 U	0.36 U	0.4 U
Benzo(k)fluoranthene	0.002	NE	µg/L	0.82 U	15 U	0.83 U	0.73 U	0.7 U	0.75 U	0.84 U
Chrysene	0.002	NE	µg/L	0.37 U	6.6 U	0.37 U	0.33 U	0.31 U	0.34 U	0.38 U
Dibenz(a,h)anthracene	NE	NE	µg/L	0.47 U	8.4 U	0.48 U	0.42 U	0.4 U	0.43 U	0.48 U
Fluoranthene	50	NE	µg/L	0.75 J	8 U	0.45 U	0.4 U	0.46 J	0.49 J	0.46 U
Fluorene	50	NE	µg/L	0.41 U	7.2 U	0.41 U	0.36 U	0.36 J	0.37 U	0.41 U
Indeno(1,2,3-c,d)pyrene	0.002	NE	µg/L	0.53 U	9.4 U	0.53 U	0.47 U	0.45 U	0.48 U	0.54 U
Naphthalene	10	NE	µg/L	0.86 U	**35 J**	0.86 U	0.76 U	5	0.85 J	0.87 U
Phenanthrene	50	NE	µg/L	0.5 U	8.8 U	0.5 U	0.44 U	0.86 J	0.59 J	0.5 U
Pyrene	50	NE	µg/L	0.82 J	6.8 U	0.39 U	0.34 U	0.32 U	0.35 U	0.39 U
2-Methylnaphthalene	NE	NE	µg/L	0.68 U	12 U	0.68 U	0.6 U	0.57 U	0.62 U	0.69 U
Total PAHs	NE	NE	µg/L	2.04 J	35 J	ND	ND	6.68	1.93 J	ND
Other SVOCs										
2,4,5-Trichlorophenol	NE	1	µg/L	0.54 U	9.6 U	0.54 UJ	0.48 U	0.46 U	0.49 U	0.55 U
2,4,6-Trichlorophenol	NE	1	µg/L	0.69 U	12 U	0.69 UJ	0.61 U	0.58 U	0.63 U	0.7 U
2,4-Dichlorophenol	NE	1	µg/L	0.57 U	10 U	0.58 U	0.51 U	0.49 U	0.52 U	0.58 U
2,4-Dimethylphenol	50	1	µg/L	**21**	10 U	0.57 U	0.5 U	**1.9 J**	0.51 U	0.57 U
2,4-Dinitrophenol	10	1	µg/L	2.5 U	44 U	2.5 U	2.2 U	2.1 U	2.3 U	2.5 U
2,4-Dinitrotoluene	NE	5	µg/L	0.5 U	8.9 U	0.51 U	0.45 U	0.43 U	0.46 U	0.51 U
2,6-Dinitrotoluene	NE	5	µg/L	0.45 U	8 U	0.45 U	0.4 U	0.38 U	0.41 U	0.46 U
2-Chloronaphthalene	10	NE	µg/L	0.52 U	9.2 U	0.52 U	0.46 U	0.44 U	0.47 U	0.53 U
2-Chlorophenol	NE	1	µg/L	0.6 U	11 U	0.6 U	0.53 U	0.51 U	0.54 U	0.61 U
2-Methylphenol (o-cresol)	NE	1	µg/L	**16**	8 U	0.45 U	0.4 U	**1.1 J**	0.41 U	0.46 U
2-Nitroaniline	NE	5	µg/L	0.47 U	8.4 U	0.48 U	0.42 U	0.4 U	0.43 U	0.48 U

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-3S 9/23/2015	MW-3S 3/2/2017	MW-3R 2/28/2017	MW-3R 6/28/2017	MW-4S 6/12/2015	MW-4S 9/23/2015	MW-4S 3/1/2017
2-Nitrophenol	NE	1	µg/L	0.54 U	9.6 U	0.54 U	0.48 U	0.46 U	0.49 U	0.55 U
3,3'-Dichlorobenzidine	NE	5	µg/L	0.45 U	8 U	0.45 U	0.4 U	0.38 U	0.41 U	0.46 U
3-Nitroaniline	NE	5	µg/L	0.54 U	9.6 U	0.54 U	0.48 U	0.46 U	0.49 U	0.55 U
4,6-Dinitro-2-methylphenol	NE	1	µg/L	2.5 U	44 U	2.5 U	2.2 U	2.1 U	2.3 U	2.5 U
4-Bromophenyl phenyl ether	NE	NE	µg/L	0.51 U	9 U	0.51 U	0.45 U	0.43 U	0.46 U	0.52 U
4-Chloro-3-methylphenol	NE	1	µg/L	0.51 U	9 U	0.51 U	0.45 U	0.43 U	0.46 U	0.52 U
4-Chloroaniline	NE	5	µg/L	0.66 U	12 U	0.67 U	0.59 U	0.56 U	0.61 U	0.68 U
4-Chlorophenyl phenyl ether	NE	NE	µg/L	0.39 U	7 U	0.4 UJ	0.35 U	0.33 U	0.36 U	0.4 U
4-Methylphenol	NE	1	µg/L	**10 J**	7.2 U	0.41 U	0.36 U	**3 J**	0.37 U	0.41 U
4-Nitroaniline	NE	5	µg/L	0.28 U	5 U	0.28 U	0.25 U	0.24 U	0.26 U	0.29 U
4-Nitrophenol	NE	1	µg/L	1.7 U	30 U	1.7 UJ	1.5 U	1.5 U	1.6 U	1.7 U
Acetophenone	NE	NE	µg/L	2.2 J	11 U	0.61 U	0.54 U	0.52 U	0.55 U	0.62 U
Atrazine	NE	7.5	µg/L	0.52 U	9.2 U	0.52 UJ	0.46 U	0.44 U	0.47 U	0.53 U
Benzaldehyde	NE	NE	µg/L	0.3 U	5.3 U	0.3 U	0.27 U	4.8 UJ	5.1 U	0.31 U
Benzyl butyl phthalate	50	NE	µg/L	0.47 U	20 U	1.1 U	1 U	0.4 U	0.43 U	1.1 U
Biphenyl (Diphenyl)	NE	5	µg/L	0.73 U	13 U	0.74 U	0.65 U	0.62 U	0.67 U	0.75 U
bis(2-Chloroethoxy)methane	NE	5	µg/L	0.39 U	7 U	0.4 U	0.35 U	0.33 U	0.36 U	0.4 U
bis(2-Chloroethyl)ether	NE	1	µg/L	0.45 U	8 U	0.45 U	0.4 U	0.38 U	0.41 U	0.46 U
bis(2-Chloroisopropyl)ether	NE	5	µg/L	0.59 U	10 U	0.59 UJ	0.52 U	0.5 UJ	0.53 U	0.6 U
bis(2-Ethylhexyl)phthalate	NE	5	µg/L	5.6 U	44 U	2.5 U	2.2 U	1.7 U	5.1 U	2.5 U
Caprolactam	NE	NE	µg/L	2.5 U	44 U	2.5 U	2.2 U	2.1 U	2.3 U	2.5 U
Carbazole	NE	NE	µg/L	0.46 J	6 U	0.34 U	0.3 U	0.29 J	0.31 U	0.34 U
Dibenzofuran	NE	NE	µg/L	0.57 U	10 U	0.58 U	0.51 U	0.49 U	0.52 U	0.58 U
Diethyl phthalate	50	NE	µg/L	5.6 U	4.4 U	0.25 UJ	0.22 U	0.21 U	0.23 U	0.25 U
Dimethyl phthalate	50	NE	µg/L	0.41 U	7.2 U	0.41 UJ	0.36 U	0.34 U	0.37 U	0.41 U
dI-n-Butyl phthalate	NE	50	µg/L	0.35 U	6.2 U	0.35 U	0.31 U	4.8 U	0.32 U	0.6 U1
dI-n-Octyl phthalate	50	NE	µg/L	0.53 U	9.4 U	0.53 U	0.47 U	0.45 U	0.48 U	0.54 U
Hexachlorobenzene	NE	0.04	µg/L	0.57 U	10 U	0.58 U	0.51 U	0.49 U	0.52 U	0.58 U
Hexachlorobutadiene	NE	0.5	µg/L	0.77 U	14 U	0.77 UJ	0.68 U	0.65 U	0.7 U	0.78 U
Hexachlorocyclopentadiene	NE	5	µg/L	0.66 U	12 UJ	0.67 UJ	0.59 U	0.56 U	0.61 U	0.68 UJ
Hexachloroethane	NE	5	µg/L	0.66 U	12 U	0.67 U	0.59 U	0.56 U	0.61 U	0.68 U
Isophorone	50	NE	µg/L	0.48 U	8.6 U	0.49 U	0.43 U	0.41 U	0.44 U	0.49 U
Nitrobenzene	NE	0.4	µg/L	0.33 U	5.8 U	0.33 U	0.29 U	0.28 U	0.3 U	0.33 U
N-Nitroso-di-n-propylamine	NE	NE	µg/L	0.61 U	11 U	0.61 U	0.54 U	0.52 U	0.55 U	0.62 U
N-Nitrosodiphenylamine	50	NE	µg/L	0.57 U	10 U	0.58 U	0.51 U	0.49 U	0.52 U	0.58 U
Pentachlorophenol	NE	1	µg/L	2.5 U	44 U	2.5 U	2.2 U	2.1 U	2.3 U	2.5 U
Phenol	NE	1	µg/L	**430**	**8.1 J**	0.44 U	0.39 U	**1.3 J**	0.4 U	0.45 U
Inorganic Constituents										
Cyanide, total	NE	200	µg/L	130	67 J+	14	7.1 J+	37 B	**560**	**690 J+**
Aluminum	NE	NE	µg/L	60 U	--	--	--	340	4000	--
Antimony	NE	3	µg/L	6.8 U	--	--	--	6.8 U	6.8 U	--
Arsenic	NE	25	µg/L	5.6 U	--	--	--	5.6 U	6.4 J	--
Barium	NE	1000	µg/L	2.5	--	--	--	120	85	--
Beryllium	3	NE	µg/L	0.3 U	--	--	--	0.3 U	0.31 J	--

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-3S 9/23/2015	MW-3S 3/2/2017	MW-3R 2/28/2017	MW-3R 6/28/2017	MW-4S 6/12/2015	MW-4S 9/23/2015	MW-4S 3/1/2017
Cadmium	NE	5	µg/L	0.5 U	--	--	--	0.5 U	0.5 U	--
Calcium	NE	NE	µg/L	55000	--	--	--	240000	215000	--
Chromium	NE	50	µg/L	1 U	--	--	--	10	16	--
Cobalt	NE	NE	µg/L	0.63 U	--	--	--	0.63 U	3.4 J	--
Copper	NE	200	µg/L	1.6 U	--	--	--	1.6 U	14	--
Iron	NE	300	µg/L	**26100**	--	--	--	32 J	**18000**	--
Lead	NE	25	µg/L	3 U	--	--	--	3 U	3.6 J	--
Magnesium	35000	NE	µg/L	7600	--	--	--	130 J	13800	--
Manganese	NE	300	µg/L	**650**	--	--	--	3 U	**450**	--
Nickel	NE	100	µg/L	2.2 J	--	--	--	5.1 J	11	--
Potassium	NE	NE	µg/L	4200	--	--	--	15500	9700	--
Selenium	NE	10	µg/L	8.7 U	--	--	--	8.7 U	8.7 U	--
Silver	NE	50	µg/L	1.7 U	--	--	--	1.7 U	1.7 U	--
Sodium	NE	20000	µg/L	8800	--	--	--	**21500**	16200	--
Thallium	0.5	NE	µg/L	10 U	--	--	--	10 U	10 U	--
Vanadium	NE	NE	µg/L	1.5 U	--	--	--	1.5 U	13	--
Zinc	2000	NE	µg/L	7.1 J	--	--	--	1.5 U	40	--
Mercury	NE	0.7	µg/L	0.12 U	--	--	--	0.12 U	0.12 U	--
Pesticides										
4,4'-DDD	NE	0.3	µg/L	0.0096 U	0.0096 U	0.0094 U	0.0092 U	0.009 U	0.0099 U	0.0092 U
4,4'-DDE	NE	0.2	µg/L	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.013 U	0.012 U
4,4'-DDT	NE	0.2	µg/L	0.012 U	0.011 U	0.011 U	0.011 U	0.011 U	0.012 U	0.011 U
Aldrin	NE	0	µg/L	0.0085 U	0.0084 U	0.0083 U	0.0081 U	0.0079 U	0.0088 U	0.0081 U
alpha Endosulfan (Endosulfan I)	NE	NE	µg/L	0.012 U	0.011 U	0.011 U	0.011 U	0.011 U	0.012 U	0.011 U
beta Endosulfan (Endosulfan II)	NE	NE	µg/L	0.013 U	0.013 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
BHC, alpha	NE	0.01	µg/L	**0.018 J**	0.008 U	0.0079 U	0.0077 U	0.049 U	0.0083 U	0.0077 U
BHC, beta	NE	0.04	µg/L	0.026 U	0.026 U	0.025 U	0.025 U	0.024 U	0.027 U	0.025 U
BHC, delta	NE	0.04	µg/L	0.011 J	0.01 U	0.01 U	0.01 U	0.0098 U	0.011 U	0.01 U
BHC, gamma (Lindane)	NE	0.05	µg/L	0.0084 U	0.0083 U	0.0082 U	0.008 U	0.0078 U	0.0086 U	0.008 U
Chlordane, alpha	NE	NE	µg/L	0.016 U	0.015 U	0.015 U	0.015 U	0.014 U	0.016 U	0.015 U
Chlordane, beta	NE	NE	µg/L	0.012 U	0.011 U	0.011 U	0.011 U	0.049 U	0.012 U	0.011 U
Dieldrin	NE	0.004	µg/L	0.01 U	0.01 U	0.01 U	0.0098 U	0.0096 U	0.011 U	0.0098 U
Endosulfan sulfate	NE	NE	µg/L	0.016 U	0.016 U	0.016 U	0.016 U	0.015 U	0.017 U	0.016 U
Endrin	NE	0	µg/L	0.014 U	0.014 U	0.014 U	0.014 U	0.013 U	0.015 U	0.014 U
Endrin aldehyde	NE	5	µg/L	0.017 U	0.017 U	0.017 U	0.016 U	0.016 U	0.018 U	0.016 U
Endrin ketone	NE	5	µg/L	0.013 U	0.013 U	0.012 U	0.012 U	0.012 U	0.054 U	0.012 U
Heptachlor	NE	0.04	µg/L	0.0089 U	0.0089 U	0.0087 U	0.0085 U	0.0083 U	0.0092 U	0.0085 U
Heptachlor epoxide	NE	0.03	µg/L	0.0078 U	0.0077 U	0.0076 U	0.0074 U	**0.21**	0.008 U	0.0074 U
Methoxychlor	NE	35	µg/L	0.047 J	0.015 U	0.014 U	0.014 U	0.014 J	0.043 J	0.014 U
Toxaphene	NE	0.06	µg/L	0.13 U	0.13 U	0.12 U	0.12 U	0.12 U	0.13 U	0.12 U

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-3S 9/23/2015	MW-3S 3/2/2017	MW-3R 2/28/2017	MW-3R 6/28/2017	MW-4S 6/12/2015	MW-4S 9/23/2015	MW-4S 3/1/2017
Polychlorinated Biphenyls (PCBs)										
Aroclor 1016	NE	0.09	µg/L	0.19 U	--	--	--	0.19 U	0.2 U	--
Aroclor 1221	NE	0.09	µg/L	0.19 U	--	--	--	0.19 U	0.2 U	--
Aroclor 1232	NE	0.09	µg/L	0.19 U	--	--	--	0.19 U	0.2 U	--
Aroclor 1242	NE	0.09	µg/L	0.19 U	--	--	--	0.19 U	0.2 U	--
Aroclor 1248	NE	0.09	µg/L	0.19 U	--	--	--	0.19 U	0.2 U	--
Aroclor 1254	NE	0.09	µg/L	0.27 U	--	--	--	0.27 U	0.28 U	--
Aroclor 1260	NE	0.09	µg/L	0.27 U	--	--	--	0.27 U	0.28 U	--
Total PCBs	NE	0.09	µg/L	ND	--	--	--	ND	ND	--

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
J+ - Estimated concentration. Reported value may be biased high. Result is estimated high.
J- - Estimated concentration. Reported value may be baiased low. Result is estimated low.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
U1 - The analyte was analyzed for, but was not detected substantially above the level reported in laboratory or field blanks.
B - Constituent was found in the blank and the sample.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related Quality Control (QC) is outside acceptance limits.

NE - Standard and/or guidance value not established.
ND - Not detected

Boxed and bolded values indicates concentration above New York State Class GA Groundwater Standards or Guidance values.

(1) - Notes applicable to NYS Part 703 Standards:
(a) - Any detected concentration for Benzo(a)pyrene, aldrin, or endrin is considered above the Part 703 Standard.
(b) - The standard for the sum of phenolic compounds is 1 µg/L
(c) - The standard of the sum of PCBs in 0.9 µg/L

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-4S 6/29/2017	MW-4 6/12/2015	MW-4 9/21/2015	MW-4 2/28/2017	MW-4 6/26/2017	MW-4D 6/10/2015	MW-4D 9/21/2015
Volatile Organic Compounds (VOCs)										
BTEX										
Benzene	NE	1	µg/L	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
Toluene	NE	5	µg/L	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
Ethylbenzene	NE	5	µg/L	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U
Xylenes, total	NE	5	µg/L	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U
Total BTEX	NE	NE	µg/L	ND	ND	ND	ND	ND	ND	ND
Other VOCs										
1,1,1-Trichloroethane	NE	5	µg/L	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U
1,1,2,2-Tetrachloroethane	NE	5	µg/L	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NE	5	µg/L	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
1,1,2-Trichloroethane	NE	1	µg/L	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,1-Dichloroethane	NE	5	µg/L	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,1-Dichloroethene	NE	5	µg/L	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
1,2,4-Trichlorobenzene	10	5	µg/L	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
1,2-Dibromo-3-chloropropane (DBCP)	NE	0.04	µg/L	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
1,2-Dibromoethane (EDB)	NE	0.0006	µg/L	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
1,2-Dichlorobenzene	NE	3	µg/L	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U
1,2-Dichloroethane	NE	0.6	µg/L	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,2-Dichloropropane	NE	1	µg/L	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U
1,3-Dichlorobenzene	NE	3	µg/L	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U
1,4-Dichlorobenzene	NE	3	µg/L	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U
2-Butanone (MEK)	50	NE	µg/L	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
2-Hexanone	50	NE	µg/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
4-Methyl-2-pentanone (MIBK)	NE	NE	µg/L	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U
Acetone	50	NE	µg/L	3 U	3 U	3 U	3 U	3 U	6.4 J	3 U
Bromodichloromethane	50	NE	µg/L	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
Bromoform	50	NE	µg/L	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromomethane	NE	5	µg/L	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U
Carbon disulfide	60	60	µg/L	0.19 U	0.5 J	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Carbon tetrachloride	NE	5	µg/L	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	NE	5	µg/L	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U
Chloroethane	NE	5	µg/L	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Chloroform	NE	7	µg/L	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Chloromethane	NE	5	µg/L	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
cis-1,2-Dichloroethene	NE	5	µg/L	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U
cis-1,3-Dichloropropene	NE	0.4	µg/L	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Cyclohexane	NE	NE	µg/L	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Dibromochloromethane	50	NE	µg/L	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Dichlorodifluoromethane (Freon 12)	NE	5	µg/L	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U
Isopropylbenzene (Cumene)	NE	5	µg/L	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U

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TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-4S 6/29/2017	MW-4 6/12/2015	MW-4 9/21/2015	MW-4 2/28/2017	MW-4 6/26/2017	MW-4D 6/10/2015	MW-4D 9/21/2015
Methyl acetate	NE	NE	µg/L	1.3 U	0.5 U	1.3 U	1.3 U	1.3 U	0.5 U	1.3 U
Methylcyclohexane	NE	NE	µg/L	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Methylene chloride	NE	5	µg/L	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
Styrene	NE	5	µg/L	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
tert-Butyl methyl ether (MTBE)	10	NE	µg/L	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Tetrachloroethene (PCE)	NE	5	µg/L	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
trans-1,2-Dichloroethene	NE	5	µg/L	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U
trans-1,3-Dichloropropene	NE	0.4	µg/L	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
Trichloroethene (TCE)	NE	5	µg/L	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
Trichlorofluoromethane (Freon 11)	NE	5	µg/L	0.88 UJ	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U
Vinyl chloride	NE	2	µg/L	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U
Semi-Volatile Organic Compounds (SVOCs)										
Polycyclic Aromatic Hydrocarbons (PAHs)										
Acenaphthene	20	NE	µg/L	0.41 U	0.4 U	0.38 U	0.4 U	0.41 U	0.45 U	0.4 U
Acenaphthylene	NE	NE	µg/L	0.38 U	0.37 U	0.35 U	0.37 U	0.38 U	0.42 U	0.37 U
Anthracene	50	NE	µg/L	0.28 U	0.27 U	0.26 U	0.27 U	0.28 U	0.31 U	0.27 U
Benzo(a)anthracene	0.002	NE	µg/L	0.36 U	0.35 U	0.33 U	0.35 U	0.36 U	0.4 U	0.35 U
Benzo(a)pyrene	NE	0	µg/L	0.47 U	0.46 U	0.43 U	0.46 U	0.47 U	0.52 U	0.46 U
Benzo(b)fluoranthene	0.002	NE	µg/L	**0.37 J**	0.33 U	0.31 U	0.33 U	0.34 U	0.38 U	0.33 U
Benzo(g,h,i)perylene	NE	NE	µg/L	0.35 U	0.34 U	0.32 U	0.34 U	0.35 U	0.39 U	0.34 UF1
Benzo(k)fluoranthene	0.002	NE	µg/L	0.73 U	0.71 U	0.67 U	0.71 U	0.73 U	0.81 U	0.71 U
Chrysene	0.002	NE	µg/L	0.33 U	0.32 U	0.3 U	0.32 U	0.33 U	0.36 U	0.32 U
Dibenz(a,h)anthracene	NE	NE	µg/L	0.42 U	0.41 U	0.38 U	0.41 U	0.42 U	0.46 U	0.41 UF2
Fluoranthene	50	NE	µg/L	0.4 U	0.39 U	0.37 U	0.39 U	0.4 U	0.44 U	0.39 U
Fluorene	50	NE	µg/L	0.36 U	0.35 U	0.33 U	0.35 U	0.36 U	0.4 U	0.35 U
Indeno(1,2,3-c,d)pyrene	0.002	NE	µg/L	0.47 U	0.46 U	0.43 U	0.46 U	0.47 U	0.52 U	0.46 UF1F2
Naphthalene	10	NE	µg/L	0.76 U	0.74 U	0.7 U	0.74 U	0.76 U	0.84 U	0.74 U
Phenanthrene	50	NE	µg/L	0.44 U	0.43 U	0.4 U	0.43 U	0.44 U	0.49 U	0.43 U
Pyrene	50	NE	µg/L	0.34 U	0.33 U	0.31 U	0.33 U	0.34 U	0.38 U	0.33 U
2-Methylnaphthalene	NE	NE	µg/L	0.6 U	0.59 U	0.55 U	0.58 U	0.6 U	0.66 U	0.58 U
Total PAHs	NE	NE	µg/L	0.37 J	ND	ND	ND	ND	ND	ND
Other SVOCs										
2,4,5-Trichlorophenol	NE	1	µg/L	0.48 U	0.47 U	0.44 U	0.47 UJ	0.48 U	0.53 U	0.47 U
2,4,6-Trichlorophenol	NE	1	µg/L	0.61 U	0.6 U	0.56 U	0.59 UJ	0.61 U	0.67 U	0.59 U
2,4-Dichlorophenol	NE	1	µg/L	0.51 U	0.5 U	0.47 U	0.5 U	0.51 U	0.56 U	0.5 U
2,4-Dimethylphenol	50	1	µg/L	0.5 U	0.49 U	0.46 U	0.49 U	0.5 U	0.55 U	0.49 U
2,4-Dinitrophenol	10	1	µg/L	2.2 U	2.2 U	2 U	2.2 U	2.2 U	2.5 U	2.2 U
2,4-Dinitrotoluene	NE	5	µg/L	0.45 U	0.44 U	0.41 U	0.43 U	0.45 U	0.49 U	0.43 U
2,6-Dinitrotoluene	NE	5	µg/L	0.4 U	0.39 U	0.37 U	0.39 U	0.4 U	0.44 U	0.39 U
2-Chloronaphthalene	10	NE	µg/L	0.46 U	0.45 U	0.42 U	0.45 U	0.46 U	0.51 U	0.45 U
2-Chlorophenol	NE	1	µg/L	0.53 U	0.52 U	0.49 U	0.51 U	0.53 U	0.58 U	0.51 U
2-Methylphenol (o-cresol)	NE	1	µg/L	0.4 U	0.39 U	0.37 U	0.39 U	0.4 U	0.44 U	0.39 U
2-Nitroaniline	NE	5	µg/L	0.42 U	0.41 U	0.38 U	0.41 U	0.42 U	0.46 U	0.41 U

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-4S 6/29/2017	MW-4 6/12/2015	MW-4 9/21/2015	MW-4 2/28/2017	MW-4 6/26/2017	MW-4D 6/10/2015	MW-4D 9/21/2015
2-Nitrophenol	NE	1	µg/L	0.48 U	0.47 U	0.44 U	0.47 U	0.48 U	0.53 U	0.47 U
3,3'-Dichlorobenzidine	NE	5	µg/L	0.4 U	0.39 U	0.37 U	0.39 U	0.4 U	0.44 U	0.39 U
3-Nitroaniline	NE	5	µg/L	0.48 U	0.47 U	0.44 U	0.47 U	0.48 UJ	0.53 U	0.47 U
4,6-Dinitro-2-methylphenol	NE	1	µg/L	2.2 U	2.2 U	2 U	2.1 U	2.2 U	2.4 U	2.1 U
4-Bromophenyl phenyl ether	NE	NE	µg/L	0.45 U	0.44 U	0.41 U	0.44 U	0.45 U	0.5 U	0.44 U
4-Chloro-3-methylphenol	NE	1	µg/L	0.45 U	0.44 U	0.41 U	0.44 U	0.45 U	0.5 U	0.44 U
4-Chloroaniline	NE	5	µg/L	0.59 U	0.58 U	0.54 U	0.57 U	0.59 U	0.65 U	0.57 U
4-Chlorophenyl phenyl ether	NE	NE	µg/L	0.35 U	0.34 U	0.32 U	0.34 UJ	0.35 U	0.39 U	0.34 U
4-Methylphenol	NE	1	µg/L	0.36 U	0.35 U	0.33 U	0.35 U	0.36 U	0.4 U	0.35 U
4-Nitroaniline	NE	5	µg/L	0.25 U	0.24 U	0.23 U	0.24 U	0.25 U	0.28 U	0.24 U
4-Nitrophenol	NE	1	µg/L	1.5 U	1.5 U	1.4 U	1.5 UJ	1.5 UJ	1.7 U	1.5 U
Acetophenone	NE	NE	µg/L	0.54 U	0.53 U	0.49 U	0.52 U	0.54 U	0.6 U	0.52 U
Atrazine	NE	7.5	µg/L	0.46 U	0.45 U	0.42 U	0.45 UJ	0.46 UJ	0.51 U	0.45 U
Benzaldehyde	NE	NE	µg/L	0.27 U	4.9 UJ	4.6 U	0.26 U	0.27 U	0.29 U	4.9 U
Benzyl butyl phthalate	50	NE	µg/L	1 U	0.41 U	0.38 U	0.97 U	1 U	0.46 U	0.41 U
Biphenyl (Diphenyl)	NE	5	µg/L	0.65 U	0.64 U	0.6 U	0.63 U	0.65 U	0.72 U	0.63 U
bis(2-Chloroethoxy)methane	NE	5	µg/L	0.35 U	0.34 U	0.32 U	0.34 U	0.35 U	0.39 U	0.34 U
bis(2-Chloroethyl)ether	NE	1	µg/L	0.4 U	0.39 U	0.37 U	0.39 U	0.4 U	0.44 U	0.39 U
bis(2-Chloroisopropyl)ether	NE	5	µg/L	0.52 U	0.51 UJ	0.48 U	0.5 UJ	0.52 UJ	0.57 UJ	0.5 U
bis(2-Ethylhexyl)phthalate	NE	5	µg/L	2.2 U	1.8 U	4.6 U	2.1 U	2.2 U	2 U	4.9 U
Caprolactam	NE	NE	µg/L	2.2 U	2.2 U	2 U	2.1 U	2.2 U	2.4 U	2.1 U
Carbazole	NE	NE	µg/L	0.3 U	0.29 U	0.27 U	0.29 U	0.3 U	0.33 U	0.29 U
Dibenzofuran	NE	NE	µg/L	0.51 U	0.5 U	0.47 U	0.5 U	0.51 U	0.56 U	0.5 U
Diethyl phthalate	50	NE	µg/L	0.22 U	0.22 U	0.2 U	0.21 UJ	0.22 U	0.24 U	0.21 U
Dimethyl phthalate	50	NE	µg/L	0.36 U	0.35 U	0.33 U	0.35 UJ	0.36 U	0.4 U	0.35 U
dI-n-Butyl phthalate	NE	50	µg/L	0.31 U	4.9 U	0.28 U	0.3 U	0.31 U	5.5 U	0.3 U
dI-n-Octyl phthalate	50	NE	µg/L	0.47 U	0.46 U	0.43 U	0.46 U	0.47 U	0.52 U	0.46 UF2
Hexachlorobenzene	NE	0.04	µg/L	0.51 U	0.5 U	0.47 U	0.5 U	0.51 U	0.56 U	0.5 U
Hexachlorobutadiene	NE	0.5	µg/L	0.68 U	0.67 U	0.62 U	0.66 UJ	0.68 UJ	0.75 U	0.66 U
Hexachlorocyclopentadiene	NE	5	µg/L	0.59 U	0.58 U	0.54 U	0.57 UJ	0.59 U	0.65 U	0.57 U
Hexachloroethane	NE	5	µg/L	0.59 U	0.58 U	0.54 U	0.57 U	0.59 U	0.65 U	0.57 U
Isophorone	50	NE	µg/L	0.43 U	0.42 U	0.39 U	0.42 U	0.43 U	0.47 U	0.42 U
Nitrobenzene	NE	0.4	µg/L	0.29 U	0.28 U	0.27 U	0.28 U	0.29 U	0.32 U	0.28 U
N-Nitroso-di-n-propylamine	NE	NE	µg/L	0.54 U	0.53 U	0.49 U	0.52 U	0.54 UJ	0.6 U	0.52 U
N-Nitrosodiphenylamine	50	NE	µg/L	0.51 U	0.5 U	0.47 U	0.5 U	0.51 U	0.56 U	0.5 U
Pentachlorophenol	NE	1	µg/L	2.2 U	2.2 U	2 U	2.1 U	2.2 U	2.4 U	2.1 U
Phenol	NE	1	µg/L	0.39 U	0.38 U	0.36 U	0.38 U	0.39 UJ	0.43 U	0.38 U
Inorganic Constituents										
Cyanide, total	NE	200	µg/L	**440**	5 U	7.2 J	5 U	10 U	14	14 J
Aluminum	NE	NE	µg/L	--	140 J	73 J	--	--	860	5100 J
Antimony	NE	3	µg/L	--	6.8 U	6.8 U	--	--	6.8 U	6.8 U
Arsenic	NE	25	µg/L	--	5.6 U	5.6 U	--	--	5.6 U	5.6 U
Barium	NE	1000	µg/L	--	73	51	--	--	350	170 J
Beryllium	3	NE	µg/L	--	0.3 U	0.3 U	--	--	0.3 U	0.3 U

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-4S 6/29/2017	MW-4 6/12/2015	MW-4 9/21/2015	MW-4 2/28/2017	MW-4 6/26/2017	MW-4D 6/10/2015	MW-4D 9/21/2015
Cadmium	NE	5	µg/L	--	0.5 U	0.5 U	--	--	0.5 U	0.5 U
Calcium	NE	NE	µg/L	--	171000	129000	--	--	122000 B	78700 J
Chromium	NE	50	µg/L	--	1.1 J	1.9 J	--	--	1.5 J	8.7
Cobalt	NE	NE	µg/L	--	0.63 U	0.63 U	--	--	0.63 U	3.4 J
Copper	NE	200	µg/L	--	1.6 U	1.6 U	--	--	1.6 U	8.4 J
Iron	NE	300	µg/L	--	**460**	170	--	--	**6400**	**11300 J**
Lead	NE	25	µg/L	--	3 U	4.1 J	--	--	11	16
Magnesium	35000	NE	µg/L	--	33900	25600	--	--	34900	24200 J
Manganese	NE	300	µg/L	--	**470 B**	120	--	--	**540**	**500 J**
Nickel	NE	100	µg/L	--	2.4 J	1.3 U	--	--	1.7 J	9.5 J
Potassium	NE	NE	µg/L	--	8600	8200	--	--	21000	18900 F1
Selenium	NE	10	µg/L	--	8.7 U	8.7 U	--	--	8.7 U	8.7 U
Silver	NE	50	µg/L	--	1.7 U	1.7 U	--	--	1.7 U	1.7 U
Sodium	NE	20000	µg/L	--	**535000**	**490000**	--	--	**218000**	**193000 J**
Thallium	0.5	NE	µg/L	--	10 U	10 U	--	--	10 U	10 U
Vanadium	NE	NE	µg/L	--	1.5 U	1.5 U	--	--	1.5 U	9.3
Zinc	2000	NE	µg/L	--	13	10 U	--	--	5.6 J	28 J
Mercury	NE	0.7	µg/L	--	0.12 U	0.12 U	--	--	0.12 U	0.12 U
Pesticides										
4,4'-DDD	NE	0.3	µg/L	0.0092 U	0.0089 UF2	0.0096 U	0.0093 U	0.0092 U	0.01 U	0.0092 U
4,4'-DDE	NE	0.2	µg/L	0.012 U	0.011 J	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
4,4'-DDT	NE	0.2	µg/L	0.011 U	0.011 UF2	0.012 U	0.011 U	0.011 U	0.012 U	0.011 U
Aldrin	NE	0	µg/L	0.0081 U	0.0078 UF2	0.0085 U	0.0082 U	0.0081 U	0.0089 U	0.0081 U
alpha Endosulfan (Endosulfan I)	NE	NE	µg/L	0.011 U	0.011 UF2	0.012 U	0.011 U	0.011 U	0.012 U	0.011 UF2
beta Endosulfan (Endosulfan II)	NE	NE	µg/L	0.012 U	0.012 UF2	0.013 U	0.012 U	0.012 U	0.013 U	0.012 U
BHC, alpha	NE	0.01	µg/L	0.0077 U	0.0074 UF2	0.0081 U	0.0078 U	0.0077 U	0.0085 U	0.0077 U
BHC, beta	NE	0.04	µg/L	0.025 U	0.024 U	0.026 U	0.025 U	0.025 U	0.027 U	0.025 U
BHC, delta	NE	0.04	µg/L	0.01 U	0.0096 UF2	0.01 U	0.01 U	0.01 U	0.011 U	0.01 UF2
BHC, gamma (Lindane)	NE	0.05	µg/L	0.008 U	0.0077 UF2	0.0084 U	0.0081 U	0.008 U	0.0088 U	0.008 U
Chlordane, alpha	NE	NE	µg/L	0.015 U	0.014 UF2	0.015 U	0.015 U	0.015 U	0.016 U	0.015 U
Chlordane, beta	NE	NE	µg/L	0.011 U	0.048 U	0.012 U	0.011 U	0.011 U	0.012 U	0.011 U
Dieldrin	NE	0.004	µg/L	0.0098 U	0.0094 UF2	0.01 U	0.0099 U	0.0098 U	0.011 U	0.0098 U
Endosulfan sulfate	NE	NE	µg/L	0.016 U	0.015 UF2	0.016 U	0.016 U	0.016 U	0.017 U	0.016 U
Endrin	NE	0	µg/L	0.014 U	0.013 UF2	0.014 U	0.014 U	0.014 U	0.015 U	0.014 U
Endrin aldehyde	NE	5	µg/L	0.016 U	0.016 UF2	0.017 U	0.016 U	0.016 U	0.018 U	0.016 U
Endrin ketone	NE	5	µg/L	0.012 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.012 U
Heptachlor	NE	0.04	µg/L	0.0085 U	0.0082 UF2	0.0089 U	0.0086 U	0.0085 U	0.0094 U	0.0085 U
Heptachlor epoxide	NE	0.03	µg/L	0.0074 U	0.0071 UF2	0.0077 U	0.0075 U	0.0074 U	0.0082 U	0.0074 U
Methoxychlor	NE	35	µg/L	0.014 U	0.014 UF2	0.037 J	0.014 U	0.014 U	0.016 U	0.038 JF2
Toxaphene	NE	0.06	µg/L	0.12 U	0.12 U	0.13 U	0.12 U	0.12 U	0.13 U	0.12 U

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-4S 6/29/2017	MW-4 6/12/2015	MW-4 9/21/2015	MW-4 2/28/2017	MW-4 6/26/2017	MW-4D 6/10/2015	MW-4D 9/21/2015
Polychlorinated Biphenyls (PCBs)										
Aroclor 1016	NE	0.09	µg/L	--	0.17 U	0.18 U	--	--	0.18 U	0.16 U
Aroclor 1221	NE	0.09	µg/L	--	0.17 U	0.18 U	--	--	0.18 U	0.16 U
Aroclor 1232	NE	0.09	µg/L	--	0.17 U	0.18 U	--	--	0.18 U	0.16 U
Aroclor 1242	NE	0.09	µg/L	--	0.17 U	0.18 U	--	--	0.18 U	0.16 U
Aroclor 1248	NE	0.09	µg/L	--	0.17 U	0.18 U	--	--	0.18 U	0.16 U
Aroclor 1254	NE	0.09	µg/L	--	0.25 U	0.26 U	--	--	0.25 U	0.23 U
Aroclor 1260	NE	0.09	µg/L	--	0.25 U	0.26 U	--	--	0.25 U	0.23 U
Total PCBs	NE	0.09	µg/L	--	ND	ND	--	--	ND	ND

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
J+ - Estimated concentration. Reported value may be biased high. Result is estimated high.
J- - Estimated concentration. Reported value may be baiased low. Result is estimated low.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
U1 - The analyte was analyzed for, but was not detected substantially above the level reported in laboratory or field blanks.
B - Constituent was found in the blank and the sample.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related Quality Control (QC) is outside acceptance limits.

NE - Standard and/or guidance value not established.
ND - Not detected

Boxed and bolded values indicates concentration above New York State Class GA Groundwater Standards or Guidance values.

(1) - Notes applicable to NYS Part 703 Standards:
(a) - Any detected concentration for Benzo(a)pyrene, aldrin, or endrin is considered above the Part 703 Standard.
(b) - The standard for the sum of phenolic compounds is 1 µg/L
(c) - The standard of the sum of PCBs in 0.9 µg/L

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-4D 2/28/2017	MW-4D 6/27/2017	MW-4D DUP 6/27/2017	MW-5S 3/2/2017	MW-5S 6/29/2017	MW-5 3/2/2017	MW-5 DUP 3/2/2017
Volatile Organic Compounds (VOCs)										
BTEX										
Benzene	NE	1	µg/L	0.41 U	0.41 U	0.41 U	**780**	**1100**	**61**	**60**
Toluene	NE	5	µg/L	0.51 U	0.51 U	0.51 U	**58**	10 U	**6.2**	**6.5**
Ethylbenzene	NE	5	µg/L	0.74 U	0.74 U	0.74 U	15 U	15 U	1.5 U	1.5 U
Xylenes, total	NE	5	µg/L	0.66 U	0.66 U	0.66 U	**15 J**	13 U	**19**	**18**
Total BTEX	NE	NE	µg/L	ND	ND	ND	853	1100	86	85
Other VOCs										
1,1,1-Trichloroethane	NE	5	µg/L	0.82 U	0.82 U	0.82 U	16 U	16 U	1.6 U	1.6 U
1,1,2,2-Tetrachloroethane	NE	5	µg/L	0.21 U	0.21 U	0.21 U	4.2 U	4.2 U	0.42 U	0.42 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NE	5	µg/L	0.31 U	0.31 U	0.31 U	6.2 U	6.2 U	0.62 U	0.62 U
1,1,2-Trichloroethane	NE	1	µg/L	0.23 U	0.23 U	0.23 U	4.6 U	4.6 U	0.46 U	0.46 U
1,1-Dichloroethane	NE	5	µg/L	0.38 U	0.38 U	0.38 U	7.6 U	7.6 U	0.76 U	0.76 U
1,1-Dichloroethene	NE	5	µg/L	0.29 U	0.29 U	0.29 U	5.8 U	5.8 U	0.58 U	0.58 U
1,2,4-Trichlorobenzene	10	5	µg/L	0.41 U	0.41 U	0.41 U	8.2 U	8.2 U	0.82 U	0.82 U
1,2-Dibromo-3-chloropropane (DBCP)	NE	0.04	µg/L	0.39 U	0.39 U	0.39 U	7.8 U	7.8 U	0.78 U	0.78 U
1,2-Dibromoethane (EDB)	NE	0.0006	µg/L	0.73 U	0.73 U	0.73 U	15 U	15 U	1.5 U	1.5 U
1,2-Dichlorobenzene	NE	3	µg/L	0.79 U	0.79 U	0.79 U	16 U	16 U	1.6 U	1.6 U
1,2-Dichloroethane	NE	0.6	µg/L	0.21 U	0.21 U	0.21 U	4.2 U	4.2 U	0.42 U	0.42 U
1,2-Dichloropropane	NE	1	µg/L	0.72 U	0.72 U	0.72 U	14 U	14 U	1.4 U	1.4 U
1,3-Dichlorobenzene	NE	3	µg/L	0.78 U	0.78 U	0.78 U	16 U	16 U	1.6 U	1.6 U
1,4-Dichlorobenzene	NE	3	µg/L	0.84 U	0.84 U	0.84 U	17 U	17 U	1.7 U	1.7 U
2-Butanone (MEK)	50	NE	µg/L	1.3 U	1.3 U	1.3 U	26 U	26 U	2.6 U	2.6 U
2-Hexanone	50	NE	µg/L	1.2 U	1.2 U	1.2 U	25 U	25 U	2.5 U	2.5 U
4-Methyl-2-pentanone (MIBK)	NE	NE	µg/L	2.1 U	2.1 U	2.1 U	42 U	42 U	4.2 U	4.2 U
Acetone	50	NE	µg/L	3 U	3 U	3 U	60 U	60 U	6 J	6 U
Bromodichloromethane	50	NE	µg/L	0.39 U	0.39 U	0.39 U	7.8 U	7.8 U	0.78 U	0.78 U
Bromoform	50	NE	µg/L	0.26 U	0.26 U	0.26 U	5.2 U	5.2 U	0.52 U	0.52 U
Bromomethane	NE	5	µg/L	0.69 U	0.69 U	0.69 U	14 U	14 U	1.4 U	1.4 U
Carbon disulfide	60	60	µg/L	0.19 U	0.19 U	0.19 U	3.8 U	3.8 U	0.38 U	0.38 U
Carbon tetrachloride	NE	5	µg/L	0.27 U	0.27 U	0.27 U	5.4 U	5.4 U	0.54 U	0.54 U
Chlorobenzene	NE	5	µg/L	0.75 U	0.75 U	0.75 U	15 U	15 U	1.5 U	1.5 U
Chloroethane	NE	5	µg/L	0.32 U	0.32 U	0.32 U	6.4 U	6.4 U	0.64 U	0.64 U
Chloroform	NE	7	µg/L	0.34 U	0.34 U	0.34 U	6.8 U	6.8 U	0.68 U	0.68 U
Chloromethane	NE	5	µg/L	0.35 U	0.35 U	0.35 U	7 UJ	7 U	0.7 UJ	0.7 UJ
cis-1,2-Dichloroethene	NE	5	µg/L	0.81 U	0.81 U	0.81 U	16 U	16 U	1.6 U	1.6 U
cis-1,3-Dichloropropene	NE	0.4	µg/L	0.36 U	0.36 U	0.36 U	7.2 U	7.2 U	0.72 U	0.72 U
Cyclohexane	NE	NE	µg/L	0.18 U	0.18 U	0.18 U	3.6 U	3.6 U	0.36 U	0.36 U
Dibromochloromethane	50	NE	µg/L	0.32 U	0.32 U	0.32 U	6.4 U	6.4 U	0.64 U	0.64 U
Dichlorodifluoromethane (Freon 12)	NE	5	µg/L	0.68 U	0.68 U	0.68 U	14 U	14 U	1.4 U	1.4 U
Isopropylbenzene (Cumene)	NE	5	µg/L	0.79 U	0.79 U	0.79 U	**20**	**19 J**	**5.9**	**5.9**

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[1] Standard	Units	MW-4D 2/28/2017	MW-4D 6/27/2017	MW-4D DUP 6/27/2017	MW-5S 3/2/2017	MW-5S 6/29/2017	MW-5 3/2/2017	MW-5 DUP 3/2/2017
Methyl acetate	NE	NE	µg/L	1.3 U	1.3 U	1.3 U	26 U	26 U	2.6 U	2.6 U
Methylcyclohexane	NE	NE	µg/L	0.16 U	0.16 U	0.16 U	3.2 U	3.2 U	0.32 U	0.32 U
Methylene chloride	NE	5	µg/L	0.44 U	0.44 U	0.44 U	8.8 U	8.8 U	1.5 J	1.7 J
Styrene	NE	5	µg/L	0.73 U	0.73 U	0.73 U	15 U	15 U	1.5 U	1.5 U
tert-Butyl methyl ether (MTBE)	10	NE	µg/L	0.16 U	0.16 U	0.16 U	3.2 U	3.2 U	0.32 U	0.32 U
Tetrachloroethene (PCE)	NE	5	µg/L	0.36 U	0.36 U	0.36 U	7.2 U	7.2 U	0.72 U	0.72 U
trans-1,2-Dichloroethene	NE	5	µg/L	0.9 U	0.9 U	0.9 U	18 U	18 U	1.8 U	1.8 U
trans-1,3-Dichloropropene	NE	0.4	µg/L	0.37 U	0.37 U	0.37 U	7.4 U	7.4 U	0.74 U	0.74 U
Trichloroethene (TCE)	NE	5	µg/L	0.46 U	0.46 U	0.46 U	9.2 U	9.2 U	0.92 U	0.92 U
Trichlorofluoromethane (Freon 11)	NE	5	µg/L	0.88 U	0.88 U	0.88 U	18 U	18 UJ	1.8 U	1.8 U
Vinyl chloride	NE	2	µg/L	0.9 U	0.9 U	0.9 U	18 U	18 U	1.8 U	1.8 U
Semi-Volatile Organic Compounds (SVOCs)										
Polycyclic Aromatic Hydrocarbons (PAHs)										
Acenaphthene	20	NE	µg/L	0.45 U	0.41 U	0.41 U	1.1 J	0.89 J	0.49 U	0.49 U
Acenaphthylene	NE	NE	µg/L	0.41 U	0.38 U	0.38 U	0.36 U	0.41 U	0.45 U	0.45 U
Anthracene	50	NE	µg/L	0.31 U	0.28 U	0.28 U	0.27 U	0.34 J	0.99 J	0.92 J
Benzo(a)anthracene	0.002	NE	µg/L	0.39 U	0.36 U	0.36 U	0.34 U	0.39 U	0.43 U	0.43 U
Benzo(a)pyrene	NE	0	µg/L	0.51 U	0.47 U	0.47 U	0.45 U	0.51 U	0.56 U	0.56 U
Benzo(b)fluoranthene	0.002	NE	µg/L	0.37 U	0.34 U	0.34 U	0.32 U	0.37 U	**0.52 J**	0.4 U
Benzo(g,h,i)perylene	NE	NE	µg/L	0.38 U	0.35 U	0.35 U	0.33 U	0.38 U	0.41 U	0.42 U
Benzo(k)fluoranthene	0.002	NE	µg/L	0.8 U	0.73 U	0.73 U	0.69 U	0.79 U	0.86 U	0.87 U
Chrysene	0.002	NE	µg/L	0.36 U	0.33 U	0.33 U	0.31 U	0.36 U	0.39 U	0.39 U
Dibenz(a,h)anthracene	NE	NE	µg/L	0.46 U	0.42 U	0.42 U	0.4 U	0.46 U	0.5 U	0.5 U
Fluoranthene	50	NE	µg/L	0.44 U	0.4 U	0.4 U	1 J	0.83 J	1.3 J	1.2 J
Fluorene	50	NE	µg/L	0.39 U	0.36 U	0.36 U	2.9 J	2.5 J	2.1 J	1.8 J
Indeno(1,2,3-c,d)pyrene	0.002	NE	µg/L	0.51 U	0.47 U	0.47 U	0.45 U	0.51 U	0.56 U	0.56 U
Naphthalene	10	NE	µg/L	0.83 U	0.76 U	0.76 U	**500**	**320**	**130**	**120**
Phenanthrene	50	NE	µg/L	0.48 U	0.44 U	0.44 U	0.99 J	1.5 J	3.1 J	2.8 J
Pyrene	50	NE	µg/L	0.37 U	0.34 U	0.34 U	0.46 J	0.4 J	0.7 J	0.59 J
2-Methylnaphthalene	NE	NE	µg/L	0.66 U	0.6 U	0.6 U	14	6.2	5 J	4.2 J
Total PAHs	NE	NE	µg/L	ND	ND	ND	520	333	144	132
Other SVOCs										
2,4,5-Trichlorophenol	NE	1	µg/L	0.52 UJ	0.48 U	0.48 U	0.46 U	0.52 U	0.57 U	0.57 U
2,4,6-Trichlorophenol	NE	1	µg/L	0.67 UJ	0.61 U	0.61 U	0.58 U	0.66 U	0.72 U	0.72 U
2,4-Dichlorophenol	NE	1	µg/L	0.56 U	0.51 U	0.51 U	0.49 U	0.55 U	0.6 U	0.61 U
2,4-Dimethylphenol	50	1	µg/L	0.55 U	0.5 U	0.5 U	**9.8**	**4.9 J**	**1.4 J**	**1.3 J**
2,4-Dinitrophenol	10	1	µg/L	2.4 U	2.2 U	2.2 U	2.1 U	2.4 U	2.6 U	2.6 U
2,4-Dinitrotoluene	NE	5	µg/L	0.49 U	0.45 U	0.45 U	0.43 U	0.49 U	0.53 U	0.53 U
2,6-Dinitrotoluene	NE	5	µg/L	0.44 U	0.4 U	0.4 U	0.38 U	0.43 U	0.47 U	0.48 U
2-Chloronaphthalene	10	NE	µg/L	0.5 U	0.46 U	0.46 U	0.44 U	0.5 U	0.54 U	0.55 U
2-Chlorophenol	NE	1	µg/L	0.58 U	0.53 U	0.53 U	0.5 U	0.58 U	0.63 U	0.63 U
2-Methylphenol (o-cresol)	NE	1	µg/L	0.44 U	0.4 U	0.4 U	**8.4**	**1.9 J**	0.47 U	0.48 U
2-Nitroaniline	NE	5	µg/L	0.46 U	0.42 U	0.42 U	0.4 U	0.46 U	0.5 U	0.5 U

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[1] Standard	Units	MW-4D 2/28/2017	MW-4D 6/27/2017	MW-4D DUP 6/27/2017	MW-5S 3/2/2017	MW-5S 6/29/2017	MW-5 3/2/2017	MW-5 DUP 3/2/2017
2-Nitrophenol	NE	1	µg/L	0.52 U	0.48 U	0.48 U	0.46 U	0.52 U	0.57 U	0.57 U
3,3'-Dichlorobenzidine	NE	5	µg/L	0.44 U	0.4 U	0.4 U	0.38 U	0.43 U	0.47 U	0.48 U
3-Nitroaniline	NE	5	µg/L	0.52 U	0.48 UJ	0.48 UJ	0.46 U	0.52 U	0.57 U	0.57 U
4,6-Dinitro-2-methylphenol	NE	1	µg/L	2.4 U	2.2 U	2.2 U	2.1 U	2.4 U	2.6 U	2.6 U
4-Bromophenyl phenyl ether	NE	NE	µg/L	0.49 U	0.45 U	0.45 U	0.43 U	0.49 U	0.53 U	0.53 U
4-Chloro-3-methylphenol	NE	1	µg/L	0.49 U	0.45 U	0.45 U	0.43 U	0.49 U	0.53 U	0.53 U
4-Chloroaniline	NE	5	µg/L	0.64 U	0.59 U	0.59 U	0.56 U	0.64 U	0.7 U	0.7 U
4-Chlorophenyl phenyl ether	NE	NE	µg/L	0.38 UJ	0.35 U	0.35 U	0.33 U	0.38 U	0.41 U	0.42 U
4-Methylphenol	NE	1	µg/L	0.39 U	0.36 U	0.36 U	**19**	**1.3 J**	**1.3 J**	**1.2 J**
4-Nitroaniline	NE	5	µg/L	0.27 U	0.25 U	0.25 U	0.24 U	0.27 U	0.3 U	0.3 U
4-Nitrophenol	NE	1	µg/L	1.7 UJ	1.5 UJ	1.5 UJ	1.4 U	1.7 U	1.8 U	1.8 U
Acetophenone	NE	NE	µg/L	0.59 U	0.54 U	0.54 U	9	3.2 J	0.92 J	0.88 J
Atrazine	NE	7.5	µg/L	0.5 UJ	0.46 UJ	0.46 UJ	0.44 U	0.5 U	0.54 U	0.55 U
Benzaldehyde	NE	NE	µg/L	0.29 U	0.27 U	0.27 U	0.25 U	0.88 J	0.32 U	0.32 U
Benzyl butyl phthalate	50	NE	µg/L	1.1 U	1 U	1 U	0.95 U	1.1 U	1.2 U	1.2 U
Biphenyl (Diphenyl)	NE	5	µg/L	0.71 U	0.65 U	0.65 U	0.9 J	0.95 J	0.77 U	0.78 U
bis(2-Chloroethoxy)methane	NE	5	µg/L	0.38 U	0.35 U	0.35 U	0.33 U	0.38 U	0.41 U	0.42 U
bis(2-Chloroethyl)ether	NE	1	µg/L	0.44 U	0.4 U	0.4 U	0.38 U	0.43 U	0.47 U	0.48 U
bis(2-Chloroisopropyl)ether	NE	5	µg/L	0.57 UJ	0.52 UJ	0.52 UJ	0.49 U	0.57 U	0.62 U	0.62 U
bis(2-Ethylhexyl)phthalate	NE	5	µg/L	2.4 U	2.2 U	2.2 U	2.1 U	2.4 U	2.6 U	2.6 U
Caprolactam	NE	NE	µg/L	2.4 U	2.2 U	2.2 U	2.1 U	2.4 U	2.6 U	2.6 U
Carbazole	NE	NE	µg/L	0.33 U	0.3 U	0.3 U	1.7 J	1.8 J	0.85 J	0.65 J
Dibenzofuran	NE	NE	µg/L	0.56 U	0.51 U	0.51 U	1.6 J	1.7 J	1.5 J	1.1 J
Diethyl phthalate	50	NE	µg/L	0.24 UJ	0.22 U	0.22 U	0.21 U	0.24 U	0.26 U	0.26 U
Dimethyl phthalate	50	NE	µg/L	0.39 UJ	0.36 U	0.36 U	0.34 U	0.39 U	0.43 U	0.43 U
dI-n-Butyl phthalate	NE	50	µg/L	0.34 U	0.31 U	0.31 U	0.6 U1	0.34 U	0.74 U1	0.76 U1
dI-n-Octyl phthalate	50	NE	µg/L	0.51 U	0.47 U	0.47 U	0.45 U	0.51 U	0.56 U	0.56 U
Hexachlorobenzene	NE	0.04	µg/L	0.56 U	0.51 U	0.51 U	0.49 U	0.55 U	0.6 U	0.61 U
Hexachlorobutadiene	NE	0.5	µg/L	0.74 UJ	0.68 UJ	0.68 UJ	0.65 U	0.74 U	0.81 U	0.81 U
Hexachlorocyclopentadiene	NE	5	µg/L	0.64 UJ	0.59 U	0.59 U	0.56 UJ	0.64 U	0.7 UJ	0.7 UJ
Hexachloroethane	NE	5	µg/L	0.64 U	0.59 U	0.59 U	0.56 U	0.64 U	0.7 U	0.7 U
Isophorone	50	NE	µg/L	0.47 U	0.43 U	0.43 U	0.41 U	0.47 U	0.51 U	0.51 U
Nitrobenzene	NE	0.4	µg/L	0.32 U	0.29 U	0.29 U	0.28 U	0.32 U	0.34 U	0.34 U
N-Nitroso-di-n-propylamine	NE	NE	µg/L	0.59 U	0.54 UJ	0.54 UJ	0.51 U	0.59 U	0.64 U	0.64 U
N-Nitrosodiphenylamine	50	NE	µg/L	0.56 U	0.51 U	0.51 U	0.49 U	0.55 U	0.6 U	0.61 U
Pentachlorophenol	NE	1	µg/L	2.4 U	2.2 U	2.2 U	2.1 U	2.4 U	2.6 U	2.6 U
Phenol	NE	1	µg/L	0.43 U	0.39 UJ	0.39 UJ	**16**	**38**	**3.1 J**	**2.5 J**
Inorganic Constituents										
Cyanide, total	NE	200	µg/L	23	26	25	**480 J+**	**390**	18 J+	15 J+
Aluminum	NE	NE	µg/L	--	--	--	--	--	--	--
Antimony	NE	3	µg/L	--	--	--	--	--	--	--
Arsenic	NE	25	µg/L	--	--	--	--	--	--	--
Barium	NE	1000	µg/L	--	--	--	--	--	--	--
Beryllium	3	NE	µg/L	--	--	--	--	--	--	--

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

	Class GA Groundwater Criteria									
	TOGS 1.1.1	NYS Part 703[(1)]		MW-4D	MW-4D	MW-4D DUP	MW-5S	MW-5S	MW-5	MW-5 DUP
Constituent	Guidance	Standard	Units	2/28/2017	6/27/2017	6/27/2017	3/2/2017	6/29/2017	3/2/2017	3/2/2017
Cadmium	NE	5	µg/L	--	--	--	--	--	--	--
Calcium	NE	NE	µg/L	--	--	--	--	--	--	--
Chromium	NE	50	µg/L	--	--	--	--	--	--	--
Cobalt	NE	NE	µg/L	--	--	--	--	--	--	--
Copper	NE	200	µg/L	--	--	--	--	--	--	--
Iron	NE	300	µg/L	--	--	--	--	--	--	--
Lead	NE	25	µg/L	--	--	--	--	--	--	--
Magnesium	35000	NE	µg/L	--	--	--	--	--	--	--
Manganese	NE	300	µg/L	--	--	--	--	--	--	--
Nickel	NE	100	µg/L	--	--	--	--	--	--	--
Potassium	NE	NE	µg/L	--	--	--	--	--	--	--
Selenium	NE	10	µg/L	--	--	--	--	--	--	--
Silver	NE	50	µg/L	--	--	--	--	--	--	--
Sodium	NE	20000	µg/L	--	--	--	--	--	--	--
Thallium	0.5	NE	µg/L	--	--	--	--	--	--	--
Vanadium	NE	NE	µg/L	--	--	--	--	--	--	--
Zinc	2000	NE	µg/L	--	--	--	--	--	--	--
Mercury	NE	0.7	µg/L	--	--	--	--	--	--	--
Pesticides										
4,4'-DDD	NE	0.3	µg/L	0.01 U	0.0092 U	0.0092 U	0.018 U	0.01 U	0.021 U	0.018 U
4,4'-DDE	NE	0.2	µg/L	0.013 U	0.012 U	0.012 U	0.023 U	0.013 U	0.027 U	0.023 U
4,4'-DDT	NE	0.2	µg/L	0.012 U	0.011 U	0.011 U	0.022 U	0.012 U	0.026 U	0.022 U
Aldrin	NE	0	µg/L	0.0089 U	0.0081 U	0.0081 U	0.016 U	0.0088 U	0.019 U	0.016 U
alpha Endosulfan (Endosulfan I)	NE	NE	µg/L	0.012 U	0.011 U	0.011 U	0.022 U	0.012 U	0.026 U	0.022 U
beta Endosulfan (Endosulfan II)	NE	NE	µg/L	0.013 U	0.012 U	0.012 U	0.024 U	0.013 U	0.028 U	0.024 U
BHC, alpha	NE	0.01	µg/L	0.0085 U	0.0077 U	0.0077 U	0.015 U	0.0084 U	0.018 U	**0.028 J**
BHC, beta	NE	0.04	µg/L	0.027 U	0.025 U	0.025 U	0.05 U	0.027 U	0.058 U	0.05 U
BHC, delta	NE	0.04	µg/L	0.011 U	0.01 U	0.01 U	0.02 U	0.011 U	0.023 U	0.02 U
BHC, gamma (Lindane)	NE	0.05	µg/L	0.0088 U	0.008 U	0.008 U	0.016 U	0.0087 U	0.019 U	0.016 U
Chlordane, alpha	NE	NE	µg/L	0.016 U	0.015 U	0.015 U	0.03 U	0.016 U	0.034 U	0.03 U
Chlordane, beta	NE	NE	µg/L	0.012 U	0.011 U	0.011 U	0.022 U	0.012 U	0.026 U	0.022 U
Dieldrin	NE	0.004	µg/L	0.011 U	0.0098 U	0.0098 U	0.02 U	0.011 U	0.023 U	0.02 U
Endosulfan sulfate	NE	NE	µg/L	0.017 U	0.016 U	0.016 U	0.031 U	0.017 U	0.037 U	0.031 U
Endrin	NE	0	µg/L	0.015 U	0.014 U	0.014 U	0.028 U	0.015 U	0.032 U	0.028 UJ
Endrin aldehyde	NE	5	µg/L	0.018 U	0.016 U	0.016 U	0.033 U	0.018 U	0.038 U	0.033 U
Endrin ketone	NE	5	µg/L	0.013 U	0.012 U	0.012 U	0.024 U	0.013 U	0.028 U	0.024 U
Heptachlor	NE	0.04	µg/L	0.0093 U	0.0085 U	0.0085 U	0.017 U	0.0092 U	0.02 U	0.017 U
Heptachlor epoxide	NE	0.03	µg/L	0.0081 U	0.0074 U	0.0074 U	0.015 U	0.008 U	0.017 U	0.015 U
Methoxychlor	NE	35	µg/L	0.015 U	0.014 U	0.014 U	0.028 U	0.015 U	0.033 U	0.028 U
Toxaphene	NE	0.06	µg/L	0.13 U	0.12 U	0.12 U	0.24 U	0.13 U	0.28 U	0.24 U

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-4D 2/28/2017	MW-4D 6/27/2017	MW-4D DUP 6/27/2017	MW-5S 3/2/2017	MW-5S 6/29/2017	MW-5 3/2/2017	MW-5 DUP 3/2/2017
Polychlorinated Biphenyls (PCBs)										
Aroclor 1016	NE	0.09	µg/L	--	--	--	--	--	--	--
Aroclor 1221	NE	0.09	µg/L	--	--	--	--	--	--	--
Aroclor 1232	NE	0.09	µg/L	--	--	--	--	--	--	--
Aroclor 1242	NE	0.09	µg/L	--	--	--	--	--	--	--
Aroclor 1248	NE	0.09	µg/L	--	--	--	--	--	--	--
Aroclor 1254	NE	0.09	µg/L	--	--	--	--	--	--	--
Aroclor 1260	NE	0.09	µg/L	--	--	--	--	--	--	--
Total PCBs	NE	0.09	µg/L	--	--	--	--	--	--	--

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
J+ - Estimated concentration. Reported value may be biased high. Result is estimated high.
J- - Estimated concentration. Reported value may be baiased low. Result is estimated low.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
U1 - The analyte was analyzed for, but was not detected substantially above the level reported in laboratory or field blanks.
B - Constituent was found in the blank and the sample.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related Quality Control (QC) is outside acceptance limits.

NE - Standard and/or guidance value not established.
ND - Not detected

Boxed and bolded values indicates concentration above New York State Class GA Groundwater Standards or Guidance values.

(1) - Notes applicable to NYS Part 703 Standards:
(a) - Any detected concentration for Benzo(a)pyrene, aldrin, or endrin is considered above the Part 703 Standard.
(b) - The standard for the sum of phenolic compounds is 1 µg/L
(c) - The standard of the sum of PCBs in 0.9 µg/L

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-5 6/29/2017	MW-6S 2/28/2017	MW-6S 6/28/2017	MW-6D 3/1/2017	MW-6D DUP 3/1/2017	MW-6D 6/28/2017	MW-7S 3/1/2017
Volatile Organic Compounds (VOCs)										
BTEX										
Benzene	NE	1	µg/L	**16**	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
Toluene	NE	5	µg/L	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
Ethylbenzene	NE	5	µg/L	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U
Xylenes, total	NE	5	µg/L	0.66 U	0.66 U	0.66 U	1.2 J	1.2 J	0.66 U	0.66 U
Total BTEX	NE	NE	µg/L	16	ND	ND	1.2 J	1.2 J	ND	ND
Other VOCs										
1,1,1-Trichloroethane	NE	5	µg/L	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U
1,1,2,2-Tetrachloroethane	NE	5	µg/L	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NE	5	µg/L	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
1,1,2-Trichloroethane	NE	1	µg/L	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,1-Dichloroethane	NE	5	µg/L	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,1-Dichloroethene	NE	5	µg/L	0.29 UJ	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
1,2,4-Trichlorobenzene	10	5	µg/L	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
1,2-Dibromo-3-chloropropane (DBCP)	NE	0.04	µg/L	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
1,2-Dibromoethane (EDB)	NE	0.0006	µg/L	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
1,2-Dichlorobenzene	NE	3	µg/L	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U
1,2-Dichloroethane	NE	0.6	µg/L	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,2-Dichloropropane	NE	1	µg/L	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U
1,3-Dichlorobenzene	NE	3	µg/L	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U
1,4-Dichlorobenzene	NE	3	µg/L	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U
2-Butanone (MEK)	50	NE	µg/L	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
2-Hexanone	50	NE	µg/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
4-Methyl-2-pentanone (MIBK)	NE	NE	µg/L	2.1 U	2.1 U	2.1 UJ	2.1 U	2.1 U	2.1 UJ	2.1 U
Acetone	50	NE	µg/L	3 U	3 U	3 U	3.5 J	4.3 J	3.5 J	3 U
Bromodichloromethane	50	NE	µg/L	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
Bromoform	50	NE	µg/L	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromomethane	NE	5	µg/L	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U
Carbon disulfide	60	60	µg/L	0.19 UJ	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Carbon tetrachloride	NE	5	µg/L	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	NE	5	µg/L	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U
Chloroethane	NE	5	µg/L	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.63 J
Chloroform	NE	7	µg/L	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Chloromethane	NE	5	µg/L	0.35 U	0.35 U	0.35 U	0.35 UJ	0.35 UJ	0.35 U	0.35 UJ
cis-1,2-Dichloroethene	NE	5	µg/L	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U
cis-1,3-Dichloropropene	NE	0.4	µg/L	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Cyclohexane	NE	NE	µg/L	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Dibromochloromethane	50	NE	µg/L	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Dichlorodifluoromethane (Freon 12)	NE	5	µg/L	0.68 UJ	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U
Isopropylbenzene (Cumene)	NE	5	µg/L	2	0.79 U	0.79 U	3.1	3.1	0.88 J	0.79 U

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-5 6/29/2017	MW-6S 2/28/2017	MW-6S 6/28/2017	MW-6D 3/1/2017	MW-6D DUP 3/1/2017	MW-6D 6/28/2017	MW-7S 3/1/2017
Methyl acetate	NE	NE	µg/L	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Methylcyclohexane	NE	NE	µg/L	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Methylene chloride	NE	5	µg/L	0.44 UJ	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
Styrene	NE	5	µg/L	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
tert-Butyl methyl ether (MTBE)	10	NE	µg/L	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Tetrachloroethene (PCE)	NE	5	µg/L	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
trans-1,2-Dichloroethene	NE	5	µg/L	0.9 UJ	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U
trans-1,3-Dichloropropene	NE	0.4	µg/L	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
Trichloroethene (TCE)	NE	5	µg/L	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
Trichlorofluoromethane (Freon 11)	NE	5	µg/L	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U
Vinyl chloride	NE	2	µg/L	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U
Semi-Volatile Organic Compounds (SVOCs)										
Polycyclic Aromatic Hydrocarbons (PAHs)										
Acenaphthene	20	NE	µg/L	0.41 U	0.49 U	0.41 U	3.5 J	2.8 J	1.5 J	1.6 J
Acenaphthylene	NE	NE	µg/L	0.38 U	0.45 U	0.38 U	0.36 U	0.36 U	0.38 U	0.37 U
Anthracene	50	NE	µg/L	0.28 U	0.33 U	0.28 U	0.27 U	0.27 U	0.28 U	0.27 U
Benzo(a)anthracene	0.002	NE	µg/L	0.36 U	0.43 U	0.36 U	0.34 U	0.34 U	0.36 U	0.35 U
Benzo(a)pyrene	NE	0	µg/L	0.47 U	0.56 U	0.47 U	0.45 U	0.45 U	0.47 U	0.46 U
Benzo(b)fluoranthene	0.002	NE	µg/L	0.34 U	0.41 U	0.34 U	0.32 U	0.32 U	0.34 U	0.33 U
Benzo(g,h,i)perylene	NE	NE	µg/L	0.35 U	0.42 U	0.35 U	0.33 U	0.33 U	0.35 U	0.34 U
Benzo(k)fluoranthene	0.002	NE	µg/L	0.73 U	0.87 U	0.73 U	0.69 U	0.69 U	0.73 U	0.71 U
Chrysene	0.002	NE	µg/L	0.33 U	0.39 U	0.33 U	0.31 U	0.31 U	0.33 U	0.32 U
Dibenz(a,h)anthracene	NE	NE	µg/L	0.42 U	0.5 U	0.42 U	0.4 U	0.4 U	0.42 U	0.41 U
Fluoranthene	50	NE	µg/L	0.4 U	0.48 U	0.4 U	0.47 J	0.4 J	0.4 U	0.39 U
Fluorene	50	NE	µg/L	0.36 U	1.3 J	0.36 U	2.3 J	0.34 U	0.36 U	1.2 J
Indeno(1,2,3-c,d)pyrene	0.002	NE	µg/L	0.47 U	0.56 U	0.47 U	0.45 U	0.45 U	0.47 U	0.46 U
Naphthalene	10	NE	µg/L	1 J	0.91 U	0.76 U	2.1 J	1.4 J	0.76 U	0.74 U
Phenanthrene	50	NE	µg/L	0.44 U	0.53 U	0.44 U	0.42 U	0.42 U	0.44 U	0.43 U
Pyrene	50	NE	µg/L	0.34 U	0.41 U	0.34 U	0.32 U	0.32 U	0.34 U	0.33 U
2-Methylnaphthalene	NE	NE	µg/L	0.6 U	0.72 U	0.6 U	0.57 U	0.57 U	0.6 U	0.58 U
Total PAHs	NE	NE	µg/L	1 J	1.3 J	ND	8.4 J	4.6 J	1.5 J	2.8 J
Other SVOCs										
2,4,5-Trichlorophenol	NE	1	µg/L	0.48 U	0.57 UJ	0.48 U	0.46 U	0.46 U	0.48 U	0.47 U
2,4,6-Trichlorophenol	NE	1	µg/L	0.61 U	0.73 UJ	0.61 U	0.58 U	0.58 U	0.61 U	0.59 U
2,4-Dichlorophenol	NE	1	µg/L	0.51 U	0.61 U	0.51 U	0.48 U	0.48 U	0.51 U	0.49 U
2,4-Dimethylphenol	50	1	µg/L	0.5 U	0.6 U	0.5 U	0.47 U	0.47 U	0.5 U	0.48 U
2,4-Dinitrophenol	10	1	µg/L	2.2 U	2.7 U	2.2 U	2.1 U	2.1 U	2.2 U	2.2 U
2,4-Dinitrotoluene	NE	5	µg/L	0.45 U	0.53 U	0.45 U	0.42 U	0.42 U	0.45 U	0.43 U
2,6-Dinitrotoluene	NE	5	µg/L	0.4 U	0.48 U	0.4 U	0.38 U	0.38 U	0.4 U	0.39 U
2-Chloronaphthalene	10	NE	µg/L	0.46 U	0.55 U	0.46 U	0.44 U	0.44 U	0.46 U	0.45 U
2-Chlorophenol	NE	1	µg/L	0.53 U	0.63 U	0.53 U	0.5 U	0.5 U	0.53 U	0.51 U
2-Methylphenol (o-cresol)	NE	1	µg/L	0.4 U	0.48 U	0.4 U	0.38 U	0.38 U	0.4 U	0.39 U
2-Nitroaniline	NE	5	µg/L	0.42 U	0.5 U	0.42 U	0.4 U	0.4 U	0.42 U	0.41 U

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

	Class GA Groundwater Criteria									
	TOGS 1.1.1	NYS Part 703[(1)]		MW-5	MW-6S	MW-6S	MW-6D	MW-6D DUP	MW-6D	MW-7S
Constituent	Guidance	Standard	Units	6/29/2017	2/28/2017	6/28/2017	3/1/2017	3/1/2017	6/28/2017	3/1/2017
2-Nitrophenol	NE	1	µg/L	0.48 U	0.57 U	0.48 U	0.46 U	0.46 U	0.48 U	0.47 U
3,3'-Dichlorobenzidine	NE	5	µg/L	0.4 U	0.48 U	0.4 U	0.38 U	0.38 U	0.4 U	0.39 U
3-Nitroaniline	NE	5	µg/L	0.48 U	0.57 U	0.48 U	0.46 U	0.46 U	0.48 U	0.47 U
4,6-Dinitro-2-methylphenol	NE	1	µg/L	2.2 U	2.6 U	2.2 U	2.1 U	2.1 U	2.2 U	2.1 U
4-Bromophenyl phenyl ether	NE	NE	µg/L	0.45 U	0.54 U	0.45 U	0.43 U	0.43 U	0.45 U	0.44 U
4-Chloro-3-methylphenol	NE	1	µg/L	0.45 U	0.54 U	0.45 U	0.43 U	0.43 U	0.45 U	0.44 U
4-Chloroaniline	NE	5	µg/L	0.59 U	0.7 U	0.59 U	0.56 U	0.56 U	0.59 U	0.57 U
4-Chlorophenyl phenyl ether	NE	NE	µg/L	0.35 U	0.42 UJ	0.35 U	0.33 U	0.33 U	0.35 U	0.34 U
4-Methylphenol	NE	1	µg/L	0.36 U	0.43 U	0.36 U	0.34 U	0.34 U	0.36 U	0.35 U
4-Nitroaniline	NE	5	µg/L	0.25 U	0.3 U	0.25 U	0.24 U	0.24 U	0.25 U	0.24 U
4-Nitrophenol	NE	1	µg/L	1.5 U	1.8 UJ	1.5 U	1.4 U	1.4 U	1.5 U	1.5 U
Acetophenone	NE	NE	µg/L	0.54 U	0.65 U	0.54 U	0.61 J	0.55 J	0.54 U	0.52 U
Atrazine	NE	7.5	µg/L	0.46 U	0.55 UJ	0.46 U	0.44 U	0.44 U	0.46 U	0.45 U
Benzaldehyde	NE	NE	µg/L	0.27 U	0.32 U	0.27 U	0.25 U	0.25 U	0.27 U	0.26 U
Benzyl butyl phthalate	50	NE	µg/L	1 U	1.2 U	1 U	0.95 U	0.95 U	1 U	0.97 U
Biphenyl (Diphenyl)	NE	5	µg/L	0.65 U	0.78 U	0.65 U	0.62 U	0.62 U	0.65 U	0.63 U
bis(2-Chloroethoxy)methane	NE	5	µg/L	0.35 U	0.42 U	0.35 U	0.33 U	0.33 U	0.35 U	0.34 U
bis(2-Chloroethyl)ether	NE	1	µg/L	0.4 U	0.48 U	0.4 U	0.38 U	0.38 U	0.4 U	0.39 U
bis(2-Chloroisopropyl)ether	NE	5	µg/L	0.52 U	0.62 UJ	0.52 U	0.49 U	0.49 U	0.52 U	0.5 U
bis(2-Ethylhexyl)phthalate	NE	5	µg/L	2.2 U	2.6 U	2.2 U	2.1 U	2.1 U	2.2 U	2.1 U
Caprolactam	NE	NE	µg/L	2.2 U	2.6 U	2.2 U	2.1 U	2.1 U	2.2 U	2.1 U
Carbazole	NE	NE	µg/L	0.3 U	0.36 U	0.3 U	0.28 U	0.28 U	0.3 U	0.29 U
Dibenzofuran	NE	NE	µg/L	0.51 U	0.61 U	0.51 U	0.48 U	0.48 U	0.51 U	0.49 U
Diethyl phthalate	50	NE	µg/L	0.22 U	0.26 UJ	0.22 U	0.21 U	0.21 U	0.22 U	0.21 U
Dimethyl phthalate	50	NE	µg/L	0.36 U	0.43 UJ	0.36 U	0.34 U	0.34 U	0.36 U	0.35 U
dI-n-Butyl phthalate	NE	50	µg/L	0.31 U	0.37 U	0.31 U	0.29 U	0.29 U	0.31 U	0.62 U1
dI-n-Octyl phthalate	50	NE	µg/L	0.47 U	0.56 U	0.47 U	0.45 U	0.45 U	0.47 U	0.46 U
Hexachlorobenzene	NE	0.04	µg/L	0.51 U	0.61 U	0.51 U	0.48 U	0.48 U	0.51 U	0.49 U
Hexachlorobutadiene	NE	0.5	µg/L	0.68 U	0.81 UJ	0.68 U	0.65 U	0.65 U	0.68 U	0.66 U
Hexachlorocyclopentadiene	NE	5	µg/L	0.59 U	0.7 UJ	0.59 U	0.56 UJ	0.56 UJ	0.59 U	0.57 UJ
Hexachloroethane	NE	5	µg/L	0.59 U	0.7 U	0.59 U	0.56 U	0.56 U	0.59 U	0.57 U
Isophorone	50	NE	µg/L	0.43 U	0.51 U	0.43 U	0.41 U	0.41 U	0.43 U	0.42 U
Nitrobenzene	NE	0.4	µg/L	0.29 U	0.35 U	0.29 U	0.28 U	0.28 U	0.29 U	0.28 U
N-Nitroso-di-n-propylamine	NE	NE	µg/L	0.54 U	0.65 U	0.54 U	0.51 U	0.51 U	0.54 U	0.52 U
N-Nitrosodiphenylamine	50	NE	µg/L	0.51 U	0.61 U	0.51 U	0.48 U	0.48 U	0.51 U	0.49 U
Pentachlorophenol	NE	1	µg/L	2.2 U	2.6 U	2.2 U	2.1 U	2.1 U	2.2 U	2.1 U
Phenol	NE	1	µg/L	0.39 U	0.47 U	0.39 U	0.37 U	0.37 U	0.39 U	0.38 U
Inorganic Constituents										
Cyanide, total	NE	200	µg/L	21 J+	16	17 J+	22 J+	23 J+	18 J+	34 J+
Aluminum	NE	NE	µg/L	--	--	--	--	--	--	--
Antimony	NE	3	µg/L	--	--	--	--	--	--	--
Arsenic	NE	25	µg/L	--	--	--	--	--	--	--
Barium	NE	1000	µg/L	--	--	--	--	--	--	--
Beryllium	3	NE	µg/L	--	--	--	--	--	--	--

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-5 6/29/2017	MW-6S 2/28/2017	MW-6S 6/28/2017	MW-6D 3/1/2017	MW-6D DUP 3/1/2017	MW-6D 6/28/2017	MW-7S 3/1/2017
Cadmium	NE	5	µg/L	--	--	--	--	--	--	--
Calcium	NE	NE	µg/L	--	--	--	--	--	--	--
Chromium	NE	50	µg/L	--	--	--	--	--	--	--
Cobalt	NE	NE	µg/L	--	--	--	--	--	--	--
Copper	NE	200	µg/L	--	--	--	--	--	--	--
Iron	NE	300	µg/L	--	--	--	--	--	--	--
Lead	NE	25	µg/L	--	--	--	--	--	--	--
Magnesium	35000	NE	µg/L	--	--	--	--	--	--	--
Manganese	NE	300	µg/L	--	--	--	--	--	--	--
Nickel	NE	100	µg/L	--	--	--	--	--	--	--
Potassium	NE	NE	µg/L	--	--	--	--	--	--	--
Selenium	NE	10	µg/L	--	--	--	--	--	--	--
Silver	NE	50	µg/L	--	--	--	--	--	--	--
Sodium	NE	20000	µg/L	--	--	--	--	--	--	--
Thallium	0.5	NE	µg/L	--	--	--	--	--	--	--
Vanadium	NE	NE	µg/L	--	--	--	--	--	--	--
Zinc	2000	NE	µg/L	--	--	--	--	--	--	--
Mercury	NE	0.7	µg/L	--	--	--	--	--	--	--
Pesticides										
4,4'-DDD	NE	0.3	µg/L	0.0092 U	0.01 U	0.0092 U	0.046 U	0.046 U	0.051 U	0.0092 U
4,4'-DDE	NE	0.2	µg/L	0.012 U	0.013 U	0.012 U	0.058 U	0.058 U	0.064 U	0.012 U
4,4'-DDT	NE	0.2	µg/L	0.017 J	0.012 U	0.011 U	0.055 U	0.055 U	0.061 U	0.011 U
Aldrin	NE	0	µg/L	0.0081 U	0.0089 U	0.0081 U	0.041 U	0.041 U	0.045 U	0.0081 U
alpha Endosulfan (Endosulfan I)	NE	NE	µg/L	0.011 U	0.012 U	0.011 U	0.055 U	0.055 U	0.061 U	0.011 U
beta Endosulfan (Endosulfan II)	NE	NE	µg/L	0.012 U	0.013 U	0.023 J	0.06 U	0.13 J	0.084 J	0.012 U
BHC, alpha	NE	0.01	µg/L	**0.014 J**	0.0084 U	**0.023 J**	**0.079 J**	**0.1 J**	**0.1 J**	0.0077 U
BHC, beta	NE	0.04	µg/L	0.025 U	0.027 U	0.025 U	0.12 U	0.12 U	0.14 U	0.025 U
BHC, delta	NE	0.04	µg/L	0.01 U	0.011 U	0.01 U	0.05 U	0.05 U	0.056 U	0.01 U
BHC, gamma (Lindane)	NE	0.05	µg/L	0.008 U	0.0087 U	0.024 J	0.04 U	**0.11 J**	**0.067 J**	0.008 U
Chlordane, alpha	NE	NE	µg/L	0.015 U	0.016 U	0.015 U	0.074 U	0.074 U	0.082 U	0.015 U
Chlordane, beta	NE	NE	µg/L	0.011 U	0.012 U	0.011 U	0.055 U	0.055 U	0.061 U	0.011 U
Dieldrin	NE	0.004	µg/L	0.0098 U	0.011 U	**0.037 J**	0.049 U	0.049 U	**0.18 J**	0.0098 U
Endosulfan sulfate	NE	NE	µg/L	0.016 U	0.017 U	0.016 U	0.079 U	0.079 U	0.087 U	0.016 U
Endrin	NE	0	µg/L	0.014 U	0.015 U	0.014 U	0.069 U	0.069 U	0.077 U	0.014 U
Endrin aldehyde	NE	5	µg/L	0.016 U	0.018 U	0.016 U	0.082 U	0.082 U	0.091 U	0.016 U
Endrin ketone	NE	5	µg/L	0.012 U	0.013 U	0.012 U	0.06 U	0.06 U	0.067 U	0.012 U
Heptachlor	NE	0.04	µg/L	0.0085 U	0.0093 U	0.0085 U	0.043 U	0.043 U	0.047 U	0.0085 U
Heptachlor epoxide	NE	0.03	µg/L	0.0074 U	0.0081 U	0.0074 U	0.037 U	0.037 U	0.041 U	0.0074 U
Methoxychlor	NE	35	µg/L	0.014 U	0.015 U	0.014 U	0.071 U	0.071 U	0.078 U	0.014 U
Toxaphene	NE	0.06	µg/L	0.12 U	0.13 U	0.12 U	0.6 U	0.6 U	0.67 U	0.12 U

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-5 6/29/2017	MW-6S 2/28/2017	MW-6S 6/28/2017	MW-6D 3/1/2017	MW-6D DUP 3/1/2017	MW-6D 6/28/2017	MW-7S 3/1/2017
Polychlorinated Biphenyls (PCBs)										
Aroclor 1016	NE	0.09	µg/L	--	--	--	--	--	--	--
Aroclor 1221	NE	0.09	µg/L	--	--	--	--	--	--	--
Aroclor 1232	NE	0.09	µg/L	--	--	--	--	--	--	--
Aroclor 1242	NE	0.09	µg/L	--	--	--	--	--	--	--
Aroclor 1248	NE	0.09	µg/L	--	--	--	--	--	--	--
Aroclor 1254	NE	0.09	µg/L	--	--	--	--	--	--	--
Aroclor 1260	NE	0.09	µg/L	--	--	--	--	--	--	--
Total PCBs	NE	0.09	µg/L	--	--	--	--	--	--	--

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
J+ - Estimated concentration. Reported value may be biased high. Result is estimated high.
J- - Estimated concentration. Reported value may be baiased low. Result is estimated low.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
U1 - The analyte was analyzed for, but was not detected substantially above the level reported in laboratory or field blanks.
B - Constituent was found in the blank and the sample.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related Quality Control (QC) is outside acceptance limits.

NE - Standard and/or guidance value not established.
ND - Not detected

Boxed and bolded values indicates concentration above New York State Class GA Groundwater Standards or Guidance values.

(1) - Notes applicable to NYS Part 703 Standards:
(a) - Any detected concentration for Benzo(a)pyrene, aldrin, or endrin is considered above the Part 703 Standard.
(b) - The standard for the sum of phenolic compounds is 1 µg/L
(c) - The standard of the sum of PCBs in 0.9 µg/L

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-7S 6/27/2017	MW-7D 3/1/2017	MW-7D 6/28/2017	MW-8S 3/1/2017	MW-8S 6/29/2017	MW-8D 3/1/2017	MW-8D 6/29/2017
Volatile Organic Compounds (VOCs)										
BTEX										
Benzene	NE	1	µg/L	0.41 U	0.41 U	0.41 U	**14**	**6.2**	**18**	0.98 J
Toluene	NE	5	µg/L	0.51 U	0.51 U	0.51 U	0.97 J	0.51 U	1.2	0.51 U
Ethylbenzene	NE	5	µg/L	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U
Xylenes, total	NE	5	µg/L	0.66 U	0.66 U	0.66 U	1.2 J	0.66 U	0.96 J	0.66 U
Total BTEX	NE	NE	µg/L	ND	ND	ND	16	6.2	20	0.98 J
Other VOCs										
1,1,1-Trichloroethane	NE	5	µg/L	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U
1,1,2,2-Tetrachloroethane	NE	5	µg/L	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NE	5	µg/L	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
1,1,2-Trichloroethane	NE	1	µg/L	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,1-Dichloroethane	NE	5	µg/L	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,1-Dichloroethene	NE	5	µg/L	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
1,2,4-Trichlorobenzene	10	5	µg/L	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
1,2-Dibromo-3-chloropropane (DBCP)	NE	0.04	µg/L	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
1,2-Dibromoethane (EDB)	NE	0.0006	µg/L	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
1,2-Dichlorobenzene	NE	3	µg/L	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U
1,2-Dichloroethane	NE	0.6	µg/L	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,2-Dichloropropane	NE	1	µg/L	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U
1,3-Dichlorobenzene	NE	3	µg/L	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U
1,4-Dichlorobenzene	NE	3	µg/L	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U
2-Butanone (MEK)	50	NE	µg/L	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
2-Hexanone	50	NE	µg/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
4-Methyl-2-pentanone (MIBK)	NE	NE	µg/L	2.1 U	2.1 U	2.1 UJ	2.1 U	2.1 U	2.1 U	2.1 U
Acetone	50	NE	µg/L	3 U1	3 U	3 U	3 U	3 U	3 U	3 U
Bromodichloromethane	50	NE	µg/L	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
Bromoform	50	NE	µg/L	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromomethane	NE	5	µg/L	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U
Carbon disulfide	60	60	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Carbon tetrachloride	NE	5	µg/L	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	NE	5	µg/L	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U
Chloroethane	NE	5	µg/L	0.32 U	0.39 J	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Chloroform	NE	7	µg/L	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Chloromethane	NE	5	µg/L	0.35 U	0.35 UJ	0.35 U	0.35 UJ	0.35 U	0.35 UJ	0.35 U
cis-1,2-Dichloroethene	NE	5	µg/L	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U
cis-1,3-Dichloropropene	NE	0.4	µg/L	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Cyclohexane	NE	NE	µg/L	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Dibromochloromethane	50	NE	µg/L	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Dichlorodifluoromethane (Freon 12)	NE	5	µg/L	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U
Isopropylbenzene (Cumene)	NE	5	µg/L	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	1.3	0.79 U

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-7S 6/27/2017	MW-7D 3/1/2017	MW-7D 6/28/2017	MW-8S 3/1/2017	MW-8S 6/29/2017	MW-8D 3/1/2017	MW-8D 6/29/2017
Methyl acetate	NE	NE	µg/L	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Methylcyclohexane	NE	NE	µg/L	0.16 U	0.19 J	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Methylene chloride	NE	5	µg/L	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
Styrene	NE	5	µg/L	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
tert-Butyl methyl ether (MTBE)	10	NE	µg/L	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Tetrachloroethene (PCE)	NE	5	µg/L	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
trans-1,2-Dichloroethene	NE	5	µg/L	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U
trans-1,3-Dichloropropene	NE	0.4	µg/L	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
Trichloroethene (TCE)	NE	5	µg/L	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
Trichlorofluoromethane (Freon 11)	NE	5	µg/L	0.88 U	0.88 U	0.88 U	0.88 U	0.88 UJ	0.88 U	0.88 UJ
Vinyl chloride	NE	2	µg/L	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U
Semi-Volatile Organic Compounds (SVOCs)										
Polycyclic Aromatic Hydrocarbons (PAHs)										
Acenaphthene	20	NE	µg/L	2.3 J	1.9 J	2.2 J	1.9 U	0.7 J	3.3 J	0.53 J
Acenaphthylene	NE	NE	µg/L	0.38 U	0.37 U	0.4 U	1.8 U	0.38 U	0.4 U	0.38 U
Anthracene	50	NE	µg/L	0.28 U	0.27 U	0.3 U	1.3 U	0.28 U	0.29 U	0.28 U
Benzo(a)anthracene	0.002	NE	µg/L	0.36 U	0.35 U	0.38 U	1.7 U	0.36 U	0.38 U	0.36 U
Benzo(a)pyrene	NE	0	µg/L	0.47 U	0.46 U	0.5 U	2.2 U	0.47 U	0.49 U	0.47 U
Benzo(b)fluoranthene	0.002	NE	µg/L	0.34 U	0.33 U	0.36 U	1.6 U	0.34 U	0.35 U	0.34 U
Benzo(g,h,i)perylene	NE	NE	µg/L	0.35 U	0.34 U	0.37 U	1.6 U	0.35 U	0.36 U	0.35 U
Benzo(k)fluoranthene	0.002	NE	µg/L	0.73 U	0.71 U	0.78 U	3.4 U	0.73 U	0.76 U	0.73 U
Chrysene	0.002	NE	µg/L	0.33 U	0.32 U	0.35 U	1.6 U	0.33 U	0.34 U	0.33 U
Dibenz(a,h)anthracene	NE	NE	µg/L	0.42 U	0.41 U	0.45 U	2 U	0.42 U	0.44 U	0.42 U
Fluoranthene	50	NE	µg/L	0.61 J	0.39 U	0.43 U	1.9 U	0.4 U	1.2 J	0.4 U
Fluorene	50	NE	µg/L	0.36 U	1.2 J	2 J	1.7 U	0.64 J	1.9 J	0.36 U
Indeno(1,2,3-c,d)pyrene	0.002	NE	µg/L	0.47 U	0.46 U	0.5 U	2.2 U	0.47 U	0.49 U	0.47 U
Naphthalene	10	NE	µg/L	0.76 U	0.74 U	0.81 U	3.6 U	0.76 U	1.2 J	0.76 U
Phenanthrene	50	NE	µg/L	0.44 U	0.43 U	0.47 U	2.1 U	0.44 U	1.6 J	0.44 U
Pyrene	50	NE	µg/L	0.61 J	0.33 U	0.36 U	1.6 U	0.34 U	1 J	0.97 J
2-Methylnaphthalene	NE	NE	µg/L	0.6 U	0.59 U	0.64 U	2.8 U	0.6 U	0.63 U	0.6 U
Total PAHs	NE	NE	µg/L	3.5 J	3.1 J	4.2 J	ND	1.3 J	10.2 J	1.5 J
Other SVOCs										
2,4,5-Trichlorophenol	NE	1	µg/L	0.48 U	0.47 U	0.51 U	2.3 U	0.48 U	0.5 U	0.48 U
2,4,6-Trichlorophenol	NE	1	µg/L	0.61 U	0.6 U	0.65 U	2.9 U	0.61 U	0.64 U	0.61 U
2,4-Dichlorophenol	NE	1	µg/L	0.51 U	0.5 U	0.54 U	2.4 U	0.51 U	0.53 U	0.51 U
2,4-Dimethylphenol	50	1	µg/L	0.5 U	0.49 U	0.53 U	2.4 U	0.5 U	0.56 J	0.5 U
2,4-Dinitrophenol	10	1	µg/L	2.2 U	2.2 U	2.4 U	10 U	2.2 U	2.3 U	2.2 U
2,4-Dinitrotoluene	NE	5	µg/L	0.45 U	0.44 U	0.48 U	2.1 U	0.45 U	0.47 U	0.45 U
2,6-Dinitrotoluene	NE	5	µg/L	0.4 U	0.39 U	0.43 U	1.9 U	0.4 U	0.42 U	0.4 U
2-Chloronaphthalene	10	NE	µg/L	0.46 U	0.45 U	0.49 U	2.2 U	0.46 U	0.48 U	0.46 U
2-Chlorophenol	NE	1	µg/L	0.53 U	0.52 U	0.56 U	2.5 U	0.53 U	0.55 U	0.53 U
2-Methylphenol (o-cresol)	NE	1	µg/L	0.4 U	0.39 U	0.43 U	1.9 U	0.4 U	0.42 U	0.4 U
2-Nitroaniline	NE	5	µg/L	0.42 U	0.41 U	0.45 U	2 U	0.42 U	0.44 U	0.42 U

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

	Class GA Groundwater Criteria									
	TOGS 1.1.1	NYS Part 703[(1)]		MW-7S	MW-7D	MW-7D	MW-8S	MW-8S	MW-8D	MW-8D
Constituent	Guidance	Standard	Units	6/27/2017	3/1/2017	6/28/2017	3/1/2017	6/29/2017	3/1/2017	6/29/2017
2-Nitrophenol	NE	1	µg/L	0.48 U	0.47 U	0.51 U	2.3 U	0.48 U	0.5 U	0.48 U
3,3'-Dichlorobenzidine	NE	5	µg/L	0.4 U	0.39 U	0.43 U	1.9 U	0.4 U	0.42 U	0.4 U
3-Nitroaniline	NE	5	µg/L	0.48 UJ	0.47 U	0.51 U	2.3 U	0.48 U	0.5 U	0.48 U
4,6-Dinitro-2-methylphenol	NE	1	µg/L	2.2 U	2.2 U	2.3 U	10 U	2.2 U	2.3 U	2.2 U
4-Bromophenyl phenyl ether	NE	NE	µg/L	0.45 U	0.44 U	0.48 U	2.1 U	0.45 U	0.47 U	0.45 U
4-Chloro-3-methylphenol	NE	1	µg/L	0.45 U	0.44 U	0.48 U	2.1 U	0.45 U	0.47 U	0.45 U
4-Chloroaniline	NE	5	µg/L	0.59 U	0.58 U	0.63 U	2.8 U	0.59 U	0.62 U	0.59 U
4-Chlorophenyl phenyl ether	NE	NE	µg/L	0.35 U	0.34 U	0.37 U	1.6 U	0.35 U	0.36 U	0.35 U
4-Methylphenol	NE	1	µg/L	0.36 U	0.35 U	0.38 U	1.7 U	0.36 U	0.46 J	0.36 U
4-Nitroaniline	NE	5	µg/L	0.25 U	0.24 U	0.27 U	1.2 U	0.25 U	0.26 U	0.25 U
4-Nitrophenol	NE	1	µg/L	1.5 UJ	1.5 U	1.6 U	7.2 U	1.5 U	1.6 U	1.5 U
Acetophenone	NE	NE	µg/L	0.54 U	0.53 U	0.57 U	2.5 U	0.54 U	0.56 U	0.54 U
Atrazine	NE	7.5	µg/L	0.46 UJ	0.45 U	0.49 U	2.2 U	0.46 U	0.48 U	0.46 U
Benzaldehyde	NE	NE	µg/L	0.27 U	0.26 U	0.28 U	1.3 U	0.27 U	0.28 U	0.27 U
Benzyl butyl phthalate	50	NE	µg/L	1 U	0.98 U	1.1 U	4.7 U	1 U	1 U	1 U
Biphenyl (Diphenyl)	NE	5	µg/L	0.65 U	0.64 U	0.69 U	3.1 U	0.65 U	0.68 U	0.65 U
bis(2-Chloroethoxy)methane	NE	5	µg/L	0.35 U	0.34 U	0.37 U	1.6 U	0.35 U	0.36 U	0.35 U
bis(2-Chloroethyl)ether	NE	1	µg/L	0.4 U	0.39 U	0.43 U	1.9 U	0.4 U	0.42 U	0.4 U
bis(2-Chloroisopropyl)ether	NE	5	µg/L	0.52 UJ	0.51 U	0.55 U	2.5 U	0.52 U	0.54 U	0.52 U
bis(2-Ethylhexyl)phthalate	NE	5	µg/L	2.2 U	2.2 U	2.3 U	10 U	2.2 U	2.3 U	2.2 U
Caprolactam	NE	NE	µg/L	2.2 U	2.2 U	2.3 U	10 U	2.2 U	2.3 U	9.8
Carbazole	NE	NE	µg/L	0.3 U	0.29 U	0.32 U	1.4 U	0.3 U	0.31 U	0.3 U
Dibenzofuran	NE	NE	µg/L	0.51 U	0.5 U	0.54 U	2.4 U	0.51 U	0.53 U	0.51 U
Diethyl phthalate	50	NE	µg/L	0.22 U	0.22 U	0.23 U	1 U	0.22 U	0.23 U	0.22 U
Dimethyl phthalate	50	NE	µg/L	0.36 U	0.35 U	0.38 U	1.7 U	0.36 U	0.38 U	0.36 U
dI-n-Butyl phthalate	NE	50	µg/L	0.31 U	0.53 U1	0.33 U	2.2 U1	0.31 U	0.58 U1	0.31 U
dI-n-Octyl phthalate	50	NE	µg/L	0.47 U	0.46 U	0.5 U	2.2 U	0.47 U	0.49 U	0.47 U
Hexachlorobenzene	NE	0.04	µg/L	0.51 U	0.5 U	0.54 U	2.4 U	0.51 U	0.53 U	0.51 U
Hexachlorobutadiene	NE	0.5	µg/L	0.68 UJ	0.66 U	0.72 U	3.2 U	0.68 U	0.71 U	0.68 U
Hexachlorocyclopentadiene	NE	5	µg/L	0.59 U	0.58 UJ	0.63 U	2.8 UJ	0.59 U	0.62 UJ	0.59 U
Hexachloroethane	NE	5	µg/L	0.59 U	0.58 U	0.63 U	2.8 U	0.59 U	0.62 U	0.59 U
Isophorone	50	NE	µg/L	0.43 U	0.42 U	0.46 U	2 U	0.43 U	0.45 U	0.43 U
Nitrobenzene	NE	0.4	µg/L	0.29 U	0.28 U	0.31 U	1.4 U	0.29 U	0.3 U	0.29 U
N-Nitroso-di-n-propylamine	NE	NE	µg/L	0.54 UJ	0.53 U	0.57 U	2.5 U	0.54 U	0.56 U	0.54 U
N-Nitrosodiphenylamine	50	NE	µg/L	0.51 U	0.5 U	0.54 U	2.4 U	0.51 U	0.53 U	0.51 U
Pentachlorophenol	NE	1	µg/L	2.2 U	2.2 U	2.3 U	10 U	2.2 U	2.3 U	2.2 U
Phenol	NE	1	µg/L	0.39 UJ	0.38 U	0.41 U	1.8 U	0.43 J	0.41 U	0.39 U
Inorganic Constituents										
Cyanide, total	NE	200	µg/L	19 J-	64 J+	33 J+	23 J+	10 U	21 J+	17 J+
Aluminum	NE	NE	µg/L	--	--	--	--	--	--	--
Antimony	NE	3	µg/L	--	--	--	--	--	--	--
Arsenic	NE	25	µg/L	--	--	--	--	--	--	--
Barium	NE	1000	µg/L	--	--	--	--	--	--	--
Beryllium	3	NE	µg/L	--	--	--	--	--	--	--

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

	Class GA Groundwater Criteria									
	TOGS 1.1.1	NYS Part 703[(1)]		MW-7S	MW-7D	MW-7D	MW-8S	MW-8S	MW-8D	MW-8D
Constituent	Guidance	Standard	Units	6/27/2017	3/1/2017	6/28/2017	3/1/2017	6/29/2017	3/1/2017	6/29/2017
Cadmium	NE	5	µg/L	--	--	--	--	--	--	--
Calcium	NE	NE	µg/L	--	--	--	--	--	--	--
Chromium	NE	50	µg/L	--	--	--	--	--	--	--
Cobalt	NE	NE	µg/L	--	--	--	--	--	--	--
Copper	NE	200	µg/L	--	--	--	--	--	--	--
Iron	NE	300	µg/L	--	--	--	--	--	--	--
Lead	NE	25	µg/L	--	--	--	--	--	--	--
Magnesium	35000	NE	µg/L	--	--	--	--	--	--	--
Manganese	NE	300	µg/L	--	--	--	--	--	--	--
Nickel	NE	100	µg/L	--	--	--	--	--	--	--
Potassium	NE	NE	µg/L	--	--	--	--	--	--	--
Selenium	NE	10	µg/L	--	--	--	--	--	--	--
Silver	NE	50	µg/L	--	--	--	--	--	--	--
Sodium	NE	20000	µg/L	--	--	--	--	--	--	--
Thallium	0.5	NE	µg/L	--	--	--	--	--	--	--
Vanadium	NE	NE	µg/L	--	--	--	--	--	--	--
Zinc	2000	NE	µg/L	--	--	--	--	--	--	--
Mercury	NE	0.7	µg/L	--	--	--	--	--	--	--
Pesticides										
4,4'-DDD	NE	0.3	µg/L	0.01 U	0.0092 U	0.0092 U	0.0092 U	0.0092 U	0.01 U	0.0092 U
4,4'-DDE	NE	0.2	µg/L	0.013 U	0.012 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
4,4'-DDT	NE	0.2	µg/L	0.012 U	0.011 U	0.016 J	0.011 U	0.011 U	0.012 U	0.011 U
Aldrin	NE	0	µg/L	**0.019 J**	0.0081 U	0.0081 U	0.0081 U	0.0081 U	0.0088 U	0.0081 U
alpha Endosulfan (Endosulfan I)	NE	NE	µg/L	0.012 U	0.011 U	0.011 U	0.011 U	0.011 U	0.012 U	0.011 U
beta Endosulfan (Endosulfan II)	NE	NE	µg/L	0.013 U	0.012 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
BHC, alpha	NE	0.01	µg/L	0.0084 U	0.0077 U	0.0077 U	**0.023 J**	0.0077 U	0.0084 U	0.0077 U
BHC, beta	NE	0.04	µg/L	0.027 U	0.025 U	0.025 U	0.025 U	0.025 U	0.027 U	0.025 U
BHC, delta	NE	0.04	µg/L	0.011 U	0.018 J	0.01 U	0.028 J	0.012 J	0.011 U	0.011 J
BHC, gamma (Lindane)	NE	0.05	µg/L	0.0087 U	0.024 J	0.037 J	0.008 U	0.02 J	0.013 J	0.008 U
Chlordane, alpha	NE	NE	µg/L	0.016 U	0.015 U	0.015 U	0.015 U	0.015 U	0.016 U	0.015 U
Chlordane, beta	NE	NE	µg/L	0.012 U	0.011 U	0.011 U	0.011 U	0.011 U	0.012 U	0.011 U
Dieldrin	NE	0.004	µg/L	0.011 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.011 U	0.0098 U
Endosulfan sulfate	NE	NE	µg/L	0.017 U	0.016 U	0.016 U	0.016 U	0.016 U	0.017 U	0.016 U
Endrin	NE	0	µg/L	0.015 U	0.014 U	0.014 U	0.014 U	0.014 U	0.015 U	0.014 U
Endrin aldehyde	NE	5	µg/L	0.018 U	0.016 U	0.016 U	0.016 U	0.016 U	0.018 U	0.016 U
Endrin ketone	NE	5	µg/L	0.013 U	0.012 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Heptachlor	NE	0.04	µg/L	0.0092 U	0.0085 U	0.011 J	0.027 J	0.0085 U	0.0092 U	0.0085 U
Heptachlor epoxide	NE	0.03	µg/L	0.008 U	0.0074 U	0.0074 U	0.0074 U	0.0074 U	0.008 U	0.0074 U
Methoxychlor	NE	35	µg/L	0.015 U	0.014 U	0.014 U	0.014 U	0.014 U	0.015 U	0.014 U
Toxaphene	NE	0.06	µg/L	0.13 U	0.12 U	0.12 U	0.12 U	0.12 U	0.13 U	0.12 U

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-7S 6/27/2017	MW-7D 3/1/2017	MW-7D 6/28/2017	MW-8S 3/1/2017	MW-8S 6/29/2017	MW-8D 3/1/2017	MW-8D 6/29/2017
Polychlorinated Biphenyls (PCBs)										
Aroclor 1016	NE	0.09	µg/L	--	--	--	--	--	--	--
Aroclor 1221	NE	0.09	µg/L	--	--	--	--	--	--	--
Aroclor 1232	NE	0.09	µg/L	--	--	--	--	--	--	--
Aroclor 1242	NE	0.09	µg/L	--	--	--	--	--	--	--
Aroclor 1248	NE	0.09	µg/L	--	--	--	--	--	--	--
Aroclor 1254	NE	0.09	µg/L	--	--	--	--	--	--	--
Aroclor 1260	NE	0.09	µg/L	--	--	--	--	--	--	--
Total PCBs	NE	0.09	µg/L	--	--	--	--	--	--	--

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
J+ - Estimated concentration. Reported value may be biased high. Result is estimated high.
J- - Estimated concentration. Reported value may be baiased low. Result is estimated low.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
U1 - The analyte was analyzed for, but was not detected substantially above the level reported in laboratory or field blanks.
B - Constituent was found in the blank and the sample.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related Quality Control (QC) is outside acceptance limits.

NE - Standard and/or guidance value not established.
ND - Not detected

Boxed and bolded values indicates concentration above New York State Class GA Groundwater Standards or Guidance values.

(1) - Notes applicable to NYS Part 703 Standards:
(a) - Any detected concentration for Benzo(a)pyrene, aldrin, or endrin is considered above the Part 703 Standard.
(b) - The standard for the sum of phenolic compounds is 1 µg/L
(c) - The standard of the sum of PCBs in 0.9 µg/L

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-9 2/28/2017	MW-9 6/27/2017	MW-10 2/28/2017	MW-10 6/27/2017
Volatile Organic Compounds (VOCs)							
BTEX							
Benzene	NE	1	µg/L	0.41 U	0.41 U	0.41 U	0.41 U
Toluene	NE	5	µg/L	0.51 U	0.51 U	0.51 U	0.51 U
Ethylbenzene	NE	5	µg/L	0.74 U	0.74 U	0.74 U	0.74 U
Xylenes, total	NE	5	µg/L	0.66 U	0.66 U	0.66 U	0.66 U
Total BTEX	NE	NE	µg/L	ND	ND	ND	ND
Other VOCs							
1,1,1-Trichloroethane	NE	5	µg/L	0.82 U	0.82 U	0.82 U	0.82 U
1,1,2,2-Tetrachloroethane	NE	5	µg/L	0.21 U	0.21 U	0.21 U	0.21 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NE	5	µg/L	0.31 U	0.31 U	0.31 U	0.31 U
1,1,2-Trichloroethane	NE	1	µg/L	0.23 U	0.23 U	0.23 U	0.23 U
1,1-Dichloroethane	NE	5	µg/L	0.38 U	0.38 U	0.38 U	0.38 U
1,1-Dichloroethene	NE	5	µg/L	0.29 U	0.29 U	0.29 U	0.29 U
1,2,4-Trichlorobenzene	10	5	µg/L	0.41 U	0.41 U	0.41 U	0.41 U
1,2-Dibromo-3-chloropropane (DBCP)	NE	0.04	µg/L	0.39 U	0.39 U	0.39 U	0.39 U
1,2-Dibromoethane (EDB)	NE	0.0006	µg/L	0.73 U	0.73 U	0.73 U	0.73 U
1,2-Dichlorobenzene	NE	3	µg/L	0.79 U	0.79 U	0.79 U	0.79 U
1,2-Dichloroethane	NE	0.6	µg/L	0.21 U	0.21 U	0.21 U	0.21 U
1,2-Dichloropropane	NE	1	µg/L	0.72 U	0.72 U	0.72 U	0.72 U
1,3-Dichlorobenzene	NE	3	µg/L	0.78 U	0.78 U	0.78 U	0.78 U
1,4-Dichlorobenzene	NE	3	µg/L	0.84 U	0.84 U	0.84 U	0.84 U
2-Butanone (MEK)	50	NE	µg/L	1.3 U	1.3 U	1.3 U	1.3 U
2-Hexanone	50	NE	µg/L	1.2 U	1.2 U	1.2 U	1.2 U
4-Methyl-2-pentanone (MIBK)	NE	NE	µg/L	2.1 U	2.1 U	2.1 U	2.1 U
Acetone	50	NE	µg/L	3 U	3 U	3 U	3 U
Bromodichloromethane	50	NE	µg/L	0.39 U	0.39 U	0.39 U	0.39 U
Bromoform	50	NE	µg/L	0.26 U	0.26 U	0.26 U	0.26 U
Bromomethane	NE	5	µg/L	0.69 U	0.69 U	0.69 U	0.69 U
Carbon disulfide	60	60	µg/L	0.19 U	0.19 U	0.19 U	0.19 U
Carbon tetrachloride	NE	5	µg/L	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	NE	5	µg/L	0.75 U	0.75 U	0.75 U	0.75 U
Chloroethane	NE	5	µg/L	0.32 U	0.32 U	0.32 U	0.32 U
Chloroform	NE	7	µg/L	0.34 U	0.34 U	0.34 U	0.34 U
Chloromethane	NE	5	µg/L	0.35 U	0.35 U	0.35 U	0.35 U
cis-1,2-Dichloroethene	NE	5	µg/L	0.81 U	0.81 U	0.81 U	0.81 U
cis-1,3-Dichloropropene	NE	0.4	µg/L	0.36 U	0.36 U	0.36 U	0.36 U
Cyclohexane	NE	NE	µg/L	0.18 U	0.18 U	0.18 U	0.18 U
Dibromochloromethane	50	NE	µg/L	0.32 U	0.32 U	0.32 U	0.32 U
Dichlorodifluoromethane (Freon 12)	NE	5	µg/L	0.68 U	0.68 U	0.68 U	0.68 U
Isopropylbenzene (Cumene)	NE	5	µg/L	0.79 U	0.79 U	0.79 U	0.79 U

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

	Class GA Groundwater Criteria			MW-9	MW-9	MW-10	MW-10
	TOGS 1.1.1	NYS Part 703[(1)]					
Constituent	Guidance	Standard	Units	2/28/2017	6/27/2017	2/28/2017	6/27/2017
Methyl acetate	NE	NE	µg/L	1.3 U	1.3 U	1.3 U	1.3 U
Methylcyclohexane	NE	NE	µg/L	0.16 U	0.16 U	0.16 U	0.16 U
Methylene chloride	NE	5	µg/L	0.44 U	0.44 U	0.44 U	0.44 U
Styrene	NE	5	µg/L	0.73 U	0.73 U	0.73 U	0.73 U
tert-Butyl methyl ether (MTBE)	10	NE	µg/L	0.16 U	0.16 U	0.16 U	0.16 U
Tetrachloroethene (PCE)	NE	5	µg/L	0.36 U	0.36 U	0.36 U	0.36 U
trans-1,2-Dichloroethene	NE	5	µg/L	0.9 U	0.9 U	0.9 U	0.9 U
trans-1,3-Dichloropropene	NE	0.4	µg/L	0.37 U	0.37 U	0.37 U	0.37 U
Trichloroethene (TCE)	NE	5	µg/L	0.46 U	0.46 U	0.46 U	0.46 U
Trichlorofluoromethane (Freon 11)	NE	5	µg/L	0.88 U	0.88 U	0.88 U	0.88 U
Vinyl chloride	NE	2	µg/L	0.9 U	0.9 U	0.9 U	0.9 U
Semi-Volatile Organic Compounds (SVOCs)							
Polycyclic Aromatic Hydrocarbons (PAHs)							
Acenaphthene	20	NE	µg/L	0.41 U	0.41 U	0.44 U	0.41 U
Acenaphthylene	NE	NE	µg/L	0.38 U	0.38 U	0.41 U	0.38 U
Anthracene	50	NE	µg/L	0.28 U	0.28 U	0.3 U	0.28 U
Benzo(a)anthracene	0.002	NE	µg/L	0.36 U	0.36 U	0.38 U	0.36 U
Benzo(a)pyrene	NE	0	µg/L	0.47 U	0.47 U	0.5 U	0.47 U
Benzo(b)fluoranthene	0.002	NE	µg/L	0.34 U	0.34 U	0.36 U	0.34 U
Benzo(g,h,i)perylene	NE	NE	µg/L	0.35 U	0.35 U	0.37 U	0.35 U
Benzo(k)fluoranthene	0.002	NE	µg/L	0.72 U	0.73 U	0.78 U	0.73 U
Chrysene	0.002	NE	µg/L	0.33 U	0.33 U	0.35 U	0.33 U
Dibenz(a,h)anthracene	NE	NE	µg/L	0.42 U	0.42 U	0.45 U	0.42 U
Fluoranthene	50	NE	µg/L	0.4 U	0.4 U	0.43 U	0.4 U
Fluorene	50	NE	µg/L	0.36 U	0.36 U	0.38 U	0.36 U
Indeno(1,2,3-c,d)pyrene	0.002	NE	µg/L	0.47 U	0.47 U	0.5 U	0.47 U
Naphthalene	10	NE	µg/L	0.75 U	0.76 U	0.81 U	0.76 U
Phenanthrene	50	NE	µg/L	0.44 U	0.44 U	0.47 U	0.44 U
Pyrene	50	NE	µg/L	0.34 U	0.34 U	0.36 U	0.34 U
2-Methylnaphthalene	NE	NE	µg/L	0.6 U	0.6 U	0.64 U	0.6 U
Total PAHs	NE	NE	µg/L	ND	ND	ND	ND
Other SVOCs							
2,4,5-Trichlorophenol	NE	1	µg/L	0.48 UJ	0.48 U	0.51 UJ	0.48 U
2,4,6-Trichlorophenol	NE	1	µg/L	0.61 UJ	0.61 U	0.65 UJ	0.61 U
2,4-Dichlorophenol	NE	1	µg/L	0.51 U	0.51 U	0.55 U	0.51 U
2,4-Dimethylphenol	50	1	µg/L	0.5 U	0.5 U	0.53 U	0.5 U
2,4-Dinitrophenol	10	1	µg/L	2.2 U	2.2 U	2.4 U	2.2 U
2,4-Dinitrotoluene	NE	5	µg/L	0.44 U	0.45 U	0.48 U	0.45 U
2,6-Dinitrotoluene	NE	5	µg/L	0.4 U	0.4 U	0.43 U	0.4 U
2-Chloronaphthalene	10	NE	µg/L	0.46 U	0.46 U	0.49 U	0.46 U
2-Chlorophenol	NE	1	µg/L	0.53 U	0.53 U	0.57 U	0.53 U
2-Methylphenol (o-cresol)	NE	1	µg/L	0.4 U	0.4 U	0.43 U	0.4 U
2-Nitroaniline	NE	5	µg/L	0.42 U	0.42 U	0.45 U	0.42 U

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

	Class GA Groundwater Criteria						
	TOGS 1.1.1	NYS Part 703[(1)]		MW-9	MW-9	MW-10	MW-10
Constituent	Guidance	Standard	Units	2/28/2017	6/27/2017	2/28/2017	6/27/2017
2-Nitrophenol	NE	1	µg/L	0.48 U	0.48 U	0.51 U	0.48 U
3,3'-Dichlorobenzidine	NE	5	µg/L	0.4 U	0.4 U	0.43 U	0.4 U
3-Nitroaniline	NE	5	µg/L	0.48 U	0.48 UJ	0.51 U	0.48 UJ
4,6-Dinitro-2-methylphenol	NE	1	µg/L	2.2 U	2.2 U	2.4 U	2.2 U
4-Bromophenyl phenyl ether	NE	NE	µg/L	0.45 U	0.45 U	0.48 U	0.45 U
4-Chloro-3-methylphenol	NE	1	µg/L	0.45 U	0.45 U	0.48 U	0.45 U
4-Chloroaniline	NE	5	µg/L	0.59 U	0.59 U	0.63 U	0.59 U
4-Chlorophenyl phenyl ether	NE	NE	µg/L	0.35 UJ	0.35 U	0.37 UJ	0.35 U
4-Methylphenol	NE	1	µg/L	0.36 U	0.36 U	0.38 U	0.36 U
4-Nitroaniline	NE	5	µg/L	0.25 U	0.25 U	0.27 U	0.25 U
4-Nitrophenol	NE	1	µg/L	1.5 UJ	1.5 UJ	1.6 UJ	1.5 UJ
Acetophenone	NE	NE	µg/L	0.54 U	0.54 U	0.58 U	0.54 U
Atrazine	NE	7.5	µg/L	0.46 UJ	0.46 UJ	0.49 UJ	0.46 UJ
Benzaldehyde	NE	NE	µg/L	0.26 U	0.27 U	0.29 U	0.27 U
Benzyl butyl phthalate	50	NE	µg/L	0.99 U	1 U	1.1 U	1 U
Biphenyl (Diphenyl)	NE	5	µg/L	0.65 U	0.65 U	0.7 U	0.65 U
bis(2-Chloroethoxy)methane	NE	5	µg/L	0.35 U	0.35 U	0.37 U	0.35 U
bis(2-Chloroethyl)ether	NE	1	µg/L	0.4 U	0.4 U	0.43 U	0.4 U
bis(2-Chloroisopropyl)ether	NE	5	µg/L	0.52 UJ	0.52 UJ	0.56 UJ	0.52 UJ
bis(2-Ethylhexyl)phthalate	NE	5	µg/L	2.2 U	2.2 U	2.4 U	2.2 U
Caprolactam	NE	NE	µg/L	2.2 U	2.2 U	2.4 U	2.2 U
Carbazole	NE	NE	µg/L	0.3 U	0.3 U	0.32 U	0.3 U
Dibenzofuran	NE	NE	µg/L	0.51 U	0.51 U	0.55 U	0.51 U
Diethyl phthalate	50	NE	µg/L	0.57 J	0.22 U	0.24 UJ	0.22 U
Dimethyl phthalate	50	NE	µg/L	0.36 UJ	0.36 U	0.38 UJ	0.36 U
dI-n-Butyl phthalate	NE	50	µg/L	0.31 U	0.31 U	0.33 U	0.31 U
dI-n-Octyl phthalate	50	NE	µg/L	0.47 U	0.47 U	0.5 U	0.47 U
Hexachlorobenzene	NE	0.04	µg/L	0.51 U	0.51 U	0.55 U	0.51 U
Hexachlorobutadiene	NE	0.5	µg/L	0.67 UJ	0.68 UJ	0.73 UJ	0.68 UJ
Hexachlorocyclopentadiene	NE	5	µg/L	0.59 UJ	0.59 U	0.63 UJ	0.59 U
Hexachloroethane	NE	5	µg/L	0.59 U	0.59 U	0.63 U	0.59 U
Isophorone	50	NE	µg/L	0.43 U	0.43 U	0.46 U	0.43 U
Nitrobenzene	NE	0.4	µg/L	0.29 U	0.29 U	0.31 U	0.29 U
N-Nitroso-di-n-propylamine	NE	NE	µg/L	0.54 U	0.54 UJ	0.58 U	0.54 UJ
N-Nitrosodiphenylamine	50	NE	µg/L	0.51 U	0.51 U	0.55 U	0.51 U
Pentachlorophenol	NE	1	µg/L	2.2 U	2.2 U	2.4 U	2.2 U
Phenol	NE	1	µg/L	0.39 U	0.39 UJ	0.42 U	0.39 UJ
Inorganic Constituents							
Cyanide, total	NE	200	µg/L	31	65	150	43
Aluminum	NE	NE	µg/L	--	--	--	--
Antimony	NE	3	µg/L	--	--	--	--
Arsenic	NE	25	µg/L	--	--	--	--
Barium	NE	1000	µg/L	--	--	--	--
Beryllium	3	NE	µg/L	--	--	--	--

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-9 2/28/2017	MW-9 6/27/2017	MW-10 2/28/2017	MW-10 6/27/2017
Cadmium	NE	5	µg/L	--	--	--	--
Calcium	NE	NE	µg/L	--	--	--	--
Chromium	NE	50	µg/L	--	--	--	--
Cobalt	NE	NE	µg/L	--	--	--	--
Copper	NE	200	µg/L	--	--	--	--
Iron	NE	300	µg/L	--	--	--	--
Lead	NE	25	µg/L	--	--	--	--
Magnesium	35000	NE	µg/L	--	--	--	--
Manganese	NE	300	µg/L	--	--	--	--
Nickel	NE	100	µg/L	--	--	--	--
Potassium	NE	NE	µg/L	--	--	--	--
Selenium	NE	10	µg/L	--	--	--	--
Silver	NE	50	µg/L	--	--	--	--
Sodium	NE	20000	µg/L	--	--	--	--
Thallium	0.5	NE	µg/L	--	--	--	--
Vanadium	NE	NE	µg/L	--	--	--	--
Zinc	2000	NE	µg/L	--	--	--	--
Mercury	NE	0.7	µg/L	--	--	--	--
Pesticides							
4,4'-DDD	NE	0.3	µg/L	0.009 U	0.0092 U	0.0088 U	0.0092 U
4,4'-DDE	NE	0.2	µg/L	0.011 U	0.012 U	0.011 U	0.012 U
4,4'-DDT	NE	0.2	µg/L	0.011 U	0.011 U	0.01 U	0.011 U
Aldrin	NE	0	µg/L	0.0079 U	0.0081 U	0.0077 U	0.0081 U
alpha Endosulfan (Endosulfan I)	NE	NE	µg/L	0.011 U	0.011 U	0.01 U	0.011 U
beta Endosulfan (Endosulfan II)	NE	NE	µg/L	0.012 U	0.012 U	0.011 U	0.012 U
BHC, alpha	NE	0.01	µg/L	0.0075 U	0.0077 U	0.0073 U	0.0077 U
BHC, beta	NE	0.04	µg/L	0.024 U	0.025 U	0.024 U	0.025 U
BHC, delta	NE	0.04	µg/L	0.0097 U	0.01 U	0.0095 U	0.01 U
BHC, gamma (Lindane)	NE	0.05	µg/L	0.0078 U	0.008 U	0.0076 U	0.008 U
Chlordane, alpha	NE	NE	µg/L	0.014 U	0.015 U	0.014 U	0.015 U
Chlordane, beta	NE	NE	µg/L	0.011 U	0.011 U	0.01 U	0.011 U
Dieldrin	NE	0.004	µg/L	0.0096 U	0.0098 U	0.0093 U	0.0098 U
Endosulfan sulfate	NE	NE	µg/L	0.015 U	0.016 U	0.015 U	0.016 U
Endrin	NE	0	µg/L	0.013 U	0.014 U	0.013 U	0.014 U
Endrin aldehyde	NE	5	µg/L	0.016 U	0.016 U	0.016 U	0.016 U
Endrin ketone	NE	5	µg/L	0.012 U	0.012 U	0.011 U	0.012 U
Heptachlor	NE	0.04	µg/L	0.0083 U	0.0085 U	0.0081 U	0.0085 U
Heptachlor epoxide	NE	0.03	µg/L	0.0072 U	0.0074 U	0.007 U	0.0074 U
Methoxychlor	NE	35	µg/L	0.014 U	0.014 U	0.013 U	0.014 U
Toxaphene	NE	0.06	µg/L	0.12 U	0.12 U	0.11 U	0.12 U

TABLE 9
GROUNDWATER ANALYTICAL RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[(1)] Standard	Units	MW-9 2/28/2017	MW-9 6/27/2017	MW-10 2/28/2017	MW-10 6/27/2017
Polychlorinated Biphenyls (PCBs)							
Aroclor 1016	NE	0.09	µg/L	--	--	--	--
Aroclor 1221	NE	0.09	µg/L	--	--	--	--
Aroclor 1232	NE	0.09	µg/L	--	--	--	--
Aroclor 1242	NE	0.09	µg/L	--	--	--	--
Aroclor 1248	NE	0.09	µg/L	--	--	--	--
Aroclor 1254	NE	0.09	µg/L	--	--	--	--
Aroclor 1260	NE	0.09	µg/L	--	--	--	--
Total PCBs	NE	0.09	µg/L	--	--	--	--

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
J+ - Estimated concentration. Reported value may be biased high. Result is estimated high.
J- - Estimated concentration. Reported value may be baiased low. Result is estimated low.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
U1 - The analyte was analyzed for, but was not detected substantially above the level reported in laboratory or field blanks.
B - Constituent was found in the blank and the sample.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related Quality Control (QC) is outside acceptance limits.

NE - Standard and/or guidance value not established.
ND - Not detected

Boxed and bolded values indicates concentration above New York State Class GA Groundwater Standards or Guidance values.

(1) - Notes applicable to NYS Part 703 Standards:
(a) - Any detected concentration for Benzo(a)pyrene, aldrin, or endrin is considered above the Part 703 Standard.
(b) - The standard for the sum of phenolic compounds is 1 µg/L
(c) - The standard of the sum of PCBs in 0.9 µg/L

TABLE 10
SOIL VAPOR AND OUTDOOR AIR RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent		NYSDOH Typical Indoor Air Conc. (µg/m^3)[a] Non-Residential	USEPA Regional Screening Levels Composite Worker Carcinogenic[b]	USEPA Regional Screening Levels Composite Worker Non-carcinogenic[c]	Location:	SV-1	SV-1 Attenuation Factor Applied[d]	SV-1 (Dup)	SV-1 (Dup) Attenuation Factor Applied[d]	SV-2	SV-2 Attenuation Factor Applied[d]	SV-3	SV-3 Attenuation Factor Applied[d]	SV-4	SV-4 Attenuation Factor Applied[d]	SV-5	SV-5 Attenuation Factor Applied[d]	SV-6	SV-6 Attenuation Factor Applied[d]
					Date:	11/14/2017		11/14/2017		11/14/2017		11/14/2017		11/14/2017		11/14/2017		11/14/2017	
					Units:	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
1,1,1-Trichloroethane		21	NE	2200		1.1 U	ND	1.10 U	ND	0.24 J	0.01	1.1 U	ND	1.1 U	ND	1.1 U	ND	17	0.51
1,1,2,2-Tetrachloroethane		NE	0.21	NE		1.4 U	ND	1.4 U	ND	1.4 U	ND	1.4 U	ND	1.4 U	ND	1.4 U	ND	1.4 U	ND
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		NE	NE	2200		0.52 J	0.016	0.49 J	0.015	0.52 J	0.016	0.5 J	0.015	0.48 J	0.014	0.53 J	0.016	0.54 J	0.016
1,1,2-Trichloroethane	<	2	0.77	0.088		1.1 U	ND	1.1 U	ND	1.1 U	ND	1.1 U	ND	1.1 U	ND	1.1 U	ND	1.1 U	ND
1,1-Dichloroethane	<	1	7.7	NE		0.81 U	ND	0.81 U	ND	0.81 U	ND	0.81 U	ND	0.81 U	ND	0.81 U	ND	0.81 U	ND
1,1-Dichloroethene	<	1	NE	88		0.79 U	ND	0.79 U	ND	0.79 U	ND	0.79 U	ND	0.79 U	ND	0.79 U	ND	0.79 U	ND
1,2,3-Trimethylbenzene		NE	NE	26		0.43 J	0.013	0.98 U	ND	0.46 J	0.014	0.98 U	ND	0.44 J	0.013	0.42 J	0.013	0.98 U	ND
1,2,4,5-Tetramethylbenzene		NE	NE	NE		1.1 U	ND	1.1 U	ND	2.5	0.075	1.1 U	ND	1.1 U	ND	1.1 U	ND	1.1 U	ND
1,2,4-Trichlorobenzene	<	7	NE	0.88		7.4 U	ND	7.4 U	ND	7.4 U	ND	7.4 U	ND	7.4 U	ND	7.4 U	ND	7.4 U	ND
1,2,4-Trimethylbenzene		9.5	NE	26		2.1	0.063	1.6	0.048	2.2	0.066	1.5	0.045	2.2	0.066	2.1	0.063	0.98 U	ND
1,2-Dibromoethane (EDB)	<	2	0.02	3.9		1.5 U	ND	1.5 U	ND	1.5 U	ND	1.5 U	ND	1.5 U	ND	1.5 U	ND	1.5 U	ND
1,2-Dichlorobenzene	<	1	NE	88		1.2 U	ND	1.2 U	ND	1.2 U	ND	1.2 U	ND	1.2 U	ND	1.2 U	ND	1.2 U	ND
1,2-Dichloroethane	<	1	0.47	3.1		0.81 U	ND	0.81 U	ND	0.81 U	ND	0.81 U	ND	0.81 U	ND	0.81 U	ND	0.81 U	ND
1,2-Dichloropropane	<	2	3.3	1.8		0.92 U	ND	0.92 U	ND	0.92 U	ND	0.92 U	ND	0.92 U	ND	0.92 U	ND	0.92 U	ND
1,2-Dichlorotetrafluoroethane (Freon 114)		NE	NE	NE		1.4 U	ND	1.4 U	ND	1.4 U	ND	1.4 U	ND	1.4 U	ND	1.4 U	ND	1.4 U	ND
1,2-Dimethylbenzene (o-Xylene)		8	NE	44		4.7	0.14	4	0.12	5	0.15	5.2	0.16	6.7	0.201	8.8	0.264	0.32 J	0.0096
1,3,5-Trimethylbenzene (mesitylene)		3.7	NE	26		0.63 J	0.019	0.49 J	0.015	1.3	0.039	0.63 J	0.019	0.64 J	0.019	0.62 J	0.019	0.98 U	ND
1,3-Butadiene	<	3	0.41	0.88		0.88 U	ND	0.88 U	ND	0.88 U	ND	0.88 U	ND	0.88 U	ND	0.88 U	ND	0.88 U	ND
1,3-Dichlorobenzene	<	2.4	NE	NE		0.61 J	0.02	0.46 J	0.01	0.56 J	0.02	1.20 U	ND	0.53 J	0.02	0.50 J	0.02	2.10	0.06
1,4-Dichlorobenzene		5.5	1.1	350		1.2 U	ND	1.2 U	ND	1.2 U	ND	1.2 U	ND	1.2 U	ND	1.2 U	ND	1.2 U	ND
1,4-Dioxane		NE	2.5	13		1.8 U	ND	1.8 U	ND	1.8 U	ND	1.8 U	ND	0.29 J	0.0087	1.8 U	ND	0.36 J	0.011
1-Methylnaphthalene		NE	NE	NE		15 U	ND	15 U	ND	15 U	ND	15 U	ND	15 U	ND	15 U	ND	15 U	ND
2,2,4-Trimethylpentane		NE	NE	NE		0.26 J	0.0078	0.2 J	0.006	0.28 J	0.0084	0.45 J	0.014	0.43 J	0.013	0.65 J	0.020	2.3 U	ND
2-Butanone (MEK)		12	NE	2200		0.9 J	0.027	2.9 U	ND	1.2 J	0.036	0.67 J	0.020	1.2 J	0.036	2.9 U	ND	0.65 J	0.020
2-Chlorotoluene		NE	NE	NE		2.1 U	ND	2.1 U	ND	2.1 U	ND	2.1 U	ND	2.1 U	ND	2.1 U	ND	2.1 U	ND
2-Hexanone		NE	NE	13		2 U	ND	2 U	ND	0.24 J	0.0072	2 U	ND	0.49 J	0.015	2 U	ND	2 U	ND
2-Methylbutane		NE	NE	NE		0.38 J	0.011	0.36 J	0.011	0.44 J	0.013	0.88 J	0.026	1.4 J	0.042	7.8	0.234	0.76 J	0.023
2-Methylnaphthalene		NE	NE	NE		15 U	ND	15 U	ND	15 U	ND	15 U	ND	15 U	ND	15 U	ND	15 U	ND
3-Chloropropene (allyl chloride)		NE	2	0.44		0.63 U	ND	0.63 U	ND	0.63 U	ND	0.63 U	ND	0.63 U	ND	0.63 U	ND	0.63 U	ND
4-Ethyltoluene		4	NE	NE		0.76 J	0.023	0.5 J	0.015	0.77 J	0.023	0.47 J	0.014	0.89 J	0.027	0.81 J	0.024	2 U	ND
4-Methyl-2-pentanone (MIBK)		6.0	NE	1300		2 U	ND	2 U	ND	2 U	ND	2 U	ND	0.93 J	0.028	5.9	0.177	2 U	ND

TABLE 10
SOIL VAPOR AND OUTDOOR AIR RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent		NYSDOH Typical Indoor Air Conc. (µg/m^3)[a] Non-Residential	USEPA Regional Screening Levels Composite Worker Carcinogenic[b]	USEPA Regional Screening Levels Composite Worker Non-carcinogenic[c]	Location:	SV-1	SV-1 Attenuation Factor Applied[d]	SV-1 (Dup)	SV-1 (Dup) Attenuation Factor Applied[d]	SV-2	SV-2 Attenuation Factor Applied[d]	SV-3	SV-3 Attenuation Factor Applied[d]	SV-4	SV-4 Attenuation Factor Applied[d]	SV-5	SV-5 Attenuation Factor Applied[d]	SV-6	SV-6 Attenuation Factor Applied[d]
					Date:	11/14/2017		11/14/2017		11/14/2017		11/14/2017		11/14/2017		11/14/2017		11/14/2017	
					Units:	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Acetone		98.9	NE	14000		27	0.81	19	0.57	31	0.93	36	1.08	36	1.08	40	1.2	16	0.48
Benzene		9.4	1.6	13		0.27 J	0.0081	0.21 J	0.0063	0.28 J	0.0084	0.36 J	0.011	0.39 J	0.012	0.38 J	0.011	0.2 J	0.006
Bromodichloromethane		NE	0.33	NE		1.3 U	ND	1.3 U	ND	1.3 U	ND	1.3 U	ND	1.3 U	ND	1.3 U	ND	1.3 U	ND
Bromoethene (vinyl bromide)		NE	0.38	1.3		0.87 U	ND	0.87 U	ND	0.87 U	ND	0.87 U	ND	0.87 U	ND	0.87 U	ND	0.87 U	ND
Bromoform		NE	11	NE		2.1 U	ND	2.1 U	ND	2.1 U	ND	2.1 U	ND	2.1 U	ND	2.1 U	ND	2.1 U	ND
Bromomethane	<	1.7	NE	2.2		0.78 U	ND	0.78 U	ND	0.78 U	ND	0.78 U	ND	0.78 U	ND	0.78 U	ND	0.78 U	ND
Butane		NE	NE	NE		0.21 J	0.0063	0.29 J	0.0087	0.32 J	0.0096	0.42 J	0.013	1.5	0.045	16	0.48	2.7	0.081
Carbon disulfide		4.2	NE	310		0.45 J	0.014	0.14 J	0.0042	1.4 J	0.042	0.77 J	0.023	0.55 J	0.017	0.9 J	0.027	0.77 J	0.023
Carbon tetrachloride	<	1	2	44		1.3 U	ND	1.3 U	ND	1.3 U	ND	1.3 U	ND	1.3 U	ND	0.53 J	0.016	2.7	0.081
Chlorobenzene	<	0.9	NE	22		0.92 U	ND	0.92 U	ND	0.92 U	ND	0.92 U	ND	0.92 U	ND	0.92 U	ND	0.92 U	ND
Chloroethane	<	1.1	NE	4400		0.19 J	0.0057	0.53 U	ND	0.53 U	ND	0.53 U	ND	0.53 U	ND	0.53 U	ND	0.53 U	ND
Chloroform		1.1	0.53	43		0.19 J	0.0057	0.98 U	ND	0.98 U	ND	0.98 U	ND	0.6 J	0.017	0.98 U	ND	0.98 U	ND
Chloromethane		3.7	NE	39		0.96 J	0.029	1 U	ND	1 U	ND	0.37 J	0.011	1 U	ND	1 U	ND	0.54 J	0.016
cis-1,2-Dichloroethene		NE	NE	NE		0.79 U	ND	0.79 U	ND	0.79 U	ND	0.79 U	ND	0.79 U	ND	0.79 U	ND	0.79 U	ND
cis-1,3-Dichloropropene	<	2.3	NE	NE		0.91 U	ND	0.91 U	ND	0.91 U	ND	0.91 U	ND	0.91 U	ND	0.91 U	ND	0.91 U	ND
Cyclohexane		NE	NE	2600		0.85 J	0.026	0.78 J	0.0234	0.96 J	0.029	1.3 J	0.039	0.94 J	0.028	0.76 J	0.023	0.92 J	0.028
Dibromochloromethane		16.5	NE	NE		1.7 U	ND	1.7 U	ND	1.7 U	ND	1.7 U	ND	1.7 U	ND	1.7 U	ND	1.7 U	ND
Dichlorodifluoromethane (Freon 12)	<	6.8	NE	44		2.4	0.072	2.4	0.072	2	0.06	1.7	0.051	2.5	0.075	2.6	0.078	2.7	0.081
Ethylbenzene		5.7	4.9	440		6.3	0.19	5.4	0.162	7.4	0.22	6.0	0.18	11.0	0.33	18.0	0.54	0.87 U	ND
Hexachlorobutadiene	<	6.8	0.56	NE		11 U	ND	11 U	ND	11 U	ND	11 U	ND	11 U	ND	11 U	ND	11 U	ND
Isopropanol		NE	NE	88		8.5	0.26	2.4 J	0.072	4.2 J	0.13	4.7 J	0.14	4.6 J	0.14	3.4 J	0.102	3.6 J	0.108
Isopropylbenzene (Cumene)		NE	NE	180		2 U	ND	2 U	ND	1.4 J	0.042	0.35 J	0.011	0.35 J	0.011	0.35 J	0.011	2 U	ND
Methylene chloride		10	1200	260		1.6 J	0.048	1.8	0.054	1.5 J	0.045	1.7 J	0.051	1.5 J	0.045	1.6 J	0.048	1.7	0.051
Naphthalene		5.1	0.36	1		0.7 J	0.022	2.6 U	ND	0.9 J	0.03	2.6 U	ND	0.7 J	0.020	0.7 J	0.021	2.6 U	ND
n-Decane (C10)		17.5	NE	NE		1.9 J	0.057	1.3 J	0.039	1.5 J	0.045	2.2 J	0.066	1.7 J	0.051	1.7 J	0.051	0.74 J	0.022
n-Dodecane (C12)		NE	NE	NE		2.6 J	0.078	0.62 J	0.019	2.5 J	0.075	0.81 J	0.024	3.1 J	0.093	2.1 J	0.063	1.3 J	0.039
n-Heptane		NE	NE	180		1.2 J	0.036	0.94 J	0.028	1.8 J	0.054	1.9 J	0.057	2.4	0.072	5.9	0.18	0.2 J	0.006
n-Hexane		10	NE	310		0.49 J	0.015	0.45 J	0.014	0.82 J	0.025	0.59 J	0.018	0.59 J	0.018	0.76 J	0.023	0.56 J	0.017
n-Nonane (C9)		NE	NE	8.8		1 J	0.03	0.79 J	0.024	1 J	0.03	1.5 J	0.045	1.5 J	0.045	1.7 J	0.051	2.6 U	ND
n-Pentane (C5)		NE	NE	440		3 U	ND	3 U	ND	3 U	ND	3 U	ND	3 U	ND	4.8	0.14	3 U	ND
Octane		NE	NE	NE		0.7 J	0.021	0.55 J	0.017	0.83 J	0.025	0.9 J	0.027	1.2 J	0.036	1.6 J	0.048	1.9 U	ND
Styrene		1.9	NE	440		0.85 U	ND	0.85 U	ND	0.85 U	ND	0.85 U	ND	0.85 U	ND	0.85 U	ND	0.85 U	ND
tert-Butyl alcohol		NE	NE	NE		1.3 J	0.039	0.32 J	0.0096	0.92 J	0.028	1.3 J	0.039	0.75 J	0.023	0.7 J	0.021	1.4 J	0.042
tert-Butyl methyl ether (MTBE)		11.5	47	1300		3.6 U	ND	3.6 U	ND	3.6 U	ND	3.6 U	ND	3.6 U	ND	3.6 U	ND	3.6 U	ND
Tetrachloroethene (PCE)		NE	47	18		1.4 U	ND	1.4 U	ND	0.5 J	0.015	1.4 U	ND	1.4 U	ND	0.57 J	0.017	0.4 J	0.012

TABLE 10
SOIL VAPOR AND OUTDOOR AIR RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent		NYSDOH Typical Indoor Air Conc. (µg/m^3)[(a)] Non-Residential	USEPA Regional Screening Levels Composite Worker Carcinogenic[(b)]	USEPA Regional Screening Levels Composite Worker Non-carcinogenic[(c)]	Location:	SV-1	SV-1 Attenuation Factor Applied[(d)]	SV-1 (Dup)	SV-1 (Dup) Attenuation Factor Applied[(d)]	SV-2	SV-2 Attenuation Factor Applied[(d)]	SV-3	SV-3 Attenuation Factor Applied[(d)]	SV-4	SV-4 Attenuation Factor Applied[(d)]	SV-5	SV-5 Attenuation Factor Applied[(d)]	SV-6	SV-6 Attenuation Factor Applied[(d)]
					Date:	11/14/2017		11/14/2017		11/14/2017		11/14/2017		11/14/2017		11/14/2017		11/14/2017	
					Units:	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Toluene		43	NE	2200		2.8	0.084	2.6	0.078	3.3	0.099	3.2	0.096	5.1	0.15	7.6	0.23	0.75 U	ND
trans-1,2-Dichloroethene		NE	NE	NE		0.79 U	ND	0.79 U	ND	0.79 U	ND	0.79 U	ND	0.79 U	ND	0.79 U	ND	0.79 U	ND
trans-1,3-Dichloropropene	<	1.3	NE	NE		0.91 U	ND	0.91 U	ND	0.91 U	ND	0.91 U	ND	0.91 U	ND	0.91 U	ND	0.91 U	ND
Trichloroethene (TCE)		NE	3	0.88		1.1 U	ND	1.1 U	ND	1.1 U	ND	1.1 U	ND	1.1 U	ND	1.1 U	ND	1.1 U	ND
Trichlorofluoromethane (Freon 11)		3.5	NE	NE		150	**4.5**	150	**4.5**	4.3	0.13	18.0	0.54	2	0.06	5.4	0.16	13.0	0.39
Undecane		22.6	NE	NE		0.89 J	0.027	0.6 J	0.018	1.4 J	0.042	0.53 J	0.016	1.4 J	0.042	1.1 J	0.033	6.4 U	ND
Vinyl chloride	<	2	2.8	44		0.51 U	ND	0.51 U	ND	0.51 U	ND	0.51 U	ND	0.51 U	ND	0.51 U	ND	0.51 U	ND
Xylenes, m & p		22	NE	44		13	0.39	11	0.33	15	0.45	14	0.42	20	0.6	26.0	0.78	1.4	0.042

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
ND - Not detected
NE - Not established

Boxed and bolded values indicate concentrations above NYSDOH's typical indoor air concentrations for non-residential settings.

µg/m^3- micrograms per cubic meter

(a) From "Guidance for Evaluating Soil Vapor Intrusion in the State of New York" (NYSDOH October 2006). As recommended by NYSDOH, typical indoor air concentrations in non-residential settings are the 90th percentile values from the USEPA BASE data.
(b) From "OSWER Technical Guide for Assessing and Mitigation the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air" (USEPA June 2015), Generic Regional Screening Levels, Composite Worker Air, Carcinogenic .
(c) From "OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air" (USEPA June 2015), Generic Regional Screening Levels, Composite Worker Air, Non-Carcinogenic .
(d) For purposes of comparing against applicable criteria, an attenuation factor of 0.03 was used for soil vapor, as recommended in Appendix A from the document "OSWER Technical Guide for Assessing and Mitigation the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air" (USEPA June 2015).

TABLE 10
SOIL VAPOR AND OUTDOOR AIR RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent		NYSDOH Typical Indoor Air Conc. (µg/m^3)[(a)] Non-Residential	USEPA Regional Screening Levels Composite Worker Carcinogenic[(b)]	USEPA Regional Screening Levels Composite Worker Non-carcinogenic[(c)]	Location:	AA-1	AA-2	AA-3
					Date:	11/14/2017	11/14/2017	11/14/2017
					Units:	µg/m^3	µg/m^3	µg/m^3
1,1,1-Trichloroethane		21	NE	2200		1.10 U	1.1 U	1.1 U
1,1,2,2-Tetrachloroethane		NE	0.21	NE		1.4 U	1.4 U	1.4 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		NE	NE	2200		0.52 J	0.51 J	0.5 J
1,1,2-Trichloroethane	<	2	0.77	0.088		1.1 U	1.1 U	1.1 U
1,1-Dichloroethane	<	1	7.7	NE		0.81 U	0.81 U	0.81 U
1,1-Dichloroethene	<	1	NE	88		0.79 U	0.79 U	0.79 U
1,2,3-Trimethylbenzene		NE	NE	26		0.98 U	0.98 U	0.98 U
1,2,4,5-Tetramethylbenzene		NE	NE	NE		1.1 U	1.1 U	1.1 U
1,2,4-Trichlorobenzene	<	7	NE	0.88		7.4 U	7.4 U	7.4 U
1,2,4-Trimethylbenzene		9.5	NE	26		0.98 U	0.98 U	0.98 U
1,2-Dibromoethane (EDB)	<	2	0.02	3.9		1.5 U	1.5 U	1.5 U
1,2-Dichlorobenzene	<	1	NE	88		1.2 U	1.2 U	1.2 U
1,2-Dichloroethane	<	1	0.47	3.1		0.81 U	0.81 U	0.81 U
1,2-Dichloropropane	<	2	3.3	1.8		0.92 U	0.92 U	0.92 U
1,2-Dichlorotetrafluoroethane (Freon 114)		NE	NE	NE		1.4 U	1.4 U	1.4 U
1,2-Dimethylbenzene (o-Xylene)		8	NE	44		0.87 U	0.87 U	0.87 U
1,3,5-Trimethylbenzene (mesitylene)		3.7	NE	26		0.98 U	0.98 U	0.98 U
1,3-Butadiene	<	3	0.41	0.88		0.88 U	0.88 U	0.88 U
1,3-Dichlorobenzene	<	2.4	NE	NE		1.20 U	1.20 U	1.20 U
1,4-Dichlorobenzene		5.5	1.1	350		1.2 U	1.2 U	1.2 U
1,4-Dioxane		NE	2.5	13		1.8 U	1.8 U	1.8 U
1-Methylnaphthalene		NE	NE	NE		15 U	15 U	15 U
2,2,4-Trimethylpentane		NE	NE	NE		0.19 J	2.3 U	0.19 J
2-Butanone (MEK)		12	NE	2200		0.77 J	0.83 J	1.2 J
2-Chlorotoluene		NE	NE	NE		2.1 U	2.1 U	2.1 U
2-Hexanone		NE	NE	13		2 U	2 U	2 U
2-Methylbutane		NE	NE	NE		1 J	0.97 J	1.2 J
2-Methylnaphthalene		NE	NE	NE		15 U	15 U	15 U
3-Chloropropene (allyl chloride)		NE	2	0.44		0.63 U	0.63 U	0.63 U
4-Ethyltoluene		4	NE	NE		2 U	2 U	2 U
4-Methyl-2-pentanone (MIBK)		6.0	NE	1300		2.9	2 U	7

TABLE 10
SOIL VAPOR AND OUTDOOR AIR RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent		NYSDOH Typical Indoor Air Conc. (µg/m^3)[a] Non-Residential	USEPA Regional Screening Levels Composite Worker Carcinogenic[b]	USEPA Regional Screening Levels Composite Worker Non-carcinogenic[c]	Location:	AA-1	AA-2	AA-3
					Date:	11/14/2017	11/14/2017	11/14/2017
					Units:	µg/m^3	µg/m^3	µg/m^3
Acetone		98.9	NE	14000		8.6 J	9.6 J	10 J
Benzene		9.4	1.6	13		0.59 J	0.35 J	0.59 J
Bromodichloromethane		NE	0.33	NE		1.3 U	1.3 U	1.3 U
Bromoethene (vinyl bromide)		NE	0.38	1.3		0.87 U	0.87 U	0.87 U
Bromoform		NE	11	NE		2.1 U	2.1 U	2.1 U
Bromomethane	<	1.7	NE	2.2		0.78 U	0.78 U	1 U
Butane		NE	NE	NE		1.6	1.6	2
Carbon disulfide		4.2	NE	310		0.3 J	1.6 U	0.1 J
Carbon tetrachloride	<	1	2	44		0.42 J	0.41 J	0.4 J
Chlorobenzene	<	0.9	NE	22		0.92 U	0.92 U	0.92 U
Chloroethane	<	1.1	NE	4400		0.53 U	0.53 U	0.53 U
Chloroform		1.1	0.53	43		0.98 U	0.98 U	0.98 U
Chloromethane		3.7	NE	39		2.2	2.2	2.2
cis-1,2-Dichloroethene		NE	NE	NE		0.79 U	0.79 U	0.79 U
cis-1,3-Dichloropropene	<	2.3	NE	NE		0.91 U	0.91 U	0.91 U
Cyclohexane		NE	NE	2600		1.7 U	1.7 U	1.7 U
Dibromochloromethane		16.5	NE	NE		1.7 U	1.7 U	1.7 U
Dichlorodifluoromethane (Freon 12)	<	6.8	NE	44		2.5	2.6	2.6
Ethylbenzene		5.7	4.9	440		0.87 U	0.87 U	0.87 U
Hexachlorobutadiene	<	6.8	0.56	NE		11 U	11 U	11 U
Isopropanol		NE	NE	88		0.66 J	0.49 J	0.98 J
Isopropylbenzene (Cumene)		NE	NE	180		2 U	2 U	2 U
Methylene chloride		10	1200	260		1.9	1.7 J	2.5
Naphthalene		5.1	0.36	1		2.6 U	2.6 U	2.6 U
n-Decane (C10)		17.5	NE	NE		5.8 U	5.8 U	0.39 J
n-Dodecane (C12)		NE	NE	NE		0.67 J	7 U	1.3 J
n-Heptane		NE	NE	180		0.24 J	2 U	2 U
n-Hexane		10	NE	310		0.84 J	0.42 J	0.91 J
n-Nonane (C9)		NE	NE	8.8		2.6 U	2.6 U	2.6 U
n-Pentane (C5)		NE	NE	440		1.4 J	1.3 J	1.4 J
Octane		NE	NE	NE		0.2 J	1.9 U	1.9 U
Styrene		1.9	NE	440		0.85 U	0.85 U	0.85 U
tert-Butyl alcohol		NE	NE	NE		0.7 J	0.77 J	0.81 J
tert-Butyl methyl ether (MTBE)		11.5	47	1300		3.6 U	3.6 U	3.6 U
Tetrachloroethene (PCE)		NE	47	18		1.4 U	1.4 U	1.4 U

TABLE 10
SOIL VAPOR AND OUTDOOR AIR RESULTS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent		NYSDOH Typical Indoor Air Conc. ($\mu g/m^3$)[(a)] Non-Residential	USEPA Regional Screening Levels Composite Worker Carcinogenic[(b)]	USEPA Regional Screening Levels Composite Worker Non-carcinogenic[(c)]	Location: / Date: / Units:	AA-1 11/14/2017 $\mu g/m^3$	AA-2 11/14/2017 $\mu g/m^3$	AA-3 11/14/2017 $\mu g/m^3$
Toluene		43	NE	2200		1.1	0.75 U	1.2
trans-1,2-Dichloroethene		NE	NE	NE		0.79 U	0.79 U	0.79 U
trans-1,3-Dichloropropene	<	1.3	NE	NE		0.91 U	0.91 U	0.91 U
Trichloroethene (TCE)		NE	3	0.88		1.1 U	1.1 U	1.1 U
Trichlorofluoromethane (Freon 11)		3.5	NE	NE		1.3	1.4	1.3
Undecane		22.6	NE	NE		6.4 U	6.4 U	0.54 J
Vinyl chloride	<	2	2.8	44		0.51 U	0.51 U	0.51 U
Xylenes, m & p		22	NE	44		0.87 U	0.87 U	0.87 U

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
ND - Not detected
NE - Not established

Boxed and bolded values indicate concentrations above NYSDOH's typical indoor air concentrations for non-residential settings.

$\mu g/m^3$- micrograms per cubic meter

(a) From "Guidance for Evaluating Soil Vapor Intrusion in the State of New York" (NYSDOH October 2006). As recommended by NYSDOH, typical indoor air concentrations in non-residential settings are the 90th percentile values from the USEPA BASE data.
(b) From "OSWER Technical Guide for Assessing and Mitigation the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air" (USEPA June 2015), Generic Regional Screening Levels, Composite Worker Air, Carcinogenic .
(c) From "OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air" (USEPA June 2015), Generic Regional Screening Levels, Composite Worker Air, Non-Carcinogenic .
(d) For purposes of comparing against applicable criteria, an attenuation factor of 0.03 was used for soil vapor, as recommended in Appendix A from the document "OSWER Technical Guide for Assessing and Mitigation the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air" (USEPA June 2015).

TABLE 11
EVALUATION OF POTENTIAL EXPOSURE PATHWAYS
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Medium	Exposure Medium	Exposure Point	Receptors and Potential Exposure Routes (a)						
			Receptor:	Outdoor Worker	Indoor Worker	Utility Worker	Construction Worker	Trespasser or Visitor	Off-Site Resident	Recreational User (River)
			Scenario (b):	C and F	F	C and F	F	C and F	C and F	C and F
Surface Soil	Surface Soil	Surface Soil		G,D	--	G,D	G,D	G,D	--	--
	Dust	Dust in Air		I,G	--	I,G	I,G	I,G	--	--
Subsurface Soil (and NAPL)	Soil	Soil		--	--	G,D	G,D	--	--	--
	Dust	Dust in Air		--	--	I,G	I,G	--	--	--
	Vapor	Ambient Air		I	--	I	I	I	--	--
	Vapor	Indoor Air		--	I	--	--	--	--	--
Groundwater	Groundwater	Groundwater		--	--	G,D	G,D	--	--	--
	Vapor	Ambient Air		I	--	I	I	I	--	--
	Vapor	Indoor Air		--	I	--	--	--	--	--

Notes:
(a) Exposure route abbreviations:
G - Ingestion
I - Inhalation
D - Dermal/Direct contact
-- - No potential exposure route
(b) Site condition scenario abbreviations:
C - Current site conditions and use
F - Possible future site conditions and use

TABLE 12
COMPARISON OF SURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1) Protection of Ecological Resources	USEPA Ecological Soil Screening Levels (2) Soil Inverterbrates	Mammals	Units	SS-1 0-2" 5/13/2015	SS-1 0-6" 5/13/2015	SS-2 0-2" 5/14/2015	SS-2 0-6" 5/14/2015	SS-3 0-2" 5/13/2015	SS-3 0-6" 5/13/2015
Semi-volatile Organic Compounds (SVOCs)										
Polycyclic Aromatic Hydrocarbons (PAHs)										
Acenaphthene	20	29	100	mg/kg	0.66 U	0.65 U	0.61 U	0.63 U	9.6 U	0.28 U
Acenaphthylene	NE	29	100	mg/kg	0.58 U	0.58 U	0.54 U	0.55 U	8.4 U	2.7
Anthracene	NE	29	100	mg/kg	1.1 U	1.1 U	1 U	1.1 U	16 U	4.2
Benzo(a)anthracene	NE	18	1.1	mg/kg	0.45 U	**1.2 J**	**1.7 J**	**1.7 J**	6.5 U	**5.4**
Benzo(a)pyrene	2.6	18	1.1	mg/kg	0.66 U	1 J	**1.5 J**	**1.3 J**	9.6 U	**4.1**
Benzo(b)fluoranthene	NE	18	1.1	mg/kg	0.71 U	**1.5 J**	**1.9 J**	**2 J**	10 U	**5.7**
Benzo(g,h,i)perylene	NE	18	1.1	mg/kg	0.48 U	0.47 U	0.57 J	0.54 J	6.9 U	**2.2**
Benzo(k)fluoranthene	NE	18	1.1	mg/kg	0.58 U	0.58 U	0.8 J	0.55 U	8.4 U	**1.9**
Chrysene	NE	18	1.1	mg/kg	1 U	**1.4 J**	**1.7 J**	**1.8 J**	15 U	**5.4**
Dibenz(a,h)anthracene	NE	18	1.1	mg/kg	0.79 U	0.78 U	0.73 U	0.75 U	12 U	0.34 U
Fluoranthene	NE	18	1.1	mg/kg	0.64 J	**2.5 J**	**2.1 J**	**3.1 J**	6.9 U	**13**
Fluorene	30	29	100	mg/kg	0.53 U	0.52 U	0.49 U	0.5 U	7.7 U	3.8
Indeno(1,2,3-c,d)pyrene	NE	18	1.1	mg/kg	0.56 U	0.55 U	0.73 J	0.57 J	8.1 U	**2**
Naphthalene	NE	29	100	mg/kg	0.58 U	0.58 U	0.54 U	0.55 U	8.4 U	0.94 J
Phenanthrene	NE	29	100	mg/kg	0.66 U	1.2 J	0.97 J	1.8 J	9.6 U	17
Pyrene	NE	29	100	mg/kg	0.55 J	1.7 J	1.9 J	2.5 J	7.7 U	8.7
2-Methylnaphthalene	NE	NE	NE	mg/kg	0.9 U	0.89 U	0.83 U	0.85 U	13 U	0.57 J
Total PAHs	NE	NE	NE	mg/kg	1.19 J	10.5 J	13.87 J	15.31 J	ND	77.61
Other SVOCs										
2,4,5-Trichlorophenol	NE	NE	NE	mg/kg	1.2 U	1.2 U	1.1 U	1.2 U	18 U	0.52 U
2,4,6-Trichlorophenol	NE	NE	NE	mg/kg	0.9 U	0.89 U	0.83 U	0.85 U	13 U	0.38 U
2,4-Dichlorophenol	NE	NE	NE	mg/kg	0.48 U	0.47 U	0.44 U	0.45 U	6.9 U	0.2 U
2,4-Dimethylphenol	NE	NE	NE	mg/kg	1.1 U	1.1 U	1 U	1 U	16 U	0.46 U
2,4-Dinitrophenol	NE	NE	NE	mg/kg	21 U	20 U	19 U	20 U	300 U	8.9 U
2,4-Dinitrotoluene	NE	NE	NE	mg/kg	0.93 U	0.91 U	0.86 U	0.88 U	13 U	0.4 U
2,6-Dinitrotoluene	NE	NE	NE	mg/kg	0.53 U	0.52 U	0.49 U	0.5 U	7.7 U	0.23 U
2-Chloronaphthalene	NE	NE	NE	mg/kg	0.74 U	0.73 U	0.69 U	0.7 U	11 U	0.32 U
2-Chlorophenol	NE	NE	NE	mg/kg	0.82 U	0.81 U	0.76 U	0.78 U	12 U	0.35 U
2-Methylphenol (o-cresol)	NE	NE	NE	mg/kg	0.53 U	0.52 U	0.49 U	0.5 U	7.7 U	0.23 U
2-Nitroaniline	NE	NE	NE	mg/kg	0.66 U	0.65 U	0.61 U	0.63 U	9.6 U	0.28 U
2-Nitrophenol	NE	NE	NE	mg/kg	1.3 U	1.3 U	1.2 U	1.2 U	18 U	0.54 U
3,3'-Dichlorobenzidine	NE	NE	NE	mg/kg	5.3 U	5.2 U	4.9 U	5 U	77 U	2.3 U
3-Nitroaniline	NE	NE	NE	mg/kg	1.2 U	1.2 U	1.2 U	1.2 U	18 U	0.53 U
4,6-Dinitro-2-methylphenol	NE	NE	NE	mg/kg	4.5 U	4.4 U	4.2 U	4.3 U	65 U	1.9 U
4-Bromophenyl phenyl ether	NE	NE	NE	mg/kg	0.63 U	0.63 U	0.59 U	0.6 U	9.2 U	0.27 U
4-Chloro-3-methylphenol	NE	NE	NE	mg/kg	1.1 U	1.1 U	1 U	1.1 U	16 U	0.47 U
4-Chloroaniline	NE	NE	NE	mg/kg	1.1 U	1.1 U	1 U	1.1 U	16 U	0.47 U
4-Chlorophenyl phenyl ether	NE	NE	NE	mg/kg	0.56 U	0.55 U	0.51 U	0.53 U	8.1 U	0.24 U
4-Methylphenol	NE	NE	NE	mg/kg	0.53 U	0.52 U	0.49 U	0.5 U	7.7 U	0.23 U

TABLE 12
COMPARISON OF SURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] [1]	USEPA Ecological Soil Screening Levels [2]								
Constituent	Protection of Ecological Resources	Soil Inverterbrates	Mammals	Units	SS-1 0-2" 5/13/2015	SS-1 0-6" 5/13/2015	SS-2 0-2" 5/14/2015	SS-2 0-6" 5/14/2015	SS-3 0-2" 5/13/2015	SS-3 0-6" 5/13/2015
4-Nitroaniline	NE	NE	NE	mg/kg	2.4 U	2.3 U	2.2 U	2.2 U	34 U	1 U
4-Nitrophenol	NE	NE	NE	mg/kg	3.1 U	3.1 U	2.9 U	3 U	46 U	1.3 U
Acetophenone	NE	NE	NE	mg/kg	0.61 U	0.6 U	0.56 U	0.58 U	8.8 U	0.26 U
Atrazine	NE	NE	NE	mg/kg	1.6 U	1.5 U	1.4 U	1.5 U	23 U	0.67 U
Benzaldehyde	NE	NE	NE	mg/kg	3.6 U	3.5 U	3.3 U	3.4 U	52 U	1.5 U
Benzyl butyl phthalate	NE	NE	NE	mg/kg	0.74 U	0.73 U	0.69 U	0.7 U	11 U	0.32 U
Biphenyl (Diphenyl)	NE	NE	NE	mg/kg	0.66 U	0.65 U	0.61 U	0.63 U	9.6 U	0.28 U
bis(2-Chloroethoxy)methane	NE	NE	NE	mg/kg	0.95 U	0.94 U	0.88 U	0.9 U	14 U	0.41 U
bis(2-Chloroethyl)ether	NE	NE	NE	mg/kg	0.58 U	0.58 U	0.54 U	0.55 U	8.4 U	0.25 U
bis(2-Chloroisopropyl)ether	NE	NE	NE	mg/kg	0.9 U	0.89 U	0.83 U	0.85 U	13 U	0.38 U
bis(2-Ethylhexyl)phthalate	NE	NE	NE	mg/kg	1.5 U	1.5 U	1.4 U	1.5 U	22 U	0.66 U
Caprolactam	NE	NE	NE	mg/kg	1.3 U	1.3 U	1.2 U	1.3 U	20 U	0.58 U
Carbazole	NE	NE	NE	mg/kg	0.53 U	0.52 U	0.49 U	0.5 U	7.7 U	1.9
Dibenzofuran	NE	NE	NE	mg/kg	0.53 U	0.52 U	0.49 U	0.5 U	7.7 U	2
Diethyl phthalate	NE	NE	NE	mg/kg	0.58 U	0.58 U	0.54 U	0.55 U	8.4 U	0.25 U
Dimethyl phthalate	NE	NE	NE	mg/kg	0.53 U	0.52 U	0.49 U	0.5 U	7.7 U	0.23 U
dI-n-Butyl phthalate	NE	NE	NE	mg/kg	0.77 U	0.76 U	0.71 U	0.73 U	11 U	0.33 U
dI-n-Octyl phthalate	NE	NE	NE	mg/kg	0.53 U	0.52 U	0.49 U	0.5 U	7.7 U	0.23 U
Hexachlorobenzene	NE	NE	NE	mg/kg	0.61 U	0.6 U	0.56 U	0.58 U	8.8 U	0.26 U
Hexachlorobutadiene	NE	NE	NE	mg/kg	0.66 U	0.65 U	0.61 U	0.63 U	9.6 U	0.28 U
Hexachlorocyclopentadiene	NE	NE	NE	mg/kg	0.61 U	0.6 U	0.56 U	0.58 U	8.8 U	0.26 U
Hexachloroethane	NE	NE	NE	mg/kg	0.58 U	0.58 U	0.54 U	0.55 U	8.4 U	0.25 U
Isophorone	NE	NE	NE	mg/kg	0.95 U	0.94 U	0.88 U	0.9 U	14 U	0.41 U
Nitrobenzene	NE	NE	NE	mg/kg	0.5 U	0.5 U	0.47 U	0.48 U	7.3 U	0.21 U
N-Nitroso-di-n-propylamine	NE	NE	NE	mg/kg	0.77 U	0.76 U	0.71 U	0.73 U	11 U	0.33 U
N-Nitrosodiphenylamine	NE	NE	NE	mg/kg	3.7 U	3.6 U	3.4 U	3.5 U	53 U	1.6 U
Pentachlorophenol	0.8	31	2.8	mg/kg	4.5 U	4.4 U	4.2 U	4.3 U	65 U	1.9 U
Phenol	30	NE	NE	mg/kg	0.69 U	0.68 U	0.64 U	0.65 U	10 U	0.29 U
Inorganic Constituents				mg/kg						
Cyanide, total	NE	NE	NE	mg/kg	0.64 U	0.63 U	0.59 U	0.6 U	2.6	0.63 J
Aluminum	NE	NE	NE	mg/kg	13700 B	13500	10500	12000	9410 B	5310
Antimony	NE	78	0.27	mg/kg	0.51 U	0.52 UJ	0.51 U	0.53 U	0.5 U	0.46 U
Arsenic	13	NE	46	mg/kg	6.5	7.2 F1	7.7	6.4	6.6	4.7
Barium	433	330	2000	mg/kg	114	116 F1	87.9	103	106	81.7
Beryllium	10	40	21	mg/kg	0.69	0.77 F1	0.66	0.71	0.54	0.36
Cadmium	4	140	0.36	mg/kg	**0.46**	**0.43 F1**	0.038 U	0.065 J	**0.41**	0.2 J
Calcium	NE	NE	NE	mg/kg	11000 B	11000 B	12700 B	3210 B	3790 B	1940 B
Chromium[3]	1	NE	34	mg/kg	**35**	**34.2**	**17.6**	**20.6**	**42**	**23.8**
Cobalt	NE	NE	230	mg/kg	13.3	12.8	11.8	12.4	8.7	7.5
Copper	50	80	49	mg/kg	34.8	35.8 F1	30.6	30.4	34.9	25.1
Iron	NE	NE	NE	mg/kg	24800 B^	23600 B	26400 ^B	26800 ^B	27500 ^B	20700 B
Lead	63	1700	56	mg/kg	39.5	46.7 J	28.6	**94.1**	**289**	**107**

TABLE 12
COMPARISON OF SURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1)	USEPA Ecological Soil Screening Levels (2)								
Constituent	Protection of Ecological Resources	Soil Inverterbrates	Mammals	Units	SS-1 0-2" 5/13/2015	SS-1 0-6" 5/13/2015	SS-2 0-2" 5/14/2015	SS-2 0-6" 5/14/2015	SS-3 0-2" 5/13/2015	SS-3 0-6" 5/13/2015
Magnesium	NE	NE	NE	mg/kg	6620 B	6380 J	5790	6160	3140 B	1470
Manganese	1600	450	4000	mg/kg	**788 B**	**873 J**	**714 ^B**	**969 ^B**	**654 B**	411 B
Nickel	30	280	130	mg/kg	28	26.5 F1	23.6	28.4	22.6	10.5
Potassium	NE	NE	NE	mg/kg	1900	2120 J	1770	2260	1950	1590
Selenium	3.9	4.1	0.63	mg/kg	0.51 U	0.52 UF1	0.51 U	0.53 U	0.5 U	0.46 U
Silver	2	NE	14	mg/kg	0.25 U	0.26 UF1	0.25 U	0.26 U	0.25 U	0.36 J
Sodium	NE	NE	NE	mg/kg	98.5 J	121 JF1	101 J	69.7 J	260	259
Thallium	NE	NE	NE	mg/kg	0.38 U	0.39 U	0.38 U	0.4 U	0.38 U	0.35 U
Vanadium	NE	NE	280	mg/kg	21.6	22.9	23	27.7	29.3	25.7
Zinc	109	120	79	mg/kg	**109 B**	**107 J**	**84.7 ^B**	**175 ^B**	**118 B**	53.2 B
Mercury	0.18	NE	NE	mg/kg	0.13	0.12	0.015 J	0.031	**0.83**	**0.63**
Pesticides										
4,4'-DDD	0.0033	NE	0.021	mg/kg	0.021 U	0.021 U	0.0081 U	0.02 U	0.042 U	0.019 U
4,4'-DDE	0.0033	NE	0.021	mg/kg	0.023 U	0.023 U	0.0087 U	0.022 U	0.045 U	0.02 U
4,4'-DDT	0.0033	NE	0.021	mg/kg	0.026 U	**0.025 J**	0.0097 U	0.024 U	0.05 U	**0.022 J**
Aldrin	0.14	NE	NE	mg/kg	0.027 U	0.027 U	0.01 U	0.026 U	0.053 U	0.023 U
alpha Endosulfan (Endosulfan I)	NE	NE	NE	mg/kg	0.021 U	0.021 U	0.008 U	0.02 U	0.041 U	0.018 U
beta Endosulfan (Endosulfan II)	NE	NE	NE	mg/kg	0.02 U	0.02 U	0.0075 U	0.019 U	0.039 U	0.017 U
BHC, alpha	0.04	NE	NE	mg/kg	0.02 U	0.02 U	0.0075 U	0.019 U	0.039 U	0.017 U
BHC, beta	0.6	NE	NE	mg/kg	0.02 U	0.02 U	0.0075 U	0.019 U	0.039 U	0.017 U
BHC, delta	0.04	NE	NE	mg/kg	0.02 U	0.02 U	0.0077 U	0.019 U	0.04 U	0.018 U
BHC, gamma (Lindane)	6	NE	NE	mg/kg	0.02 U	0.02 U	0.0076 U	0.019 U	0.039 U	0.017 U
Chlordane, alpha	1.3	NE	NE	mg/kg	0.055 U	0.054 U	0.021 U	0.052 U	0.11 U	0.047 U
Chlordane, beta	NE	NE	NE	mg/kg	0.035 U	0.034 U	0.013 U	0.033 U	0.068 U	0.03 U
Dieldrin	0.006	NE	0.0049	mg/kg	0.026 U	0.026 U	0.01 U	0.025 U	0.051 U	0.023 U
Endosulfan sulfate	NE	NE	NE	mg/kg	0.02 U	0.02 U	0.0078 U	0.019 U	0.04 U	0.018 U
Endrin	0.014	NE	NE	mg/kg	0.022 U	0.021 U	0.0082 U	0.021 U	0.042 U	0.019 U
Endrin aldehyde	NE	NE	NE	mg/kg	0.028 U	0.028 U	0.011 U	0.027 U	0.055 U	0.024 U
Endrin ketone	NE	NE	NE	mg/kg	0.027 U	0.027 U	0.01 U	0.026 U	0.053 U	0.023 U
Heptachlor	0.14	NE	NE	mg/kg	0.024 U	0.023 U	0.009 U	0.022 U	0.046 U	0.021 U
Heptachlor epoxide	NE	NE	NE	mg/kg	0.028 U	0.028 U	0.011 U	0.027 U	0.055 U	0.025 U
Methoxychlor	NE	NE	NE	mg/kg	0.022 U	0.022 U	0.089 J	0.021 U	0.044 U	0.019 U
Toxaphene	NE	NE	NE	mg/kg	0.64 U	0.63 U	0.24 U	0.6 U	1.2 U	0.55 U

TABLE 12
COMPARISON OF SURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1)	USEPA Ecological Soil Screening Levels (2)								
Constituent	Protection of Ecological Resources	Soil Inverterbrates	Mammals	Units	SS-1 0-2" 5/13/2015	SS-1 0-6" 5/13/2015	SS-2 0-2" 5/14/2015	SS-2 0-6" 5/14/2015	SS-3 0-2" 5/13/2015	SS-3 0-6" 5/13/2015
Polychlorinated Biphenyls (PCBs)										
Aroclor 1016	NE	NE	NE	mg/kg	0.058 U	0.05 U	0.041 U	0.051 U	0.052 U	0.05 U
Aroclor 1221	NE	NE	NE	mg/kg	0.058 U	0.05 U	0.041 U	0.051 U	0.052 U	0.05 U
Aroclor 1232	NE	NE	NE	mg/kg	0.058 U	0.05 U	0.041 U	0.051 U	0.052 U	0.05 U
Aroclor 1242	NE	NE	NE	mg/kg	0.058 U	0.05 U	0.041 U	0.051 U	0.052 U	0.05 U
Aroclor 1248	NE	NE	NE	mg/kg	0.091 J	0.071 J	0.041 U	0.051 U	0.1 J	0.069 J
Aroclor 1254	NE	NE	NE	mg/kg	0.14 U	0.12 U	0.098 U	0.12 U	0.12 U	0.12 U
Aroclor 1260	NE	NE	NE	mg/kg	0.14 U	0.12 U	0.098 U	0.12 U	0.12 U	0.12 U
Total PCBs	NE	NE	NE	mg/kg	0.091 J	0.071 J	ND	ND	0.1 J	0.069 J

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the reporting limit but greater than or equal to the method detection limit.
B - Constituent was found in the blank and the sample.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related Quality Control (QC) is outside acceptance limits.

NE - Not established.
ND - Not Detected

Boxed and bolded values indicate concentrations are above one or more of the following criteria: 1) New York State Subpart 375 Soil Cleanup Objectives for Protection of Ecological Resources, 2) USEPA Ecological Soil Screening Levels for PAHs, select pesticides and metals (Soil Invertebrates), or 3) USEPA Ecological Screening Levels for PAHs, select pesticides and metals (Mammals).

(1) - 6NYCRR Subpart 375-6.
(2) - Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) (USEPA, 2007g), Pentachlorophenol (USEPA, 2007f), Antimony (USEPA, 2005a), Arsenic (USEPA, 2005d), Barium (USEPA, 2005b), Beryllium (USEPA, 2005c), Cadmium (USEPA, 2005e), Chromium (USEPA, 2008), Cobalt (USEPA, 2005f), Copper (USEPA, 2007a), Lead (USEPA, 2005g), Manganese (USEPA, 2007e), Nickel (USEPA, 2007b), Selenium (USEPA, 2007i), Silver (USEPA, 2006), Vanadium (USEPA, 2005h), Zinc (USEPA, 2007h), 4,4'-DDD (USEPA, 2007c), 4,4'-DDE (USEPA, 2007c), 4,4'-DDT,(USEPA, 2007c), and Dieldrin (USEPA, 2007d)
(3) - Chromium analysis was for total chromium. To be conservative, total chromium concentrations were compared to the hexavalent chromium SCO for Protection of Ecological Resources.

TABLE 12
COMPARISON OF SURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1) Protection of Ecological Resources	USEPA Ecological Soil Screening Levels (2) Soil Inverterbrates	Mammals	Units	SS-4 0-2" 5/13/2015	SS-4 0-6" 5/13/2015	SS-5 0-2" 5/13/2015	SS-5 DUP 0-2" 5/13/2015	SS-5 0-6" 5/13/2015	SS-6 0-2" 5/13/2015
Semi-volatile Organic Compounds (SVOCs)										
Polycyclic Aromatic Hydrocarbons (PAHs)										
Acenaphthene	20	29	100	mg/kg	6 U	7.5 U	0.58 U	0.58 U	3.4 U	3.6 U
Acenaphthylene	NE	29	100	mg/kg	5.3 U	6.6 U	0.6 J	0.51 U	3 U	3.2 U
Anthracene	NE	29	100	mg/kg	10 U	13 U	1.2 J	0.97 U	5.7 UF1F2	6 U
Benzo(a)anthracene	NE	18	1.1	mg/kg	4.1 U	5.1 U	**5.5**	**3.2 J**	2.3 UF1F2	2.4 U
Benzo(a)pyrene	2.6	18	1.1	mg/kg	6 U	7.5 U	**5.1**	**2.9 J**	3.4 UF1F2	3.6 U
Benzo(b)fluoranthene	NE	18	1.1	mg/kg	6.5 U	8.1 U	**6.2**	**4.5**	3.7 UF1F2	3.9 U
Benzo(g,h,i)perylene	NE	18	1.1	mg/kg	4.3 U	5.4 U	**3.2 J**	**2.2 J**	2.5 UF1F2	2.6 U
Benzo(k)fluoranthene	NE	18	1.1	mg/kg	5.3 U	6.6 U	**3.1 J**	**1.5 J**	3 UF1F2	3.2 U
Chrysene	NE	18	1.1	mg/kg	9.2 U	11 U	**5.2**	**2.9 J**	5.2 UF1F2	5.4 U
Dibenz(a,h)anthracene	NE	18	1.1	mg/kg	7.2 U	9 U	0.69 U	0.69 U	4.1 UF2	4.3 U
Fluoranthene	NE	18	1.1	mg/kg	4.3 U	5.4 U	**8.3**	**4.7**	2.5 UF1F2	2.6 U
Fluorene	30	29	100	mg/kg	4.8 U	6 U	0.46 U	0.46 U	2.7 UF2	2.9 U
Indeno(1,2,3-c,d)pyrene	NE	18	1.1	mg/kg	5.1 U	6.3 U	**3.4 J**	**2.3 J**	2.9 UF1F2	3 U
Naphthalene	NE	29	100	mg/kg	5.3 U	6.6 U	0.51 U	0.51 U	3 U	3.2 U
Phenanthrene	NE	29	100	mg/kg	6 U	7.5 U	4	1.4 J	3.4 UF1F2	3.6 U
Pyrene	NE	29	100	mg/kg	4.8 U	6 U	8	5	2.7 UF1F2	2.9 U
2-Methylnaphthalene	NE	NE	NE	mg/kg	8.2 U	10 U	0.78 U	0.79 U	4.6 U	4.9 U
Total PAHs	NE	NE	NE	mg/kg	ND	ND	53.8	30.6	ND	ND
Other SVOCs										
2,4,5-Trichlorophenol	NE	NE	NE	mg/kg	11 U	14 U	1.1 U	1.1 U	6.3 UF1	6.6 U
2,4,6-Trichlorophenol	NE	NE	NE	mg/kg	8.2 U	10 U	0.78 U	0.79 U	4.6 UF1F2	4.9 U
2,4-Dichlorophenol	NE	NE	NE	mg/kg	4.3 U	5.4 U	0.41 U	0.42 U	2.5 UF2	2.6 U
2,4-Dimethylphenol	NE	NE	NE	mg/kg	9.9 U	12 U	0.94 U	0.95 U	5.6 U	5.9 U
2,4-Dinitrophenol	NE	NE	NE	mg/kg	190 U	240 U	18 U	18 U	110 U	110 U
2,4-Dinitrotoluene	NE	NE	NE	mg/kg	8.5 U	11 U	0.81 U	0.81 U	4.8 U	5 U
2,6-Dinitrotoluene	NE	NE	NE	mg/kg	4.8 U	6 U	0.46 U	0.46 U	2.7 UF1	2.9 U
2-Chloronaphthalene	NE	NE	NE	mg/kg	6.8 U	8.4 U	0.64 U	0.65 U	3.8 U	4 U
2-Chlorophenol	NE	NE	NE	mg/kg	7.5 U	9.3 U	0.71 U	0.72 U	4.2 U	4.4 U
2-Methylphenol (o-cresol)	NE	NE	NE	mg/kg	4.8 U	6 U	0.46 U	0.46 U	2.7 U	2.9 U
2-Nitroaniline	NE	NE	NE	mg/kg	6 U	7.5 U	0.58 U	0.58 U	3.4 UF1F2	3.6 U
2-Nitrophenol	NE	NE	NE	mg/kg	12 U	14 U	1.1 U	1.1 U	6.6 U	6.9 U
3,3'-Dichlorobenzidine	NE	NE	NE	mg/kg	48 U	60 U	4.6 U	4.6 U	27 U	29 U
3-Nitroaniline	NE	NE	NE	mg/kg	11 U	14 U	1.1 U	1.1 U	6.4 UF1	6.7 U
4,6-Dinitro-2-methylphenol	NE	NE	NE	mg/kg	41 U	51 U	3.9 U	3.9 U	23 U	24 U
4-Bromophenyl phenyl ether	NE	NE	NE	mg/kg	5.8 U	7.2 U	0.55 U	0.55 U	3.3 U	3.4 U
4-Chloro-3-methylphenol	NE	NE	NE	mg/kg	10 U	13 U	0.97 U	0.97 U	5.7 U	6 U
4-Chloroaniline	NE	NE	NE	mg/kg	10 U	13 U	0.97 U	0.97 U	5.7 UF1	6 U
4-Chlorophenyl phenyl ether	NE	NE	NE	mg/kg	5.1 U	6.3 U	0.48 U	0.49 U	2.9 U	3 U
4-Methylphenol	NE	NE	NE	mg/kg	4.8 U	6 U	0.46 U	0.46 U	2.7 U	2.9 U

TABLE 12
COMPARISON OF SURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] [1]	USEPA Ecological Soil Screening Levels [2]								
Constituent	Protection of Ecological Resources	Soil Inverterbrates	Mammals	Units	SS-4 0-2" 5/13/2015	SS-4 0-6" 5/13/2015	SS-5 0-2" 5/13/2015	SS-5 DUP 0-2" 5/13/2015	SS-5 0-6" 5/13/2015	SS-6 0-2" 5/13/2015
4-Nitroaniline	NE	NE	NE	mg/kg	21 U	27 U	2 U	2.1 U	12 U	13 U
4-Nitrophenol	NE	NE	NE	mg/kg	29 U	36 U	2.7 U	2.8 U	16 UF1	17 U
Acetophenone	NE	NE	NE	mg/kg	5.6 U	6.9 U	0.53 U	0.53 U	3.1 U	3.3 U
Atrazine	NE	NE	NE	mg/kg	14 U	18 U	1.4 U	1.4 U	8.1 U	8.5 U
Benzaldehyde	NE	NE	NE	mg/kg	33 U	41 U	3.1 U	3.1 U	18 UF1	19 U
Benzyl butyl phthalate	NE	NE	NE	mg/kg	6.8 U	8.4 U	0.64 U	0.65 U	3.8 U	4 U
Biphenyl (Diphenyl)	NE	NE	NE	mg/kg	6 U	7.5 U	0.58 U	0.58 U	3.4 U	3.6 U
bis(2-Chloroethoxy)methane	NE	NE	NE	mg/kg	8.7 U	11 U	0.83 U	0.83 U	4.9 UF2	5.2 U
bis(2-Chloroethyl)ether	NE	NE	NE	mg/kg	5.3 U	6.6 U	0.51 U	0.51 U	3 U	3.2 U
bis(2-Chloroisopropyl)ether	NE	NE	NE	mg/kg	8.2 U	10 U	0.78 U	0.79 U	4.6 U	4.9 U
bis(2-Ethylhexyl)phthalate	NE	NE	NE	mg/kg	14 U	17 U	1.3 U	1.3 U	7.9 U	8.3 U
Caprolactam	NE	NE	NE	mg/kg	12 U	15 U	1.2 U	1.2 U	7 U	7.3 U
Carbazole	NE	NE	NE	mg/kg	4.8 U	6 U	0.46 U	0.46 U	2.7 UF2	2.9 U
Dibenzofuran	NE	NE	NE	mg/kg	4.8 U	6 U	0.46 U	0.46 U	2.7 U	2.9 U
Diethyl phthalate	NE	NE	NE	mg/kg	5.3 U	6.6 U	0.51 U	0.51 U	3 U	3.2 U
Dimethyl phthalate	NE	NE	NE	mg/kg	4.8 U	6 U	0.46 U	0.46 U	2.7 UF2	2.9 U
dI-n-Butyl phthalate	NE	NE	NE	mg/kg	7 U	8.7 U	0.67 U	0.67 U	4 U	4.2 U
dI-n-Octyl phthalate	NE	NE	NE	mg/kg	4.8 U	6 U	0.46 U	0.46 U	2.7 UF2	12 J
Hexachlorobenzene	NE	NE	NE	mg/kg	5.6 U	6.9 U	0.53 U	0.53 U	3.1 U	3.3 U
Hexachlorobutadiene	NE	NE	NE	mg/kg	6 U	7.5 U	0.58 U	0.58 U	3.4 U	3.6 U
Hexachlorocyclopentadiene	NE	NE	NE	mg/kg	5.6 U	6.9 U	0.53 U	0.53 U	3.1 UF1	3.3 U
Hexachloroethane	NE	NE	NE	mg/kg	5.3 U	6.6 U	0.51 U	0.51 U	3 U	3.2 U
Isophorone	NE	NE	NE	mg/kg	8.7 U	11 U	0.83 U	0.83 U	4.9 U	5.2 U
Nitrobenzene	NE	NE	NE	mg/kg	4.6 U	5.7 U	0.44 U	0.44 U	2.6 U	2.7 U
N-Nitroso-di-n-propylamine	NE	NE	NE	mg/kg	7 U	8.7 U	0.67 U	0.67 U	4 U	4.2 U
N-Nitrosodiphenylamine	NE	NE	NE	mg/kg	33 U	42 U	3.2 U	3.2 U	19 UF1	20 U
Pentachlorophenol	0.8	31	2.8	mg/kg	41 U	51 U	3.9 U	3.9 U	23 U	24 U
Phenol	30	NE	NE	mg/kg	6.3 U	7.8 U	0.6 U	0.6 U	3.6 U	3.7 U
Inorganic Constituents				mg/kg						
Cyanide, total	NE	NE	NE	mg/kg	0.53 J	1.2	2.7	4.2	2.8	3.1
Aluminum	NE	NE	NE	mg/kg	7110 B	7340 B	8360 B	6460 B	6270 J	9720
Antimony	NE	78	0.27	mg/kg	0.45 U	0.46 U	0.46 U	0.5 U	0.46 UJ	0.4 U
Arsenic	13	NE	46	mg/kg	**23.5**	**21.4**	9.4	6.7	9.6 J	5.4
Barium	433	330	2000	mg/kg	84	99.2	134	85	129	99.1
Beryllium	10	40	21	mg/kg	0.4	0.42	0.033 U	0.063 J	0.032 UF1	0.5
Cadmium	4	140	0.36	mg/kg	0.17 U	0.17 U	0.3	0.17 J	**0.38 F1**	0.33
Calcium	NE	NE	NE	mg/kg	3880 B	5270 B	8920 J	59100 J	29800 F2B	25000 B
Chromium[3]	1	NE	34	mg/kg	**75.8**	**64.4**	**28.6**	**22.3**	**60.8 J**	**79.8**
Cobalt	NE	NE	230	mg/kg	24.3	24.9	22.4	15.3	23.9	8.8
Copper	50	80	49	mg/kg	**285**	**257**	**80.4 J**	39.1 J	**125 J**	**63.5**
Iron	NE	NE	NE	mg/kg	175000 B	201000 B	41600 ^B	31400 ^B	56500 J	36600 B
Lead	63	1700	56	mg/kg	**701**	**2540**	**614 J**	**257 J**	**307**	**282**

TABLE 12
COMPARISON OF SURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1) Protection of Ecological Resources	USEPA Ecological Soil Screening Levels (2) Soil Inverterbrates	Mammals	Units	SS-4 0-2" 5/13/2015	SS-4 0-6" 5/13/2015	SS-5 0-2" 5/13/2015	SS-5 DUP 0-2" 5/13/2015	SS-5 0-6" 5/13/2015	SS-6 0-2" 5/13/2015
Magnesium	NE	NE	NE	mg/kg	4600 B	3810 B	3160 B	4010 B	7850 J	7170
Manganese	1600	450	4000	mg/kg	**1270 B**	**1320 B**	**620 B**	**565 B**	**707 J**	**610 B**
Nickel	30	280	130	mg/kg	**123**	**103**	**1410 J**	**650 J**	**731 J**	**32.2**
Potassium	NE	NE	NE	mg/kg	1110	1190	1390	1190	1090 J	1730
Selenium	3.9	4.1	0.63	mg/kg	2.2 U	2.3 U	0.46 U	0.5 U	0.46 UJ	0.4 U
Silver	2	NE	14	mg/kg	0.22 U	0.23 U	0.23 U	0.25 U	0.23 UF1	0.2 U
Sodium	NE	NE	NE	mg/kg	105 J	123 J	901	677	978 J	566
Thallium	NE	NE	NE	mg/kg	0.34 U	0.34 U	4.7 J	1.6 J	3.7 J	0.3 U
Vanadium	NE	NE	280	mg/kg	62.4	82.7	**2100 J**	**1050 J**	**1580 F2**	30.2
Zinc	109	120	79	mg/kg	**310 B**	**486 B**	**169 B**	**119 B**	**243 J**	**855 B**
Mercury	0.18	NE	NE	mg/kg	0.1	0.1	**1.2**	**1.3**	**0.98 F1**	0.047
Pesticides										
4,4'-DDD	0.0033	NE	0.021	mg/kg	0.18 U	0.19 U	0.075 U	0.019 U	0.018 UF1	0.034 U
4,4'-DDE	0.0033	NE	0.021	mg/kg	0.19 U	0.2 U	0.081 U	0.02 U	0.02 U	0.036 U
4,4'-DDT	0.0033	NE	0.021	mg/kg	0.21 U	0.23 U	0.09 U	0.023 U	0.022 UF1F2	0.041 U
Aldrin	0.14	NE	NE	mg/kg	0.22 U	0.24 U	0.094 U	0.024 U	0.023 U	0.043 U
alpha Endosulfan (Endosulfan I)	NE	NE	NE	mg/kg	0.17 U	0.19 U	0.074 U	0.019 U	0.018 UF1	0.033 U
beta Endosulfan (Endosulfan II)	NE	NE	NE	mg/kg	0.16 U	0.17 U	0.069 U	0.018 U	0.017 UF1	0.031 U
BHC, alpha	0.04	NE	NE	mg/kg	0.16 U	0.17 U	0.069 U	0.018 U	0.017 UF1F2	0.031 U
BHC, beta	0.6	NE	NE	mg/kg	0.16 U	0.17 U	0.069 U	0.018 U	0.017 UF1	0.031 U
BHC, delta	0.04	NE	NE	mg/kg	0.17 U	0.18 U	0.071 U	0.018 U	0.017 UF1F2	0.032 U
BHC, gamma (Lindane)	6	NE	NE	mg/kg	0.17 U	0.18 U	0.07 U	0.018 U	0.017 UF1	0.032 U
Chlordane, alpha	1.3	NE	NE	mg/kg	0.45 U	0.48 U	0.19 U	0.048 U	0.046 U	0.086 U
Chlordane, beta	NE	NE	NE	mg/kg	0.29 U	0.31 U	0.12 U	0.031 U	0.03 U	0.055 U
Dieldrin	0.006	NE	0.0049	mg/kg	0.22 U	0.23 U	0.092 U	0.023 U	0.022 U	0.042 U
Endosulfan sulfate	NE	NE	NE	mg/kg	0.17 U	0.18 U	0.072 U	0.018 U	0.017 UF1	0.032 U
Endrin	0.014	NE	NE	mg/kg	0.18 U	0.19 U	0.076 U	0.019 U	0.018 U	0.034 U
Endrin aldehyde	NE	NE	NE	mg/kg	0.23 U	0.25 U	0.098 U	0.025 U	0.024 U	0.044 U
Endrin ketone	NE	NE	NE	mg/kg	0.22 U	0.24 U	0.094 U	0.024 U	0.023 U	0.043 U
Heptachlor	0.14	NE	NE	mg/kg	0.2 U	0.21 U	0.083 U	0.021 U	0.02 U	0.038 U
Heptachlor epoxide	NE	NE	NE	mg/kg	0.23 U	0.25 U	0.099 U	0.025 U	0.024 U	0.045 U
Methoxychlor	NE	NE	NE	mg/kg	0.19 U	0.2 U	0.078 U	0.02 U	0.019 U	0.035 U
Toxaphene	NE	NE	NE	mg/kg	5.3 U	5.6 U	2.2 U	0.57 U	0.54 U	1 U

TABLE 12
COMPARISON OF SURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1)	USEPA Ecological Soil Screening Levels (2)								
Constituent	Protection of Ecological Resources	Soil Inverterbrates	Mammals	Units	SS-4 0-2" 5/13/2015	SS-4 0-6" 5/13/2015	SS-5 0-2" 5/13/2015	SS-5 DUP 0-2" 5/13/2015	SS-5 0-6" 5/13/2015	SS-6 0-2" 5/13/2015
Polychlorinated Biphenyls (PCBs)										
Aroclor 1016	NE	NE	NE	mg/kg	0.048 U	0.054 U	0.053 U	0.048 U	0.053 U	0.043 U
Aroclor 1221	NE	NE	NE	mg/kg	0.048 U	0.054 U	0.053 U	0.048 U	0.053 U	0.043 U
Aroclor 1232	NE	NE	NE	mg/kg	0.048 U	0.054 U	0.053 U	0.048 U	0.053 U	0.043 U
Aroclor 1242	NE	NE	NE	mg/kg	0.048 U	0.054 U	0.053 U	0.048 U	0.053 U	0.043 U
Aroclor 1248	NE	NE	NE	mg/kg	0.048 U	0.054 U	0.053 U	0.048 U	0.053 U	0.043 U
Aroclor 1254	NE	NE	NE	mg/kg	0.12 U	0.13 U	0.13 U	0.11 U	0.13 U	0.16 J
Aroclor 1260	NE	NE	NE	mg/kg	0.12 U	0.13 U	0.13 U	0.11 U	0.13 U	0.1 U
Total PCBs	NE	NE	NE	mg/kg	ND	ND	ND	ND	ND	0.16 J

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the reporting limit but greater than or equal to the method detection limit.
B - Constituent was found in the blank and the sample.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related Quality Control (QC) is outside acceptance limits.

NE - Not established.
ND - Not Detected

Boxed and bolded values indicate concentrations are above one or more of the following criteria: 1) New York State Subpart 375 Soil Cleanup Objectives for Protection of Ecological Resources, 2) USEPA Ecological Soil Screening Levels for PAHs, select pesticides and metals (Soil Invertebrates), or 3) USEPA Ecological Screening Levels for PAHs, select pesticides and metals (Mammals).

(1) - 6NYCRR Subpart 375-6.
(2) - Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) (USEPA, 2007g), Pentachlorophenol (USEPA, 2007f), Antimony (USEPA, 2005a), Arsenic (USEPA, 2005d), Barium (USEPA, 2005b), Beryllium (USEPA, 2005c), Cadmium (USEPA, 2005e), Chromium (USEPA, 2008), Cobalt (USEPA, 2005f), Copper (USEPA, 2007a), Lead (USEPA, 2005g), Manganese (USEPA, 2007e), Nickel (USEPA, 2007b), Selenium (USEPA, 2007i), Silver (USEPA, 2006), Vanadium (USEPA, 2005h), Zinc (USEPA, 2007h), 4,4'-DDD (USEPA, 2007c), 4,4'-DDE (USEPA, 2007c), 4,4'-DDT,(USEPA, 2007c), and Dieldrin (USEPA, 2007d)
(3) - Chromium analysis was for total chromium. To be conservative, total chromium concentrations were compared to the hexavalent chromium SCO for Protection of Ecological Resources.

TABLE 12
COMPARISON OF SURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1) Protection of Ecological Resources	USEPA Ecological Soil Screening Levels (2) Soil Inverterbrates	Mammals	Units	SS-6 0-6" 5/13/2015	SS-7 0-2" 5/13/2015	SS-7 0-6" 5/13/2015	SS-8 0-2" 5/13/2015	SS-8 0-6" 5/13/2015	SS-9 0-2" 5/13/2015
Semi-volatile Organic Compounds (SVOCs)										
Polycyclic Aromatic Hydrocarbons (PAHs)										
Acenaphthene	20	29	100	mg/kg	9.5 U	**90 J**	**44 J**	5.2 U	1.3 U	0.52 U
Acenaphthylene	NE	29	100	mg/kg	8.4 U	15 U	18 U	12 J	20	2.1 J
Anthracene	NE	29	100	mg/kg	16 U	**210**	**120 J**	8.8 U	8.1 J	2.7 J
Benzo(a)anthracene	NE	18	1.1	mg/kg	6.5 U	**770**	**420**	**33 J**	**56**	**11**
Benzo(a)pyrene	2.6	18	1.1	mg/kg	9.5 U	**1100**	**600**	**28 J**	**46**	**8.9**
Benzo(b)fluoranthene	NE	18	1.1	mg/kg	10 U	**960**	**560**	**31 J**	**46**	**11**
Benzo(g,h,i)perylene	NE	18	1.1	mg/kg	6.9 U	**430**	**290**	**14 J**	**20**	**5.1**
Benzo(k)fluoranthene	NE	18	1.1	mg/kg	8.4 U	**670**	**330**	**16 J**	**31**	**5.1**
Chrysene	NE	18	1.1	mg/kg	14 U	**790**	**440**	**26 J**	**52**	**11**
Dibenz(a,h)anthracene	NE	18	1.1	mg/kg	11 U	**170**	**110 J**	6.3 U	1.5 U	0.62 U
Fluoranthene	NE	18	1.1	mg/kg	6.9 U	**840**	**430**	**29 J**	**55**	**14**
Fluorene	30	29	100	mg/kg	7.6 U	**48 J**	**48 J**	4.2 U	3.3 J	1.3 J
Indeno(1,2,3-c,d)pyrene	NE	18	1.1	mg/kg	8 U	**470**	**290**	**14 J**	**20**	**5.2**
Naphthalene	NE	29	100	mg/kg	8.4 U	**89 J**	**49 J**	4.6 U	5.6 J	0.87 J
Phenanthrene	NE	29	100	mg/kg	9.5 U	**520**	**350**	13 J	27	12
Pyrene	NE	29	100	mg/kg	7.6 U	**810**	**390**	**40**	**79**	16
2-Methylnaphthalene	NE	NE	NE	mg/kg	13 U	31 J	27 U	7.1 U	3.8 J	0.71 U
Total PAHs	NE	NE	NE	mg/kg	ND	7998	4471	256	472.8	106.27
Other SVOCs										
2,4,5-Trichlorophenol	NE	NE	NE	mg/kg	18 U	31 U	37 U	9.6 U	2.3 U	0.96 U
2,4,6-Trichlorophenol	NE	NE	NE	mg/kg	13 U	23 U	27 U	7.1 U	1.7 U	0.71 U
2,4-Dichlorophenol	NE	NE	NE	mg/kg	6.9 U	12 U	14 U	3.8 U	0.91 U	0.37 U
2,4-Dimethylphenol	NE	NE	NE	mg/kg	16 U	28 U	33 U	8.5 U	2.1 U	0.85 U
2,4-Dinitrophenol	NE	NE	NE	mg/kg	300 U	530 U	630 U	160 U	40 U	16 U
2,4-Dinitrotoluene	NE	NE	NE	mg/kg	13 U	24 U	28 U	7.3 U	1.8 U	0.73 U
2,6-Dinitrotoluene	NE	NE	NE	mg/kg	7.6 U	14 U	16 U	4.2 U	1 U	0.42 U
2-Chloronaphthalene	NE	NE	NE	mg/kg	11 U	19 U	22 U	5.8 U	1.4 U	0.58 U
2-Chlorophenol	NE	NE	NE	mg/kg	12 U	21 U	25 U	6.5 U	1.6 U	0.64 U
2-Methylphenol (o-cresol)	NE	NE	NE	mg/kg	7.6 U	14 U	16 U	4.2 U	1 U	0.42 U
2-Nitroaniline	NE	NE	NE	mg/kg	9.5 U	17 U	20 U	5.2 U	1.3 U	0.52 U
2-Nitrophenol	NE	NE	NE	mg/kg	18 U	33 U	39 U	10 U	2.4 U	1 U
3,3'-Dichlorobenzidine	NE	NE	NE	mg/kg	76 U	140 U	160 U	42 U	10 U	4.2 U
3-Nitroaniline	NE	NE	NE	mg/kg	18 U	32 U	38 U	9.8 U	2.4 U	0.98 U
4,6-Dinitro-2-methylphenol	NE	NE	NE	mg/kg	65 U	120 U	140 U	35 U	8.6 U	3.5 U
4-Bromophenyl phenyl ether	NE	NE	NE	mg/kg	9.1 U	16 U	19 U	5 U	1.2 U	0.5 U
4-Chloro-3-methylphenol	NE	NE	NE	mg/kg	16 U	28 U	34 U	8.8 U	2.1 U	0.87 U
4-Chloroaniline	NE	NE	NE	mg/kg	16 U	28 U	34 U	8.8 U	2.1 U	0.87 U
4-Chlorophenyl phenyl ether	NE	NE	NE	mg/kg	8 U	14 U	17 U	4.4 U	1.1 U	0.44 U
4-Methylphenol	NE	NE	NE	mg/kg	7.6 U	14 U	16 U	4.2 U	1 U	0.42 U

TABLE 12
COMPARISON OF SURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1) Protection of Ecological Resources	USEPA Ecological Soil Screening Levels (2) Soil Inverterbrates	Mammals	Units	SS-6 0-6" 5/13/2015	SS-7 0-2" 5/13/2015	SS-7 0-6" 5/13/2015	SS-8 0-2" 5/13/2015	SS-8 0-6" 5/13/2015	SS-9 0-2" 5/13/2015
4-Nitroaniline	NE	NE	NE	mg/kg	34 U	60 U	71 U	19 U	4.5 U	1.9 U
4-Nitrophenol	NE	NE	NE	mg/kg	45 U	81 U	96 U	25 U	6 U	2.5 U
Acetophenone	NE	NE	NE	mg/kg	8.8 U	16 U	18 U	4.8 U	1.2 U	0.48 U
Atrazine	NE	NE	NE	mg/kg	22 U	40 U	47 U	12 U	3 U	1.2 U
Benzaldehyde	NE	NE	NE	mg/kg	51 U	92 U	110 U	28 U	6.9 U	2.8 U
Benzyl butyl phthalate	NE	NE	NE	mg/kg	11 U	19 U	22 U	5.8 U	1.4 U	0.58 U
Biphenyl (Diphenyl)	NE	NE	NE	mg/kg	9.5 U	17 U	20 U	5.2 U	1.3 U	0.52 U
bis(2-Chloroethoxy)methane	NE	NE	NE	mg/kg	14 U	24 U	29 U	7.5 U	1.8 U	0.75 U
bis(2-Chloroethyl)ether	NE	NE	NE	mg/kg	8.4 U	15 U	18 U	4.6 U	1.1 U	0.46 U
bis(2-Chloroisopropyl)ether	NE	NE	NE	mg/kg	13 U	23 U	27 U	7.1 U	1.7 U	0.71 U
bis(2-Ethylhexyl)phthalate	NE	NE	NE	mg/kg	22 U	39 U	47 U	12 U	2.9 U	1.2 U
Caprolactam	NE	NE	NE	mg/kg	19 U	35 U	41 U	11 U	2.6 U	1.1 U
Carbazole	NE	NE	NE	mg/kg	7.6 U	100 J	63 J	4.2 U	1 U	1.1 J
Dibenzofuran	NE	NE	NE	mg/kg	7.6 U	54 J	34 J	4.2 U	1.1 J	0.7 J
Diethyl phthalate	NE	NE	NE	mg/kg	8.4 U	15 U	18 U	4.6 U	1.1 U	0.46 U
Dimethyl phthalate	NE	NE	NE	mg/kg	7.6 U	14 U	16 U	4.2 U	1 U	0.42 U
dI-n-Butyl phthalate	NE	NE	NE	mg/kg	11 U	20 U	23 U	6 U	1.5 U	0.6 U
dI-n-Octyl phthalate	NE	NE	NE	mg/kg	7.6 U	14 U	16 U	4.2 U	1 U	0.42 U
Hexachlorobenzene	NE	NE	NE	mg/kg	8.8 U	16 U	18 U	4.8 U	1.2 U	0.48 U
Hexachlorobutadiene	NE	NE	NE	mg/kg	9.5 U	17 U	20 U	5.2 U	1.3 U	0.52 U
Hexachlorocyclopentadiene	NE	NE	NE	mg/kg	8.8 U	16 U	18 U	4.8 U	1.2 U	0.48 U
Hexachloroethane	NE	NE	NE	mg/kg	8.4 U	15 U	18 U	4.6 U	1.1 U	0.46 U
Isophorone	NE	NE	NE	mg/kg	14 U	24 U	29 U	7.5 U	1.8 U	0.75 U
Nitrobenzene	NE	NE	NE	mg/kg	7.2 U	13 U	15 U	4 U	0.97 U	0.39 U
N-Nitroso-di-n-propylamine	NE	NE	NE	mg/kg	11 U	20 U	23 U	6 U	1.5 U	0.6 U
N-Nitrosodiphenylamine	NE	NE	NE	mg/kg	53 U	94 U	110 U	29 U	7 U	2.9 U
Pentachlorophenol	0.8	31	2.8	mg/kg	65 U	120 U	140 U	35 U	8.6 U	3.5 U
Phenol	30	NE	NE	mg/kg	9.9 U	18 U	21 U	5.4 U	1.3 U	0.54 U
Inorganic Constituents				mg/kg						
Cyanide, total	NE	NE	NE	mg/kg	0.53 U	0.75 J	0.51 J	0.61 J	0.93 J	0.46 U
Aluminum	NE	NE	NE	mg/kg	11200	2340	2200	9620 B	9340	7170 B
Antimony	NE	78	0.27	mg/kg	0.46 U	0.43 U	0.42 U	0.39 U	0.38 U	2 U
Arsenic	13	NE	46	mg/kg	6.2	**17.9**	**24**	7.2	7.1	**28.9**
Barium	433	330	2000	mg/kg	**425**	43.4	48.4	89.2	95.3	99.1
Beryllium	10	40	21	mg/kg	0.59	0.19 J	0.19 J	0.58	0.7	1.1
Cadmium	4	140	0.36	mg/kg	**0.55**	0.047 J	0.043 J	0.17 J	0.17 J	0.15 U
Calcium	NE	NE	NE	mg/kg	21400 B	429 B	514 B	3230 B	9040 B	5970 B
Chromium(3)	1	NE	34	mg/kg	**72.3**	**5.7**	**7.3**	**20**	**16**	**38.9**
Cobalt	NE	NE	230	mg/kg	9.9	2.4	2.3	8.2	8	10
Copper	50	80	49	mg/kg	**77.9**	13.8	15.8	28.1	27.7	27.8
Iron	NE	NE	NE	mg/kg	40500 B	15400 B	17800 B	23900 ^B	21800 B	110000 B^
Lead	63	1700	56	mg/kg	**468**	53.9	**64.6**	**200**	**172**	**127**

TABLE 12
COMPARISON OF SURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1) Protection of Ecological Resources	USEPA Ecological Soil Screening Levels (2) Soil Inverterbrates	Mammals	Units	SS-6 0-6" 5/13/2015	SS-7 0-2" 5/13/2015	SS-7 0-6" 5/13/2015	SS-8 0-2" 5/13/2015	SS-8 0-6" 5/13/2015	SS-9 0-2" 5/13/2015
Magnesium	NE	NE	NE	mg/kg	8490	570	430	2900 B	3370	2790 B
Manganese	1600	450	4000	mg/kg	**547 B**	142 B	124 B	**518 B**	366 B	**2040 B^**
Nickel	30	280	130	mg/kg	**46.3**	7.9	8.5	29.3	**30.7**	24.7
Potassium	NE	NE	NE	mg/kg	1880	508	484	1310	1170	1130
Selenium	3.9	4.1	0.63	mg/kg	0.46 U	0.49 J	**1.7 J**	0.39 U	0.38 U	2 U
Silver	2	NE	14	mg/kg	0.23 U	0.21 U	0.21 U	0.2 U	0.19 U	1 U
Sodium	NE	NE	NE	mg/kg	778	47.1 J	79.9 J	92.5 J	163	334 J
Thallium	NE	NE	NE	mg/kg	0.34 U	0.32 U	0.32 U	0.29 U	0.29 U	1.5 U
Vanadium	NE	NE	280	mg/kg	63.5	12.7	15.2	34.2	33.7	134
Zinc	109	120	79	mg/kg	**946 B**	25.6 B	27 B	**113 B**	**105 B**	78.9 B
Mercury	0.18	NE	NE	mg/kg	0.068	0.052	0.076	0.1	0.13	0.15
Pesticides										
4,4'-DDD	0.0033	NE	0.021	mg/kg	0.035 U	0.017 U	0.017 U	0.017 U	0.033 U	0.017 U
4,4'-DDE	0.0033	NE	0.021	mg/kg	0.038 U	0.018 U	0.019 U	0.018 U	0.036 U	0.018 U
4,4'-DDT	0.0033	NE	0.021	mg/kg	0.042 U	**0.024 NJ**	**0.022 J**	**0.032 J**	0.04 U	0.02 U
Aldrin	0.14	NE	NE	mg/kg	0.044 U	0.021 U	0.022 U	0.021 U	0.042 U	0.021 U
alpha Endosulfan (Endosulfan I)	NE	NE	NE	mg/kg	0.035 U	0.017 U	0.017 U	0.016 U	0.033 U	0.017 U
beta Endosulfan (Endosulfan II)	NE	NE	NE	mg/kg	0.033 U	0.016 U	0.016 U	0.015 U	0.031 U	0.016 U
BHC, alpha	0.04	NE	NE	mg/kg	0.033 U	0.016 U	0.016 U	0.015 U	0.031 U	0.016 U
BHC, beta	0.6	NE	NE	mg/kg	0.033 U	0.016 U	0.016 U	0.015 U	0.031 U	0.016 U
BHC, delta	0.04	NE	NE	mg/kg	0.034 U	0.016 U	0.017 U	0.016 U	0.032 U	0.016 U
BHC, gamma (Lindane)	6	NE	NE	mg/kg	0.033 U	0.016 U	0.016 U	0.016 U	0.031 U	0.016 U
Chlordane, alpha	1.3	NE	NE	mg/kg	0.09 U	0.043 U	0.045 U	0.042 U	0.085 U	0.043 U
Chlordane, beta	NE	NE	NE	mg/kg	0.057 U	0.028 U	0.029 U	0.027 U	0.054 U	0.028 U
Dieldrin	0.006	NE	0.0049	mg/kg	0.043 U	0.021 U	0.022 U	0.02 U	0.041 U	0.021 U
Endosulfan sulfate	NE	NE	NE	mg/kg	0.034 U	0.016 U	0.017 U	0.085 U	0.17 U	0.016 U
Endrin	0.014	NE	NE	mg/kg	0.036 U	0.017 U	0.018 U	0.017 U	0.034 U	0.017 U
Endrin aldehyde	NE	NE	NE	mg/kg	0.046 U	0.022 U	0.023 U	0.022 U	0.043 U	0.022 U
Endrin ketone	NE	NE	NE	mg/kg	0.044 U	0.021 U	0.022 U	0.056 NJ	0.066 J	0.021 U
Heptachlor	0.14	NE	NE	mg/kg	0.039 U	0.019 U	0.019 U	0.018 U	0.037 U	0.019 U
Heptachlor epoxide	NE	NE	NE	mg/kg	0.047 U	0.022 U	0.023 U	0.022 U	0.044 U	0.022 U
Methoxychlor	NE	NE	NE	mg/kg	0.037 U	0.087 U	0.018 U	0.085 U	0.035 U	0.087 U
Toxaphene	NE	NE	NE	mg/kg	1.1 U	0.51 U	0.52 U	0.49 U	0.99 U	0.5 U

TABLE 12
COMPARISON OF SURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1) Protection of Ecological Resources	USEPA Ecological Soil Screening Levels (2) Soil Inverterbrates	Mammals	Units	SS-6 0-6" 5/13/2015	SS-7 0-2" 5/13/2015	SS-7 0-6" 5/13/2015	SS-8 0-2" 5/13/2015	SS-8 0-6" 5/13/2015	SS-9 0-2" 5/13/2015
Polychlorinated Biphenyls (PCBs)										
Aroclor 1016	NE	NE	NE	mg/kg	0.049 U	0.048 U	0.047 U	0.05 U	0.045 U	0.044 U
Aroclor 1221	NE	NE	NE	mg/kg	0.049 U	0.048 U	0.047 U	0.05 U	0.045 U	0.044 U
Aroclor 1232	NE	NE	NE	mg/kg	0.049 U	0.048 U	0.047 U	0.05 U	0.045 U	0.044 U
Aroclor 1242	NE	NE	NE	mg/kg	0.049 U	0.048 U	0.047 U	0.05 U	0.045 U	0.044 U
Aroclor 1248	NE	NE	NE	mg/kg	0.049 U	0.048 U	0.047 U	0.05 U	0.045 U	0.044 U
Aroclor 1254	NE	NE	NE	mg/kg	0.12 U	0.12 U	0.11 U	0.12 U	0.11 U	0.1 U
Aroclor 1260	NE	NE	NE	mg/kg	0.12 U	0.12 U	0.11 U	0.12 U	0.11 U	0.1 U
Total PCBs	NE	NE	NE	mg/kg	ND	ND	ND	ND	ND	ND

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the reporting limit but greater than or equal to the method detection limit.
B - Constituent was found in the blank and the sample.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related Quality Control (QC) is outside acceptance limits.

NE - Not established.
ND - Not Detected

Boxed and bolded values indicate concentrations are above one or more of the following criteria: 1) New York State Subpart 375 Soil Cleanup Objectives for Protection of Ecological Resources, 2) USEPA Ecological Soil Screening Levels for PAHs, select pesticides and metals (Soil Invertebrates), or 3) USEPA Ecological Screening Levels for PAHs, select pesticides and metals (Mammals).

(1) - 6NYCRR Subpart 375-6.
(2) - Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) (USEPA, 2007g), Pentachlorophenol (USEPA, 2007f), Antimony (USEPA, 2005a), Arsenic (USEPA, 2005d), Barium (USEPA, 2005b), Beryllium (USEPA, 2005c), Cadmium (USEPA, 2005e), Chromium (USEPA, 2008), Cobalt (USEPA, 2005f), Copper (USEPA, 2007a), Lead (USEPA, 2005g), Manganese (USEPA, 2007e), Nickel (USEPA, 2007b), Selenium (USEPA, 2007i), Silver (USEPA, 2006), Vanadium (USEPA, 2005h), Zinc (USEPA, 2007h), 4,4'-DDD (USEPA, 2007c), 4,4'-DDE (USEPA, 2007c), 4,4'-DDT,(USEPA, 2007c), and Dieldrin (USEPA, 2007d)
(3) - Chromium analysis was for total chromium. To be conservative, total chromium concentrations were compared to the hexavalent chromium SCO for Protection of Ecological Resources.

TABLE 12
COMPARISON OF SURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1) Protection of Ecological Resources	USEPA Ecological Soil Screening Levels (2) Soil Inverterbrates	Mammals	Units	SS-9 0-6" 5/13/2015	SS-10 0-2" 5/13/2015	SS-10 0-6" 5/13/2015	SS-11 0-2" 5/14/2015	SS-11 DUP 0-2" 5/14/2015	SS-11 0-6" 5/14/2015
Semi-volatile Organic Compounds (SVOCs)										
Polycyclic Aromatic Hydrocarbons (PAHs)										
Acenaphthene	20	29	100	mg/kg	0.53 U	1.3 U	4.7 U	0.53 U	0.53 U	0.69 JF1
Acenaphthylene	NE	29	100	mg/kg	1 J	2.1 J	4.2 U	1.2 J	1.1 J	1.2 JF1F2
Anthracene	NE	29	100	mg/kg	1.2 J	2.3 U	7.9 U	1 J	0.97 J	2 JF1F2
Benzo(a)anthracene	NE	18	1.1	mg/kg	**5.3**	**9.1 J**	**12 J**	**4.9**	**5.6**	**8 F2**
Benzo(a)pyrene	2.6	18	1.1	mg/kg	**4.3**	**9.3**	**8.9 J**	**4**	**4.3**	**6 F1F2**
Benzo(b)fluoranthene	NE	18	1.1	mg/kg	**5.6**	**9.9**	**8 J**	**5.1**	**6.7**	**7 F2**
Benzo(g,h,i)perylene	NE	18	1.1	mg/kg	**1.7 J**	**4.6 J**	**4 J**	**2 J**	**2 J**	**3.6 F1F2**
Benzo(k)fluoranthene	NE	18	1.1	mg/kg	**2.2 J**	**5.7 J**	4.2 U	**2.9 J**	**2.2 J**	**4.5 F1F2**
Chrysene	NE	18	1.1	mg/kg	**5.4**	**8.5 J**	**9.5 J**	**4.9**	**5.1**	**8 F2**
Dibenz(a,h)anthracene	NE	18	1.1	mg/kg	0.64 U	1.6 U	5.7 U	0.63 U	0.97 J	**1.5 JF1F2**
Fluoranthene	NE	18	1.1	mg/kg	**7.9**	**11**	**16 J**	**7**	**6.5**	**13 F2**
Fluorene	30	29	100	mg/kg	0.68 J	1.1 U	4 J	0.42 U	0.45 J	1.6 JF1F2
Indeno(1,2,3-c,d)pyrene	NE	18	1.1	mg/kg	**2 J**	**4.8 J**	**4 J**	**2.2 J**	**2 J**	**3.7 F1F2**
Naphthalene	NE	29	100	mg/kg	0.47 U	1.9 J	4.7 J	0.46 U	0.66 J	0.7 J
Phenanthrene	NE	29	100	mg/kg	6.3	6.6 J	29 J	4.1	5.3	13 F2
Pyrene	NE	29	100	mg/kg	7.6	14	26 J	6.1	7	13
2-Methylnaphthalene	NE	NE	NE	mg/kg	0.72 U	1.8 U	6.4 U	0.72 U	0.72 U	0.89 JF1F2
Total PAHs	NE	NE	NE	mg/kg	51.18	87.5	126.1 J	45.4	50.85	88.38
Other SVOCs										
2,4,5-Trichlorophenol	NE	NE	NE	mg/kg	0.97 U	2.5 U	8.7 U	0.97 U	0.97 U	0.94 UF1
2,4,6-Trichlorophenol	NE	NE	NE	mg/kg	0.72 U	1.8 U	6.4 U	0.72 U	0.72 U	0.69 UF1F2
2,4-Dichlorophenol	NE	NE	NE	mg/kg	0.38 U	0.97 U	3.4 U	0.38 U	0.38 U	0.37 UF2
2,4-Dimethylphenol	NE	NE	NE	mg/kg	0.87 U	2.2 U	7.8 U	0.86 U	0.86 U	0.83 U
2,4-Dinitrophenol	NE	NE	NE	mg/kg	17 U	42 U	150 U	17 U	16 U	16 U
2,4-Dinitrotoluene	NE	NE	NE	mg/kg	0.74 U	1.9 U	6.6 U	0.74 U	0.74 U	0.71 U
2,6-Dinitrotoluene	NE	NE	NE	mg/kg	0.42 U	1.1 U	3.8 U	0.42 U	0.42 U	0.41 UF1F2
2-Chloronaphthalene	NE	NE	NE	mg/kg	0.59 U	1.5 U	5.3 U	0.59 U	0.59 U	0.57 UF2
2-Chlorophenol	NE	NE	NE	mg/kg	0.66 U	1.7 U	5.9 U	0.65 U	0.65 U	0.63 UF2
2-Methylphenol (o-cresol)	NE	NE	NE	mg/kg	0.42 U	1.1 U	3.8 U	0.42 U	0.42 U	0.41 U
2-Nitroaniline	NE	NE	NE	mg/kg	0.53 U	1.3 U	4.7 U	0.53 U	0.53 U	0.51 UF1F2
2-Nitrophenol	NE	NE	NE	mg/kg	1 U	2.6 U	9.1 U	1 U	1 U	0.98 U
3,3'-Dichlorobenzidine	NE	NE	NE	mg/kg	4.2 U	11 U	38 U	4.2 U	4.2 U	4.1 U
3-Nitroaniline	NE	NE	NE	mg/kg	1 U	2.5 U	8.9 U	0.99 U	0.99 U	0.96 UF1
4,6-Dinitro-2-methylphenol	NE	NE	NE	mg/kg	3.6 U	9.2 U	32 U	3.6 U	3.6 U	3.5 U
4-Bromophenyl phenyl ether	NE	NE	NE	mg/kg	0.51 U	1.3 U	4.5 U	0.51 U	0.5 U	0.49 UF2
4-Chloro-3-methylphenol	NE	NE	NE	mg/kg	0.89 U	2.3 U	7.9 U	0.89 U	0.88 U	0.86 UF2
4-Chloroaniline	NE	NE	NE	mg/kg	0.89 U	2.3 U	7.9 U	0.89 U	0.88 U	0.86 UF1
4-Chlorophenyl phenyl ether	NE	NE	NE	mg/kg	0.45 U	1.1 U	4 U	0.44 U	0.44 U	0.43 UF2
4-Methylphenol	NE	NE	NE	mg/kg	0.42 U	1.1 U	3.8 U	0.42 U	0.42 U	0.41 UF2

TABLE 12
COMPARISON OF SURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1) Protection of Ecological Resources	USEPA Ecological Soil Screening Levels (2) Soil Inverterbrates	Mammals	Units	SS-9 0-6" 5/13/2015	SS-10 0-2" 5/13/2015	SS-10 0-6" 5/13/2015	SS-11 0-2" 5/14/2015	SS-11 DUP 0-2" 5/14/2015	SS-11 0-6" 5/14/2015
4-Nitroaniline	NE	NE	NE	mg/kg	1.9 U	4.8 U	17 U	1.9 U	1.9 U	1.8 U
4-Nitrophenol	NE	NE	NE	mg/kg	2.5 U	6.4 U	23 U	2.5 U	2.5 U	2.4 UF1
Acetophenone	NE	NE	NE	mg/kg	0.49 U	1.2 U	4.3 U	0.49 U	0.48 U	0.47 UF2
Atrazine	NE	NE	NE	mg/kg	1.3 U	3.2 U	11 U	1.2 U	1.2 U	1.2 UF2
Benzaldehyde	NE	NE	NE	mg/kg	2.9 U	7.3 U	26 U	2.8 U	2.8 U	2.7 UF1
Benzyl butyl phthalate	NE	NE	NE	mg/kg	0.59 U	1.5 U	5.3 U	0.59 U	0.59 U	0.57 UF2
Biphenyl (Diphenyl)	NE	NE	NE	mg/kg	0.53 U	1.3 U	4.7 U	0.53 U	0.53 U	0.51 UF1F2
bis(2-Chloroethoxy)methane	NE	NE	NE	mg/kg	0.76 U	1.9 U	6.8 U	0.76 U	0.76 U	0.73 UF2
bis(2-Chloroethyl)ether	NE	NE	NE	mg/kg	0.47 U	1.2 U	4.2 U	0.46 U	0.46 U	0.45 UF2
bis(2-Chloroisopropyl)ether	NE	NE	NE	mg/kg	0.72 U	1.8 U	6.4 U	0.72 U	0.72 U	0.69 UF2
bis(2-Ethylhexyl)phthalate	NE	NE	NE	mg/kg	1.2 U	3.1 U	11 U	1.2 U	1.2 U	1.2 UF1F2
Caprolactam	NE	NE	NE	mg/kg	1.1 U	2.7 U	9.6 U	1.1 U	1.1 U	1 UF2
Carbazole	NE	NE	NE	mg/kg	0.49 J	1.1 U	3.8 U	0.43 J	0.42 U	0.68 JF1F2
Dibenzofuran	NE	NE	NE	mg/kg	0.42 U	1.1 U	3.8 U	0.42 U	0.42 U	0.73 JF1F2
Diethyl phthalate	NE	NE	NE	mg/kg	0.47 U	1.2 U	4.2 U	0.46 U	0.46 U	0.45 UF2
Dimethyl phthalate	NE	NE	NE	mg/kg	0.42 U	1.1 U	3.8 U	0.42 U	0.42 U	0.41 UF2
dI-n-Butyl phthalate	NE	NE	NE	mg/kg	0.61 U	1.6 U	5.5 U	0.61 U	0.61 U	0.59 UF2
dI-n-Octyl phthalate	NE	NE	NE	mg/kg	0.42 U	1.1 U	3.8 U	0.42 U	0.42 U	0.41 UF1
Hexachlorobenzene	NE	NE	NE	mg/kg	0.49 U	1.2 U	4.3 U	0.49 U	0.48 U	0.47 U
Hexachlorobutadiene	NE	NE	NE	mg/kg	0.53 U	1.3 U	4.7 U	0.53 U	0.53 U	0.51 U
Hexachlorocyclopentadiene	NE	NE	NE	mg/kg	0.49 U	1.2 U	4.3 U	0.49 U	0.48 U	0.47 UF1
Hexachloroethane	NE	NE	NE	mg/kg	0.47 U	1.2 U	4.2 U	0.46 U	0.46 U	0.45 U
Isophorone	NE	NE	NE	mg/kg	0.76 U	1.9 U	6.8 U	0.76 U	0.76 U	0.73 UF2
Nitrobenzene	NE	NE	NE	mg/kg	0.4 U	1 U	3.6 U	0.4 U	0.4 U	0.39 U
N-Nitroso-di-n-propylamine	NE	NE	NE	mg/kg	0.61 U	1.6 U	5.5 U	0.61 U	0.61 U	0.59 UF2
N-Nitrosodiphenylamine	NE	NE	NE	mg/kg	2.9 U	7.4 U	26 U	2.9 U	2.9 U	2.8 UF1
Pentachlorophenol	0.8	31	2.8	mg/kg	3.6 U	9.2 U	32 U	3.6 U	3.6 U	3.5 U
Phenol	30	NE	NE	mg/kg	0.55 U	1.4 U	4.9 U	0.55 U	0.55 U	0.53 U
Inorganic Constituents				mg/kg						
Cyanide, total	NE	NE	NE	mg/kg	0.49 U	0.51 U	0.5 U	0.51 U	0.51 UJ	0.5 UJ
Aluminum	NE	NE	NE	mg/kg	8190 B	5880 B	7120 B	8230	7940	7960 J
Antimony	NE	78	0.27	mg/kg	0.42 U	2 U	2.1 U	**6.7 J**	0.4 U	0.42 UJ
Arsenic	13	NE	46	mg/kg	**14.7**	**30**	**20.2**	11.8	10.4	9.1
Barium	433	330	2000	mg/kg	106	70	78.3	81.5	90.9	81.3 J
Beryllium	10	40	21	mg/kg	0.56	0.83 J	0.94 J	0.64	0.57	0.56
Cadmium	4	140	0.36	mg/kg	0.16 U	0.15 U	0.16 U	0.13 J	0.08 J	0.19 J
Calcium	NE	NE	NE	mg/kg	2960 B	5120 B	6100 B	23100 J	12700 J	7190 J
Chromium(3)	1	NE	34	mg/kg	**22.5**	**52.3**	**49.3**	**30**	**44.8**	**25.8**
Cobalt	NE	NE	230	mg/kg	12.6	10.1	9.8	9.1	9	8
Copper	50	80	49	mg/kg	37.2	**110**	46.5	**50.9**	**60.2**	**52.8**
Iron	NE	NE	NE	mg/kg	64100 B^	85100 B^	91900 B	34600 ^B	45000 B	30900 B^
Lead	63	1700	56	mg/kg	**224**	**391**	**729**	**386**	**403**	**336**

TABLE 12
COMPARISON OF SURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1)	USEPA Ecological Soil Screening Levels (2)								
Constituent	Protection of Ecological Resources	Soil Inverterbrates	Mammals	Units	SS-9 0-6" 5/13/2015	SS-10 0-2" 5/13/2015	SS-10 0-6" 5/13/2015	SS-11 0-2" 5/14/2015	SS-11 DUP 0-2" 5/14/2015	SS-11 0-6" 5/14/2015
Magnesium	NE	NE	NE	mg/kg	3260 B	2190 B	3020 B	5130	4510 B	4630 J
Manganese	1600	450	4000	mg/kg	**601 B^**	**1500 B^**	**1490 B**	**458 ^B**	**738 B**	442 B^
Nickel	30	280	130	mg/kg	**32.2**	**64.2**	**38.6**	**32.1**	**35.7**	**31.1**
Potassium	NE	NE	NE	mg/kg	1320	795	1100	1560	1410	1430 J
Selenium	3.9	4.1	0.63	mg/kg	0.42 U	2 U	2.1 U	0.43 U	0.4 U	0.42 U
Silver	2	NE	14	mg/kg	0.21 U	0.99 U	1 U	0.21 U	0.2 U	0.21 U
Sodium	NE	NE	NE	mg/kg	125 J	237 J	308 J	164	140 J	149
Thallium	NE	NE	NE	mg/kg	0.31 U	1.5 U	1.6 U	0.32 U	0.3 U	0.31 U
Vanadium	NE	NE	280	mg/kg	34.6	133	134	35.7	36.8	33
Zinc	109	120	79	mg/kg	**87 B**	**119 B**	**153 B**	**139 ^B**	**151 B**	**146 J-**
Mercury	0.18	NE	NE	mg/kg	0.11	0.079	0.059	0.076	0.11	0.053 J
Pesticides										
4,4'-DDD	0.0033	NE	0.021	mg/kg	0.017 U	0.017 U	0.034 U	0.017 U	0.017 U	0.017 UF1
4,4'-DDE	0.0033	NE	0.021	mg/kg	0.019 U	0.019 U	0.037 U	0.018 U	0.018 U	0.018 U
4,4'-DDT	0.0033	NE	0.021	mg/kg	0.021 U	**0.04 J**	**0.051 J**	0.02 U	0.021 U	0.02 U
Aldrin	0.14	NE	NE	mg/kg	0.022 U	0.022 U	0.043 U	0.022 U	0.022 U	0.021 U
alpha Endosulfan (Endosulfan I)	NE	NE	NE	mg/kg	0.017 U	0.017 U	0.034 U	0.017 U	0.017 U	0.017 UF1
beta Endosulfan (Endosulfan II)	NE	NE	NE	mg/kg	0.016 U	0.016 U	0.031 U	0.016 U	0.016 U	0.016 UF1
BHC, alpha	0.04	NE	NE	mg/kg	0.016 U	0.016 U	0.031 U	0.016 U	0.016 U	0.016 UF1
BHC, beta	0.6	NE	NE	mg/kg	0.016 U	0.016 U	0.031 U	0.016 U	0.016 U	0.016 UF1
BHC, delta	0.04	NE	NE	mg/kg	0.016 U	0.017 U	0.033 U	0.016 U	0.016 U	0.016 UF1
BHC, gamma (Lindane)	6	NE	NE	mg/kg	0.016 U	0.09 U	0.032 U	0.016 U	0.016 U	0.016 UF1
Chlordane, alpha	1.3	NE	NE	mg/kg	0.044 U	0.045 U	0.087 U	0.044 U	0.044 U	0.043 U
Chlordane, beta	NE	NE	NE	mg/kg	0.028 U	0.029 U	0.056 U	0.028 U	0.028 U	0.028 U
Dieldrin	0.006	NE	0.0049	mg/kg	0.021 U	0.022 U	0.042 U	0.021 U	0.021 U	0.021 U
Endosulfan sulfate	NE	NE	NE	mg/kg	0.017 U	0.017 U	0.033 U	0.016 U	0.016 U	0.016 UF1
Endrin	0.014	NE	NE	mg/kg	0.018 U	0.018 U	0.035 U	0.017 U	0.017 U	0.017 UF1
Endrin aldehyde	NE	NE	NE	mg/kg	0.023 U	0.023 U	0.045 U	0.022 U	0.022 U	0.022 U
Endrin ketone	NE	NE	NE	mg/kg	0.022 U	0.026 J	0.043 U	0.022 U	0.022 J	0.021 U
Heptachlor	0.14	NE	NE	mg/kg	0.019 U	0.019 U	0.038 U	0.019 U	0.019 U	0.019 U
Heptachlor epoxide	NE	NE	NE	mg/kg	0.023 U	0.023 U	0.045 U	0.023 U	0.023 U	0.023 U
Methoxychlor	NE	NE	NE	mg/kg	0.018 U	0.018 U	0.036 U	0.088 U	0.062 NJ	0.087 U
Toxaphene	NE	NE	NE	mg/kg	0.52 U	0.52 U	1 U	0.51 U	0.51 U	0.51 U

TABLE 12
COMPARISON OF SURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1) Protection of Ecological Resources	USEPA Ecological Soil Screening Levels (2) Soil Inverterbrates	Mammals	Units	SS-9 0-6" 5/13/2015	SS-10 0-2" 5/13/2015	SS-10 0-6" 5/13/2015	SS-11 0-2" 5/14/2015	SS-11 DUP 0-2" 5/14/2015	SS-11 0-6" 5/14/2015
Polychlorinated Biphenyls (PCBs)										
Aroclor 1016	NE	NE	NE	mg/kg	0.044 U	0.039 U	0.045 U	0.046 U	0.037 U	0.042 U
Aroclor 1221	NE	NE	NE	mg/kg	0.044 U	0.039 U	0.045 U	0.046 U	0.037 U	0.042 U
Aroclor 1232	NE	NE	NE	mg/kg	0.044 U	0.039 U	0.045 U	0.046 U	0.037 U	0.042 U
Aroclor 1242	NE	NE	NE	mg/kg	0.044 U	0.039 U	0.045 U	0.046 U	0.037 U	0.042 U
Aroclor 1248	NE	NE	NE	mg/kg	0.044 U	0.039 U	0.045 U	0.046 U	0.037 U	0.042 U
Aroclor 1254	NE	NE	NE	mg/kg	0.1 U	0.094 U	0.11 U	0.11 U	0.088 U	0.1 U
Aroclor 1260	NE	NE	NE	mg/kg	0.1 U	0.094 U	0.11 U	0.11 U	0.088 U	0.1 U
Total PCBs	NE	NE	NE	mg/kg	ND	ND	ND	ND	ND	ND

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the reporting limit but greater than or equal to the method detection limit.
B - Constituent was found in the blank and the sample.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related Quality Control (QC) is outside acceptance limits.

NE - Not established.
ND - Not Detected

Boxed and bolded values indicate concentrations are above one or more of the following criteria: 1) New York State Subpart 375 Soil Cleanup Objectives for Protection of Ecological Resources, 2) USEPA Ecological Soil Screening Levels for PAHs, select pesticides and metals (Soil Invertebrates), or 3) USEPA Ecological Screening Levels for PAHs, select pesticides and metals (Mammals).

(1) - 6NYCRR Subpart 375-6.
(2) - Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) (USEPA, 2007g), Pentachlorophenol (USEPA, 2007f), Antimony (USEPA, 2005a), Arsenic (USEPA, 2005d), Barium (USEPA, 2005b), Beryllium (USEPA, 2005c), Cadmium (USEPA, 2005e), Chromium (USEPA, 2008), Cobalt (USEPA, 2005f), Copper (USEPA, 2007a), Lead (USEPA, 2005g), Manganese (USEPA, 2007e), Nickel (USEPA, 2007b), Selenium (USEPA, 2007i), Silver (USEPA, 2006), Vanadium (USEPA, 2005h), Zinc (USEPA, 2007h), 4,4'-DDD (USEPA, 2007c), 4,4'-DDE (USEPA, 2007c), 4,4'-DDT,(USEPA, 2007c), and Dieldrin (USEPA, 2007d)
(3) - Chromium analysis was for total chromium. To be conservative, total chromium concentrations were compared to the hexavalent chromium SCO for Protection of Ecological Resources.

TABLE 12
COMPARISON OF SURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1) Protection of Ecological Resources	USEPA Ecological Soil Screening Levels (2) Soil Inverterbrates	Mammals	Units	SS-12 0-2" 5/14/2015	SS-12 0-6" 5/14/2015
Semi-volatile Organic Compounds (SVOCs)						
Polycyclic Aromatic Hydrocarbons (PAHs)						
Acenaphthene	20	29	100	mg/kg	0.52 U	0.53 U
Acenaphthylene	NE	29	100	mg/kg	0.8 J	2 J
Anthracene	NE	29	100	mg/kg	0.87 U	0.89 U
Benzo(a)anthracene	NE	18	1.1	mg/kg	**2.7 J**	**4.3**
Benzo(a)pyrene	2.6	18	1.1	mg/kg	**2.1 J**	**3.9**
Benzo(b)fluoranthene	NE	18	1.1	mg/kg	**3.4 J**	**5**
Benzo(g,h,i)perylene	NE	18	1.1	mg/kg	**1.3 J**	**2 J**
Benzo(k)fluoranthene	NE	18	1.1	mg/kg	**1.2 J**	**2.6 J**
Chrysene	NE	18	1.1	mg/kg	**2.5 J**	**4.7**
Dibenz(a,h)anthracene	NE	18	1.1	mg/kg	0.62 U	1 J
Fluoranthene	NE	18	1.1	mg/kg	**3.3 J**	**5**
Fluorene	30	29	100	mg/kg	0.42 U	0.42 U
Indeno(1,2,3-c,d)pyrene	NE	18	1.1	mg/kg	**1.3 J**	**2.2 J**
Naphthalene	NE	29	100	mg/kg	0.46 U	0.51 J
Phenanthrene	NE	29	100	mg/kg	1.7 J	1.9 J
Pyrene	NE	29	100	mg/kg	3.2 J	5
2-Methylnaphthalene	NE	NE	NE	mg/kg	0.71 U	0.72 U
Total PAHs	NE	NE	NE	mg/kg	23.5 J	40.11
Other SVOCs						
2,4,5-Trichlorophenol	NE	NE	NE	mg/kg	0.95 U	0.97 U
2,4,6-Trichlorophenol	NE	NE	NE	mg/kg	0.71 U	0.72 U
2,4-Dichlorophenol	NE	NE	NE	mg/kg	0.37 U	0.38 U
2,4-Dimethylphenol	NE	NE	NE	mg/kg	0.85 U	0.87 U
2,4-Dinitrophenol	NE	NE	NE	mg/kg	16 U	17 U
2,4-Dinitrotoluene	NE	NE	NE	mg/kg	0.73 U	0.74 U
2,6-Dinitrotoluene	NE	NE	NE	mg/kg	0.42 U	0.42 U
2-Chloronaphthalene	NE	NE	NE	mg/kg	0.58 U	0.59 U
2-Chlorophenol	NE	NE	NE	mg/kg	0.64 U	0.65 U
2-Methylphenol (o-cresol)	NE	NE	NE	mg/kg	0.42 U	0.42 U
2-Nitroaniline	NE	NE	NE	mg/kg	0.52 U	0.53 U
2-Nitrophenol	NE	NE	NE	mg/kg	1 U	1 U
3,3'-Dichlorobenzidine	NE	NE	NE	mg/kg	4.2 U	4.2 U
3-Nitroaniline	NE	NE	NE	mg/kg	0.98 U	0.99 U
4,6-Dinitro-2-methylphenol	NE	NE	NE	mg/kg	3.5 U	3.6 U
4-Bromophenyl phenyl ether	NE	NE	NE	mg/kg	0.5 U	0.51 U
4-Chloro-3-methylphenol	NE	NE	NE	mg/kg	0.87 U	0.89 U
4-Chloroaniline	NE	NE	NE	mg/kg	0.87 U	0.89 U
4-Chlorophenyl phenyl ether	NE	NE	NE	mg/kg	0.44 U	0.44 U
4-Methylphenol	NE	NE	NE	mg/kg	0.42 U	0.42 U

TABLE 12
COMPARISON OF SURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] [1]	USEPA Ecological Soil Screening Levels [2]				
Constituent	Protection of Ecological Resources	Soil Inverterbrates	Mammals	Units	SS-12 0-2" 5/14/2015	SS-12 0-6" 5/14/2015
4-Nitroaniline	NE	NE	NE	mg/kg	1.8 U	1.9 U
4-Nitrophenol	NE	NE	NE	mg/kg	2.5 U	2.5 U
Acetophenone	NE	NE	NE	mg/kg	0.48 U	0.49 U
Atrazine	NE	NE	NE	mg/kg	1.2 U	1.2 U
Benzaldehyde	NE	NE	NE	mg/kg	2.8 U	2.9 U
Benzyl butyl phthalate	NE	NE	NE	mg/kg	0.58 U	0.59 U
Biphenyl (Diphenyl)	NE	NE	NE	mg/kg	0.52 U	0.53 U
bis(2-Chloroethoxy)methane	NE	NE	NE	mg/kg	0.75 U	0.76 U
bis(2-Chloroethyl)ether	NE	NE	NE	mg/kg	0.46 U	0.46 U
bis(2-Chloroisopropyl)ether	NE	NE	NE	mg/kg	0.71 U	0.72 U
bis(2-Ethylhexyl)phthalate	NE	NE	NE	mg/kg	1.2 U	1.2 U
Caprolactam	NE	NE	NE	mg/kg	1.1 U	1.1 U
Carbazole	NE	NE	NE	mg/kg	0.42 U	0.42 U
Dibenzofuran	NE	NE	NE	mg/kg	0.42 U	0.42 U
Diethyl phthalate	NE	NE	NE	mg/kg	0.46 U	0.46 U
Dimethyl phthalate	NE	NE	NE	mg/kg	0.42 U	0.42 U
dI-n-Butyl phthalate	NE	NE	NE	mg/kg	0.6 U	0.61 U
dI-n-Octyl phthalate	NE	NE	NE	mg/kg	0.42 U	0.42 U
Hexachlorobenzene	NE	NE	NE	mg/kg	0.48 U	0.49 U
Hexachlorobutadiene	NE	NE	NE	mg/kg	0.52 U	0.53 U
Hexachlorocyclopentadiene	NE	NE	NE	mg/kg	0.48 U	0.49 U
Hexachloroethane	NE	NE	NE	mg/kg	0.46 U	0.46 U
Isophorone	NE	NE	NE	mg/kg	0.75 U	0.76 U
Nitrobenzene	NE	NE	NE	mg/kg	0.39 U	0.4 U
N-Nitroso-di-n-propylamine	NE	NE	NE	mg/kg	0.6 U	0.61 U
N-Nitrosodiphenylamine	NE	NE	NE	mg/kg	2.9 U	2.9 U
Pentachlorophenol	0.8	31	2.8	mg/kg	3.5 U	3.6 U
Phenol	30	NE	NE	mg/kg	0.54 U	0.55 U
Inorganic Constituents				mg/kg		
Cyanide, total	NE	NE	NE	mg/kg	0.5 U	0.51 U
Aluminum	NE	NE	NE	mg/kg	8950	11600
Antimony	NE	78	0.27	mg/kg	0.43 U	0.43 U
Arsenic	13	NE	46	mg/kg	9	10.8
Barium	433	330	2000	mg/kg	115	98.5
Beryllium	10	40	21	mg/kg	0.88	0.84
Cadmium	4	140	0.36	mg/kg	0.032 U	0.042 J
Calcium	NE	NE	NE	mg/kg	19500 B	17400 B
Chromium[3]	1	NE	34	mg/kg	**52**	**28.2**
Cobalt	NE	NE	230	mg/kg	9	9.4
Copper	50	80	49	mg/kg	**59.1**	**53.3**
Iron	NE	NE	NE	mg/kg	48400 ^B	39900 B
Lead	63	1700	56	mg/kg	**221**	**204**

TABLE 12
COMPARISON OF SURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] [1]	USEPA Ecological Soil Screening Levels [2]				
Constituent	Protection of Ecological Resources	Soil Inverterbrates	Mammals	Units	SS-12 0-2" 5/14/2015	SS-12 0-6" 5/14/2015
Magnesium	NE	NE	NE	mg/kg	5040	4110 B
Manganese	1600	450	4000	mg/kg	**735 ^B**	**829 B**
Nickel	30	280	130	mg/kg	**48.8**	**32.9**
Potassium	NE	NE	NE	mg/kg	1590	1340
Selenium	3.9	4.1	0.63	mg/kg	0.43 U	0.43 U
Silver	2	NE	14	mg/kg	0.21 U	0.22 U
Sodium	NE	NE	NE	mg/kg	314	260
Thallium	NE	NE	NE	mg/kg	0.32 U	0.32 U
Vanadium	NE	NE	280	mg/kg	53.4	46.7
Zinc	109	120	79	mg/kg	**159 ^B**	**123 B**
Mercury	0.18	NE	NE	mg/kg	0.077	0.09
Pesticides						
4,4'-DDD	0.0033	NE	0.021	mg/kg	0.017 U	0.017 U
4,4'-DDE	0.0033	NE	0.021	mg/kg	0.018 U	0.018 U
4,4'-DDT	0.0033	NE	0.021	mg/kg	0.02 U	0.021 U
Aldrin	0.14	NE	NE	mg/kg	0.021 U	0.022 U
alpha Endosulfan (Endosulfan I)	NE	NE	NE	mg/kg	0.017 U	0.017 U
beta Endosulfan (Endosulfan II)	NE	NE	NE	mg/kg	0.015 U	0.016 U
BHC, alpha	0.04	NE	NE	mg/kg	0.015 U	0.016 U
BHC, beta	0.6	NE	NE	mg/kg	0.015 U	0.016 U
BHC, delta	0.04	NE	NE	mg/kg	0.016 U	0.016 U
BHC, gamma (Lindane)	6	NE	NE	mg/kg	0.016 U	0.016 U
Chlordane, alpha	1.3	NE	NE	mg/kg	0.043 U	0.044 U
Chlordane, beta	NE	NE	NE	mg/kg	0.027 U	0.028 U
Dieldrin	0.006	NE	0.0049	mg/kg	0.021 U	0.021 U
Endosulfan sulfate	NE	NE	NE	mg/kg	0.016 U	0.016 U
Endrin	0.014	NE	NE	mg/kg	0.017 U	0.017 U
Endrin aldehyde	NE	NE	NE	mg/kg	0.022 U	0.022 U
Endrin ketone	NE	NE	NE	mg/kg	0.021 U	0.022 U
Heptachlor	0.14	NE	NE	mg/kg	0.019 U	0.019 U
Heptachlor epoxide	NE	NE	NE	mg/kg	0.022 U	0.023 U
Methoxychlor	NE	NE	NE	mg/kg	0.018 U	0.018 U
Toxaphene	NE	NE	NE	mg/kg	0.5 U	0.51 U

TABLE 12
COMPARISON OF SURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1) Protection of Ecological Resources	USEPA Ecological Soil Screening Levels (2) Soil Inverterbrates	Mammals	Units	SS-12 0-2" 5/14/2015	SS-12 0-6" 5/14/2015
Polychlorinated Biphenyls (PCBs)						
Aroclor 1016	NE	NE	NE	mg/kg	0.04 U	0.041 U
Aroclor 1221	NE	NE	NE	mg/kg	0.04 U	0.041 U
Aroclor 1232	NE	NE	NE	mg/kg	0.04 U	0.041 U
Aroclor 1242	NE	NE	NE	mg/kg	0.04 U	0.041 U
Aroclor 1248	NE	NE	NE	mg/kg	0.04 U	0.041 U
Aroclor 1254	NE	NE	NE	mg/kg	0.096 U	0.099 U
Aroclor 1260	NE	NE	NE	mg/kg	0.096 U	0.099 U
Total PCBs	NE	NE	NE	mg/kg	ND	ND

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the reporting limit but greater than or equal to the method detection limit.
B - Constituent was found in the blank and the sample.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related Quality Control (QC) is outside acceptance limits.

NE - Not established.
ND - Not Detected

Boxed and bolded values indicate concentrations are above one or more of the following criteria: 1) New York State Subpart 375 Soil Cleanup Objectives for Protection of Ecological Resources, 2) USEPA Ecological Soil Screening Levels for PAHs, select pesticides and metals (Soil Invertebrates), or 3) USEPA Ecological Screening Levels for PAHs, select pesticides and metals (Mammals).

(1) - 6NYCRR Subpart 375-6.
(2) - Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) (USEPA, 2007g), Pentachlorophenol (USEPA, 2007f), Antimony (USEPA, 2005a), Arsenic (USEPA, 2005d), Barium (USEPA, 2005b), Beryllium (USEPA, 2005c), Cadmium (USEPA, 2005e), Chromium (USEPA, 2008), Cobalt (USEPA, 2005f), Copper (USEPA, 2007a), Lead (USEPA, 2005g), Manganese (USEPA, 2007e), Nickel (USEPA, 2007b), Selenium (USEPA, 2007i), Silver (USEPA, 2006), Vanadium (USEPA, 2005h), Zinc (USEPA, 2007h), 4,4'-DDD (USEPA, 2007c), 4,4'-DDE (USEPA, 2007c), 4,4'-DDT,(USEPA, 2007c), and Dieldrin (USEPA, 2007d)
(3) - Chromium analysis was for total chromium. To be conservative, total chromium concentrations were compared to the hexavalent chromium SCO for Protection of Ecological Resources.

TABLE 13
COMPARISON OF SHALLOW SUBSURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1) Protection of Ecological Resources	USEPA Ecological Soil Screening Levels (2) Soil Invertebrates	Mammals	Units	SB-1 1-2 5/7/2015	SB-2 0-1 5/7/2015	SB-3 3-4 5/5/2015	SB-4 3-4 5/7/2015	SB-5 3-4 5/6/2015
Volatile Organic Compounds (VOCs)									
BTEX									
Benzene	70	NE	NE	mg/kg	0.0015 J	0.37	0.00027 U	0.00043 UJ	0.00057 J*
Toluene	36	NE	NE	mg/kg	0.002 J	0.33	0.00041 U	0.00066 UJ	0.0005 U
Ethylbenzene	NE	NE	NE	mg/kg	0.00064 UJ	2.1	0.00038 U	0.0006 UJ	0.00045 U
Xylenes, total	0.26	NE	NE	mg/kg	0.0015 UJ	**5.6**	0.00092 U	0.0015 UJ	0.0011 U
Total BTEX	NE	NE	NE	mg/kg	0.0035 J	8.4	ND	ND	0.00057 J*
Other VOCs									
1,1,1-Trichloroethane	NE	NE	NE	mg/kg	0.00067 UJ	0.055 U	0.0004 U	0.00063 U	0.00048 U
1,1,2,2-Tetrachloroethane	NE	NE	NE	mg/kg	0.0015 UJ	0.032 U	0.00088 U	0.0014 UJ	0.0011 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NE	NE	NE	mg/kg	0.0021 UJ	0.099 U	0.0012 U	0.002 U	0.0015 U
1,1,2-Trichloroethane	NE	NE	NE	mg/kg	0.0012 UJ	0.042 U	0.00071 U	0.0011 UJ	0.00086 U
1,1-Dichloroethane	NE	NE	NE	mg/kg	0.0011 UJ	0.061 U	0.00067 U	0.0011 UJ	0.0008 U
1,1-Dichloroethene	NE	NE	NE	mg/kg	0.0011 UJ	0.069 U	0.00067 U	0.0011 U	0.00081 U
1,2,4-Trichlorobenzene	NE	NE	NE	mg/kg	0.00056 UJ	0.075 U	0.00033 U	0.00053 UJ	0.0004 U
1,2-Dibromo-3-chloropropane (DBCP)	NE	NE	NE	mg/kg	0.0046 UJ	0.099 U	0.0027 U	0.0044 UJ	0.0033 U
1,2-Dibromoethane (EDB)	NE	NE	NE	mg/kg	0.0012 UJ	0.035 U	0.0007 U	0.0011 UJ	0.00085 U
1,2-Dichlorobenzene	NE	NE	NE	mg/kg	0.00072 UJ	0.051 U	0.00043 UJ	0.00068 UJ	0.00052 U
1,2-Dichloroethane	10	NE	NE	mg/kg	0.00046 UJ	0.081 U	0.00027 U	0.00044 UJ	0.00033 U
1,2-Dichloropropane	NE	NE	NE	mg/kg	0.0046 UJ	0.032 U	0.0027 U	0.0044 UJ	0.0033 U
1,3-Dichlorobenzene	NE	NE	NE	mg/kg	0.00047 UJ	0.053 U	0.00028 UJ	0.00045 UJ	0.00034 U
1,4-Dichlorobenzene	20	NE	NE	mg/kg	0.0013 UJ	0.028 U	0.00076 U	0.0012 UJ	0.00092 U
2-Butanone (MEK)	100	NE	NE	mg/kg	0.0034 UJ	0.59 U	0.002 U	0.0032 UJ	0.0024 U
2-Hexanone	NE	NE	NE	mg/kg	0.0046 UJ	0.41 U	0.0027 U	0.0044 UJ	0.0033 U
4-Methyl-2-pentanone (MIBK)	NE	NE	NE	mg/kg	0.003 UJ	0.063 U	0.0018 U	0.0029 U	0.0022 U
Acetone	2.2	NE	NE	mg/kg	0.0078 UJ	0.81 U	0.0046 U	0.0073 U	0.033 U
Bromodichloromethane	NE	NE	NE	mg/kg	0.0012 UJ	0.2 U	0.00073 U	0.0012 UJ	0.00088 U
Bromoform	NE	NE	NE	mg/kg	0.0046 UJ	0.099 U	0.0027 U	0.0044 UJ	0.0033 U
Bromomethane	NE	NE	NE	mg/kg	0.00083 UJ	0.044 U	0.00049 U	0.00078 U	0.00059 U
Carbon disulfide	NE	NE	NE	mg/kg	0.0046 UJ	0.09 U	0.0027 U	0.0044 UJ	0.0033 U
Carbon tetrachloride	NE	NE	NE	mg/kg	0.00089 UJ	0.051 U	0.00053 U	0.00084 UJ	0.00064 U
Chlorobenzene	40	NE	NE	mg/kg	0.0092 UJ	0.026 U	0.00072 U	0.0087 UJ	0.00087 U
Chloroethane	NE	NE	NE	mg/kg	0.0021 UJ	0.041 U	0.0012 U	0.002 U	0.0015 U
Chloroform	12	NE	NE	mg/kg	0.00057 UJ	0.14 U	0.00034 U	0.00054 UJ	0.00041 U
Chloromethane	NE	NE	NE	mg/kg	0.00056 UJ	0.047 U	0.00033 U	0.00053 U	0.0004 U
cis-1,2-Dichloroethene	NE	NE	NE	mg/kg	0.0012 UJ	0.055 U	0.0007 U	0.0011 UJ	0.00084 U
cis-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.0013 UJ	0.047 U	0.00079 U	0.0013 UJ	0.00095 U
Cyclohexane	NE	NE	NE	mg/kg	0.0013 UJ	3.4	0.00076 U	0.0012 U	0.00092 U
Dibromochloromethane	NE	NE	NE	mg/kg	0.0012 UJ	0.096 U	0.0007 U	0.0011 UJ	0.00084 U
Dichlorodifluoromethane (Freon 12)	NE	NE	NE	mg/kg	0.00076 UJ	0.086 U	0.00045 U	0.00072 U	0.00054 U

TABLE 13
COMPARISON OF SHALLOW SUBSURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1) Protection of Ecological Resources	USEPA Ecological Soil Screening Levels (2) Soil Invertebrates	Mammals	Units	SB-1 1-2 5/7/2015	SB-2 0-1 5/7/2015	SB-3 3-4 5/5/2015	SB-4 3-4 5/7/2015	SB-5 3-4 5/6/2015
Isopropylbenzene (Cumene)	NE	NE	NE	mg/kg	0.0014 UJ	0.17 J	0.00082 U	0.0013 UJ	0.00099 U
Methyl acetate	NE	NE	NE	mg/kg	0.0056 UJ	0.094 U	0.0033 U	0.0053 U	0.004 U
Methylcyclohexane	NE	NE	NE	mg/kg	0.0014 UJ	10	0.00083 U	0.0013 U	0.001 U
Methylene chloride	12	NE	NE	mg/kg	0.012 J	0.039 U	0.0025 U	0.02 J	0.0066 U
Styrene	NE	NE	NE	mg/kg	0.00046 UJ	0.048 U	0.00027 U	0.00044 UJ	0.00033 U
tert-Butyl methyl ether (MTBE)	NE	NE	NE	mg/kg	0.00091 UJ	0.075 U	0.00054 U	0.00086 U	0.00065 U
Tetrachloroethene (PCE)	2	NE	NE	mg/kg	0.0012 UJ	0.027 U	0.00073 U	0.0012 UJ	0.00088 U
trans-1,2-Dichloroethene	NE	NE	NE	mg/kg	0.00095 UJ	0.047 U	0.00056 U	0.0009 UJ	0.00068 U
trans-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.0041 UJ	0.019 U	0.0024 U	0.0038 UJ	0.0029 U
Trichloroethene (TCE)	2	NE	NE	mg/kg	0.002 UJ	0.055 U	0.0012 U	0.0019 UJ	0.0014 U
Trichlorofluoromethane (Freon 11)	NE	NE	NE	mg/kg	0.00087 UJ	0.093 U	0.00052 U	0.00082 U	0.00062 U
Vinyl chloride	NE	NE	NE	mg/kg	0.0011 UJ	0.066 U	0.00067 U	0.0011 U	0.0008 U
Semi-volatile Organic Compounds (SVOCs)									
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	20	29	100	mg/kg	0.56 U	2.8 U	1.3 U	0.26 U	0.54 U
Acenaphthylene	NE	29	100	mg/kg	2.6 J	2.5 U	4 J	0.23 U	3.2 J
Anthracene	NE	29	100	mg/kg	1.8 J	4.7 U	4.7 J	0.44 UF2	4
Benzo(a)anthracene	NE	18	1.1	mg/kg	**8.4**	**4.5 J**	**15**	0.22 J	**15**
Benzo(a)pyrene	2.6	18	1.1	mg/kg	**5.8**	**3.5 J**	**10**	0.26 U	**12**
Benzo(b)fluoranthene	NE	18	1.1	mg/kg	**7.5**	**5.1 J**	**14**	0.55 J	**15**
Benzo(g,h,i)perylene	NE	18	1.1	mg/kg	**3 J**	**2.7 J**	**6.8 J**	1.8 U	**7.4**
Benzo(k)fluoranthene	NE	18	1.1	mg/kg	**5.3**	**3.6 J**	**5.9 J**	0.33 J	**9**
Chrysene	NE	18	1.1	mg/kg	**7.8**	4.3 U	**15**	0.4 U	**13**
Dibenz(a,h)anthracene	NE	18	1.1	mg/kg	1.1 J	3.4 U	1.6 U	0.32 UF2	**2.8 J**
Fluoranthene	NE	18	1.1	mg/kg	**13**	**3.8 J**	**25**	0.29 J	**24**
Fluorene	30	29	100	mg/kg	0.61 J	2.3 U	3.7 J	0.21 U	2 J
Indeno(1,2,3-c,d)pyrene	NE	18	1.1	mg/kg	**3 J**	2.4 U	**6.5 J**	0.37 J	**7.2**
Naphthalene	NE	29	100	mg/kg	0.71 J	2.5 U	1.2 U	0.23 U	1.2 J
Phenanthrene	NE	29	100	mg/kg	4.8	2.8 U	25	0.26 U	16
Pyrene	NE	29	100	mg/kg	11	3.4 J	25	0.21 U	20
2-Methylnaphthalene	NE	29.00	100.00	mg/kg	0.76 U	3.8 U	1.8 U	0.36 U	0.89 J
Total PAHS	NE	NE	NE	mg/kg	76.42	26.6 J	160.6	3.56 J	152.69
Other SVOCs									
2,4,5-Trichlorophenol	NE	NE	NE	mg/kg	1 U	5.2 U	2.5 U	0.48 U	0.99 U
2,4,6-Trichlorophenol	NE	NE	NE	mg/kg	0.76 U	3.8 U	1.8 U	0.36 U	0.73 U
2,4-Dichlorophenol	NE	NE	NE	mg/kg	0.4 U	2 U	0.96 U	0.19 UF2	0.39 U
2,4-Dimethylphenol	NE	NE	NE	mg/kg	0.91 U	4.6 U	2.2 U	0.43 U	0.89 U
2,4-Dinitrophenol	NE	NE	NE	mg/kg	17 U	89 U	42 U	8.3 U	17 U
2,4-Dinitrotoluene	NE	NE	NE	mg/kg	0.78 U	4 U	1.9 U	0.37 UF1	0.76 U
2,6-Dinitrotoluene	NE	NE	NE	mg/kg	0.45 U	2.3 U	1.1 U	0.21 UF1	0.43 U

TABLE 13
COMPARISON OF SHALLOW SUBSURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] [1]	USEPA Ecological Soil Screening Levels [2]							
Constituent	Protection of Ecological Resources	Soil Invertebrates	Mammals	Units	SB-1 1-2 5/7/2015	SB-2 0-1 5/7/2015	SB-3 3-4 5/5/2015	SB-4 3-4 5/7/2015	SB-5 3-4 5/6/2015
2-Chloronaphthalene	NE	NE	NE	mg/kg	0.62 U	3.2 U	1.5 U	0.29 U	0.6 U
2-Chlorophenol	NE	NE	NE	mg/kg	0.69 U	3.5 U	1.7 U	0.33 UF2	0.67 U
2-Methylphenol (o-cresol)	NE	NE	NE	mg/kg	0.45 U	2.3 U	1.1 U	0.21 U	0.43 U
2-Nitroaniline	NE	NE	NE	mg/kg	0.56 U	2.8 U	1.3 U	0.26 U	0.54 U
2-Nitrophenol	NE	NE	NE	mg/kg	1.1 U	5.4 U	2.6 U	0.51 UF1	1 U
3,3'-Dichlorobenzidine	NE	NE	NE	mg/kg	4.5 U	23 U	11 U	2.1 U	4.3 U
3-Nitroaniline	NE	NE	NE	mg/kg	1 U	5.3 U	2.5 U	0.49 U	1 U
4,6-Dinitro-2-methylphenol	NE	NE	NE	mg/kg	3.8 U	19 U	9.1 U	1.8 UF1	3.7 U
4-Bromophenyl phenyl ether	NE	NE	NE	mg/kg	0.54 U	2.7 U	1.3 U	0.25 U	0.52 U
4-Chloro-3-methylphenol	NE	NE	NE	mg/kg	0.94 U	4.7 U	2.2 U	0.44 U	0.91 U
4-Chloroaniline	NE	NE	NE	mg/kg	0.94 U	4.7 U	2.2 U	0.44 UF2	0.91 U
4-Chlorophenyl phenyl ether	NE	NE	NE	mg/kg	0.47 U	2.4 U	1.1 U	0.22 UF2	0.45 U
4-Methylphenol	NE	NE	NE	mg/kg	0.45 U	2.3 U	1.1 U	0.21 U	0.43 U
4-Nitroaniline	NE	NE	NE	mg/kg	2 U	10 U	4.8 U	0.94 U	1.9 U
4-Nitrophenol	NE	NE	NE	mg/kg	2.7 U	13 U	6.4 U	1.3 U	2.6 U
Acetophenone	NE	NE	NE	mg/kg	0.51 U	2.6 U	1.2 U	0.24 UF2	0.5 U
Atrazine	NE	NE	NE	mg/kg	1.3 U	6.7 U	3.1 U	0.62 U	1.3 U
Benzaldehyde	NE	NE	NE	mg/kg	3 U	15 U	7.2 U	1.4 UF2	2.9 U
Benzyl butyl phthalate	NE	NE	NE	mg/kg	0.62 U	3.2 U	1.5 U	0.29 UF2	0.6 U
Biphenyl (Diphenyl)	NE	NE	NE	mg/kg	0.56 U	2.8 U	1.3 U	0.26 U	0.54 U
bis(2-Chloroethoxy)methane	NE	NE	NE	mg/kg	0.8 U	4.1 U	1.9 U	0.38 UF2	0.78 U
bis(2-Chloroethyl)ether	NE	NE	NE	mg/kg	0.49 U	2.5 U	1.2 U	0.23 U	0.48 U
bis(2-Chloroisopropyl)ether	NE	NE	NE	mg/kg	0.76 U	3.8 U	1.8 U	0.36 U	0.73 U
bis(2-Ethylhexyl)phthalate	NE	NE	NE	mg/kg	1.3 U	6.6 U	3.1 U	0.61 UF2	1.3 U
Caprolactam	NE	NE	NE	mg/kg	1.1 U	5.8 U	2.7 U	0.54 U	1.1 U
Carbazole	NE	NE	NE	mg/kg	0.45 U	2.3 U	1.4 J	0.21 U	0.99 J
Dibenzofuran	NE	NE	NE	mg/kg	0.45 U	2.3 U	1.8 J	0.21 U	1.3 J
Diethyl phthalate	NE	NE	NE	mg/kg	0.49 U	2.5 U	1.2 U	0.23 U	0.48 U
Dimethyl phthalate	NE	NE	NE	mg/kg	0.45 U	2.3 U	1.1 U	0.21 U	0.43 U
dI-n-Butyl phthalate	NE	NE	NE	mg/kg	0.65 U	3.3 U	1.5 U	0.31 U	0.63 U
dI-n-Octyl phthalate	NE	NE	NE	mg/kg	0.45 U	2.3 U	1.1 U	0.21 UF2	0.43 U
Hexachlorobenzene	NE	NE	NE	mg/kg	0.51 U	2.6 U	1.2 U	0.24 U	0.5 U
Hexachlorobutadiene	NE	NE	NE	mg/kg	0.56 U	2.8 U	1.3 U	0.26 U	0.54 U
Hexachlorocyclopentadiene	NE	NE	NE	mg/kg	0.51 U	2.6 U	1.2 U	0.24 UF1	0.5 U
Hexachloroethane	NE	NE	NE	mg/kg	0.49 U	2.5 U	1.2 U	0.23 U	0.48 U
Isophorone	NE	NE	NE	mg/kg	0.8 U	4.1 U	1.9 U	0.38 U	0.78 U
Nitrobenzene	NE	NE	NE	mg/kg	0.42 U	2.1 U	1 U	0.2 U	0.41 U
N-Nitroso-di-n-propylamine	NE	NE	NE	mg/kg	0.65 U	3.3 U	1.5 U	0.31 U	0.63 U
N-Nitrosodiphenylamine	NE	NE	NE	mg/kg	3.1 U	16 U	7.4 U	1.5 UF1F2	3 U
Pentachlorophenol	0.8	NE	NE	mg/kg	3.8 U	19 U	9.1 U	1.8 UF1	3.7 U
Phenol	30	NE	NE	mg/kg	0.58 U	2.9 U	1.4 U	0.27 U	0.56 U

TABLE 13
COMPARISON OF SHALLOW SUBSURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] [1] Protection of Ecological Resources	USEPA Ecological Soil Screening Levels [2] Soil Invertebrates	Mammals	Units	SB-1 1-2 5/7/2015	SB-2 0-1 5/7/2015	SB-3 3-4 5/5/2015	SB-4 3-4 5/7/2015	SB-5 3-4 5/6/2015
Inorganic Constituents									
Cyanide, total	NE	NE	NE	mg/kg	1.2	7.1	1.7	0.52 U	1.1
Aluminum	NE	NE	NE	mg/kg	7360	1510	8440	4480 J	4930
Antimony	NE	78.00	0.27	mg/kg	2.3 U	0.43 U	4.1 U	0.4 UJ	**1.8 J**
Arsenic	13	NE	46	mg/kg	**31.3**	12.6	**31.2**	5.5	**27.2**
Barium	433	330	2000	mg/kg	88.5	62.8	61.1	47.9 J	39.2
Beryllium	10	40	21	mg/kg	1.3	0.51	2.7	0.45	1.2
Cadmium	4	140.0	0.4	mg/kg	0.17 U	0.045 J	0.3 U	0.03 U	**0.67**
Calcium	NE	NE	NE	mg/kg	20300 B	1150 B	12200 B	3510 J	15900 B
Chromium[3]	1	NE	34	mg/kg	**26**	**8.1**	**63.5**	**9.2**	**19.2**
Cobalt	NE	NE	230.00	mg/kg	11	2.1	8.3	5.4	9.6
Copper	50	80	49	mg/kg	40.8	18.1	19.3	17.5	40.3
Iron	NE	NE	NE	mg/kg	89000 B	10900 B	203000 B	13200 B	70500 B^
Lead	63	1700	56	mg/kg	**240**	**161**	**123**	22.3	**72.4**
Magnesium	NE	NE	NE	mg/kg	1940	384	1970 B	2160 F1	711 B
Manganese	1600	450	4000	mg/kg	**1910 B**	50.7 B	**3970 B**	190 BF2	**1110 B**
Nickel	30	280	130	mg/kg	21.8	8.7	14.8	15.4	**33.1**
Potassium	NE	NE	NE	mg/kg	738	615	878 B	855 J	460
Selenium	3.9	4	1	mg/kg	2.3 U	**1.1 J**	4.1 U	0.4 U	**1.1 J**
Silver	2	NE	14.0	mg/kg	1.1 U	0.21 U	2 U	0.2 U	0.41 U
Sodium	NE	NE	NE	mg/kg	798 U	150 U	1420 U	162 U	289 U
Thallium	NE	NE	NE	mg/kg	1.7 U	0.32 U	1.5 U	0.3 U	0.62 U
Vanadium	NE	NE	280.00	mg/kg	53.8	22.4	182	11.2	46.8
Zinc	109	120	79	mg/kg	**188 B**	26.9 B	48.4 B	32.9 B	**144 B**
Mercury	0.18	NE	NE	mg/kg	0.12	**7**	0.088	0.0084 U	0.1
Pesticides									
4,4'-DDD	0.0033	NE	0.021	mg/kg	0.018 U	0.092 U	0.017 U	0.0069 U	0.017 U
4,4'-DDE	0.0033	NE	0.021	mg/kg	0.02 U	0.099 U	0.019 U	0.0075 U	0.019 U
4,4'-DDT	0.0033	NE	0.021	mg/kg	0.022 U	0.11 U	0.021 U	0.0084 U	0.021 U
Aldrin	0.14	NE	NE	mg/kg	0.023 U	0.12 U	0.022 U	0.0088 U	0.022 U
alpha Endosulfan (Endosulfan I)	NE	NE	NE	mg/kg	0.018 U	0.09 U	0.017 U	0.0069 UF1	0.017 U
beta Endosulfan (Endosulfan II)	NE	NE	NE	mg/kg	0.017 U	0.085 U	0.016 U	0.0064 U	0.016 U
BHC, alpha	0.04	NE	NE	mg/kg	0.017 U	0.085 U	0.016 U	0.0064 UF2	0.016 U
BHC, beta	0.6	NE	NE	mg/kg	0.017 U	0.085 U	0.016 U	0.0064 U	0.016 U
BHC, delta	0.04	NE	NE	mg/kg	0.017 U	0.088 U	0.089 U	0.0066 U	0.017 U
BHC, gamma (Lindane)	6	NE	NE	mg/kg	0.017 U	0.086 U	0.016 U	0.0066 U	0.016 U
Chlordane, alpha	1.3	NE	NE	mg/kg	0.047 U	0.23 U	0.044 U	0.018 U	0.045 U
Chlordane, beta	NE	NE	NE	mg/kg	0.03 U	0.15 U	0.028 U	0.011 U	0.028 U
Dieldrin	0.006	NE	0.0049	mg/kg	0.022 U	0.11 U	0.021 U	0.0086 U	0.021 U
Endosulfan sulfate	NE	NE	NE	mg/kg	0.094 U	0.088 U	0.089 U	0.0067 U	0.017 U
Endrin	0.014	NE	NE	mg/kg	0.019 U	0.093 U	**0.022 J**	0.0071 U	0.018 U

TABLE 13
COMPARISON OF SHALLOW SUBSURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1) Protection of Ecological Resources	USEPA Ecological Soil Screening Levels (2) Soil Invertebrates	Mammals	Units	SB-1 1-2 5/7/2015	SB-2 0-1 5/7/2015	SB-3 3-4 5/5/2015	SB-4 3-4 5/7/2015	SB-5 3-4 5/6/2015
Endrin aldehyde	NE	NE	NE	mg/kg	0.024 U	0.12 U	0.023 U	0.0091 U	0.023 U
Endrin ketone	NE	NE	NE	mg/kg	0.023 U	0.12 U	0.022 U	0.0088 U	0.022 U
Heptachlor	0.14	NE	NE	mg/kg	0.02 U	0.1 U	0.019 U	0.0077 U	0.019 U
Heptachlor epoxide	NE	NE	NE	mg/kg	0.024 U	0.12 U	0.023 U	0.0092 U	0.023 U
Methoxychlor	NE	NE	NE	mg/kg	0.019 U	0.096 U	0.018 U	0.0073 U	0.09 U
Toxaphene	NE	NE	NE	mg/kg	0.55 U	2.7 U	0.52 U	0.21 U	0.52 U
Polychlorinated Biphenyls (PCBs)									
Aroclor 1016	NE	NE	NE	mg/kg	0.041 U	0.052 U	0.045 U	0.041 U	0.046 U
Aroclor 1221	NE	NE	NE	mg/kg	0.041 U	0.052 U	0.045 U	0.041 U	0.046 U
Aroclor 1232	NE	NE	NE	mg/kg	0.041 U	0.052 U	0.045 U	0.041 U	0.046 U
Aroclor 1242	NE	NE	NE	mg/kg	0.041 U	0.052 U	0.045 U	0.041 U	0.046 U
Aroclor 1248	NE	NE	NE	mg/kg	0.041 U	0.052 U	0.045 U	0.041 U	0.046 U
Aroclor 1254	NE	NE	NE	mg/kg	0.099 U	0.12 U	0.11 U	0.097 U	0.11 U
Aroclor 1260	NE	NE	NE	mg/kg	0.099 U	0.12 U	0.11 U	0.097 U	0.11 U
Total PCBs	1.0	NE	NE	mg/kg	ND	ND	ND	ND	ND

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
N J - The analyte detection if tentative in indentification and estimated in value.
B - Constituent was found in the blank and the sample.
R - Result rejected as determined by the data validator.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related QC is outside acceptance limits.
* - Laboratory Control Sample (LCS) or Laboratory Control Sample Duplicate (LCSD) is outside acceptance limits
NE - Not established.
ND - Not detected

Boxes and bolded values indicate concentrations are above New York State Subpart 375 Soil Cleanup Objectives for Protection of Ecological Resources, and/above the USEPA Eco-SSLs for Soil Invertebrates or Mammals.

(1) - 6NYCRR Subpart 375-6.
(2) - Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) (USEPA, 2007g), Pentachlorophenol (USEPA, 2007f), Antimony (USEPA, 2005a), Arsenic (USEPA, 2005d), Barium (USEPA, 2005b), Beryllium (USEPA, 2005c), Cadmium (USEPA, 2005e), Chromium (USEPA, 2008), Cobalt (USEPA, 2005f), Copper (USEPA, 2007a), Lead (USEPA, 2005g), Manganese (USEPA, 2007e), Nickel (USEPA, 2007b), Selenium (USEPA, 2007i), Silver (USEPA, 2006), Vanadium (USEPA, 2005h), Zinc (USEPA, 2007h), 4,4'-DDD (USEPA, 2007c), 4,4'-DDE (USEPA, 2007c), 4,4'-DDT,(USEPA, 2007c), and Dieldrin (USEPA, 2007d).
(3) - Chromium analysis was for total chromium. To be conservative, total chromium concentrations were compared to the hexavalent chromium SCO for Protection of Ecological Resources.

TABLE 13
COMPARISON OF SHALLOW SUBSURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1) Protection of Ecological Resources	USEPA Ecological Soil Screening Levels (2) Soil Invertebrates	Mammals	Units	SB-6 2-3 5/5/2015	SB-7 0-1 5/5/2015	SB-7 DUP 0-1 5/5/2015	SB-8 0-1 5/8/2015	SB-9 1-2 5/6/2015
Volatile Organic Compounds (VOCs)									
BTEX									
Benzene	70	NE	NE	mg/kg	0.0056 J	0.0049 J	0.0018 J	0.00036 J	0.00035 U
Toluene	36	NE	NE	mg/kg	0.0089	0.022	0.0098	0.00046 J	0.00054 U
Ethylbenzene	NE	NE	NE	mg/kg	0.0027 J	0.029	0.011	0.00069 U	0.00049 U
Xylenes, total	0.26	NE	NE	mg/kg	0.029	0.18	0.08	0.0011 U	0.0012 U
Total BTEX	NE	NE	NE	mg/kg	0.0462	0.2359	0.1026	0.00082 J	ND
Other VOCs									
1,1,1-Trichloroethane	NE	NE	NE	mg/kg	0.00046 U	0.00047 U	0.00046 U	0.00048 U	0.00052 U
1,1,2,2-Tetrachloroethane	NE	NE	NE	mg/kg	0.001 U	0.001 U	0.001 U	0.0011 U	0.0012 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NE	NE	NE	mg/kg	0.0015 U	0.0015 U	0.0014 U	0.0015 U	0.0016 U
1,1,2-Trichloroethane	NE	NE	NE	mg/kg	0.00083 U	0.00084 U	0.00082 U	0.00086 U	0.00093 U
1,1-Dichloroethane	NE	NE	NE	mg/kg	0.00078 U	0.00078 U	0.00077 U	0.00081 U	0.00087 U
1,1-Dichloroethene	NE	NE	NE	mg/kg	0.00078 U	0.00079 U	0.00077 U	0.00081 U	0.00087 U
1,2,4-Trichlorobenzene	NE	NE	NE	mg/kg	0.00039 U	0.00039 U	0.00038 U	0.0036 J	0.00043 U
1,2-Dibromo-3-chloropropane (DBCP)	NE	NE	NE	mg/kg	0.0032 U	0.0032 U	0.0032 U	0.0033 U	0.0036 U
1,2-Dibromoethane (EDB)	NE	NE	NE	mg/kg	0.00082 U	0.00083 U	0.00081 U	0.00085 U	0.00092 U
1,2-Dichlorobenzene	NE	NE	NE	mg/kg	0.0005 UJ	0.0005 UJ	0.00049 UJ	0.00066 J	0.00056 U
1,2-Dichloroethane	10	NE	NE	mg/kg	0.00032 U	0.00032 U	0.00032 U	0.00033 U	0.00036 U
1,2-Dichloropropane	NE	NE	NE	mg/kg	0.0032 U	0.0032 U	0.0032 U	0.0033 U	0.0036 U
1,3-Dichlorobenzene	NE	NE	NE	mg/kg	0.00033 UJ	0.00033 UJ	0.00032 UJ	0.00034 U	0.00037 U
1,4-Dichlorobenzene	20	NE	NE	mg/kg	0.00089 U	0.0009 U	0.00088 U	0.0014 J	0.001 U
2-Butanone (MEK)	100	NE	NE	mg/kg	0.0023 U	0.0024 U	0.0023 U	0.0024 U	0.0026 U
2-Hexanone	NE	NE	NE	mg/kg	0.0032 U	0.0032 U	0.0032 U	0.0033 U	0.0036 U
4-Methyl-2-pentanone (MIBK)	NE	NE	NE	mg/kg	0.0021 U	0.0021 U	0.0021 U	0.0022 U	0.0023 U
Acetone	2.2	NE	NE	mg/kg	0.0054 U	0.032 U	0.0053 U	0.0056 U	0.006 U
Bromodichloromethane	NE	NE	NE	mg/kg	0.00085 U	0.00086 U	0.00084 U	0.00089 U	0.00096 U
Bromoform	NE	NE	NE	mg/kg	0.0032 U	0.0032 U	0.0032 U	0.0033 U	0.0036 U
Bromomethane	NE	NE	NE	mg/kg	0.00057 U	0.00058 U	0.00057 U	0.0006 U	0.00064 U
Carbon disulfide	NE	NE	NE	mg/kg	0.0032 U	0.0032 U	0.0032 U	0.0033 U	0.0036 U
Carbon tetrachloride	NE	NE	NE	mg/kg	0.00062 U	0.00062 U	0.00061 U	0.00064 U	0.00069 U
Chlorobenzene	40	NE	NE	mg/kg	0.00084 U	0.00085 U	0.00083 U	0.00087 U	0.00094 U
Chloroethane	NE	NE	NE	mg/kg	0.0014 U	0.0015 U	0.0014 U	0.0015 U	0.0016 U
Chloroform	12	NE	NE	mg/kg	0.00039 U	0.0004 U	0.00039 U	0.00041 U	0.00044 U
Chloromethane	NE	NE	NE	mg/kg	0.00038 U	0.00039 U	0.00038 U	0.0004 U	0.00043 U
cis-1,2-Dichloroethene	NE	NE	NE	mg/kg	0.00082 U	0.00082 U	0.00081 U	0.00085 U	0.00091 U
cis-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.00092 U	0.00093 U	0.00091 U	0.00095 U	0.001 U
Cyclohexane	NE	NE	NE	mg/kg	0.00089 U	0.0009 U	0.00088 U	0.00093 U	0.001 U
Dibromochloromethane	NE	NE	NE	mg/kg	0.00082 U	0.00082 U	0.00081 U	0.00085 U	0.00091 U
Dichlorodifluoromethane (Freon 12)	NE	NE	NE	mg/kg	0.00053 U	0.00053 U	0.00052 U	0.00055 U	0.00059 U

TABLE 13
COMPARISON OF SHALLOW SUBSURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1) Protection of Ecological Resources	USEPA Ecological Soil Screening Levels (2) Soil Invertebrates	Mammals	Units	SB-6 2-3 5/5/2015	SB-7 0-1 5/5/2015	SB-7 DUP 0-1 5/5/2015	SB-8 0-1 5/8/2015	SB-9 1-2 5/6/2015
Isopropylbenzene (Cumene)	NE	NE	NE	mg/kg	0.00096 U	0.0095	0.0049 J	0.001 U	0.0011 U
Methyl acetate	NE	NE	NE	mg/kg	0.0038 U	0.0039 U	0.0038 U	0.004 U	0.0043 U
Methylcyclohexane	NE	NE	NE	mg/kg	0.0025 J	0.00098 U	0.00096 U	0.001 U	0.0011 U
Methylene chloride	12	NE	NE	mg/kg	0.0033 J	0.003 U	0.0029 U	0.003 U	0.0033 U
Styrene	NE	NE	NE	mg/kg	0.0038 J*	0.022 *	0.01 *	0.00033 U	0.00036 U
tert-Butyl methyl ether (MTBE)	NE	NE	NE	mg/kg	0.00063 U	0.00063 U	0.00062 U	0.00065 U	0.0007 U
Tetrachloroethene (PCE)	2	NE	NE	mg/kg	0.00085 U	0.00086 U	0.00085 U	0.00089 U	0.00096 U
trans-1,2-Dichloroethene	NE	NE	NE	mg/kg	0.00066 U	0.00066 U	0.00065 U	0.00068 U	0.00074 U
trans-1,3-Dichloropropene	NE	NE	NE	mg/kg	0.0028 U	0.0028 U	0.0028 U	0.0029 U	0.0031 U
Trichloroethene (TCE)	2	NE	NE	mg/kg	0.0014 U	0.0014 U	0.0014 U	0.0015 U	0.0016 U
Trichlorofluoromethane (Freon 11)	NE	NE	NE	mg/kg	0.0006 U	0.00061 U	0.0006 U	0.00063 U	0.00067 U
Vinyl chloride	NE	NE	NE	mg/kg	0.00078 U	0.00078 U	0.00077 U	0.00081 U	0.00087 U
Semi-volatile Organic Compounds (SVOCs)									
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	20	29	100	mg/kg	6.3 J	**57**	14 J	5.1 U	0.55 U
Acenaphthylene	NE	29	100	mg/kg	16	**52**	16 J	4.5 U	3 J
Anthracene	NE	29	100	mg/kg	19	**96**	27	8.6 U	3.1 J
Benzo(a)anthracene	NE	18	1.1	mg/kg	**50**	**180**	**64**	3.5 U	**14**
Benzo(a)pyrene	2.6	18	1.1	mg/kg	**33**	**130**	**45**	5.1 U	**12**
Benzo(b)fluoranthene	NE	18	1.1	mg/kg	**29**	**120**	**45**	5.5 U	**14**
Benzo(g,h,i)perylene	NE	18	1.1	mg/kg	**19**	**53**	**22 J**	3.7 U	**8.1**
Benzo(k)fluoranthene	NE	18	1.1	mg/kg	**16**	**59**	**17 J**	4.5 U	**8.6**
Chrysene	NE	18	1.1	mg/kg	**47**	**160**	**61**	7.8 U	**12**
Dibenz(a,h)anthracene	NE	18	1.1	mg/kg	**5.4 J**	**19 J**	4.8 U	6.1 U	**3 J**
Fluoranthene	NE	18	1.1	mg/kg	**68**	**260**	**99**	3.7 U	**19**
Fluorene	30	29	100	mg/kg	**31**	**150**	**37**	4.1 U	1 J
Indeno(1,2,3-c,d)pyrene	NE	18	1.1	mg/kg	**16**	**41 J**	**19 J**	4.3 U	**7.6**
Naphthalene	NE	29	100	mg/kg	15	**210**	**45**	4.5 U	1.9 J
Phenanthrene	NE	29	100	mg/kg	**150**	**560**	**160**	5.1 U	11
Pyrene	NE	29	100	mg/kg	**120**	**430**	**150**	4.1 U	16
2-Methylnaphthalene	NE	29.00	100.00	mg/kg	**37**	**160**	**36**	6.9 U	1.3 J
Total PAHS	NE	NE	NE	mg/kg	677.7	2737	857	ND	135.6
Other SVOCs									
2,4,5-Trichlorophenol	NE	NE	NE	mg/kg	2.5 U	14 U	7.3 U	9.4 U	1 U
2,4,6-Trichlorophenol	NE	NE	NE	mg/kg	1.8 U	10 U	5.4 U	6.9 U	0.75 U
2,4-Dichlorophenol	NE	NE	NE	mg/kg	0.97 U	5.5 U	2.9 U	3.7 U	0.4 U
2,4-Dimethylphenol	NE	NE	NE	mg/kg	2.2 U	12 U	6.5 U	8.4 U	0.91 U
2,4-Dinitrophenol	NE	NE	NE	mg/kg	42 U	240 U	120 U	160 U	17 U
2,4-Dinitrotoluene	NE	NE	NE	mg/kg	1.9 U	11 U	5.6 U	7.2 U	0.77 U
2,6-Dinitrotoluene	NE	NE	NE	mg/kg	1.1 U	6.1 U	3.2 U	4.1 U	0.44 U

TABLE 13
COMPARISON OF SHALLOW SUBSURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] [1]	USEPA Ecological Soil Screening Levels [2]							
Constituent	Protection of Ecological Resources	Soil Invertebrates	Mammals	Units	SB-6 2-3 5/5/2015	SB-7 0-1 5/5/2015	SB-7 DUP 0-1 5/5/2015	SB-8 0-1 5/8/2015	SB-9 1-2 5/6/2015
2-Chloronaphthalene	NE	NE	NE	mg/kg	1.5 U	8.5 U	4.5 U	5.7 U	0.62 U
2-Chlorophenol	NE	NE	NE	mg/kg	1.7 U	9.4 U	4.9 U	6.3 U	0.68 U
2-Methylphenol (o-cresol)	NE	NE	NE	mg/kg	1.1 U	6.1 U	3.2 U	4.1 U	0.44 U
2-Nitroaniline	NE	NE	NE	mg/kg	1.3 U	7.6 U	4 U	5.1 U	0.55 U
2-Nitrophenol	NE	NE	NE	mg/kg	2.6 U	15 U	7.6 U	9.8 U	1.1 U
3,3'-Dichlorobenzidine	NE	NE	NE	mg/kg	11 U	61 U	32 U	41 U	4.4 U
3-Nitroaniline	NE	NE	NE	mg/kg	2.5 U	14 U	7.5 U	9.6 U	1 U
4,6-Dinitro-2-methylphenol	NE	NE	NE	mg/kg	9.2 U	52 U	27 U	35 U	3.8 U
4-Bromophenyl phenyl ether	NE	NE	NE	mg/kg	1.3 U	7.3 U	3.8 U	4.9 U	0.53 U
4-Chloro-3-methylphenol	NE	NE	NE	mg/kg	2.3 U	13 U	6.7 U	8.6 U	0.93 U
4-Chloroaniline	NE	NE	NE	mg/kg	2.3 U	13 U	6.7 U	8.6 U	0.93 U
4-Chlorophenyl phenyl ether	NE	NE	NE	mg/kg	1.1 U	6.4 U	3.3 U	4.3 U	0.46 U
4-Methylphenol	NE	NE	NE	mg/kg	1.1 U	6.1 U	3.2 U	4.1 U	0.44 U
4-Nitroaniline	NE	NE	NE	mg/kg	4.8 U	27 U	14 U	18 U	2 U
4-Nitrophenol	NE	NE	NE	mg/kg	6.4 U	36 U	19 U	24 U	2.6 U
Acetophenone	NE	NE	NE	mg/kg	1.2 U	7 U	3.7 U	4.7 U	0.51 U
Atrazine	NE	NE	NE	mg/kg	3.2 U	18 U	9.4 U	12 U	1.3 U
Benzaldehyde	NE	NE	NE	mg/kg	7.3 U	41 U	22 U	28 U	3 U
Benzyl butyl phthalate	NE	NE	NE	mg/kg	1.5 U	8.5 U	4.5 U	5.7 U	0.62 U
Biphenyl (Diphenyl)	NE	NE	NE	mg/kg	7.5 J*	21 J*	4.8 J*	5.1 U	0.55 U
bis(2-Chloroethoxy)methane	NE	NE	NE	mg/kg	1.9 U	11 U	5.7 U	7.4 U	0.8 U
bis(2-Chloroethyl)ether	NE	NE	NE	mg/kg	1.2 U	6.7 U	3.5 U	4.5 U	0.49 U
bis(2-Chloroisopropyl)ether	NE	NE	NE	mg/kg	1.8 U	10 U	5.4 U	6.9 U	0.75 U
bis(2-Ethylhexyl)phthalate	NE	NE	NE	mg/kg	3.1 U	18 U	9.2 U	12 U	1.3 U
Caprolactam	NE	NE	NE	mg/kg	2.7 U	15 U	8.1 U	10 U	1.1 U
Carbazole	NE	NE	NE	mg/kg	2.4 J	16 J	3.8 J	4.1 U	1.1 J
Dibenzofuran	NE	NE	NE	mg/kg	5.6 J	45 J	11 J	4.1 U	1.1 J
Diethyl phthalate	NE	NE	NE	mg/kg	1.2 U	6.7 U	3.5 U	4.5 U	0.49 U
Dimethyl phthalate	NE	NE	NE	mg/kg	1.1 U	6.1 U	3.2 U	4.1 U	0.44 U
dI-n-Butyl phthalate	NE	NE	NE	mg/kg	1.6 U	8.8 U	4.6 U	5.9 U	0.64 U
dI-n-Octyl phthalate	NE	NE	NE	mg/kg	1.1 U	6.1 U	3.2 U	4.1 U	0.44 U
Hexachlorobenzene	NE	NE	NE	mg/kg	1.2 U	7 U	3.7 U	4.7 U	0.51 U
Hexachlorobutadiene	NE	NE	NE	mg/kg	1.3 U	7.6 U	4 U	5.1 U	0.55 U
Hexachlorocyclopentadiene	NE	NE	NE	mg/kg	1.2 U	7 U	3.7 U	4.7 U	0.51 U
Hexachloroethane	NE	NE	NE	mg/kg	1.2 U	6.7 U	3.5 U	4.5 U	0.49 U
Isophorone	NE	NE	NE	mg/kg	1.9 U	11 U	5.7 U	7.4 U	0.8 U
Nitrobenzene	NE	NE	NE	mg/kg	1 U	5.8 U	3 U	3.9 U	0.42 U
N-Nitroso-di-n-propylamine	NE	NE	NE	mg/kg	1.6 U	8.8 U	4.6 U	5.9 U	0.64 U
N-Nitrosodiphenylamine	NE	NE	NE	mg/kg	7.4 U	42 U	22 U	28 U	3 U
Pentachlorophenol	0.8	NE	NE	mg/kg	9.2 U	52 U	27 U	35 U	3.8 U
Phenol	30	NE	NE	mg/kg	1.4 U	7.9 U	4.1 U	5.3 U	0.57 U

TABLE 13
COMPARISON OF SHALLOW SUBSURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] [1] Protection of Ecological Resources	USEPA Ecological Soil Screening Levels [2] Soil Invertebrates	Mammals	Units	SB-6 2-3 5/5/2015	SB-7 0-1 5/5/2015	SB-7 DUP 0-1 5/5/2015	SB-8 0-1 5/8/2015	SB-9 1-2 5/6/2015
Inorganic Constituents									
Cyanide, total	NE	NE	NE	mg/kg	0.95 J	0.64 J	0.71 J	0.49 U	1.6
Aluminum	NE	NE	NE	mg/kg	4950	7400	9960	11700	3410
Antimony	NE	78.00	0.27	mg/kg	**2.4 J**	**0.59 J**	2.3 U	2 U	**3.6 J**
Arsenic	13	NE	46	mg/kg	**26**	11.3	**18.9**	9 J	**47.2**
Barium	433	330	2000	mg/kg	65	78	100	209	53.3
Beryllium	10	40	21	mg/kg	1.2	0.73	0.99 J	1.8	0.59
Cadmium	4	140.0	0.4	mg/kg	0.28 J	0.31	**0.39 J**	0.15 U	0.15 J
Calcium	NE	NE	NE	mg/kg	8780 B	8650 B	11900 B	48100 B	2510 B
Chromium[3]	1	NE	34	mg/kg	**28.4**	**25.4**	**39**	**20.4**	**34.2**
Cobalt	NE	NE	230.00	mg/kg	9	10.6	12.5	5.2	6
Copper	50	80	49	mg/kg	46.3	22.7	37.3	41.3	41.8
Iron	NE	NE	NE	mg/kg	107000 B	27800 ^B	65300 ^B	48000 B	89500 B
Lead	63	1700	56	mg/kg	**123**	**198**	**211**	**110**	**126**
Magnesium	NE	NE	NE	mg/kg	1690 B	6890 B	8970 B	5500	779 B
Manganese	1600	450	4000	mg/kg	**1220 B**	**599 B**	**1300 B**	**2100 B**	**534 B**
Nickel	30	280	130	mg/kg	21.5	**71.2**	**68.7**	16.1 J	19
Potassium	NE	NE	NE	mg/kg	597 B	1270 B	1810 B	1670	683
Selenium	3.9	4	1	mg/kg	2.2 U	0.41 U	2.3 U	2 U	**2.8 J**
Silver	2	NE	14.0	mg/kg	1.1 U	0.2 U	1.1 U	1 U	0.44 U
Sodium	NE	NE	NE	mg/kg	787 U	143 U	791 U	1210 U	183 U
Thallium	NE	NE	NE	mg/kg	0.34 U	0.31 U	0.34 U	1.5 U	0.33 U
Vanadium	NE	NE	280.00	mg/kg	86.6	52.5	89.1	65.7	56.6
Zinc	109	120	79	mg/kg	**115 B**	**136 B**	**186 B**	**311 B**	**82.5 B**
Mercury	0.18	NE	NE	mg/kg	**0.26**	0.062	0.1	0.11	0.14 F1
Pesticides									
4,4'-DDD	0.0033	NE	0.021	mg/kg	0.035 U	0.082 U	0.086 U	0.016 UF1	0.018 U
4,4'-DDE	0.0033	NE	0.021	mg/kg	0.037 U	0.089 U	0.093 U	0.018 U	0.019 U
4,4'-DDT	0.0033	NE	0.021	mg/kg	0.042 U	0.099 U	0.1 U	0.02 U	0.022 U
Aldrin	0.14	NE	NE	mg/kg	0.044 U	0.1 U	0.11 U	0.021 U	0.023 U
alpha Endosulfan (Endosulfan I)	NE	NE	NE	mg/kg	0.034 U	0.081 U	0.085 U	0.016 UF1	0.018 U
beta Endosulfan (Endosulfan II)	NE	NE	NE	mg/kg	0.032 U	0.076 U	0.08 U	0.015 UF1	0.017 U
BHC, alpha	0.04	NE	NE	mg/kg	0.032 U	0.076 U	0.08 U	0.015 UF1	0.017 U
BHC, beta	0.6	NE	NE	mg/kg	0.032 U	0.076 U	0.08 U	0.015 UF1	0.017 U
BHC, delta	0.04	NE	NE	mg/kg	0.033 U	0.079 U	0.083 U	0.016 UF1	0.017 U
BHC, gamma (Lindane)	6	NE	NE	mg/kg	0.033 U	0.078 U	0.082 U	0.016 UF1	0.017 U
Chlordane, alpha	1.3	NE	NE	mg/kg	0.089 U	0.21 U	0.22 U	0.042 U	0.046 U
Chlordane, beta	NE	NE	NE	mg/kg	0.057 U	0.13 U	0.14 U	0.027 U	0.041 J
Dieldrin	0.006	NE	0.0049	mg/kg	0.043 U	0.1 U	0.11 U	0.02 U	0.022 U
Endosulfan sulfate	NE	NE	NE	mg/kg	0.033 U	0.079 U	0.083 U	0.016 UF1	0.017 U
Endrin	0.014	NE	NE	mg/kg	0.18 U	0.084 U	0.088 U	0.017 UF1	0.018 U

TABLE 13
COMPARISON OF SHALLOW SUBSURFACE SOIL RESULTS WITH NYS CRITERIA
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

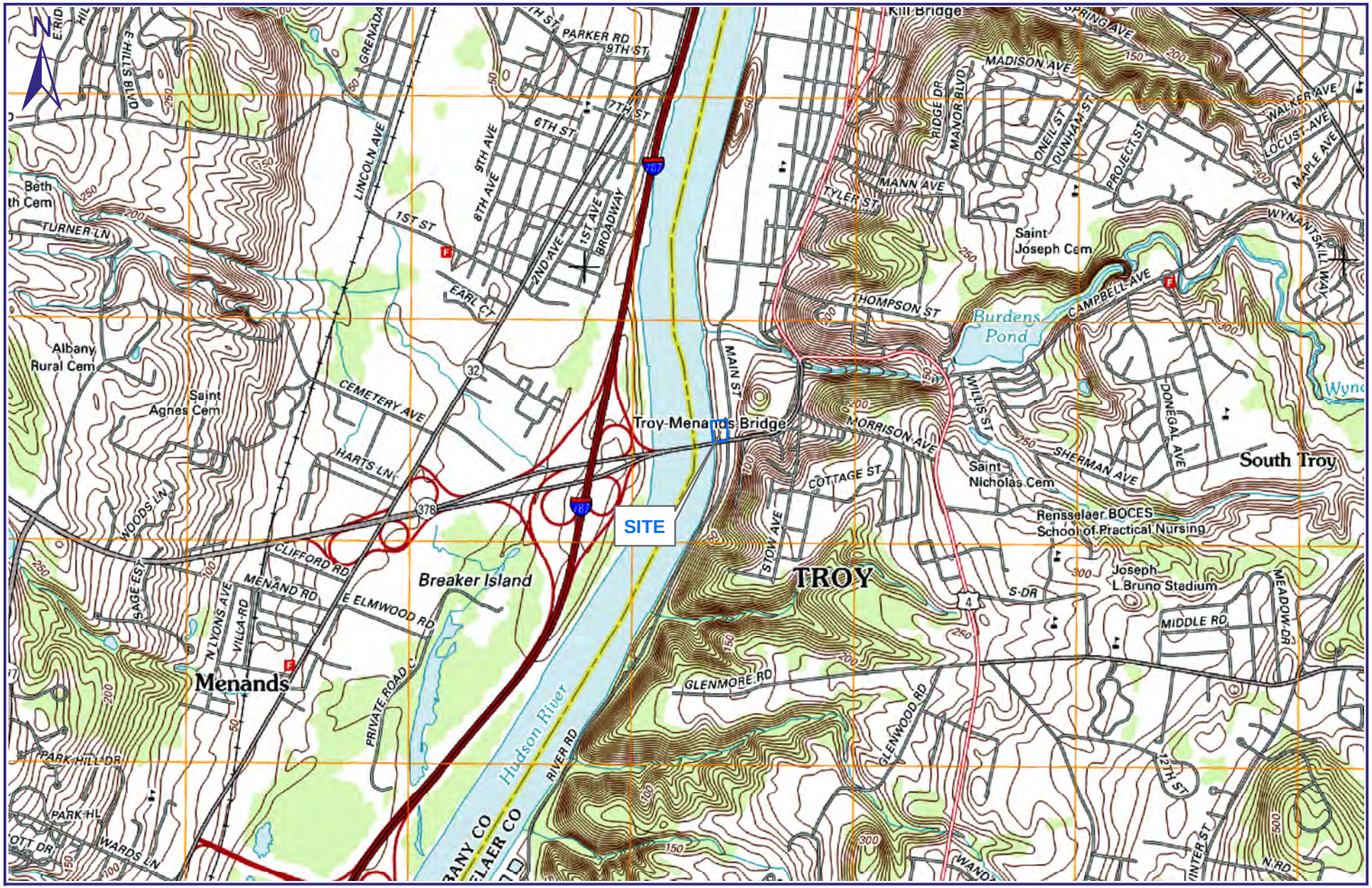
Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] (1) Protection of Ecological Resources	USEPA Ecological Soil Screening Levels (2) Soil Invertebrates	Mammals	Units	SB-6 2-3 5/5/2015	SB-7 0-1 5/5/2015	SB-7 DUP 0-1 5/5/2015	SB-8 0-1 5/8/2015	SB-9 1-2 5/6/2015
Endrin aldehyde	NE	NE	NE	mg/kg	0.046 U	0.11 U	0.11 U	0.022 U	0.023 U
Endrin ketone	NE	NE	NE	mg/kg	0.044 U	0.1 U	0.11 U	0.021 U	0.023 U
Heptachlor	0.14	NE	NE	mg/kg	0.039 U	0.092 U	0.096 U	0.018 U	0.02 U
Heptachlor epoxide	NE	NE	NE	mg/kg	0.046 U	0.11 U	0.11 U	0.022 U	0.024 U
Methoxychlor	NE	NE	NE	mg/kg	0.036 U	0.086 U	0.091 U	0.017 UF1	0.019 U
Toxaphene	NE	NE	NE	mg/kg	1 U	2.5 U	2.6 U	0.49 U	0.53 U
Polychlorinated Biphenyls (PCBs)									
Aroclor 1016	NE	NE	NE	mg/kg	0.053 U	0.045 U	0.051 U	0.044 U	0.051 U
Aroclor 1221	NE	NE	NE	mg/kg	0.053 U	0.045 U	0.051 U	0.044 U	0.051 U
Aroclor 1232	NE	NE	NE	mg/kg	0.053 U	0.045 U	0.051 U	0.044 U	0.051 U
Aroclor 1242	NE	NE	NE	mg/kg	0.053 U	0.045 U	0.051 U	0.044 U	0.051 U
Aroclor 1248	NE	NE	NE	mg/kg	0.053 U	0.045 U	0.051 U	0.044 U	0.051 U
Aroclor 1254	NE	NE	NE	mg/kg	0.13 U	0.11 U	0.12 U	0.11 U	0.12 U
Aroclor 1260	NE	NE	NE	mg/kg	0.13 U	0.11 U	0.12 U	0.11 U	0.12 U
Total PCBs	1.0	NE	NE	mg/kg	ND	ND	ND	ND	ND

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
UJ - The analyte was analyzed for, but was not detected. Value show is approximate and may be inaccurate or imprecise.
N J - The analyte detection if tentative in indentification and estimated in value.
B - Constituent was found in the blank and the sample.
R - Result rejected as determined by the data validator.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.
F2 - MS/MSD Relative Percent Difference (RPD) exceeds control limits.
^ - Instrument related QC is outside acceptance limits.
* - Laboratory Control Sample (LCS) or Laboratory Control Sample Duplicate (LCSD) is outside acceptance limits
NE - Not established.
ND - Not detected

Boxes and bolded values indicate concentrations are above New York State Subpart 375 Soil Cleanup Objectives for Protection of Ecological Resources, and/above the USEPA Eco-SSLs for Soil Invertebrates or Mammals.

(1) - 6NYCRR Subpart 375-6.
(2) - Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) (USEPA, 2007g), Pentachlorophenol (USEPA, 2007f), Antimony (USEPA, 2005a), Arsenic (USEPA, 2005d), Barium (USEPA, 2005b), Beryllium (USEPA, 2005c), Cadmium (USEPA, 2005e), Chromium (USEPA, 2008), Cobalt (USEPA, 2005f), Copper (USEPA, 2007a), Lead (USEPA, 2005g), Manganese (USEPA, 2007e), Nickel (USEPA, 2007b), Selenium (USEPA, 2007i), Silver (USEPA, 2006), Vanadium (USEPA, 2005h), Zinc (USEPA, 2007h), 4,4'-DDD (USEPA, 2007c), 4,4'-DDE (USEPA, 2007c), 4,4'-DDT,(USEPA, 2007c), and Dieldrin (USEPA, 2007d).
(3) - Chromium analysis was for total chromium. To be conservative, total chromium concentrations were compared to the hexavalent chromium SCO for Protection of Ecological Resources.

Figures



8/15/2018

Author: BFTaylor Path: P:\GIS\National_Grid\Troy\Troy_Area_3\RI_RPT\TroyArea3_SiteLoc_RI_RPT.mxd

Brown AND Caldwell

BROWN AND CALDWELL ASSOCIATES

FIGURE 1
SITE LOCATION
NATIONAL GRID
TROY (WATER ST.) SITE - AREA 3, TROY, NEW YORK

Source: USGS 7.5 Minute Topographic Map
Troy South Quadrangle (2013)

0 1,000 2,000
Feet

9/25/2018

TROY (WATER ST.) SITE - AREA 2

LOT 111.75-1-1
TROY LOCAL DEVELOPMENT CORPORATION

N

FORMER TARVIA TANK
CONCRETE PADS
FORMER TAR PRODUCTS TANKS
FORMER FLUX OIL TANK (10,000 GALs.)
FORMER BRICK SHED
FORMER TARVIA TANK
FORMER TANK T-41
FORMER TANK T-27
SUBSURFACE VAULT
POST
CONCRETE PAD
CONCRETE BRIDGE PIER
BOLLARDS

LOT 111.75-1-2
RENSSELAER COUNTY SEWER DISTRICT NO. 1

LOT 111.83-1-1
CHEVRON USA, INC.

WATER STREET

HUDSON RIVER

NYS ROUTE 378
TROY-MENANDS BRIDGE

SB-1, SB-2, SB-3, SB-4, SB-5, SB-6, SB-7, SB-8, SB-9, SB-10, SB-11, SB-12, SB-13, SB-14, SB-15, SB-16
AA-1, AA-2, AA-3
SV-1, SV-2, SV-3, SV-4, SV-5, SV-6
MW-1, MW-1S, MW-1D, MW-1S-REP, MW-2D, MW-2S, MW-3D, MW-3R, MW-3S, MW-4, MW-4D, MW-4S, MW-5, MW-5S, MW-6D, MW-6S, MW-7D, MW-7S, MW-8D, MW-8S, MW-9, MW-10
TP-1, TP-1A, TP-1B, TP-2, TP-3, TP-4, TP-5, TP-6, TP-7

A A' B B' C C' D D'

Legend

- Soil Boring
- Shallow Overburden Monitoring Well
- Deep Overburden Monitoring Well
- Bedrock Monitoring Well
- Soil Vapor Probe
- Outdoor Air Sampling Location (Approximate)
- Test Pit
- Site Boundary*
- Gas Line
- Combined Storm/Sanitary Sewer Line
- Suspected Utility (Surface Geophysical Survey)
- Sanitary Sewer Force Main
- Deposit of Surficial Semi-Solid/Hard Tar (Removed 0-1' BGS as Part of IRM, October 2017)
- Hard Tar Deposit on Shoreline
- Metal-Detector Anomaly (Surface Geophysical Survey)
- EMI-31 Anomaly Demaracation Between Fill Types
- Road
- Property Line
- Chainlink Fence
- Former Chevron Asphalt Plant Tank (Demolished/Removed)
- Historic Chevron USA, Inc. Aboveground Pipe, partially or fully demolished in 2006. Locations and dimensions are approximate; based on Figure 2 from report entitled "Facility Closure Site Investigation Report" (TRC 2005).
- 22' Wide Sanitary Sewer Force Main Easement
- Hudson River Shoreline. Estimated based on 2017 Orthoimagery
- Historic Structures. Locations based on drawing: Map of Plant, Hudson Valley Coke & Products Corp. Troy, N.Y. (Date Unknown).
- Historic Structures. Locations based on drawing: New York Power & Light, Hudson Valley Fuel Plant, Troy, N.Y. (1946)
- Former alignment of shoreline and channel/inlet. Locations are approximate; based on 1855 Barton's Map
- Ground Surface Elevation Contour (ft., NGVD). Contour Interval = 1 ft.
- Geologic Cross-Section Alignment

* - NYSDEC approved agreement, between Chevron USA, Inc and National Grid, assigned to National Grid the portion of Area 3 north of the centerline of the Route 378 bridge. Remainder of Area 3 extends south of Route 378 bridge.

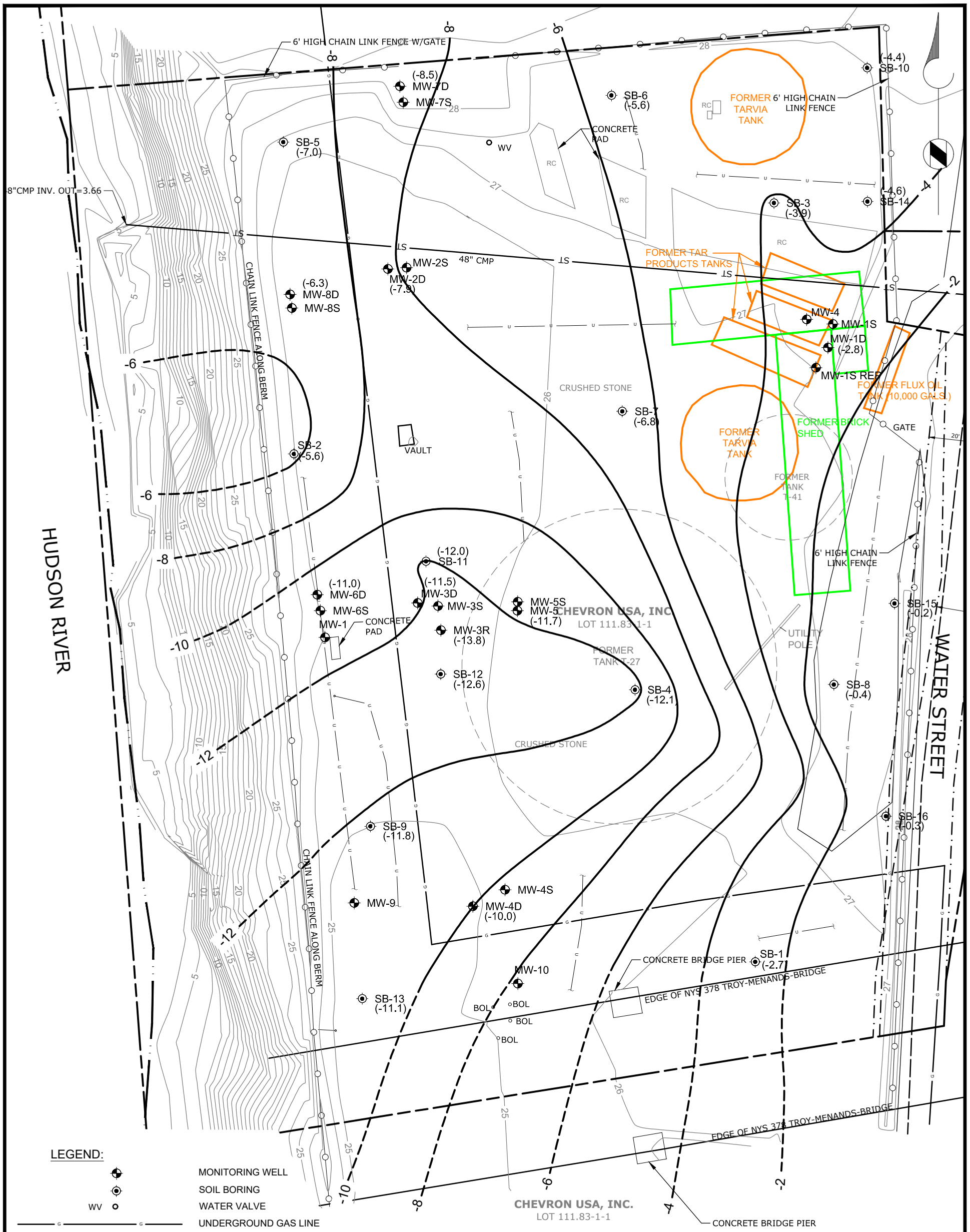
Author: BFTaylor Path: P:\GIS\National_Grid\Troy\Troy_Area_3\RI_RPT\TroyArea3_SitePlan_RI_RPT.mxd

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES

FIGURE 2
SITE PLAN
NATIONAL GRID
TROY (WATER ST.) SITE - AREA 3, TROY, NEW YORK

Sources: Base map developed based on drawings prepared by CT Male Associates (June 15, 2015, Updated February 21, 2017) and based on drawing prepared by NAEVA Geophysics, Inc. (April, 2015)

0 15 30 60
Feet



LEGEND:

- MONITORING WELL
- SOIL BORING
- WV — WATER VALVE
- G — G — UNDERGROUND GAS LINE
- ST — ST — UNDERGROUND STORM SEWER
- U — SUSPECTED UTILITY (SURFACE GEOPHYSICAL SURVEY)
- PROPERTY LINE
- CHAINLINK FENCE
- FORMER CHEVRON TANK
- HISTORIC STRUCTURES. LOCATIONS BASED ON DRAWING: MAP OF PLANT, HUDSON VALLEY COKE & PRODUCTS CORP. TROY, N.Y. (DATE UNKNOWN)
- HISTORIC STRUCTURES. LOCATIONS BASED ON DRAWING: NEW YORK POWER & LIGHT, HUDSON VALLEY FUEL PLANT, TROY, N.Y. (1946)
- HUDSON RIVER SHORELINE (ESTIMATED BASED ON 2017 ORTHOIMAGERY)
- 20 — GROUND SURFACE ELEVATION CONTOUR (FT. NGVD). CONTOUR INTERVAL = 1 FT.
- -3 — TOP OF BEDROCK ELEVATION CONTOUR (FT. NGVD), DASHED WHERE INFERRED
- (-12.1) — TOP OF BEDROCK ELEVATION (FT. NGVD)

0 30 60

SCALE IN FEET

SOURCE:
1. BASE MAP DEVELOPED ON DRAWINGS PREPARED BY NAEVA GEOPHYSICS, INC. (APRIL 28, 2015) AND C.T. MALE ASSOCIATES, P.C. (JUNE 15, 2015, UPDATED FEBRUARY 12, 2017).
2. VERTICAL DATUM SHOWN HEREON IS NGVD 29.

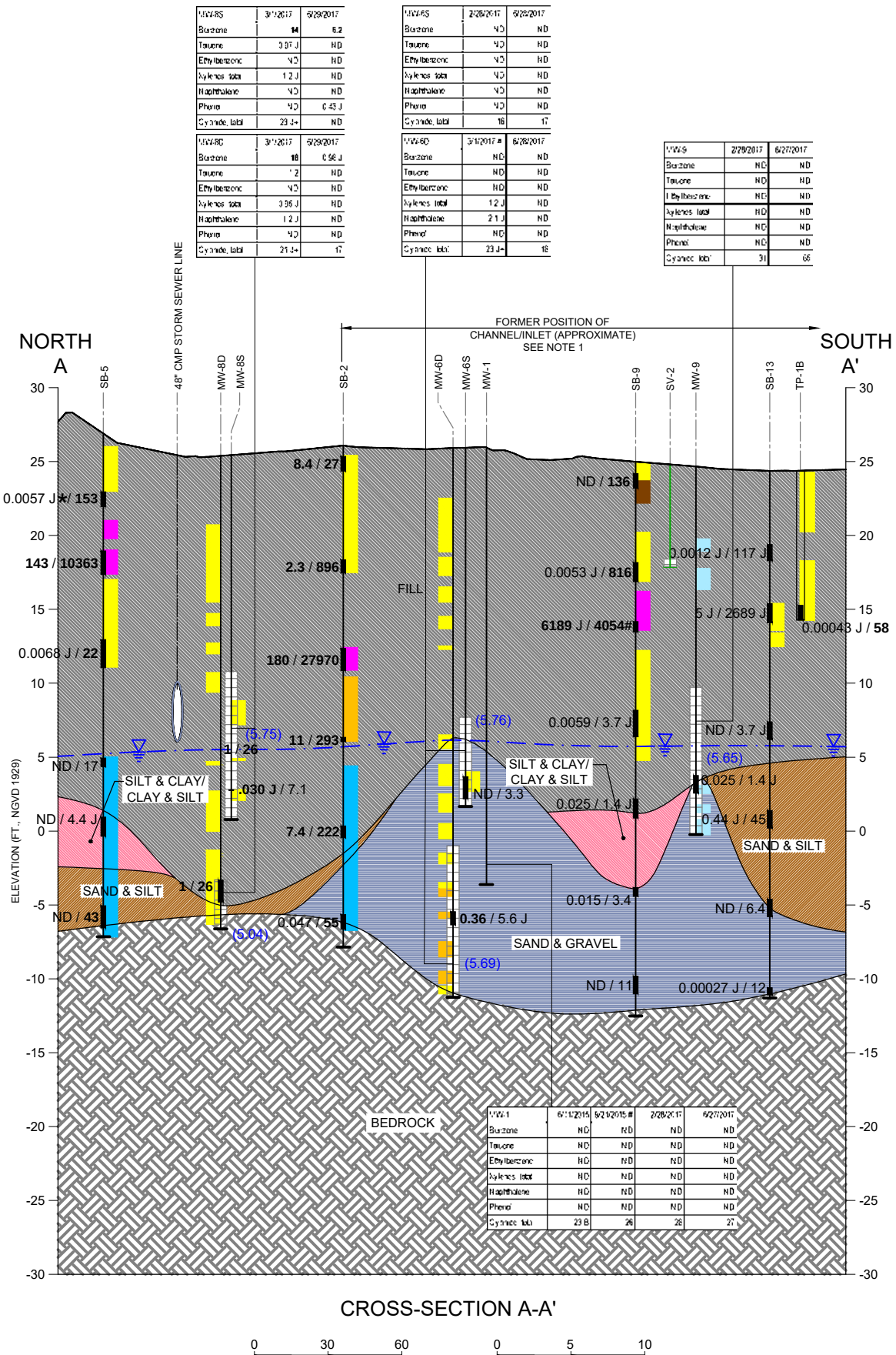
FIGURE 3
TOP OF BEDROCK SURFACE CONTOUR MAP

TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

DATE: 09/18
PROJECT NUMBER: 152169

BROWN AND CALDWELL ASSOCIATES
UPPER SADDLE RIVER, NEW JERSEY

P:\National_Grid\Nimo_Troy_Area_3\146094_Troy_Area3_RI_CAD\2-SHEETS\C-CIVIL\146094-FIG-3.dwg



MW-8S	3/1/2017	6/28/2017
Benzene	14	6.2
Toluene	0.97 J	ND
Ethylbenzene	ND	ND
Xylenes, total	1.2 J	ND
Naphthalene	ND	ND
Phenol	ND	0.43 J
Cyanide, total	23 J+	ND

MW-8D	3/1/2017	6/28/2017
Benzene	18	0.58 J
Toluene	1.2	ND
Ethylbenzene	ND	ND
Xylenes, total	3.06 J	ND
Naphthalene	1.2 J	ND
Phenol	ND	ND
Cyanide, total	21 J+	17

MW-6S	2/28/2017	6/28/2017
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylenes, total	ND	ND
Naphthalene	ND	ND
Phenol	ND	ND
Cyanide, total	16	17

MW-6D	3/1/2017 #	6/28/2017
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylenes, total	1.2 J	ND
Naphthalene	2.1 J	ND
Phenol	ND	ND
Cyanide, total	23 J+	18

MW-9	2/28/2017	6/27/2017
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylenes, total	ND	ND
Naphthalene	ND	ND
Phenol	ND	ND
Cyanide, total	31	66

MW-1	6/11/2015	6/11/2015 #	2/28/2017	6/27/2017
Benzene	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylenes, total	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND
Phenol	ND	ND	ND	ND
Cyanide, total	29 B	26	28	27

0 30 60
SCALE IN FEET
HORIZONTAL

0 5 10
SCALE IN FEET
VERTICAL

CROSS-SECTION A-A'

LEGEND:

MW-111S — MONITORING WELL / SOIL BORING / TEST PIT IDENTIFICATION AND APPROXIMATE LOCATION

GENERALIZED GROUND SURFACE

0.012 / 27 — TOTAL BTEX/TOTAL PAH(mg/kg) CONCENTRATION WITHIN SAMPLE INTERVAL. BOLD VALUE INDICATES ONE OR MORE CONSTITUENT CONCENTRATIONS ABOVE NYS PART 375 SOIL CLEANUP OBJECTIVES (PROTECTION OF PUBLIC HEALTH-INDUSTRIAL ZONING, PROTECTION OF ECOLOGICAL RESOURCES, AND/OR PROTECTION OF GROUNDWATER)

WELL SCREEN INTERVAL

TOTAL DEPTH OF BOREHOLE

FILL

SILT & CLAY/CLAY & SILT

SAND & SILT

SAND & GRAVEL

BEDROCK

MW-8S	3/1/2017	6/28/2017
Benzene	14	6.2
Toluene	0.97 J	ND
Ethylbenzene	ND	ND
Xylenes, total	1.2 J	ND
Naphthalene	ND	ND
Phenol	ND	0.43 J
Cyanide, total	23 J+	ND

GROUNDWATER QUALITY DATA. VALUES REPORTED IN MICROGRAMS PER LITER (ug/L). BOLD VALUE INDICATES THAT ONE OR MORE CONSTITUENTS ARE ABOVE CLASS GA CRITERIA.

WATER TABLE, 2/27/17

(5.49) WATER ELEVATION (FT., NGVD), 2/27/17

VISUAL/OLFACTORY IMPACTS (SEE NOTE 3)

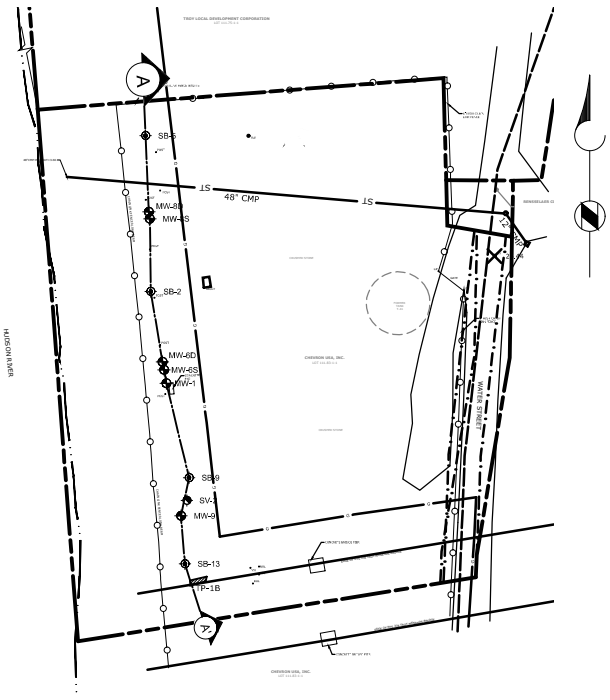
- TAR SATURATED
- COATED MATERIAL, LENSES
- HARDENED TAR
- BLEBS, GLOBS, SHEEN
- STAINING, ODOR
- PETROLEUM IMPACTS; SATURATION & SHEENS
- PETROLEUM IMPACTS; STAINING & ODORS

ABBREVIATIONS:

ND	NOT DETECTED
J	ESTIMATED CONCENTRATION
J+	ESTIMATED CONCENTRATION. REPORTED VALUE MAY BE BIASED HIGH.
B	CONSTITUENT WAS FOUND IN THE BLANK AND THE SAMPLE
#	HIGHEST CONCENTRATION FROM ORIGINAL AND DUPLICATE SAMPLE

NOTES:

1. FORMER POSITION OF SHORELINE AND CHANNEL/INLET BASED ON 1855 BARTON'S MAP.
2. LOCATION BASED ON DRAWING: NEW YORK POWER & LIGHT, HUDSON VALLEY FUEL PLANT, TROY, N.Y. (1946).
3. NYSDEC'S STANDARD COLORS AND ASSOCIATED DESCRIPTORS FOR REPORTING MGP-RELTATED OR OTHER IMPACTS WERE USED TO DEPICT INTERVALS WHERE IMPACTS WERE OBSERVED.



SECTION KEY MAP

0 60 120
SCALE IN FEET

FIGURE 4

GEOLOGIC
CROSS-SECTION A-A'

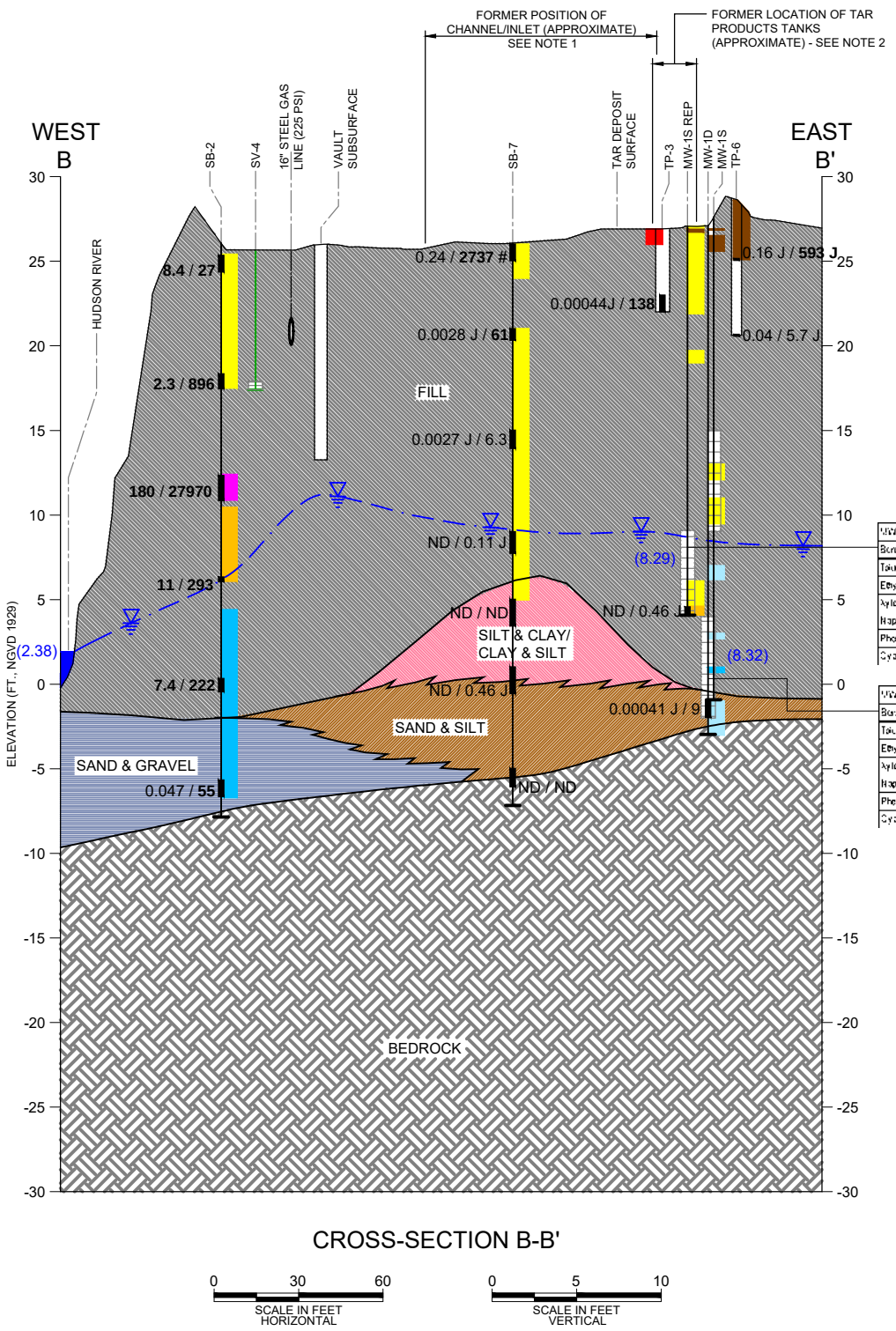
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

DATE 09/18

PROJECT NUMBER 152169

BROWN AND CALDWELL ASSOCIATES
UPPER SADDLE RIVER, NEW JERSEY

P:\National_Grid\Nimo_Troy_Area_3\146094_Troy_Area3_RI_CAD\2-SHEETS\C-CIVIL\146094-FIG-4.dwg



CROSS-SECTION B-B'

0 30 60
SCALE IN FEET HORIZONTAL

0 5 10
SCALE IN FEET VERTICAL

LEGEND:

MW-111S — MONITORING WELL / SOIL BORING / TEST PIT IDENTIFICATION AND APPROXIMATE LOCATION

GENERALIZED GROUND SURFACE

0.012 / **27** — TOTAL BTEX/TOTAL PAH(mg/kg) CONCENTRATION WITHIN SAMPLE INTERVAL. BOLD VALUE INDICATES ONE OR MORE CONSTITUENT CONCENTRATIONS ABOVE NYS PART 375 SOIL CLEANUP OBJECTIVES (PROTECTION OF PUBLIC HEALTH-INDUSTRIAL ZONING, PROTECTION OF ECOLOGICAL RESOURCES, AND/OR PROTECTION OF GROUNDWATER)

WELL SCREEN INTERVAL

TOTAL DEPTH OF BOREHOLE

FILL

SILT & CLAY/CLAY & SILT

SAND & SILT

SAND & GRAVEL

BEDROCK

MW-1S	2/27/2017	8/29/2017
Benzene	14	6.2
Toluene	0.97 J	ND
Ethylbenzene	ND	ND
Xylenes, total	1.2 J	ND
Naphthalene	ND	ND
Phenol	ND	0.43 J
Cyanide, total	23.4	ND

GROUNDWATER QUALITY DATA. VALUES REPORTED IN MICROGRAMS PER LITER (ug/L). BOLD VALUE INDICATES THAT ONE OR MORE CONSTITUENTS ARE ABOVE CLASS GA CRITERIA.

WATER TABLE, 2/27/17

(5.49) — WATER ELEVATION (FT., NGVD), 2/27/17

VISUAL/OLFACTORY IMPACTS (SEE NOTE 3)

- TAR SATURATED
- COATED MATERIAL, LENSES
- HARDENED TAR
- BLEBS, GLOBS, SHEEN
- STAINING, ODOR
- PETROLEUM IMPACTS; SATURATION & SHEENS
- PETROLEUM IMPACTS; STAINING & ODORS

ABBREVIATIONS:

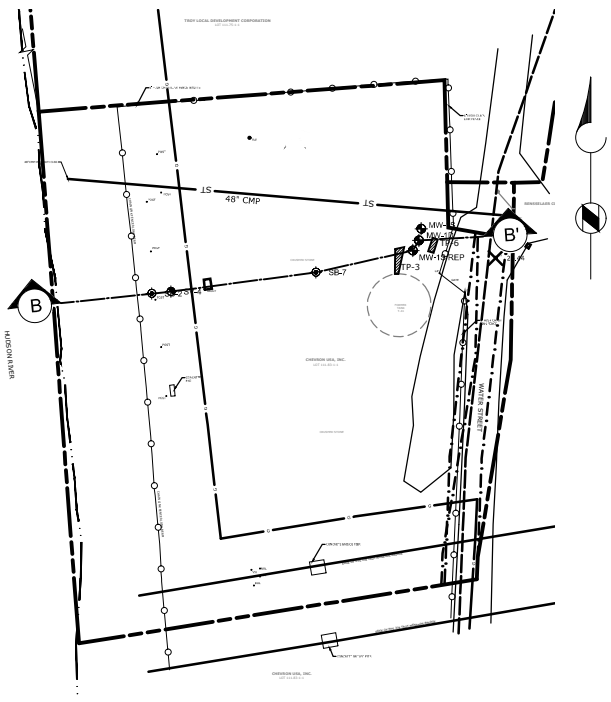
ND	NOT DETECTED
J	ESTIMATED CONCENTRATION
#	HIGHEST CONCENTRATION FROM ORIGINAL AND DUPLICATE SAMPLE

NOTES:

1. FORMER POSITION OF SHORELINE AND CHANNEL/INLET BASED ON 1855 BARTON'S MAP.
2. LOCATION BASED ON DRAWING: NEW YORK POWER & LIGHT, HUDSON VALLEY FUEL PLANT, TROY, N.Y. (1946).
3. NYSDEC'S STANDARD COLORS AND ASSOCIATED DESCRIPTORS FOR REPORTING MGP-RELTATED OR OTHER IMPACTS WERE USED TO DEPICT INTERVALS WHERE IMPACTS WERE OBSERVED.

MW-1S REP	2/28/2017	8/29/2017
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylenes, total	ND	ND
Naphthalene	ND	ND
Phenol	ND	ND
Cyanide, total	ND	ND

MW-1D	6/12/2015	9/22/2015	2/28/2017	8/27/2017
Benzene	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylenes, total	ND	ND	ND	ND
Naphthalene	ND	2.4 J	1.4 J	1 J
Phenol	1 J	ND	ND	ND
Cyanide, total	ND	ND	ND	ND



SECTION KEY MAP

0 60 120
SCALE IN FEET

FIGURE 5

GEOLOGIC CROSS-SECTION B-B'

TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

DATE 08/18

PROJECT NUMBER 152169

BROWN AND CALDWELL ASSOCIATES
UPPER SADDLE RIVER, NEW JERSEY

P:\National_Grid\Nimo_Troy_Area_3\146094_Troy_Area3_RI_CAD\2-SHEETS\C-CIVIL\146094-FIG-4.dwg

MW-2S	6/12/2015	9/23/2015	3/2/2017	6/28/2017
Benzene	1300	18	ND	ND
Toluene	320	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylenes, total	150	ND	ND	ND
Naphthalene	7.4	1.9 J	ND	1.1 J
Phenol	7.9	2.5 J	ND	ND
Cyanide, total	40	23	27 J+	32

MW-3S	6/12/2015	9/23/2015	3/2/2017	6/28/2017
Benzene	8900 J	7500	830	NS
Toluene	1300	280	ND	NS
Ethylbenzene	21	ND	ND	NS
Xylenes, total	340	160 J	ND	NS
Naphthalene	ND	ND	35 J	NS
Phenol	56 F1	430	8.1 J	NS
Cyanide, total	130 B	130	67 J+	NS

MW-4S	6/12/2015	9/23/2015	3/1/2017	6/28/2017
Benzene	18	4.8	ND	ND
Toluene	3.6	0.64 J	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylenes, total	0.72 J	ND	ND	ND
Naphthalene	5	0.85 J	ND	ND
Phenol	1.3 J	ND	ND	ND
Cyanide, total	37 B	560	690 J+	440

MW-2D	6/11/2015 #	9/23/2015	3/2/2017	6/28/2017
Benzene	10	4.8	ND	ND
Toluene	2.9	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylenes, total	1.4 J	1.0 J	ND	ND
Naphthalene	4.6 J	1 J	ND	ND
Phenol	2.7 J	ND	ND	ND
Cyanide, total	14	14	27 J+	16

MW-3D	6/11/2015	9/23/2015	2/28/2017	6/28/2017
Benzene	NS	NS	NS	NS
Toluene	NS	NS	NS	NS
Ethylbenzene	NS	NS	NS	NS
Xylenes, total	NS	NS	NS	NS
Naphthalene	NS	NS	NS	NS
Phenol	NS	NS	NS	NS
Cyanide, total	NS	NS	NS	NS

MW-4D	6/12/2015	9/23/2015	2/28/2017	6/27/2017
Benzene	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylenes, total	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND
Phenol	ND	ND	ND	ND
Cyanide, total	14	14 J	23	26

FORMER POSITION OF CHANNEL/INLET (APPROXIMATE) SEE NOTE 1

NORTH C — C — SOUTH C'

48" CMP STORM SEWER LINE; SUBSURFACE VAULT; 16" STEEL GAS LINE (225 PSI)

MW-7D, MW-7S, MW-2S (PROJECTED), MW-2D, SB-11, MW-3D, MW-3S (PROJECTED), MW-3R, SB-12, MW-4S (PROJECTED), MW-4D (PROJECTED), MW-10

ELEVATION (FT., NGVD 1929)

30, 25, 20, 15, 10, 5, 0, -5, -10, -15, -20, -25, -30, -35

12260 / 4080

0.045 / 2.1 J

0.0028 J / 7

FILL

4243 / 8818

11350 J / 9440

196 J / 254

(7.91)

SILT & CLAY/CLAY & SILT

(8.45)

0.19 J / 6

16 F1 / 48

(6.86)

854 / 1024

(9.67)

0.012 / 27

ND / 0.14 J

SILT & CLAY/CLAY & SILT

(8.26)

29.9 / 14

SAND & GRAVEL

0.65 / 2.8

113 / 38

0.116 J / 0.97 J

(5.99)

0.0016 J / 1.1 J

SAND & SILT

1.8 / 1.4

0.69 / 6.2 J

(5.61)

(5.49)

3.4 / 515

6.45 / 11

(5.83)

0.25 / 2

0.0081 / 1.5 J

BEDROCK

(5.34)

MW-10	2/28/2017	6/27/2017
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylenes, total	ND	ND
Naphthalene	ND	ND
Phenol	ND	ND
Cyanide, total	150	43

MW-3R	2/28/2017	6/27/2017
Benzene	6.8	2
Toluene	0.83 J	ND
Ethylbenzene	ND	ND
Xylenes, total	ND	ND
Naphthalene	ND	ND
Phenol	ND	ND
Cyanide, total	4	7.1 J

MW-7S	3/1/2017	6/28/2017
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylenes, total	ND	ND
Naphthalene	ND	ND
Phenol	ND	ND
Cyanide, total	34 J+	16

MW-7D	3/1/2017	6/28/2017
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylenes, total	ND	ND
Naphthalene	ND	ND
Phenol	ND	ND
Cyanide, total	64 J+	32

CROSS-SECTION C-C'

0 30 60 SCALE IN FEET HORIZONTAL

0 5 10 SCALE IN FEET VERTICAL

LEGEND:

MW-111S — MONITORING WELL / SOIL BORING / TEST PIT IDENTIFICATION AND APPROXIMATE LOCATION

GENERALIZED GROUND SURFACE

0.012 / 27 — TOTAL BTEX/TOTAL PAH(mg/kg) CONCENTRATION WITHIN SAMPLE INTERVAL. BOLD VALUE INDICATES ONE OR MORE CONSTITUENT CONCENTRATIONS ABOVE NYS PART 375 SOIL CLEANUP OBJECTIVES (PROTECTION OF PUBLIC HEALTH-INDUSTRIAL ZONING, PROTECTION OF ECOLOGICAL RESOURCES, AND/OR PROTECTION OF GROUNDWATER)

WELL SCREEN INTERVAL

SUMP

TOTAL DEPTH OF BOREHOLE

FILL

SILT & CLAY/CLAY & SILT

SAND & SILT

SAND & GRAVEL

BEDROCK

MW-8S	3/1/2017	6/29/2017
Benzene	14	6.2
Toluene	0.92 J	ND
Ethylbenzene	ND	ND
Xylenes, total	1.2 J	ND
Naphthalene	ND	ND
Phenol	ND	0.43 J
Cyanide, total	29 J+	ND

GROUNDWATER QUALITY DATA. VALUES REPORTED IN MICROGRAMS PER LITER (ug/L). BOLD VALUE INDICATES THAT ONE OR MORE CONSTITUENTS ARE ABOVE CLASS GA CRITERIA.

WATER TABLE, 2/27/17

(5.49) — WATER ELEVATION (FT., NGVD), 2/27/17

VISUAL/OLFACTORY IMPACTS (SEE NOTE 3)

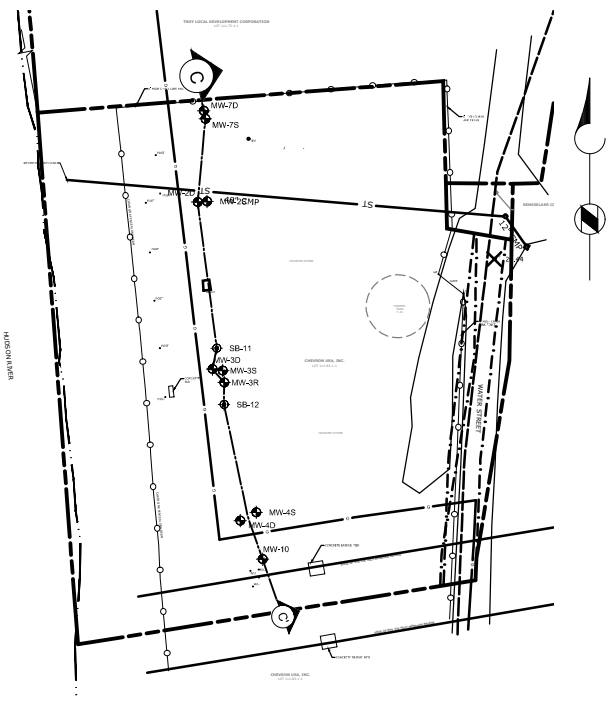
- TAR SATURATED
- COATED MATERIAL, LENSES
- HARDENED TAR
- BLEBS, GLOBS, SHEEN
- STAINING, ODOR
- PETROLEUM IMPACTS; SATURATION & SHEENS
- PETROLEUM IMPACTS; STAINING & ODORS
- NAPL OBSERVED WITHIN WELL CASING DURING FEBRUARY AND JUNE, 2017 GAUGING EVENTS

ABBREVIATIONS:

NS	NOT SAMPLED DUE TO NAPL OBSERVED IN WELL DURING GAUGING EVENTS
ND	NOT DETECTED
J	ESTIMATED CONCENTRATION
J+	ESTIMATED CONCENTRATION. REPORTED VALUE MAY BE BIASED HIGH.
B	CONSTITUENT WAS FOUND IN THE BLANK AND THE SAMPLE
#	HIGHEST CONCENTRATION FROM ORIGINAL AND DUPLICATE SAMPLE

NOTES:

1. FORMER POSITION OF SHORELINE AND CHANNEL/INLET BASED ON 1855 BARTON'S MAP.
2. LOCATION BASED ON DRAWING: NEW YORK POWER & LIGHT, HUDSON VALLEY FUEL PLANT, TROY, N.Y. (1946).
3. NYSDEC'S STANDARD COLORS AND ASSOCIATED DESCRIPTORS FOR REPORTING MGP-RELTATED OR OTHER IMPACTS WERE USED TO DEPICT INTERVALS WHERE IMPACTS WERE OBSERVED.



SECTION KEY MAP

0 60 120 SCALE IN FEET

P:\National_Grid\Nimo_Troy_Area_3\146094_Troy_Area3_RI_CAD\2-SHEETS\C-CIVIL\146094-FIG-4.dwg

FIGURE 6

GEOLOGIC CROSS-SECTION C-C'

TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

DATE 09/18

PROJECT NUMBER 152169

BROWN AND CALDWELL ASSOCIATES
UPPER SADDLE RIVER, NEW JERSEY

MW-6S	2/28/2017	6/28/2017
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylenes, total	ND	ND
Naphthalene	ND	ND
Phenol	ND	ND
Cyanide, total	16	17

MW-6D	2/27/2017 #	6/28/2017
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylenes, total	1.2 J	ND
Naphthalene	2.1 J	ND
Phenol	ND	ND
Cyanide, total	23 J+	18

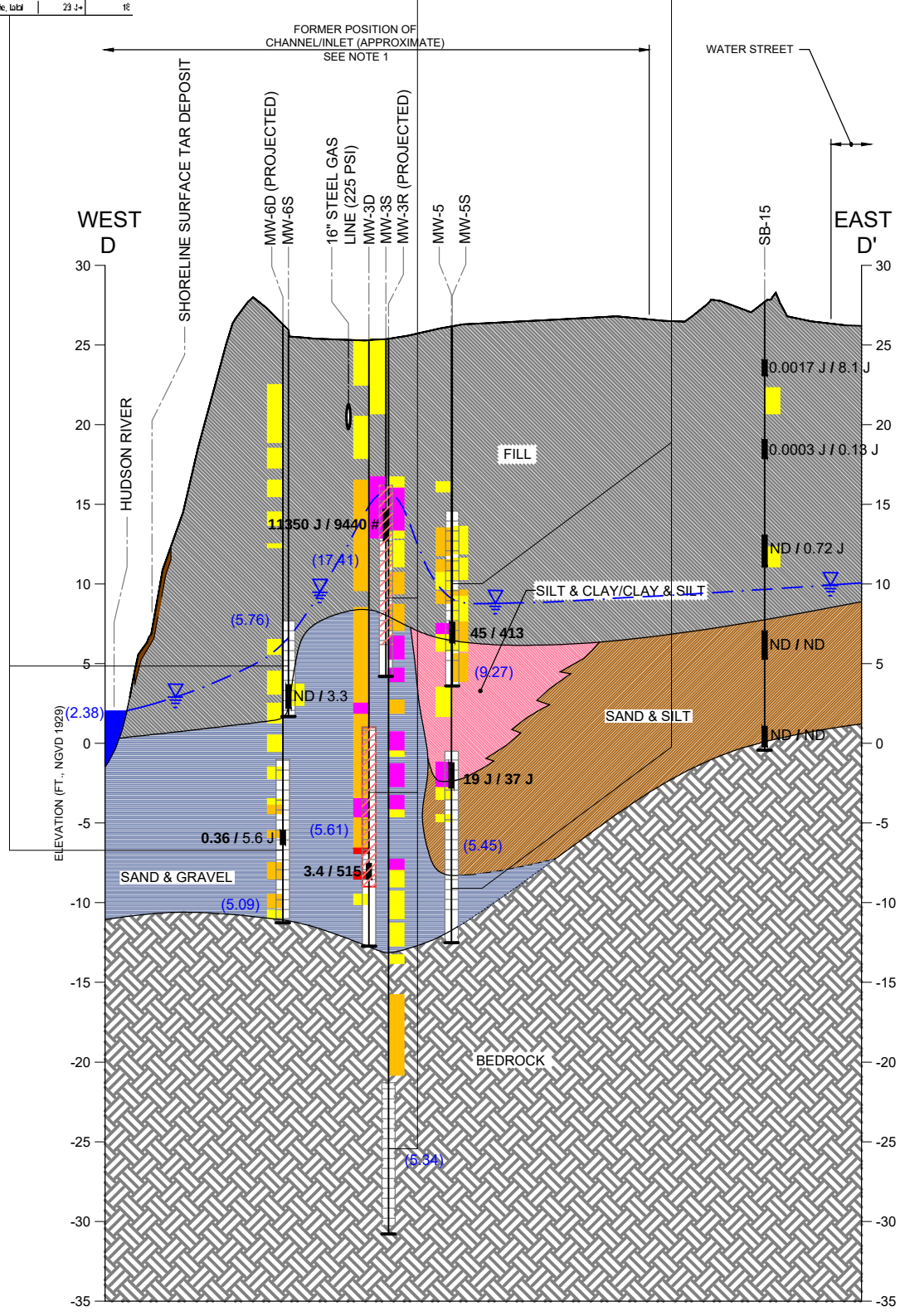
MW-3S	5/12/2015	9/23/2015	3/2/2017	6/26/2017
Benzene	8900 J	7500	880	NS
Toluene	1300	260	ND	NS
Ethylbenzene	21	ND	ND	NS
Xylenes, total	340	160 J	ND	NS
Naphthalene	ND	ND	35 J	NS
Phenol	56 P1	430	8.1 J	NS
Cyanide, total	130 B	130	67 J+	NS

MW-3D	5/11/2015	9/23/2015	2/28/2017	6/26/2017
Benzene	NS	NS	NS	NS
Toluene	NS	NS	NS	NS
Ethylbenzene	NS	NS	NS	NS
Xylenes, total	NS	NS	NS	NS
Naphthalene	NS	NS	NS	NS
Phenol	NS	NS	NS	NS
Cyanide, total	NS	NS	NS	NS

MW-3R	2/28/2017	6/26/2017
Benzene	6.8	2
Toluene	0.83 J	ND
Ethylbenzene	ND	ND
Xylenes, total	ND	ND
Naphthalene	ND	ND
Phenol	ND	ND
Cyanide, total	14	7.1 J

MW-5S	3/2/2017	6/28/2017
Benzene	280	1100
Toluene	58	ND
Ethylbenzene	ND	ND
Xylenes, total	15 J	ND
Naphthalene	500	220
Phenol	18	38
Cyanide, total	480 J+	390

MW-5	3/2/2017 #	6/28/2017
Benzene	61	16
Toluene	6.5	ND
Ethylbenzene	ND	ND
Xylenes, total	19	ND
Naphthalene	130	1 J
Phenol	3.1	ND
Cyanide, total	13 J+	21



CROSS-SECTION D-D'

SCALE IN FEET HORIZONTAL: 0 30 60

SCALE IN FEET VERTICAL: 0 5 10

LEGEND:

MW-111S — MONITORING WELL / SOIL BORING / TEST PIT IDENTIFICATION AND APPROXIMATE LOCATION

GENERALIZED GROUND SURFACE

0.012 / **27** — TOTAL BTEX/TOTAL PAH(mg/kg) CONCENTRATION WITHIN SAMPLE INTERVAL. BOLD VALUE INDICATES ONE OR MORE CONSTITUENT CONCENTRATIONS ABOVE NYS PART 375 SOIL CLEANUP OBJECTIVES (PROTECTION OF PUBLIC HEALTH-INDUSTRIAL ZONING, PROTECTION OF ECOLOGICAL RESOURCES, AND/OR PROTECTION OF GROUNDWATER)

WELL SCREEN INTERVAL

SUMP

TOTAL DEPTH OF BOREHOLE

FILL

SILT & CLAY/CLAY & SILT

SAND & SILT

SAND & GRAVEL

BEDROCK

MW-8S	2/27/2017	6/28/2017
Benzene	14	8.2
Toluene	0.97 J	ND
Ethylbenzene	ND	ND
Xylenes, total	1.2 J	ND
Naphthalene	ND	ND
Phenol	ND	0.43 J
Cyanide, total	23 J+	ND

GROUNDWATER QUALITY DATA. VALUES REPORTED IN MICROGRAMS PER LITER (ug/L). BOLD VALUE INDICATES THAT ONE OR MORE CONSTITUENTS ARE ABOVE CLASS GA CRITERIA.

WATER TABLE, 2/27/17

(5.49) — WATER ELEVATION (FT., NGVD), 2/27/17

VISUAL/OLFACTORY IMPACTS (SEE NOTE 3)

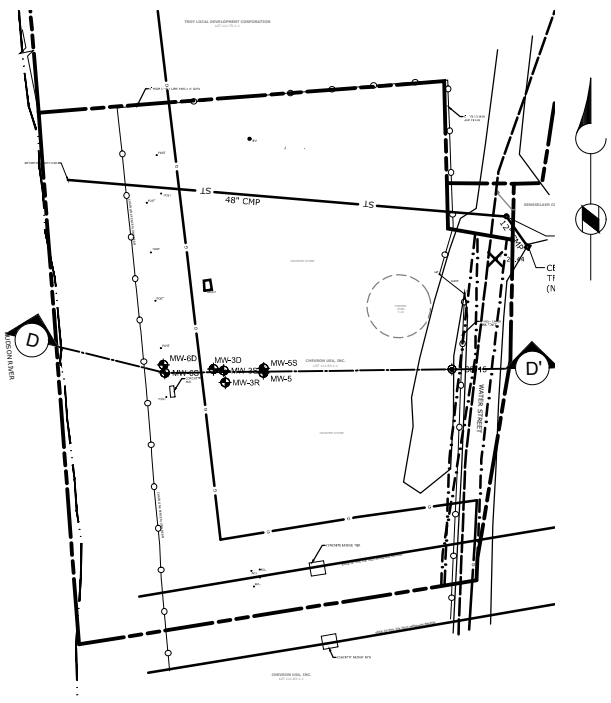
- TAR SATURATED
- COATED MATERIAL, LENSES
- HARDENED TAR
- BLEBS, GLOBS, SHEEN
- STAINING, ODOR
- PETROLEUM IMPACTS; SATURATION & SHEENS
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B	CONSTITUENT WAS FOUND IN THE BLANK AND THE SAMPLE
#	HIGHEST CONCENTRATION FROM ORIGINAL AND DUPLICATE SAMPLE

NOTES:

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SECTION KEY MAP

0 60 120

SCALE IN FEET

P:\National_Grid\Nimo_Troy_Area_3\146094_Troy_Area3_RI_CAD\2-SHEETS\C-CIVIL\146094-FIG-4.dwg

FIGURE 7

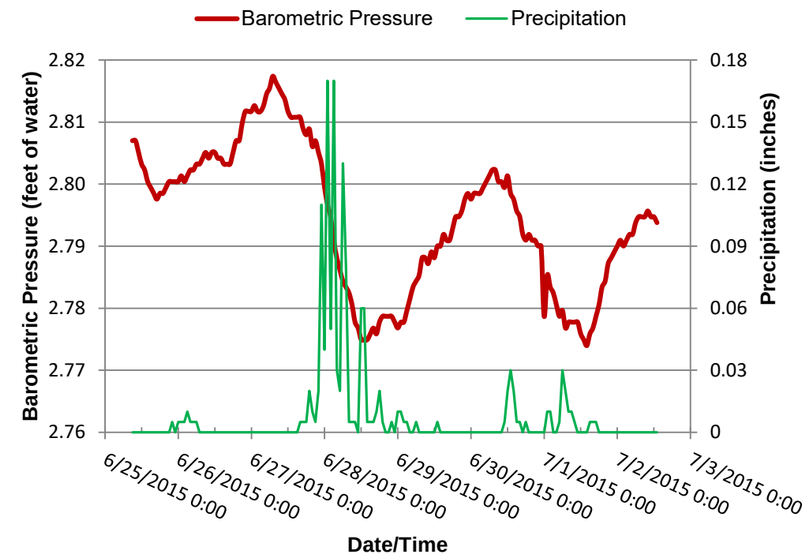
GEOLOGIC CROSS-SECTION D-D'

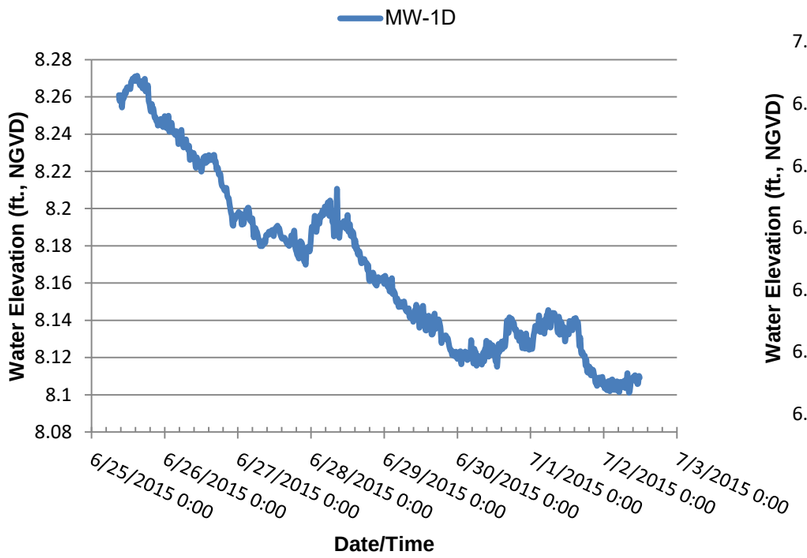
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

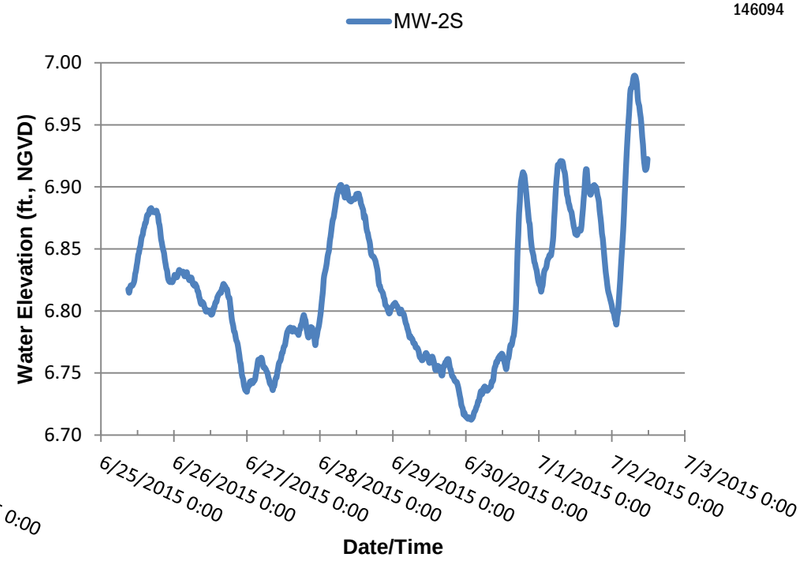
DATE	PROJECT NUMBER
09/18	152169

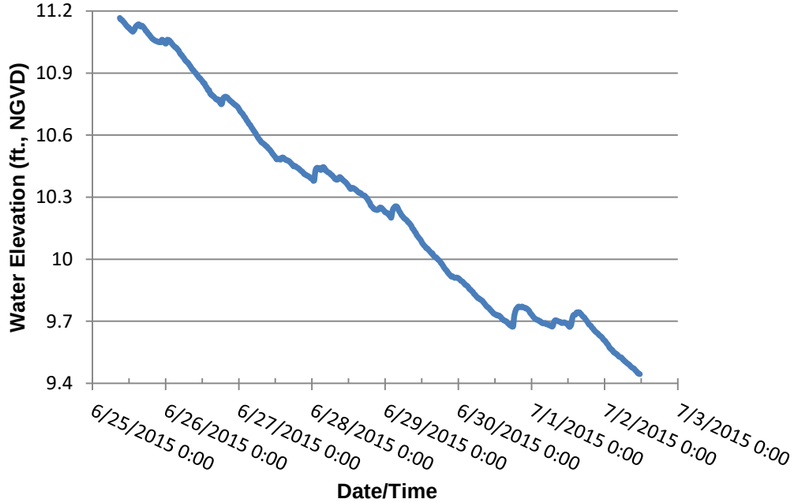
BROWN AND CALDWELL ASSOCIATES
UPPER SADDLE RIVER, NEW JERSEY

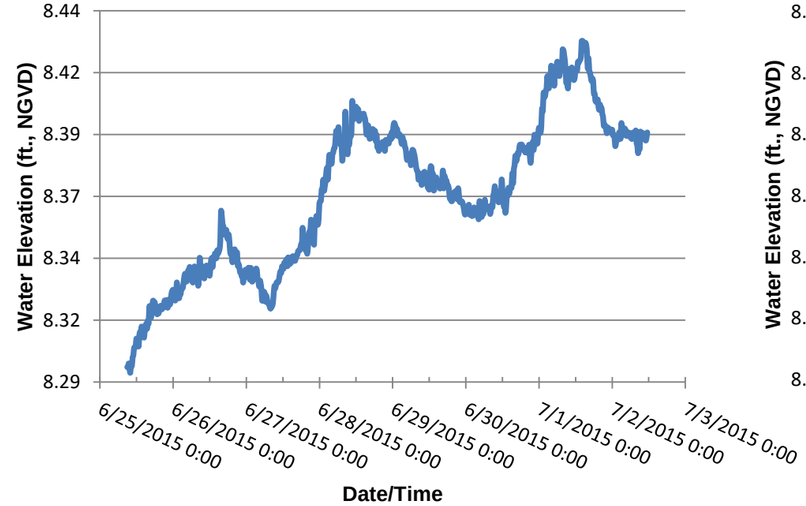
146094











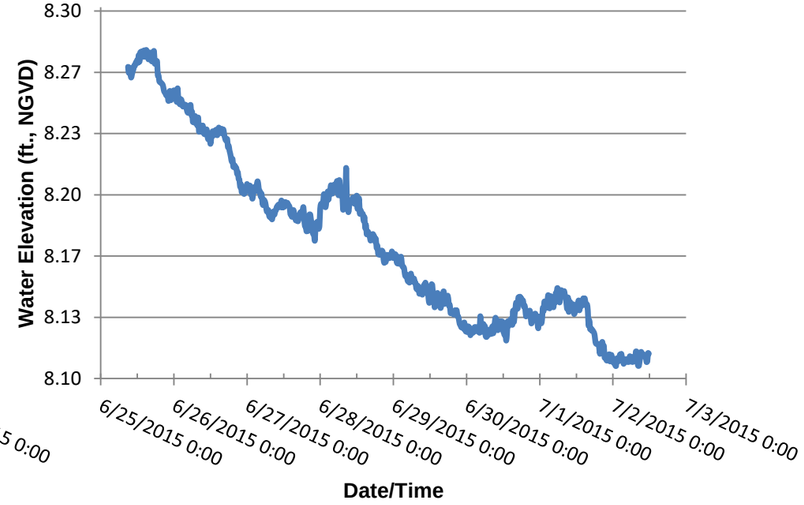


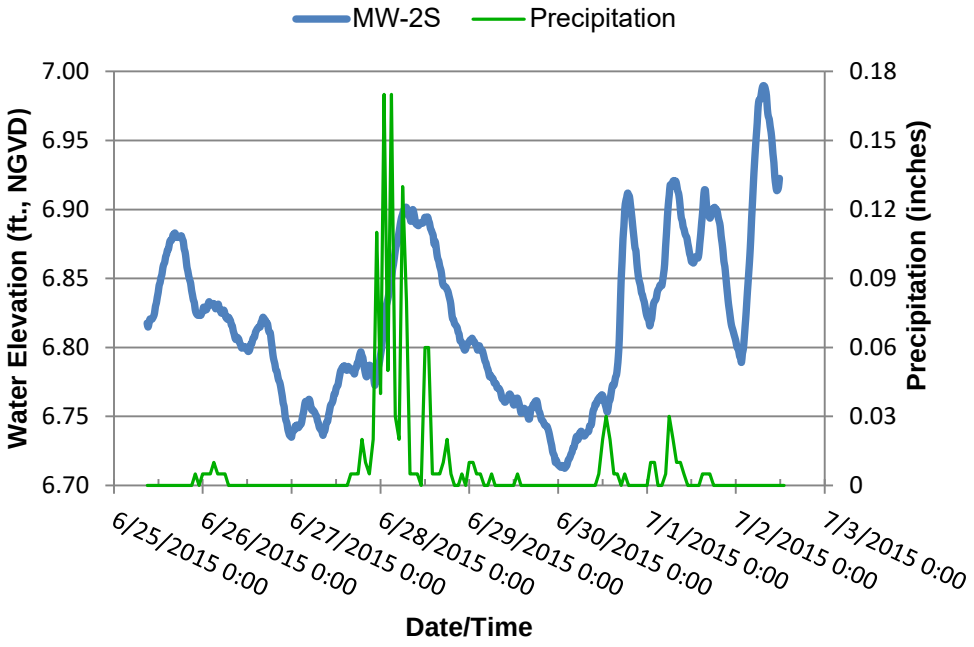
FIGURE 8

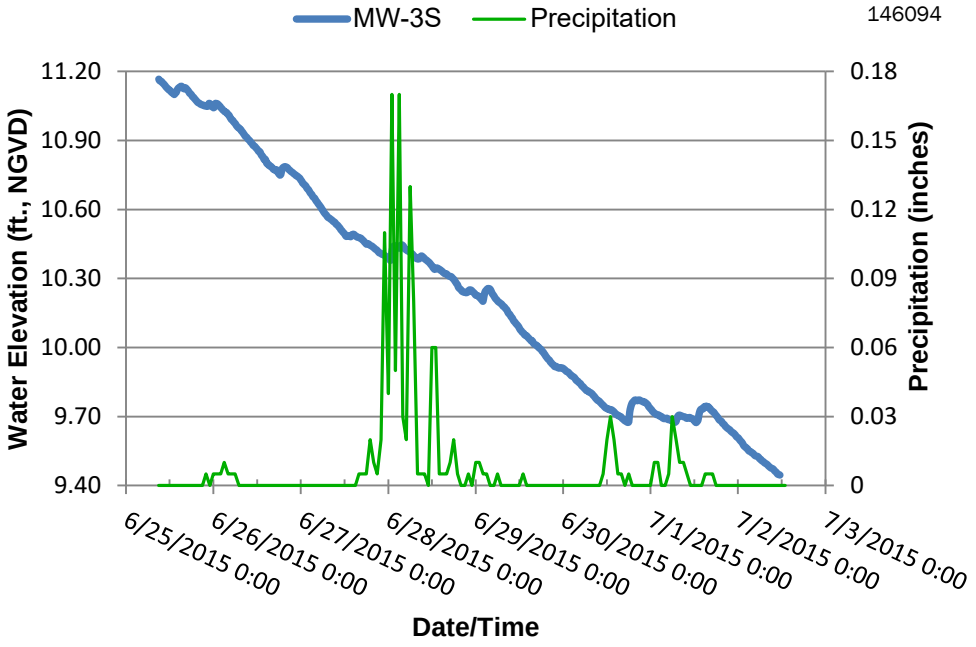
BAROMETRIC PRESSURE, PRECIPITATION AND GROUNDWATER ELEVATION DATA (June 25–July 2, 2015)

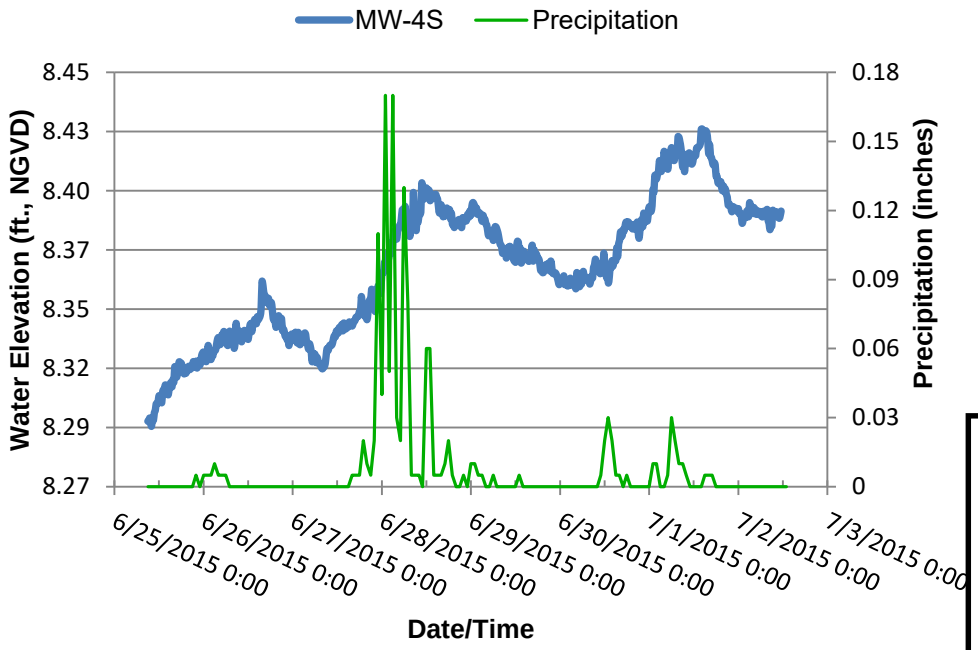
NATIONAL GRID
TROY (WATER ST.) SITE – AREA 3
TROY, NEW YORK

Brown AND Caldwell

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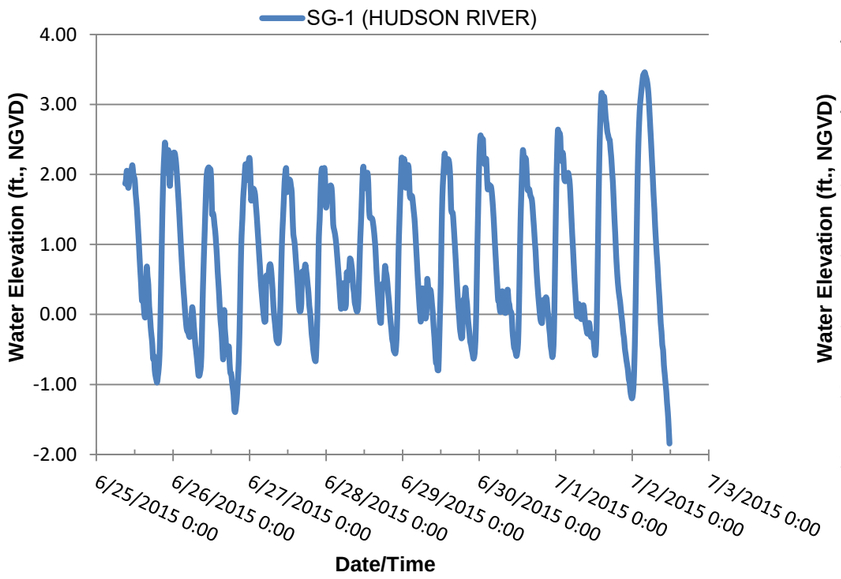
FIGURE 9

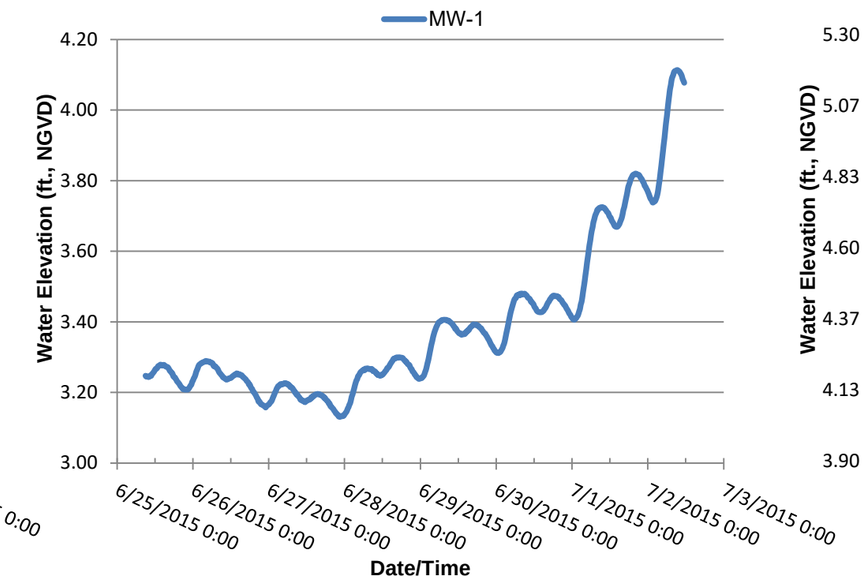
WATER TABLE ELEVATION AND PRECIPITATION DATA –
(June 25 - July 2, 2015)

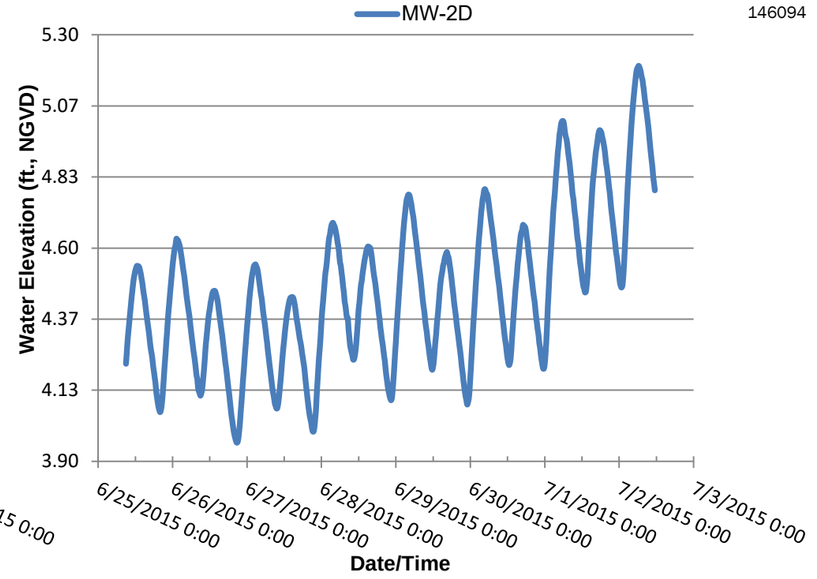
NATIONAL GRID
TROY (WATER ST.) SITE – AREA 3
TROY, NEW YORK

Brown AND Caldwell

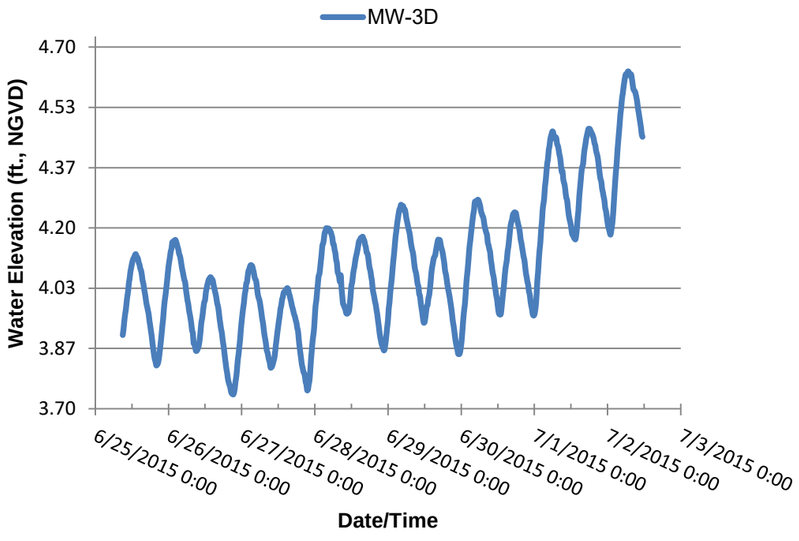
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146094



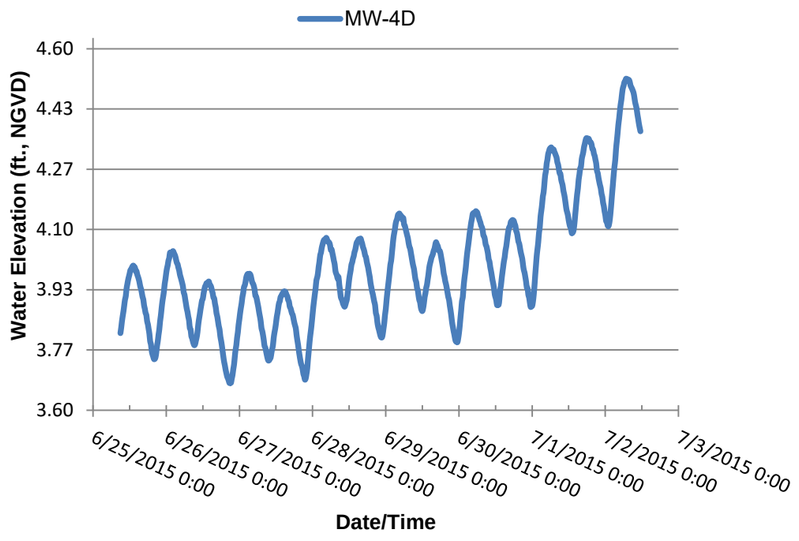


FIGURE 10A

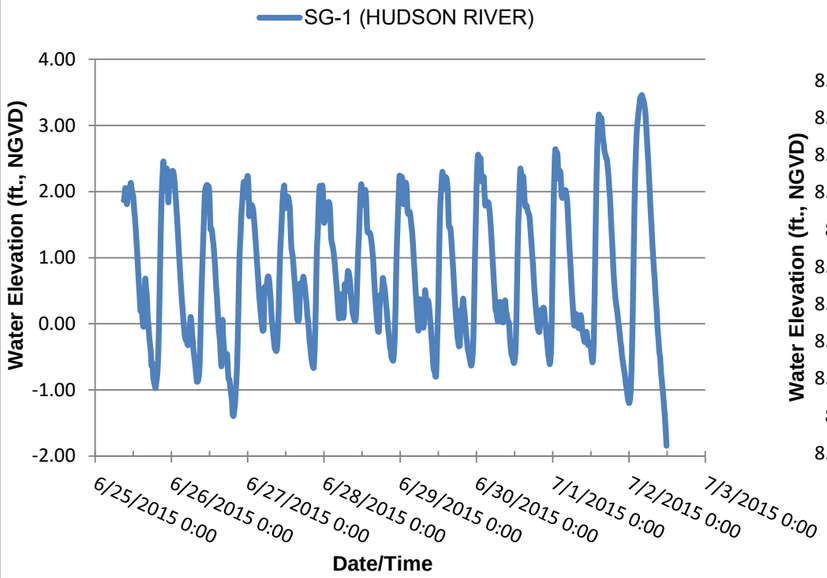
TIDAL EFFECTS ON SURFACE WATER AND GROUNDWATER LEVELS
(June 25–July 2, 2015)

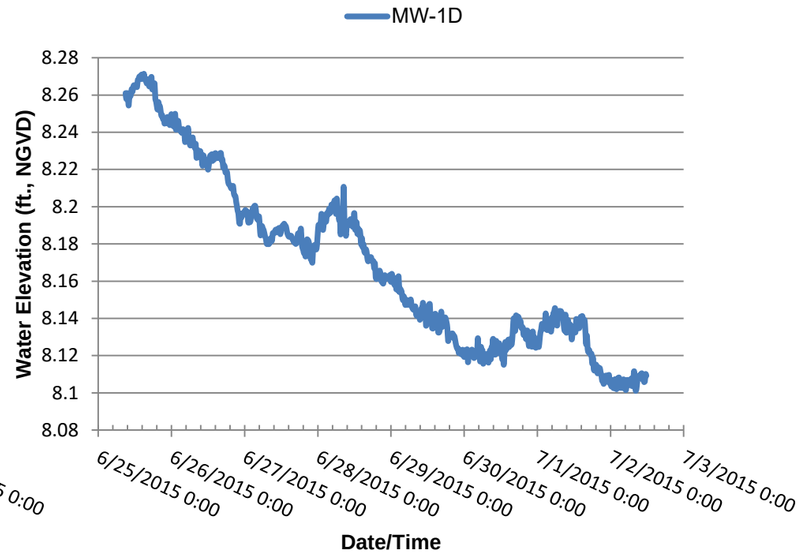
NATIONAL GRID
TROY (WATER ST.) SITE – AREA 3
TROY, NEW YORK

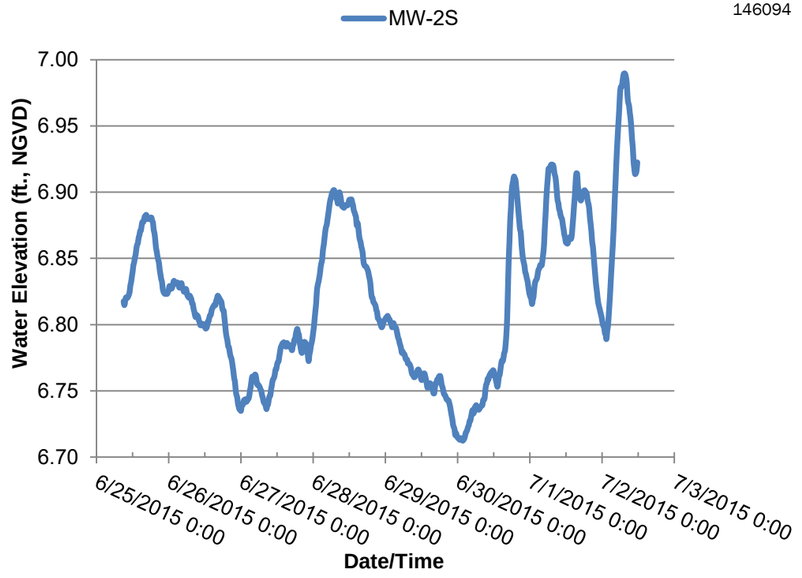
Brown AND Caldwell

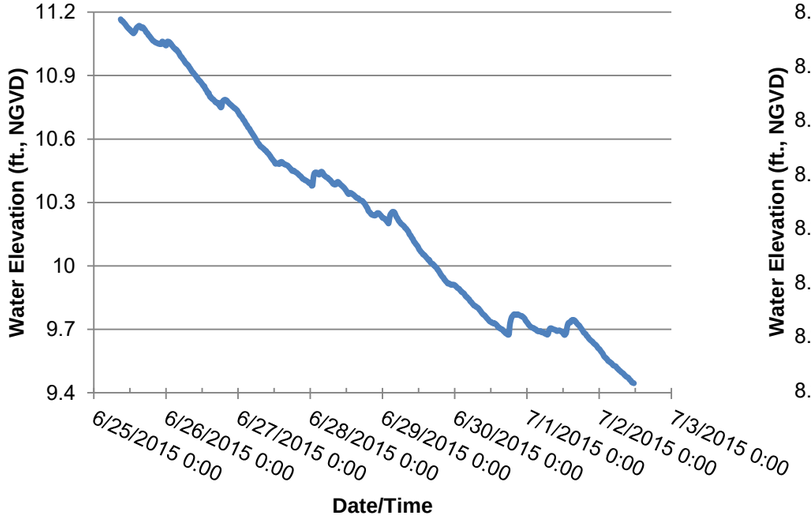
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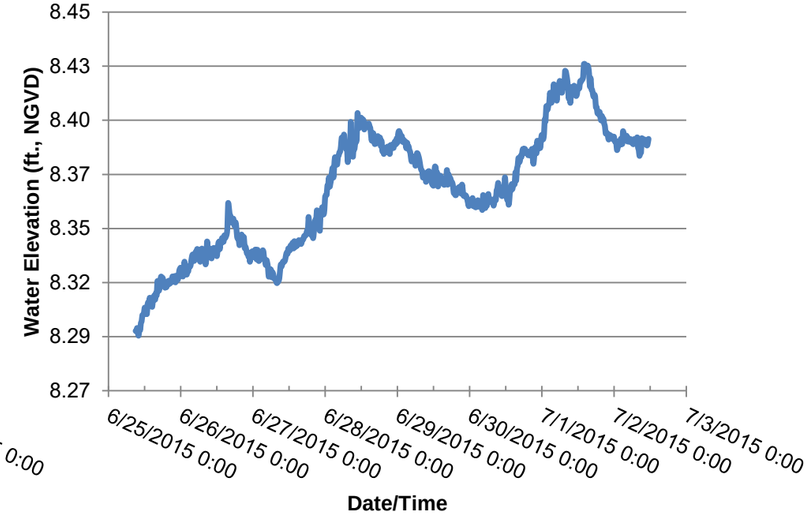
146094











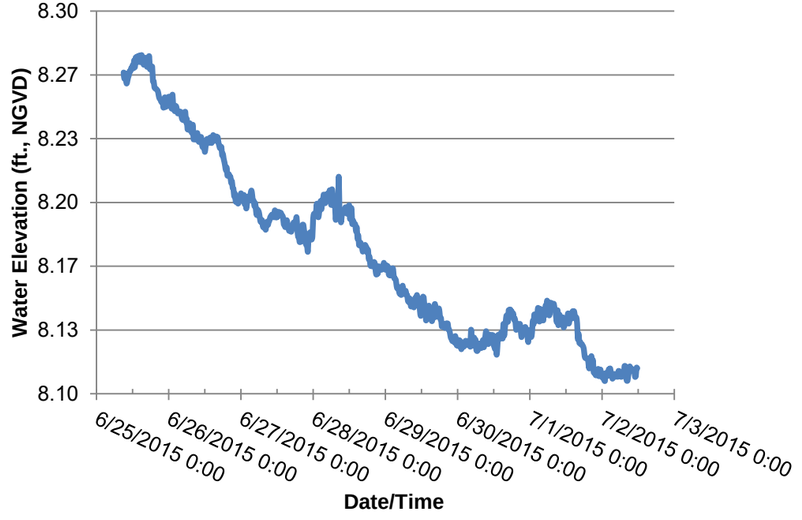


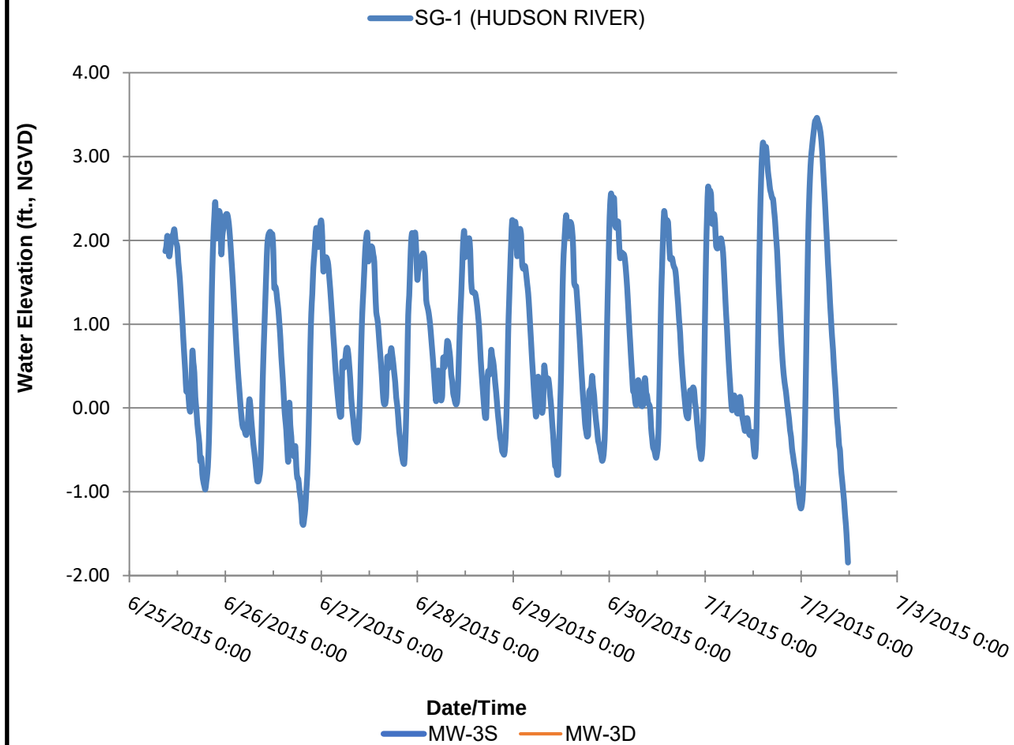
FIGURE 10B

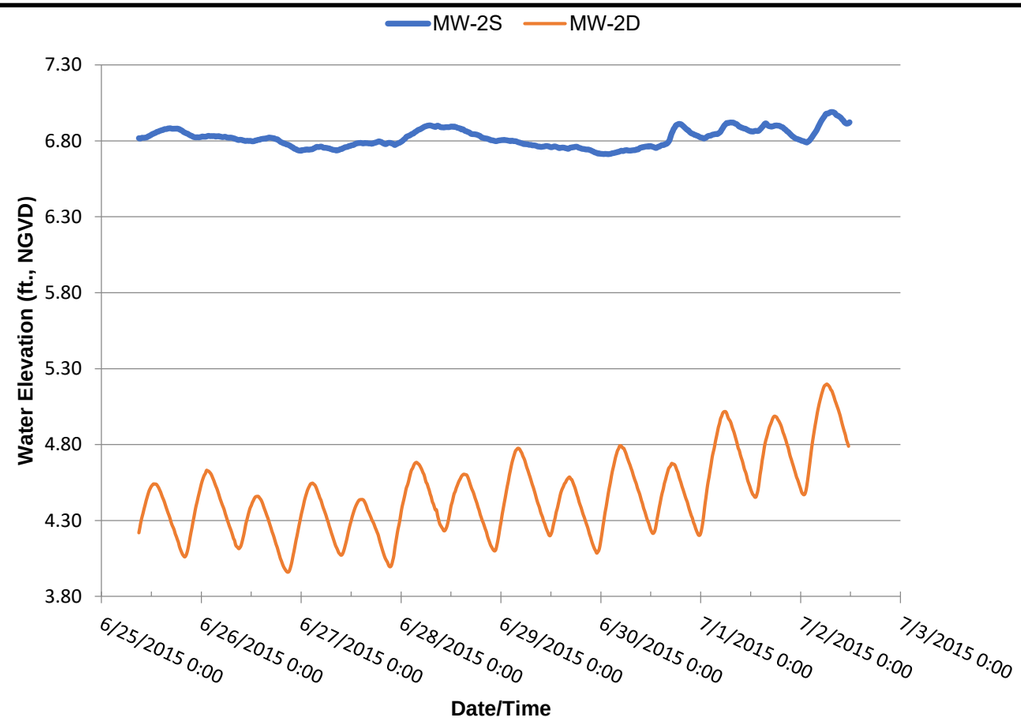
GROUNDWATER LEVELS NOT EFFECTED BY TIDAL FLUCTUATIONS
(June 25–July 2, 2015)

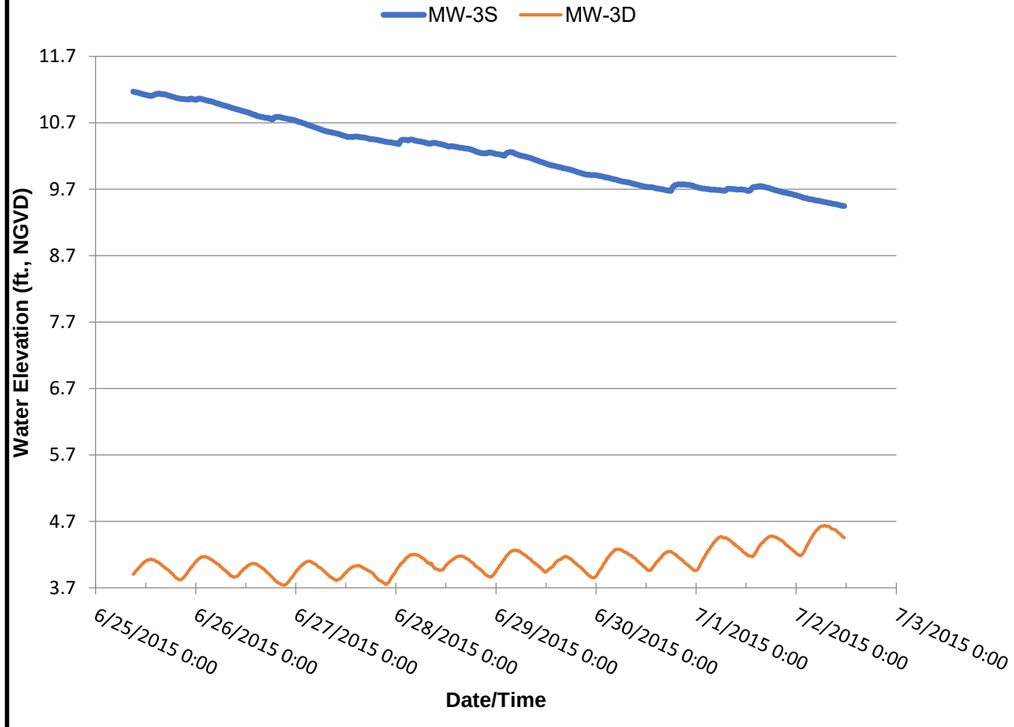
NATIONAL GRID
TROY (WATER ST.) SITE – AREA 3
TROY, NEW YORK

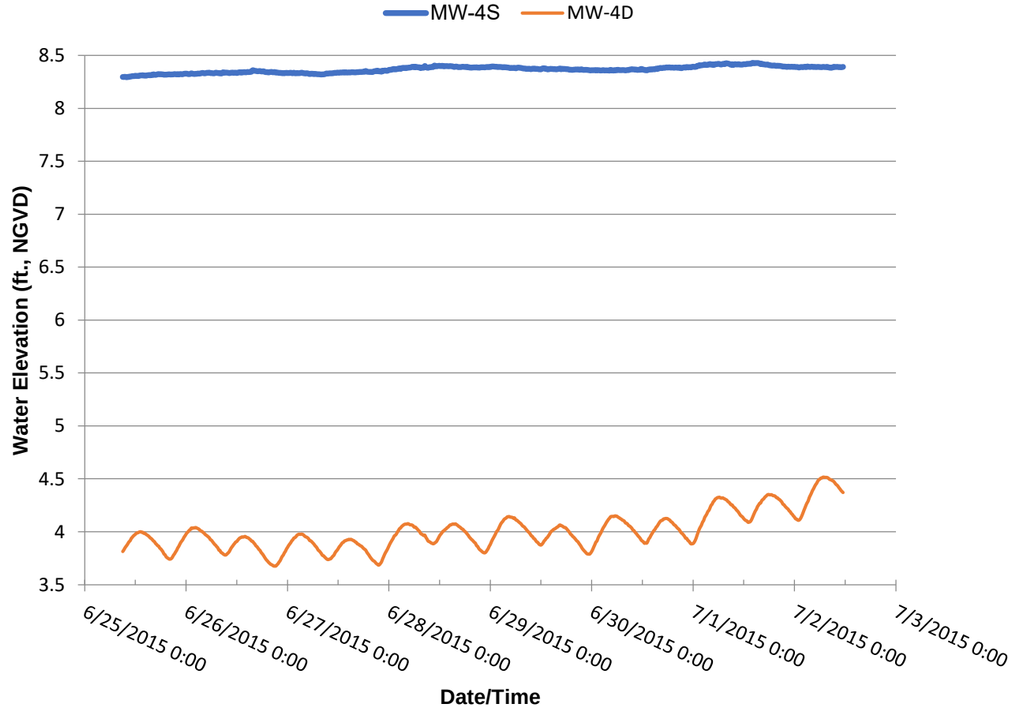
Brown AND Caldwell

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146094

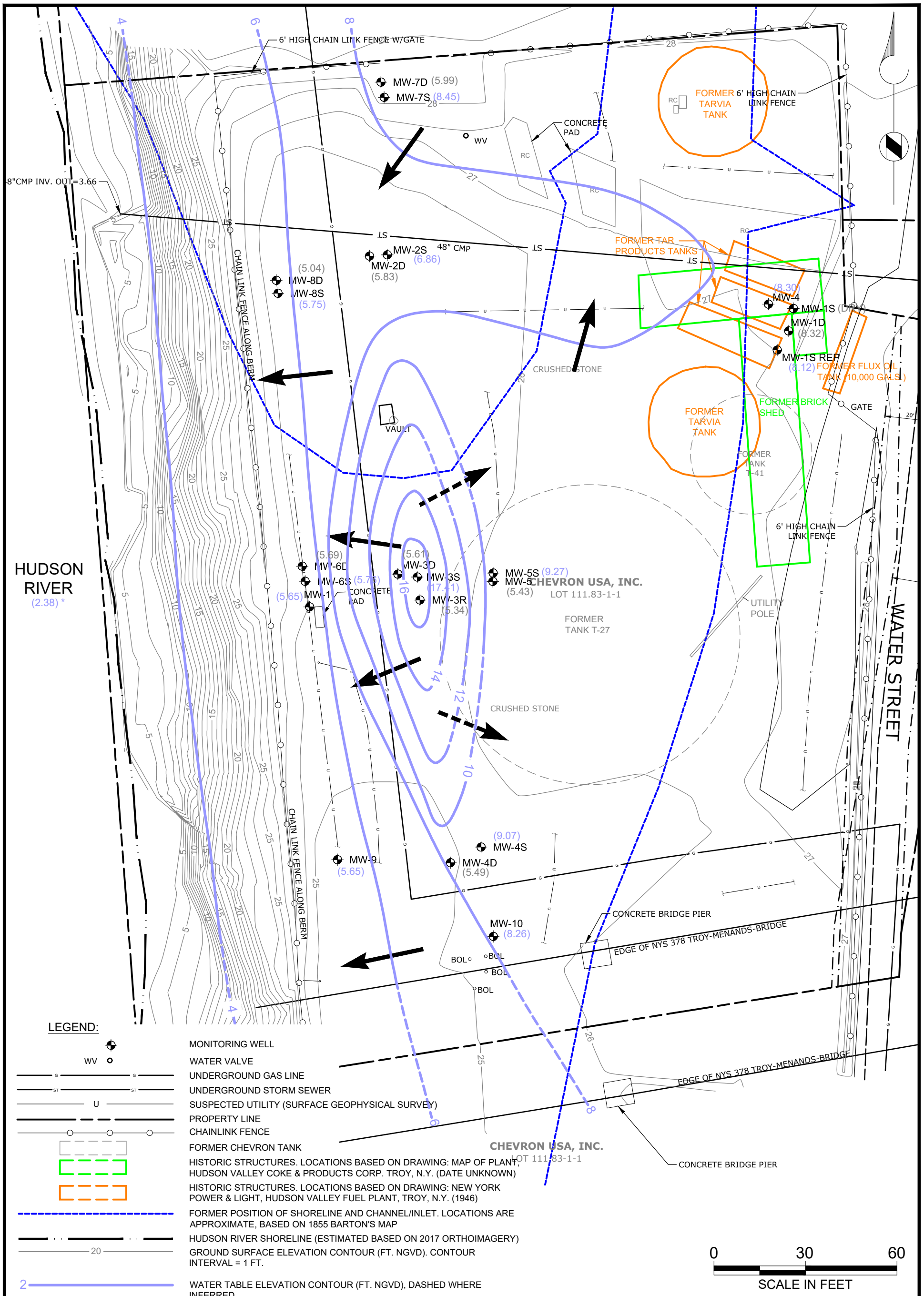
FIGURE 10C

Hydrographs: Overburden Well Couplets and Hudson River
(June 25–July 2, 2015)

NATIONAL GRID
TROY (WATER ST.) SITE – AREA 3
TROY, NEW YORK

Brown AND Caldwell

\\bcusrfp01\projects\National_Grid\Nimo_Troy_Area_3\152169_Troy_Area_3\RI_Rpt\Figures\Fig_10B_no_tidal_Response.pptx



LEGEND:

- MONITORING WELL
- WV — WATER VALVE
- G — UNDERGROUND GAS LINE
- ST — UNDERGROUND STORM SEWER
- U — SUSPECTED UTILITY (SURFACE GEOPHYSICAL SURVEY)
- PROPERTY LINE
- CHAINLINK FENCE
- FORMER CHEVRON TANK
- HISTORIC STRUCTURES. LOCATIONS BASED ON DRAWING: MAP OF PLANT, HUDSON VALLEY COKE & PRODUCTS CORP. TROY, N.Y. (DATE UNKNOWN)
- HISTORIC STRUCTURES. LOCATIONS BASED ON DRAWING: NEW YORK POWER & LIGHT, HUDSON VALLEY FUEL PLANT, TROY, N.Y. (1946)
- FORMER POSITION OF SHORELINE AND CHANNEL/INLET. LOCATIONS ARE APPROXIMATE, BASED ON 1855 BARTON'S MAP
- HUDSON RIVER SHORELINE (ESTIMATED BASED ON 2017 ORTHOIMAGERY)
- 20 — GROUND SURFACE ELEVATION CONTOUR (FT. NGVD). CONTOUR INTERVAL = 1 FT.
- 2 — WATER TABLE ELEVATION CONTOUR (FT. NGVD), DASHED WHERE INFERRED
- (3.27) — WATER TABLE OR SURFACE WATER ELEVATION (FT. NGVD)
- (3.52) — GROUNDWATER ELEVATION (FT. NGVD) FOR WELLS SCREENED BELOW WATER TABLE (DEEPER OVERBURDEN WELLS AND BEDROCK WELL)
- GENERALIZED DIRECTION OF GROUNDWATER FLOW. DASHED WHERE INFERRED
- * — VALUE POSTED REPRESENTS WATER ELEVATION FROM USGS RIVER GAUGING STATION (USGS 01359139 HUDSON RIVER AT ALBANY, NY) LOCATED APPROXIMATELY 4.5 MILES SOUTH OF THE SITE. RIVER LEVEL ADJACENT TO SITE WAS ABOVE MEASURING POINT FOR SG-1 AT TIME OF SITE-WIDE WATER LEVEL MEASUREMENTS.

0 30 60

SCALE IN FEET

SOURCE:

1. BASE MAP DEVELOPED ON DRAWINGS PREPARED BY NAEVA GEOPHYSICS, INC. (APRIL 28, 2015) AND C.T. MALE ASSOCIATES, P.C. (JUNE 15, 2015, UPDATED FEBRUARY 21, 2017).
2. VERTICAL DATUM SHOWN HEREON IS NGVD 29.

FIGURE 11

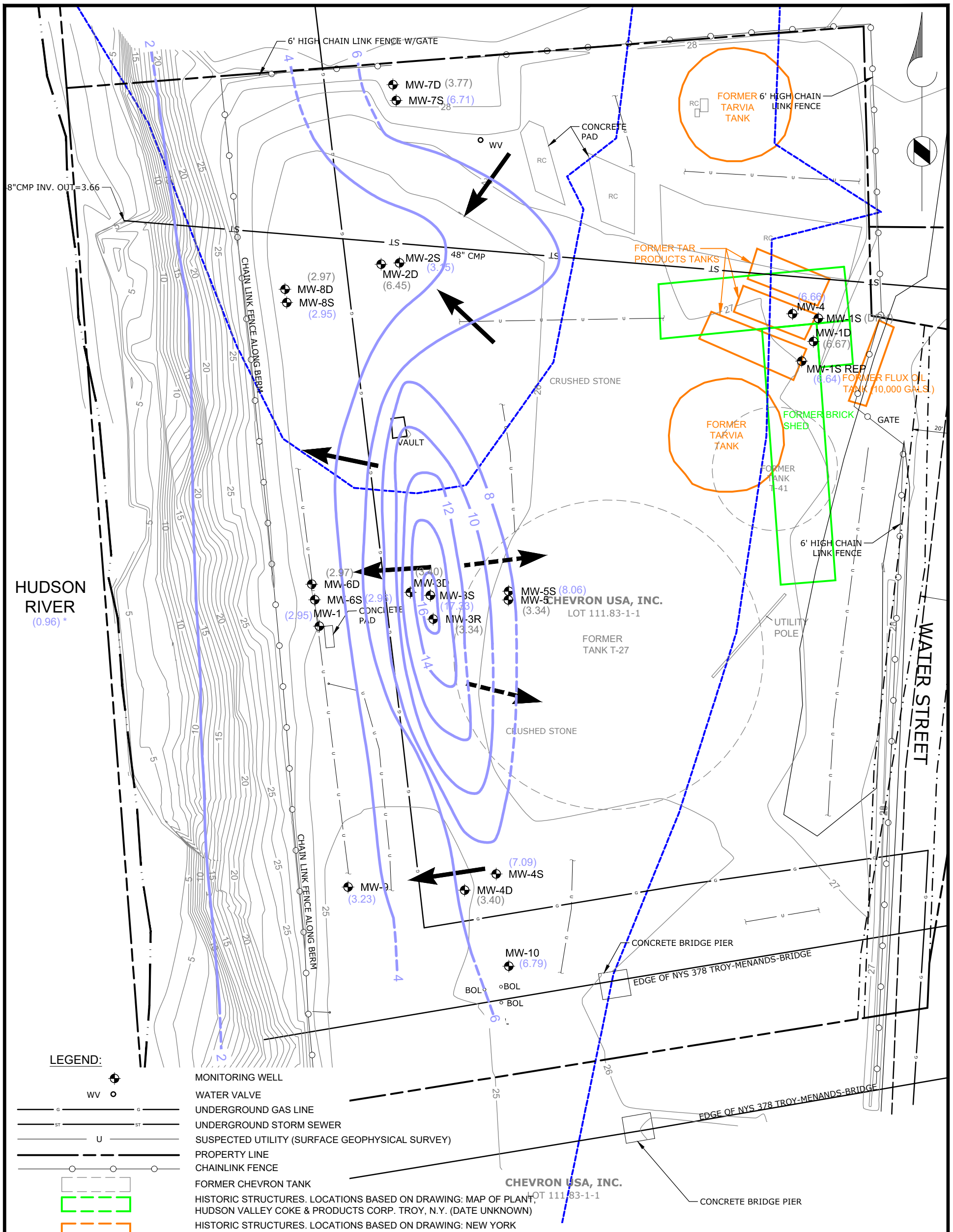
WATER TABLE CONTOUR MAP FEBRUARY 27, 2017

TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

DATE	PROJECT NUMBER
09/18	152169

BROWN AND CALDWELL ASSOCIATES
UPPER SADDLE RIVER, NEW JERSEY

P:\National_Grid\Nimo_Troy_Area_3\146094_Troy_Area3_RI_CAD\2-SHEETS\C-CIVIL\146094-FIG-11(Feb2017).dwg



LEGEND:

- MONITORING WELL
- WV — WATER VALVE
- UNDERGROUND GAS LINE
- UNDERGROUND STORM SEWER
- SUSPECTED UTILITY (SURFACE GEOPHYSICAL SURVEY)
- PROPERTY LINE
- CHAINLINK FENCE
- FORMER CHEVRON TANK
- HISTORIC STRUCTURES. LOCATIONS BASED ON DRAWING: MAP OF PLANT, HUDSON VALLEY COKE & PRODUCTS CORP. TROY, N.Y. (DATE UNKNOWN)
- HISTORIC STRUCTURES. LOCATIONS BASED ON DRAWING: NEW YORK POWER & LIGHT, HUDSON VALLEY FUEL PLANT, TROY, N.Y. (1946)
- FORMER POSITION OF SHORELINE AND CHANNEL/INLET. LOCATIONS ARE APPROXIMATE, BASED ON 1855 BARTON'S MAP
- HUDSON RIVER SHORELINE (ESTIMATED BASED ON 2017 ORTHOIMAGERY)
- 20 — GROUND SURFACE ELEVATION CONTOUR (FT. NGVD). CONTOUR INTERVAL = 1 FT.
- 2 — WATER TABLE ELEVATION CONTOUR (FT. NGVD), DASHED WHERE INFERRED
- (3.27) — WATER TABLE OR SURFACE WATER ELEVATION (FT. NGVD)
- (3.52) — GROUNDWATER ELEVATION (FT. NGVD) FOR WELLS SCREENED BELOW WATER TABLE (DEEPER OVERBURDEN WELLS AND BEDROCK WELL)
- GENERALIZED DIRECTION OF GROUNDWATER FLOW. DASHED WHERE INFERRED
- * — VALUE POSTED REPRESENTS WATER ELEVATION FROM USGS RIVER GAUGING STATION (USGS 01359139 HUDSON RIVER AT ALBANY, NY) LOCATED APPROXIMATELY 4.5 MILES SOUTH OF THE SITE. RIVER LEVEL ADJACENT TO SITE WAS ABOVE MEASURING POINT FOR SG-1 AT TIME OF SITE-WIDE WATER LEVEL MEASUREMENTS.

SOURCE:

1. BASE MAP DEVELOPED ON DRAWINGS PREPARED BY NAEVA GEOPHYSICS, INC. (APRIL 28, 2015) AND C.T. MALE ASSOCIATES, P.C. (JUNE 15, 2015, UPDATED FEBRUARY 21, 2017).
2. VERTICAL DATUM SHOWN HEREON IS NGVD 29.

0 30 60

SCALE IN FEET

FIGURE 12
WATER TABLE CONTOUR MAP
AUGUST 1, 2018

TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

DATE	PROJECT NUMBER
09/18	152169

BROWN AND CALDWELL ASSOCIATES
UPPER SADDLE RIVER, NEW JERSEY

P:\National_Grid\Nimo_Troy_Area_3\146094_Troy_Area3_RI_CAD\2-SHEETS\C-CIVIL\146094-FIG-12(Aug2018).dwg

9/25/2018

TROY (WATER ST.) SITE - AREA 2
LOT 111.75-1-1
TROY LOCAL DEVELOPMENT CORPORATION

N

MW-7D
MW-7S
SV-5
SB-6
SB-10
FORMER TARVIA TANK
SB-5
CONCRETE PADS
SB-3
SB-14
MW-2D
MW-2S
TP-4
FORMER TAR PRODUCTS TANKS
LOT 111.75-1-2
RENSSELAER COUNTY
SEWER DISTRICT NO. 1
MW-8D
MW-8S
TP-7
SV-6
MW-1S
MW-1D
POST
TP-6
MW-1S-REP
TP-3
FORMER FLUX OIL TANK
(10,000 GALs.)
SB-7
SUBSURFACE VAULT
FORMER TARVIA TANK
FORMER
BRICK
SHED
SV-4
SB-2
FORMER
TANK T-41
TP-2
SB-11
SV-3
TP-5
WATER STREET
MW-6D
MW-6S
MW-3D
MW-3S
MW-5S
MW-5
SB-15
MW-3R
FORMER
TANK T-27
HUDSON RIVER
CONCRETE PAD
SB-12
SB-4
SB-8
SB-9
SB-16
LOT 111.83-1-1
CHEVRON USA, INC.
SV-2
MW-4S
MW-4D
MW-9
SV-1
SB-1
TP-1
TP-1A
MW-10
SB-13
TP-1B
CONCRETE BRIDGE PIER
BOLLARDS
NYS ROUTE 378

Legend

Visual/Olfactory Impacts (See Note 2)

- No Observed Impacts
- Purifier Waste and Odor
- Petroleum Impacts: Staining and Odors
- Petroleum Impacts: Saturation and Sheens
- Staining, Odor
- Blebs, Globs, Sheen
- Hardened Tar
- Coated Material, Lenses
- Tar Saturated
- NAPL/Tar observed in monitoring well during gauging events
- Deposit of Surficial Semi-Solid/Hard Tar (Removed 0-1' BGS as Part of IRM, October 2017)
- Hard Tar Deposit on Shoreline

Notes:

1) Refer to Table 4 for descriptions and depth intervals of NAPL/tar observations and to hydrogeologic cross-sections (Figures 3 - 6) for vertical position of observations.
2) NYSDEC's standard colors and associated desciptors for reporting MGP-related or other impacts were used to depict locations where impacts were observed

- Gas Line
- Combined Storm/Sanitary Sewer Line
- Suspected Utility (Surface Geophysical Survey)
- Road
- Property Line
- Ground Surface Elevation Contour (ft., NGVD). Contour Interval = 1 ft.
- Sanitary Sewer Force Main
- Hudson River Shoreline. Estimated based on 2017 Orthoimagery
- Historic Chevron USA, Inc. Aboveground Pipe, partially or fully demolished in 2006. Locations and dimensions are approximate; based on Figure 2 from report entitled "Facility Closure Site Investigation Report" (TRC 2005).
- Former Chevron Asphalt Plant Tank (Demolished/Removed)
- Historic Structures. Locations based on drawing: Map of Plant, Hudson Valley Coke & Products Corp. Troy, N.Y. (Date Unknown).
- Historic Structures. Locations based on drawing: New York Power & Light, Hudson Valley Fuel Plant, Troy, N.Y. (1946)
- Site Boundary
- 22' Wide Sanitary Sewer Force Main Easement

Author: BFTaylor Path: P:\GIS\National_Grid\Troy\Troy_Area_3\RI_RPT\TroyArea3_Visual&Olfactory_OB_RI_RPT.mxd

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES

FIGURE 13
VISUAL/OLFACTORY OBSERVATIONS: OVERBURDEN SOILS
NATIONAL GRID
TROY (WATER ST.) SITE - AREA 3, TROY, NEW YORK

Sources: Base map developed based on drawing prepared by CT Male Associates (June 15, 2015, updated February 21, 2017) and based on drawing prepared by NAEVA Geophysics, Inc. (April, 2015)

0 15 30 60
Feet

9/25/2018

TROY (WATER ST.) SITE - AREA 2

LOT 111.75-1-1
TROY LOCAL DEVELOPMENT CORPORATION

LOT 111.75-1-2
RENSSELAER COUNTY
SEWER DISTRICT NO. 1

LOT 111.83-1-1
CHEVRON USA, INC.

SS-1	0-2"
Total PAHs	1.2 J
Total Cyanide	ND

SS-2	0-2"
Total PAHs	14 J
Total Cyanide	ND

SS-3	0-2"
Total PAHs	ND
Total Cyanide	2.6

SS-4	0-2"
Total PAHs	ND
Total Cyanide	0.53 J

SS-5 #	0-2"
Total PAHs	54
Total Cyanide	4.2

SS-6	0-2"
Total PAHs	ND
Total Cyanide	3.1

SS-7	0-2"
Total PAHs	7998
Total Cyanide	0.75 J

SS-8	0-2"
Total PAHs	256
Total Cyanide	0.61 J

SS-9	0-2"
Total PAHs	106
Total Cyanide	ND

SS-10	0-2"
Total PAHs	88
Total Cyanide	ND

SS-11 #	0-2"
Total PAHs	51
Total Cyanide	ND

SS-12	0-2"
Total PAHs	24 J
Total Cyanide	ND

MW-7D
MW-7S
MW-2D
MW-2S
MW-6D
MW-6S
MW-3D
MW-3S
MW-5S
MW-5
MW-4
MW-1S
MW-1D
MW-1S-REP
MW-9
MW-4S
MW-4D

FORMER TARVIA TANK
CONCRETE PADS
FORMER TAR PRODUCTS TANKS
POST
SUBSURFACE VAULT
FORMER TARVIA TANK
FORMER BRICK SHED
FORMER TANK T-41
FORMER TANK T-27
CONCRETE PAD
FORMER FLUX OIL TANK (10,000 GALs.)
CONCRETE BRIDGE PIER
BOLLARDS
NYS ROUTE 378
TROY-MENANDS BRIDGE

HUDSON RIVER
WATER STREET

N

Legend

- Monitoring Well
- Surface Soil Sample
- Gas Line
- Combined Storm/Sanitary Sewer Line
- Suspected Utility (Surface Geophysical Survey)
- Sanitary Sewer Force Main
- Road
- Property Line
- Chainlink Fence
- Ground Surface Elevation Contour (ft., NGVD). Contour Interval = 1 ft.
- Deposit of Surficial Semi-Solid/Hard Tar (Removed 0-1' BGS as Part of IRM, October 2017)
- Hard Tar Deposit on Shoreline
- Historic Chevron USA, Inc. Aboveground Pipe, partially or fully demolished in 2006. Locations and dimensions are approximate; based on Figure 2 from report entitled "Facility Closure Site Investigation Report" (TRC 2005).
- 22' Wide Sanitary Sewer Force Main Easement
- Historic Structures. Locations based on drawing: Map of Plant, Hudson Valley Coke & Products Corp. Troy, N.Y. (Date Unknown).
- Historic Structures. Locations based on drawing: New York Power & Light, Hudson Valley Fuel Plant, Troy, N.Y. (1946)
- Former Chevron Asphalt Plant Tank (Demolished/Removed)
- Former alignment of shoreline and channel/inlet. Locations are approximate; based on 1855 Barton's Map
- Site Boundary
- Hudson River Shoreline. Estimated based on 2017 Orthoimagery

Explanation of terms and abbreviations:

PAHs - Polycyclic Aromatic Hydrocarbons
ND - Not Detected
J - Estimated Concentration

Bold Value - Indicates concentration of one or more constituents in constituent group are above NYS Part 375 SCOs for: Protection of Public Health for Industrial Zoned Properties; Protection of Ecological Resources; and/or Protection of Groundwater.

Results reported in milligrams per kilogram (mg/kg)

- Table lists the highest concetration from original and duplicate sample

Author: BFTaylor Path: P:\GIS\National_Grid\Troy\Troy_Area_3\RI_RPT\Troy_Area3_SS_0-2_RI_RPT.mxd

Brown AND Caldwell

FIGURE 14
PAHs AND CYANIDE IN SURFACE SOIL (0-2")
NATIONAL GRID
TROY (WATER ST.) SITE - AREA 3, TROY, NEW YORK

Sources: Base map developed based on drawings prepared by CT Male Associates (June 15, 2015, Updated February 21, 2017) and based on drawing prepared by NAEVA Geophysics, Inc. (April, 2015)

0 15 30 60
Feet

9/25/2018

TROY (WATER ST.) SITE - AREA 2

LOT 111.75-1-1
TROY LOCAL DEVELOPMENT CORPORATION

LOT 111.75-1-2
RENSSELAER COUNTY
SEWER DISTRICT NO. 1

LOT 111.83-1-1
CHEVRON USA, INC.

HUDSON RIVER

WATER STREET

SS-1	0-6"
Total PAHs	11 J
Total Cyanide	ND

SS-2	0-6"
Total PAHs	15 J
Total Cyanide	ND

SS-3	0-6"
Total PAHs	78
Total Cyanide	0.63 J

SS-4	0-6"
Total PAHs	ND
Total Cyanide	1.2

SS-5	0-6"
Total PAHs	ND
Total Cyanide	2.8

SS-6	0-6"
Total PAHs	ND
Total Cyanide	ND

SS-7	0-6"
Total PAHs	4471
Total Cyanide	0.51 J

SS-8	0-6"
Total PAHs	473
Total Cyanide	0.93 J

SS-9	0-6"
Total PAHs	51
Total Cyanide	ND

SS-10	0-6"
Total PAHs	126 J
Total Cyanide	ND

SS-11	0-6"
Total PAHs	88
Total Cyanide	ND

SS-12	0-6"
Total PAHs	40
Total Cyanide	ND

MW-7D
MW-7S
MW-2D
MW-2S
MW-8D
MW-8S
MW-6D
MW-6S
MW-3D
MW-3S
MW-5S
MW-5
MW-9
MW-4S
MW-4D
MW-10
MW-4
MW-1S
MW-1D
MW-1S-REP

FORMER TARVIA TANK
CONCRETE PADS
FORMER TAR PRODUCTS TANKS
POST
SUBSURFACE VAULT
FORMER TARVIA TANK
FORMER BRICK SHED
FORMER TANK T-41
FORMER TANK T-27
CONCRETE PAD
FORMER FLUX OIL TANK (10,000 GALs.)
BOLLARDS
CONCRETE BRIDGE PIER
NYS ROUTE 378
TROY-MENANDS BRIDGE

N

Legend

- Monitoring Well
- Surface Soil Sample
- Gas Line
- Combined Storm/Sanitary Sewer Line
- Suspected Utility (Surface Geophysical Survey)
- Sanitary Sewer Force Main
- Road
- Property Line
- Chainlink Fence
- Ground Surface Elevation Contour (ft., NGVD). Contour Interval = 1 ft.
- Deposit of Surficial Semi-Solid/Hard Tar (Removed 0-1' BGS as Part of IRM, October 2017)
- Hard Tar Deposit on Shoreline
- Historic Chevron USA, Inc. Aboveground Pipe, partially or fully demolished in 2006. Locations and dimensions are approximate; based on Figure 2 from report entitled "Facility Closure Site Investigation Report" (TRC 2005).
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- Historic Structures. Locations based on drawing: Map of Plant, Hudson Valley Coke & Products Corp. Troy, N.Y. (Date Unknown).
- Historic Structures. Locations based on drawing: New York Power & Light, Hudson Valley Fuel Plant, Troy, N.Y. (1946)
- Former Chevron Asphalt PlantTank (Demolished/Removed)
- Former alignment of shoreline and channel/inlet. Locations are approximate; based on 1855 Barton's Map
- Site Boundary
- Hudson River Shoreline. Estimated based on 2017 Orthoimagery

Explanation of terms and abbreviations:

PAHs - Polycyclic Aromatic Hydrocarbons
ND - Not Detected
J - Estimated Concentration

Bold Value - Indicates concentration of one or more constituents in constituent group are above NYS Part 375 SCOs for: Protection of Public Health for Industrial Zoned Properties; Protection of Ecological Resources; and/or Protection of Groundwater.

Results reported in milligrams per kilogram (mg/kg)

- Table lists the highest concetration from original and duplicate sample

Author: BFTaylor Path: P:\GIS\National_Grid\Troy\Troy_Area_3\RI_RPT\Troy_Area3_DSR_SS_0-6_RI_RPT.mxd

Brown AND Caldwell

FIGURE 15
PAHs AND CYANIDE IN SURFACE SOIL (0-6")
NATIONAL GRID
TROY (WATER ST.) SITE - AREA 3, TROY, NEW YORK

Sources: Base map developed based on drawings prepared by CT Male Associates (June 15, 2015, Updated February 21, 2017) and based on drawing prepared by NAEVA Geophysics, Inc. (April, 2015)

0 15 30 60
Feet

9/25/2018

TROY (WATER ST.) SITE - AREA 2

LOT 111.75-1-1
TROY LOCAL DEVELOPMENT CORPORATION

LOT 111.75-1-2
RENSSELAER COUNTY
SEWER DISTRICT NO. 1

LOT 111.83-1-1
CHEVRON USA, INC.

HUDSON RIVER

MW-7D	29-30.2 #
Total BTEX	0.116 J
Total PAHs	ND
Total Cyanide	ND

SB-6	2-3	5-5.8	9.5-10	15-15.5	19.5-20	25-25.5	31-31.5
Total BTEX	0.046	0.0034 J	0.0007 J	ND	0.00057 J*	ND	ND
Total PAHs	678	264	14 J	1.6 J	ND	2.5 J	1.6 J
Total Cyanide	0.95 J	ND	1.4	ND	0.92 J	ND	ND

SB-10	5-6.2	9-10	15-16	19-20.7	25-26.5	31-32.4
Total BTEX	ND	0.0010 J	ND	ND	ND	ND
Total PAHs	14 J	2.6 J	2.8 J	0.41 J	7.7 J	0.92 J
Total Cyanide	1.2 J	ND	ND	ND	ND	ND

MW-7S	20-21.4
Total BTEX	0.19 J
Total PAHs	0.97 J
Total Cyanide	ND

SB-14	5-6.6	9-10.3	15-16.8 #	19-20.6	23-24	29-30.4
Total BTEX	ND	0.0026 J	ND	ND	ND	ND
Total PAHs	14 J	8.0 J	14 J	ND	2.3 J	0.89 J
Total Cyanide	ND	ND	ND	ND	ND	ND

SB-5	3-4	7-8.6	13-14.9	21-21.6	25-26.3	31-32.5
Total BTEX	0.00057 J*	143	0.0068 J	ND	ND	ND
Total PAHs	153	10363	22	17	4.4 J	43
Total Cyanide	1.1	10	ND	ND	ND	ND

SB-3	3-4	7-8.7	13-14	21-22.3	25-25.4	29-29.7
Total BTEX	ND	ND	ND	ND	ND	0.0048 J
Total PAHs	161	3.4 J	0.13 J	ND	ND	ND
Total Cyanide	1.7	ND	ND	ND	ND	ND

MW-2S	19-19.8
Total BTEX	16 F1
Total PAHs	48
Total Cyanide	ND R

TP-7	3.5	8.5
Total BTEX	ND	ND
Total PAHs	79	100
Total Cyanide	ND	ND

MW-8D	29-30.5
Total BTEX	1.0
Total PAHs	26
Total Cyanide	ND

MW-2D	7-8.8	31-32.1
Total BTEX	12260	1.8
Total PAHs	4080	1.4
Total Cyanide	ND	ND

TP-4	7.5-8
Total BTEX	ND
Total PAHs	1.0 J
Total Cyanide	ND

MW-1S	16-18
Total BTEX	ND
Total PAHs	0.89 J
Total Cyanide	ND

MW-8S	23-23.7
Total BTEX	0.30 J
Total PAHs	7.1
Total Cyanide	ND

TP-6	4	8.5
Total BTEX	0.16 J	0.04
Total PAHs	593 J	5.7 J
Total Cyanide	ND	ND

MW-1S-REP	22.5-23
Total BTEX	ND
Total PAHs	0.16 J
Total Cyanide	ND

MW-1D	28-29
Total BTEX	0.00041 J
Total PAHs	9
Total Cyanide	ND

SB-2	0-1	7-7.9	13-14.5	19-19.3	25-25.8	31-32
Total BTEX	8.4	2.3	180	11	7.4	0.047
Total PAHs	27	896	27970	293	222	55
Total Cyanide	7.1	ND	7.7	ND	ND	ND

SB-7	0-1 #	5-5.7	11-12.1	17-18.3	21-22.6 #	25-26.6	31-32.1
Total BTEX	0.24	0.0028 J	0.00027 J	ND	ND	ND	ND
Total PAHs	2737	61	6.3	0.11 J	ND	0.46 J	ND
Total Cyanide	0.71 J	ND	ND	ND	ND	ND	ND

TP-3	4-5
Total BTEX	0.00044 J
Total PAHs	138
Total Cyanide	ND

SB-11	7-8.1	11-11.8	17-18.4	23-24.2	31-32.2	37-37.4
Total BTEX	0.045	4243	854	29.9	0.69	0.25
Total PAHs	2.1 J	8818	1024	14	6.2 J	2
Total Cyanide	ND	1.2	ND	ND	ND	ND

TP-2	4-5
Total BTEX	ND
Total PAHs	65
Total Cyanide	ND

SB-15	4-5	9-10.2	15-17	21-22.8	27-28.3
Total BTEX	0.0017 J	0.0003 J	ND	ND	ND
Total PAHs	8.1 J	0.13 J	0.72 J	ND	ND
Total Cyanide	ND	ND	ND	ND	ND

MW-6D	31-31.9
Total BTEX	0.355
Total PAHs	5.6
Total Cyanide	ND

MW-3S	11-13 #
Total BTEX	11350 J
Total PAHs	9440
Total Cyanide	2.3

MW-5S	19-20.3
Total BTEX	45
Total PAHs	413
Total Cyanide	1.4

TP-5	7-7.5
Total BTEX	0.0082 J
Total PAHs	1.8 J
Total Cyanide	ND

MW-6S	22-23.5
Total BTEX	ND
Total PAHs	3.3
Total Cyanide	ND

MW-3D	33.5-34
Total BTEX	3.4
Total PAHs	515
Total Cyanide	ND

MW-5	27.7-29.3
Total BTEX	19 J
Total PAHs	37 J
Total Cyanide	ND

SB-12	7-8	13-14.8	19-20	25-26.1	33-34.1	37-38.2
Total BTEX	0.0028 J	196	0.64	113	6.45	0.0081
Total PAHs	7	254	2.8	38	11	1.5 J
Total Cyanide	3.6	ND	ND	ND	ND	ND

SB-4	3-4	9-10.5	15-15.6	21-22.1	27-28.7	35-36.9	39-40.3
Total BTEX	ND	0.007 J	ND	0.0021 J	0.14 J	ND	ND
Total PAHs	3.6 J	0.94 J	ND	4.8 J	0.36 F1	25	0.14 J
Total Cyanide	ND	ND	ND	ND	ND	ND	ND

SB-8	0-1	5-6.3	11-12.0	17-18.3	21-22.2	25-26.6
Total BTEX	0.0008 J	ND	ND	ND	ND	ND
Total PAHs	ND	3.7 J	1.3 J	ND	ND	ND
Total Cyanide	ND	ND	ND	ND	ND	ND

SB-9	1-2	7-8.3	11-11.7 #	17-18.8	23-24.3	29-29.6	35-36.2
Total BTEX	ND	0.0053 J	6189 J	0.0059	0.025	0.015	ND
Total PAHs	136	816	2882	3.7 J	1.4 J	3.4	11
Total Cyanide	1.6	3.5	2.1	ND	ND	ND	ND

SB-16	5-6.7	9-10.1	15-16.7	19-21	25-27
Total BTEX	ND	0.0012 J	ND	ND	ND
Total PAHs	12	5.3 J	0.25 J	1.3 J	ND
Total Cyanide	0.9 J	0.81 J	ND	ND	ND

MW-9	21-22.2
Total BTEX	0.25
Total PAHs	1.4 J
Total Cyanide	ND

MW-4S	19-19.6
Total BTEX	0.012
Total PAHs	27
Total Cyanide	0.76 J

SB-1	1-2	5-5.7	11-12.3	17-18.2	23-24.3	27-27.8
Total BTEX	0.0035 J	0.00089 J	0.0017 J	ND	0.0017 J	ND
Total PAHs	76	4.4 J	2.8 J	1.5 J	ND	ND
Total Cyanide	1.2	ND	ND	ND	ND	ND

MW-4D	29-29.8
Total BTEX	0.0016 J
Total PAHs	1.1 J
Total Cyanide	ND

TP-1	8-9 #
Total BTEX	ND
Total PAHs	22
Total Cyanide	1.8

SB-13	5-6.6	9-10.3	17-18.2	23-24.2	29-30.2	35-35.5 #
Total BTEX	0.0012 J	5 J	ND	0.44 J	ND	ND
Total PAHs	117 J	2689 J	3.7 J	45	6.4	12
Total Cyanide	1.1 J	9.5 J	7.3 J	ND	ND	ND

TP-1B	9-10
Total BTEX	0.00043 J
Total PAHs	58
Total Cyanide	ND

MW-10	19-20.5
Total BTEX	ND
Total PAHs	0.14 J
Total Cyanide	ND

FORMER TARVIA TANK
CONCRETE PADS
FORMER TAR PRODUCTS TANKS
FORMER TARVIA TANK
FORMER BRICK SHED
FORMER TANK T-41
FORMER TANK T-27
SUBSURFACE VAULT
CONCRETE PAD
POST
CONCRETE BRIDGE PIER
BOLLARDS
FORMER FLUX OIL TANK (10,000 GALs.)
STREET

Legend

- Soil Boring: green symbol indicates no exceedance of SCO(s); red symbol indicates one or more constiuent concentrations exceed SCO(s)
- Monitoring Well: green symbol indicates no exceedance of SCO(s); red symbol indicates one or more constiuent concentrations exceed SCO(s)
- Test Pit Sample: green symbol indicates no exceedance of SCO(s); red symbol indicates one or more constiuent concentrations exceed SCO(s)
- Gas Line
- Combined Storm/Sanitary Sewer Line
- Suspected Utility (Surface Geophysical Survey)
- Road
- Chainlink Fence
- Site Boundary
- Ground Surface Elevation Contour (ft., NGVD).
- Former Chevron Asphalt Plant Tank (Demolished/Removed)
- Sanitary Sewer Force Main
- 22' Wide Sanitary Sewer Force Main Easement
- Historic Chevron USA, Inc. Aboveground Pipe, partially or fully demolished in 2006. Locations and dimensions are approximate; based on Figure 2 from report entitled "Facility Closure Site Investigation Report" (TRC 2005).
- Historic Structures. Locations based on drawing: New York Power & Light, Hudson Valley Fuel Plant, Troy, N.Y. (1946)
- Historic Structures. Locations based on drawing: Map of Plant, Hudson Valley Coke & Products Corp. Troy, N.Y. (Date Unknown).
- Hudson River Shoreline. Estimated based on 2017 Orthoimagery

Explanation of terms and abbreviations:
BTEX - Benzene, Toluene, Ethylbenzene, Isomers of Xylene
PAHs - Polycyclic Aromatic Hydrocarbons
J - Estimated Concentration
F1 - MS and/or MSD Recovery is outside acceptance limits.
ND - Not Detected
* - Laboratory Control Sample (LCS) or Laboratory Control Sample Duplicate (LCSD) is outside acceptance limits
R - The data are unusable. The results are rejected due to serious deficiencies in meeting quality control limits.
Bold Value - Indicates concentration of one or more constituents in a constituent group are above NYS PART 375 SCOs (Protection of Public Health for Industrial Zoned Properties; Protection of Ecological Resources; and/or Protection of Groundwater)
Indicates total PAHs greater than subsurface soil cleanup guidance level of 500 mg/kg from NYSDEC's CP-51/Soil Guidance (October 21, 2010)
Indicates concentrations of one or more constituent in a constituent group are above the NYS PART 375 SCOs for the Protection of Public Health for Industrial Zoned Properties
Results are reported in milligrams per kilogram (mg/kg)
- Table lists the highest concentration from original and duplicate sample.

Author: BFTaylor Path: P:\GIS\National_Grid\Troy\Troy_Area_3\RI_RPT\TroyArea3_SubSurfaceSoils_RI_RPT.mxd

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FIGURE 16
BTEX, PAHs AND CYANIDE IN SUBSURFACE SOIL
NATIONAL GRID
TROY (WATER ST.) SITE - AREA 3, TROY, NEW YORK

Sources: Base map developed based on drawing prepared by CT Male Associates (June 15, 2015, updated February 21, 2017) and based on drawing prepared by NAEVA Geophysics, Inc. (April, 2015)

0 15 30 60
Feet

9/25/2018

TROY (WATER ST.) SITE - AREA 2
LOT 111.75-1-1
TROY LOCAL DEVELOPMENT CORPORATION

N

MW-7S	3/1/2017	6/28/2017
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylenes, total	ND	ND
Naphthalene	ND	ND
Phenol	ND	ND
Cyanide, total	34 J+	19 F1

MW-7D	3/1/2017	6/28/2017
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylenes, total	ND	ND
Naphthalene	ND	ND
Phenol	ND	ND
Cyanide, total	64 J+	33

MW-8S	3/1/2017	6/29/2017
Benzene	14	6.2
Toluene	0.97 J	ND
Ethylbenzene	ND	ND
Xylenes, total	1.2 J	ND
Naphthalene	ND	ND
Phenol	ND	0.43 J
Cyanide, total	23 J+	ND

MW-8D	3/1/2017	6/29/2017
Benzene	18	0.98 J
Toluene	1.2	ND
Ethylbenzene	ND	ND
Xylenes, total	0.96 J	ND
Naphthalene	1.2 J	ND
Phenol	ND	ND
Cyanide, total	21 J+	17

MW-2S	6/12/2015	9/23/2015	3/2/2017	6/29/2017
Benzene	1300	18	ND	ND
Toluene	320	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylenes, total	150	ND	ND	ND
Naphthalene	7.4	1.9 J	ND	1.1 J
Phenol	7.9	2.5 J	ND	ND
Cyanide, total	40	23	27 J+	32

MW-2D	6/11/2015 #	9/23/2015	3/2/2017	6/28/2017
Benzene	10	4.9	ND	ND
Toluene	2.9	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylenes, total	1.4 J	1.4 J	ND	ND
Naphthalene	4.6 J	1 J	ND	ND
Phenol	2.2 J	ND	ND	ND
Cyanide, total	14	14	27 J+	18

MW-4	6/12/2015	9/21/2015	2/28/2017	6/26/2017 #
Benzene	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylenes, total	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND
Phenol	ND	ND	ND	ND
Cyanide, total	ND	7.2 J	ND	25

MW-1S	6/11/2015	9/22/2015	2/28/2017	6/26/2017
Benzene	NS	NS	NS	NS
Toluene	NS	NS	NS	NS
Ethylbenzene	NS	NS	NS	NS
Xylenes, total	NS	NS	NS	NS
Naphthalene	NS	NS	NS	NS
Phenol	NS	NS	NS	NS
Cyanide, total	NS	NS	NS	NS

MW-1S-REP	2/28/2017	6/26/2017
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylenes, total	ND	ND
Naphthalene	ND	ND
Phenol	ND	ND
Cyanide, total	ND	ND

MW-1D	6/12/2015	9/22/2015	2/28/2017	6/27/2017
Benzene	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylenes, total	ND	ND	ND	ND
Naphthalene	ND	2.4 J	1.4 J	1 J
Phenol	1 J	ND	ND	ND
Cyanide, total	ND	ND	ND	ND

MW-3S	6/12/2015	9/23/2015	3/2/2017	6/26/2017
Benzene	8900 J	7500	880	NS
Toluene	1300	260	ND	NS
Ethylbenzene	21	ND	ND	NS
Xylenes, total	340	160 J	ND	NS
Naphthalene	ND	ND	35 J	NS
Phenol	56 F1	430	8.1 J	NS
Cyanide, total	130 B	130	67 J+	NS

MW-3D	6/11/2015	9/22/2015	2/28/2017	6/26/2017
Benzene	NS	NS	NS	NS
Toluene	NS	NS	NS	NS
Ethylbenzene	NS	NS	NS	NS
Xylenes, total	NS	NS	NS	NS
Naphthalene	NS	NS	NS	NS
Phenol	NS	NS	NS	NS
Cyanide, total	NS	NS	NS	NS

MW-6S	2/28/2017	6/28/2017
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylenes, total	ND	ND
Naphthalene	ND	ND
Phenol	ND	ND
Cyanide, total	16	17

MW-6D	3/1/2017 #	6/28/2017
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylenes, total	1.2 J	ND
Naphthalene	2.1 J	ND
Phenol	ND	ND
Cyanide, total	23 J+	18

MW-1	6/11/2015	9/21/2015 #	2/28/2017	6/27/2017
Benzene	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylenes, total	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND
Phenol	ND	ND	ND	ND
Cyanide, total	23 B	26	28	27

MW-3R	2/28/2017	6/28/2017
Benzene	6.8	2
Toluene	0.83 J	ND
Ethylbenzene	ND	ND
Xylenes, total	ND	ND
Naphthalene	ND	ND
Phenol	ND	ND
Cyanide, total	14	7.1 J

MW-5S	3/2/2017	6/29/2017
Benzene	780	1100
Toluene	58	ND
Ethylbenzene	ND	ND
Xylenes, total	15 J	ND
Naphthalene	500	320
Phenol	16	38
Cyanide, total	480 J+	390

MW-5	3/2/2017 #	6/29/2017
Benzene	61	16
Toluene	6.5	ND
Ethylbenzene	ND	ND
Xylenes, total	19	ND
Naphthalene	130	1 J
Phenol	3.1	ND
Cyanide, total	18 J+	21

MW-4S	6/12/2015	9/23/2015	3/1/2017	6/29/2017
Benzene	18	4.9	ND	ND
Toluene	3.6	0.64 J	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylenes, total	0.72 J	ND	ND	ND
Naphthalene	5	0.85 J	ND	ND
Phenol	1.3 J	ND	ND	ND
Cyanide, total	37 B	560	690 J+	440

MW-4D	6/10/2015	9/21/2015	2/28/2017	6/27/2017
Benzene	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylenes, total	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND
Phenol	ND	ND	ND	ND
Cyanide, total	14	14 J	23	26

MW-9	2/28/2017	6/27/2017
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylenes, total	ND	ND
Naphthalene	ND	ND
Phenol	ND	ND
Cyanide, total	31	65

MW-10	2/28/2017	6/27/2017
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylenes, total	ND	ND
Naphthalene	ND	ND
Phenol	ND	ND
Cyanide, total	150	43

FORMER TARVIA TANK
CONCRETE PADS
POST
SUBSURFACE VAULT
FORMER TAR PRODUCTS TANKS
FORMER BRICK SHED
FORMER TANK T-41
FORMER TANK T-27
WATER STREET
HUDSON RIVER
LOT 111.83-1-1
CHEVRON USA, INC.
CONCRETE BRIDGE PIER
BOLLARDS
NYS ROUTE 378

Legend

Monitoring Well: green symbol indicates no exceedance of Class GA Criterion; red symbol indicates one or more constituent concentrations exceed Class GA Criterion

- Monitoring Well w/ NAPL
- Monitoring Well
- Gas Line
- Combined Sanitary/Storm Sewer Line
- Suspected Utility (Surface Geophysical Survey)
- Road
- Property Line
- Chainlink Fence
- Site Boundary
- Sanitary Sewer Force Main
- 22' Wide Sanitary Sewer Force Main Easement
- Hudson River Shoreline. Estimated based on 2017 Orthoimagery
- Historic Chevron USA, Inc. Aboveground Pipe, partially or fully demolished in 2006. Locations and dimensions are approximate; based on Figure 2 from report entitled "Facility Closure Site Investigation Report" (TRC 2005).
- Former Chevron Asphalt Plant Tank (Demolished/Removed)
- Historic Structures. Locations based on drawing: New York Power & Light, Hudson Valley Fuel Plant, Troy, N.Y. (1946)
- Historic Structures. Locations based on drawing: Map of Plant, Hudson Valley Coke & Products Corp. Troy, N.Y. (Date Unknown).
- Ground Surface Elevation Contour (ft., NGVD). Contour Interval = 1 ft.

Explanation of terms and abbreviations:

BTEX - Benzene, Toluene, Ethylbenzene, Isomers of Xylene
ND - Not Detected
NS - Not Sampled (MW-1S - dry well, MW-3S & MW-3D - NAPL observed in well during gauging activities)
J - Result is less than the reportling limit, but greater than or equal to the minimum detection limit and the concentration is an approximate value.
J+ - Estimated concentration. Reported value may be biased high.
B - Compound was found in the blank and sample.
F1 - Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) Recovery is outside acceptance limits.

Bold Value - Indicates constituent concentration above Class GA Criterion

Results are reported in milligrams per kilogram (ug/l)

- Table lists the highest concentration from original and duplicate sample.

Author: BFTaylor Path: P:\GIS\National_Grid\Troy\Troy_Area_3\RI_RPT\TroyArea3_GWQ_RI_RPT.mxd

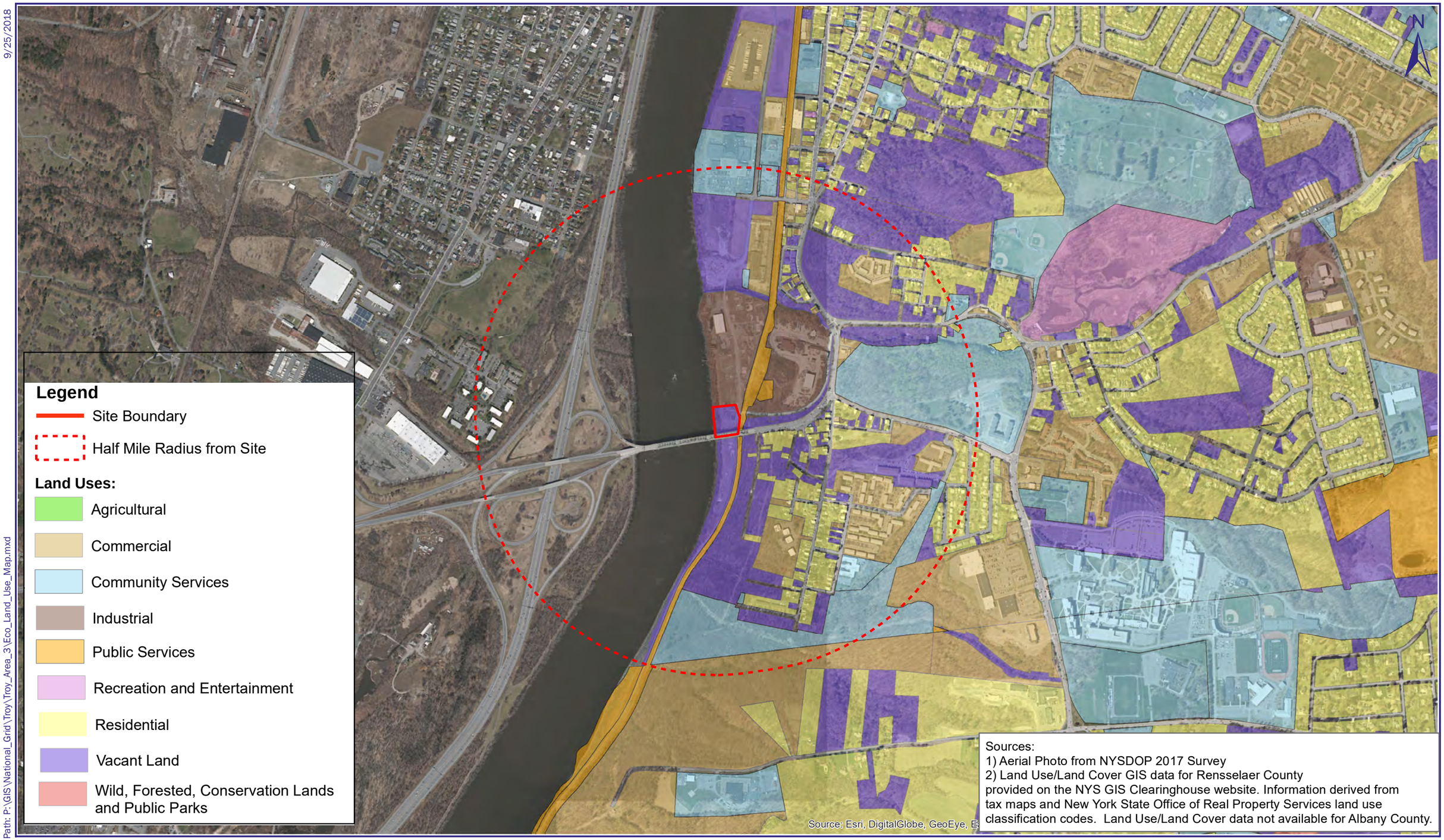
Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES

FIGURE 17
BTEX, NAPHTHALENE, PHENOL AND CYANIDE IN GROUNDWATER
NATIONAL GRID
TROY (WATER ST.) SITE - AREA 3, TROY, NEW YORK

Sources: Base map developed based on drawing prepared by CT Male Associates (June 15, 2015, updated February 21, 2017) and based on drawing prepared by NAEVA Geophysics, Inc. (April, 2015)

0 15 30 60
Feet

9/25/2018



Sources:
1) Aerial Photo from NYSDOP 2017 Survey
2) Land Use/Land Cover GIS data for Rensselaer County provided on the NYS GIS Clearinghouse website. Information derived from tax maps and New York State Office of Real Property Services land use classification codes. Land Use/Land Cover data not available for Albany County.

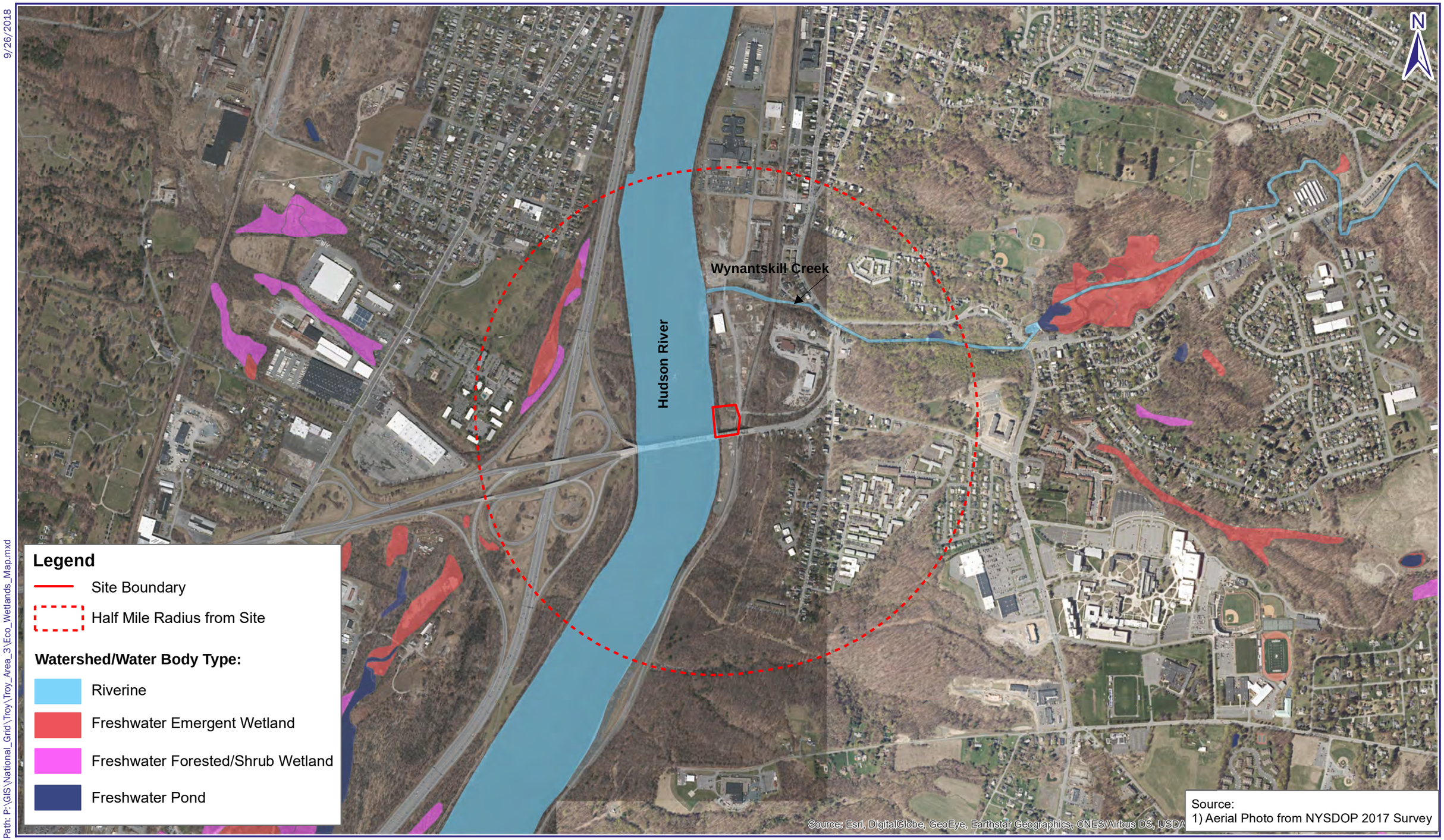
Author: BFTaylor Path: P:\GIS\National_Grid\Troy\Troy_Area_3\Eco_Land_Use_Map.mxd

Brown AND Caldwell

FIGURE 18
LAND USE
NATIONAL GRID TROY AREA 3 FORMER MGP SITE
TROY, NEW YORK

0 500 1,000
Feet

9/26/2018



Author: BFTaylor Path: P:\GIS\National_Grid\Troy\Troy_Area_3\Eco_Wetlands_Map.mxd

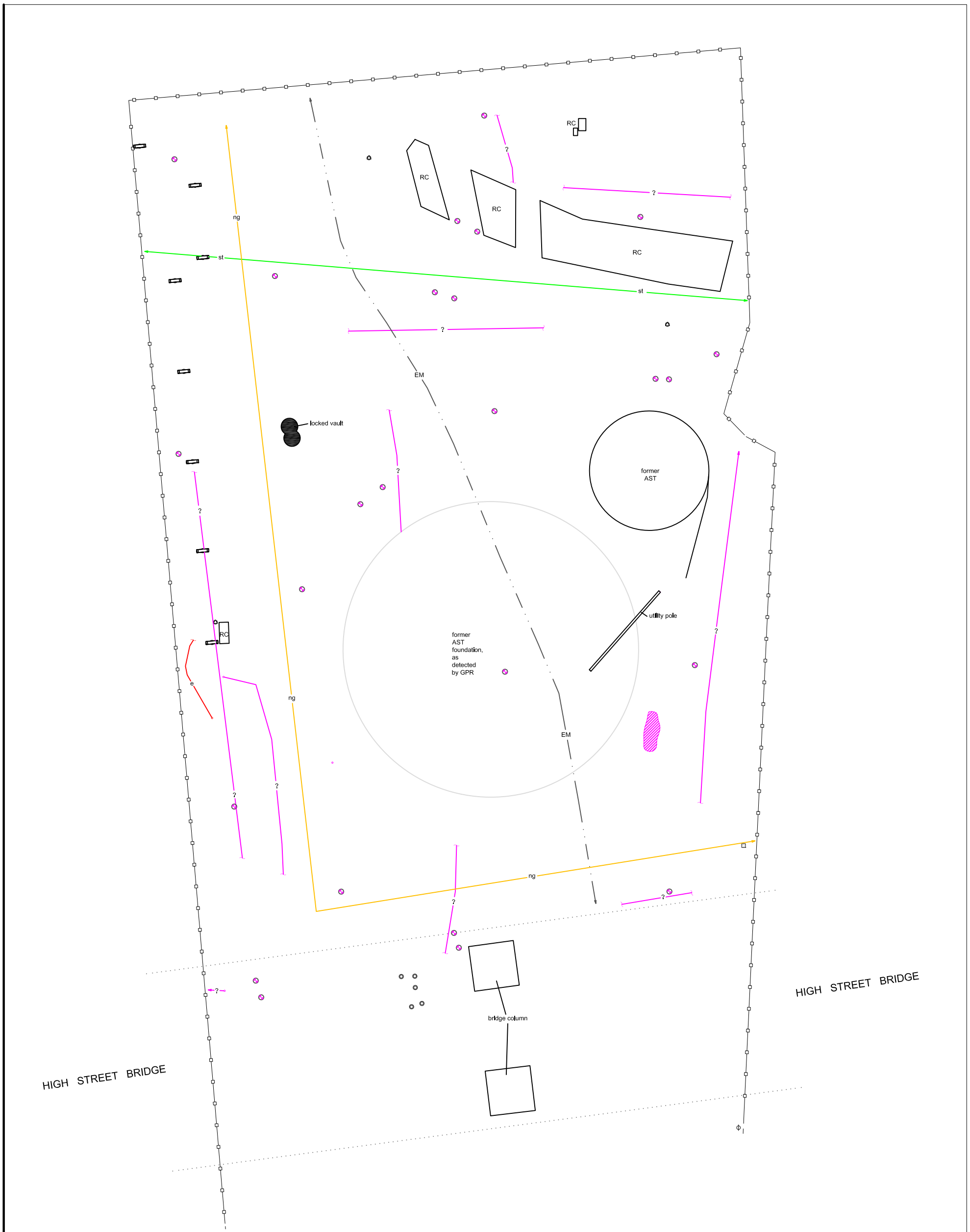
Brown AND Caldwell

FIGURE 19
NATIONAL WETLANDS INVENTORY
NATIONAL GRID TROY AREA 3 FORMER MGP SITE
TROY, NEW YORK

Source Citation
0 500 1,000
Feet

Appendix A: Investigation Work Plan, Reports, and Historical Site Information (CD-ROM)

Appendix B: Surface Geophysical Survey



LEGEND

e — electric line	? — suspected utility	proposed exploratory boring site	electrical conduit
ng — natural gas line	chain-link fence	gas valve	unknown conduit
st — storm sewer	metal-detector anomaly	bollard	pipe rank stand
EM — EM-31 demarcation between fill types	monitoring well	utility pole	RC — reinforced concrete
former AST foundation, as detected by GPR			

approximately

20 10 0 10 20 ft

Scale: One inch equals approximately twenty feet

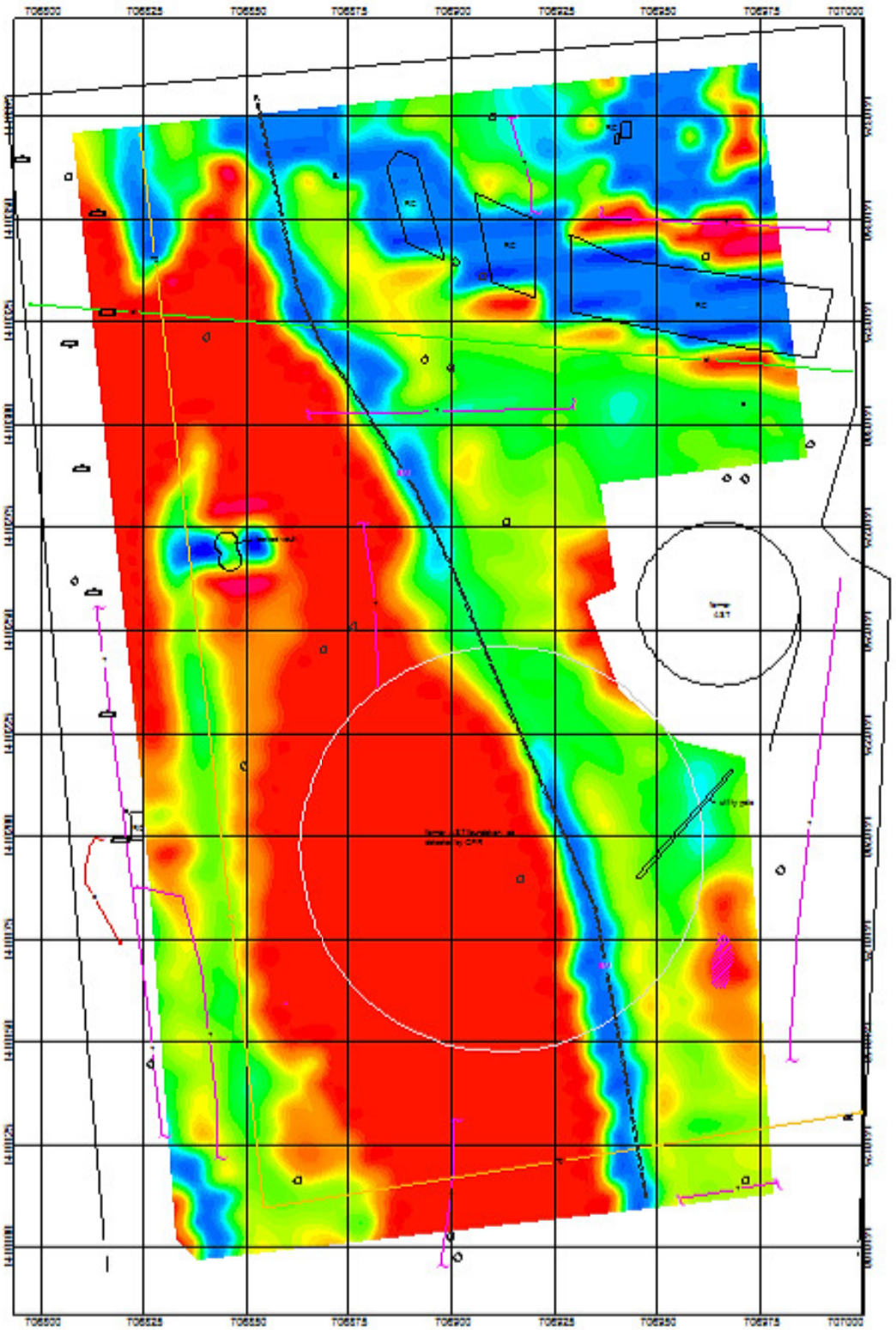
NAEVA GEOPHYSICS, INC.
THE LEADER IN SUBSURFACE DETECTION
Subsurface Geophysical Surveys

225 N. Route 303, Sulte 102
Congers, NY, 10920
(845)268-1800
(845)268-1802 FAX

Plate 1. Area of Geophysical Investigation
National Grid Site
King Road and Water Street
Troy, New York

Client	Brown and Caldwell	Date of Work	April 27 & 28, 2015
Project No.	C1504271R	Map By	Daniel Latini

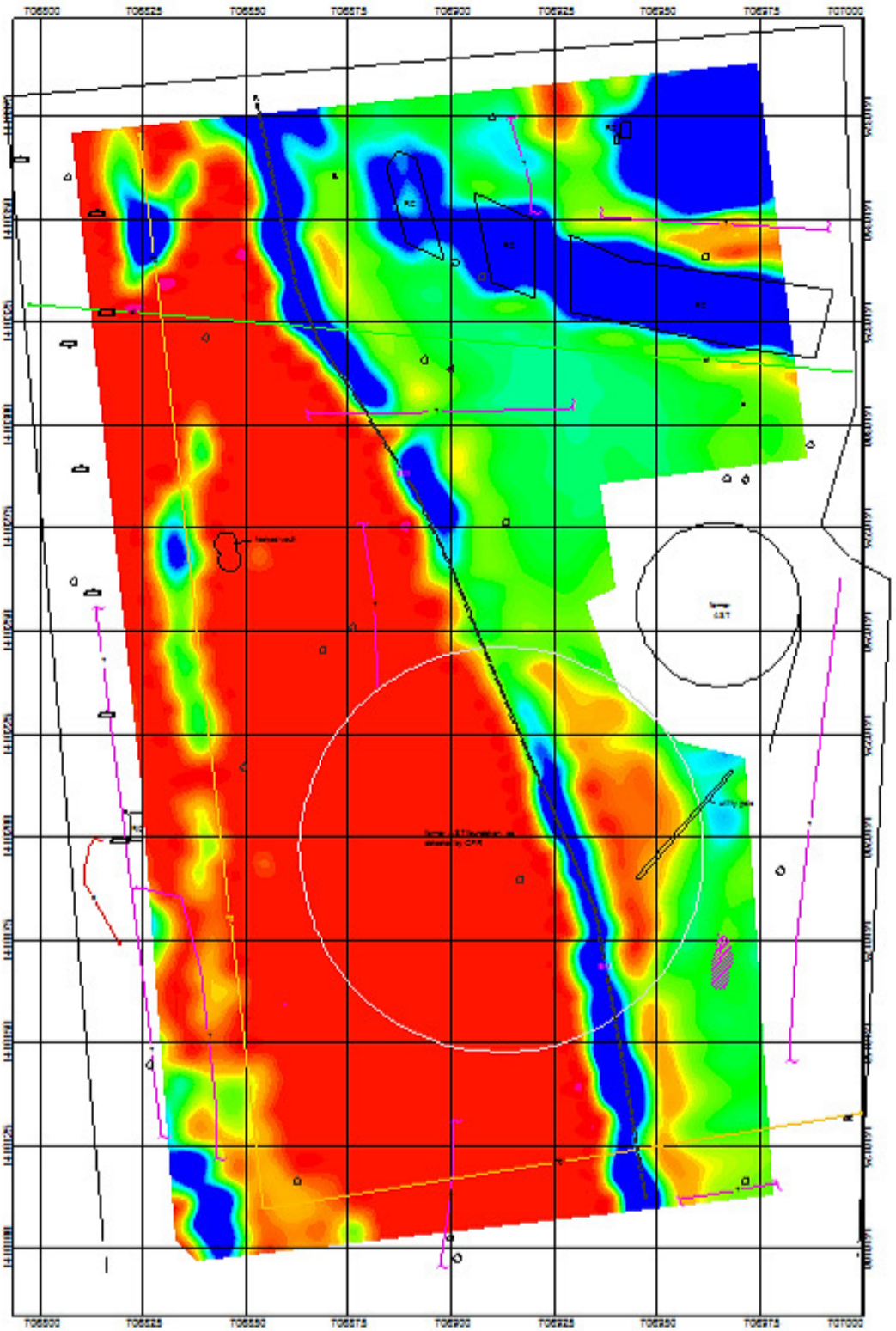
ALL UNDERGROUND FACILITIES MAY NOT BE DEPICTED ON THIS MAP

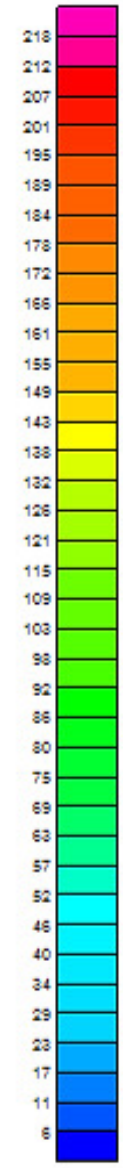


NAEVA Geophysics for Brown and Caldwell

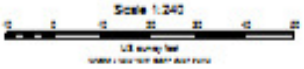
Plate 2. In-Phase Data for National Grid Site
King Road and Water Street
Troy, New York

Dates of Survey: April 27 & 28, 2015
Map Created by: R. Dobler









NAEVA Geophysics for Brown and Caldwell

Plate 3. Quadrature Data for National Grid Site
King Road and Water Street
Troy, New York

Dates of Survey: April 27 & 28, 2015
Map Created by: R. Dobler

Appendix C: Phase IA Cultural Resources Evaluation

HARTGEN
archeological associates inc

PHASE IA LITERATURE REVIEW AND ARCHEOLOGICAL SENSITIVITY ASSESSMENT

National Grid Troy (Water Street) Site - Area 3

7 Water Street
City of Troy
Rensselaer County, New York

HAA # 5278-11

Submitted to:
Brown and Caldwell Associates (NY)
2 Park Way, Suite 2A
Upper Saddle River, New Jersey 07458

Prepared by:
Hartgen Archeological Associates, Inc.

1744 Washington Avenue Ext.
Rensselaer, New York 12144
p +1 518 283 0534
f +1 518 283 6276
e hartgen@hartgen.com

www.hartgen.com

An ACRA Member Firm
www.acra-crm.org

September 2018

MANAGEMENT SUMMARY

SHPO Project Review Number: *not yet assigned*
Involved State and Federal Agencies: *Various New York State agencies*
Phase of Survey: *IA Literature Review and Archeological Sensitivity Assessment*

LOCATION INFORMATION

Municipality: *City of Troy*
County: *Rensselaer*

SURVEY AREA

Length: *300 feet (91.4 m)*
Width: *240 feet (73.2 m)*
Acres: *1.7 acres (0.69 ha)*

RESULTS OF RESEARCH

Archeological sites within one mile: *Twenty Five*
Surveys in or adjacent: *Two*
NR/NRE sites in or adjacent: *One*
Precontact Sensitivity: *High*
Historic Sensitivity: *Moderate*
Archeological Potential: *Moderate, related to depth of impact*

RECOMMENDATIONS

Because of the documented soil contamination at the Project, archeological exploration options are limited to documenting structures that are exposed either through archeological exploration, or through archeological monitoring during environmental remediation activities.

If archeological monitoring is not feasible, we recommend the use of deep testing techniques such as backhoe trenching to determine if there are structural remains or archeological deposits. The deep testing should be limited to areas that will be affected by proposed environmental remediation. It also should target the 17th- and 18th-century resources (Dickops house and the possible mill), and any remains of Structures 1, 2, or 3 (MDS) (a c. 1870 structure associated with the Bessemer steel plant (1 (MDS)), a later locomotive house (2 (MDS)), and a brick storage shed built for the coke plant (3 (MDS))).

Report Authors: *Matt Lesniak, Mathew Kirk RPA*
Date of Report: *27 September 2018*

ABSTRACT

The historic map review indicates that there was a Mohican house or settlement within or close by the Project, and there are numerous Mohican settlements along the Hudson in the region. Also, there are at least a dozen precontact sites in the vicinity of the Project, including two precontact sites within 1,000 feet (310 m). Therefore, the project has a high sensitivity for precontact archeological sites.

There are many historic sites nearby, but only limited historic activity within the Project. There appears to have been very tangential activity in the Project related to coke production and the manufactured gas plant to the north. Of the map-documented structures in the Project, only the first three (Structures 1, 2, and 3 (MDS)) may have an archeological signature related to the 19th-century industrial activities of South Troy. Therefore, the historic archeological sensitivity is moderate, and limited to the northeast quadrant of the Project.

There is a significant amount of prior disturbance at the Project. There are three classes of past ground-disturbing activities at the Project: 1) recent mitigation efforts; 2) Chevron's storage facilities; and 3) buried utilities.

Therefore, the archeological potential is reduced to moderate, and is related to the depths of impact (deeper soils have more potential). Boring and geological work indicates that there is 19th-century fill in the project to below the water table, or more than 15 feet in depth. We would not expect to find any 17th-century, 18th-century, or precontact deposits shallower than 15 feet below the current ground surface, and possibly much deeper.

Because of the documented soil contamination at the Project, archeological exploration options are limited to documenting structures that are exposed either through archeological exploration, or through archeological monitoring during environmental remediation activities.

If archeological monitoring is not feasible, we recommend the use of deep testing techniques such as backhoe trenching to determine if there are structural remains or archeological deposits. The deep testing should be limited to areas that will be affected by proposed environmental remediation. It also should target the 17th- and 18th-century resources (Dickops house and the possible mill), and any remains of Structures 1, 2, or 3 (MDS) (a c. 1870 structure associated with the Bessemer steel plant (1 (MDS)), a later locomotive house (2 (MDS)), and a brick storage shed built for the coke plant (3 (MDS))).

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PHASE I CULTURAL RESOURCES SURVEY

1 Introduction

Hartgen Archeological Associates, Inc. (Hartgen) conducted a Phase IA archeological investigation for the National Grid Troy (Water Street) Site - Area 3 Projject (Project) located in the City of Troy, Rensselaer County, New York. The Project requires approvals by New York State agencies including the Department of Environmental Conservation (DEC).

This investigation was conducted to comply with Section 14.09 of the State Historic Preservation Act and will be reviewed by the New York State Office of Parks, Recreation and Historic Preservation (OPRHP). The investigation was conducted according to the New York Archaeological Council's *Standards for Cultural Resource Investigations and the Curation of Archaeological Collections* (1994), which are endorsed by OPRHP. This report has been prepared according to OPRHP's *State Historic Preservation Office (SHPO) Phase I Archaeological Report Format Requirements* (2005).

2 Project Information

2.1 Project Location

The Project is located on the west side of Water Street in southern Troy, New York. The Hudson River bounds the Project to the west, and the centerline of the Troy-Menands Bridge (NY Route 378) is the Project's southern boundary (Photographs 1 and 2). Currently, the Wynantskill has its mouth in the Hudson River a few hundred feet north of the Project; in the early 19th-century, however, the Wynantskill emptied by means of a winding channel within the Project.

2.2 Description of the Project

The Project involves removing contaminants from the property at 7 Water Street, the former location of a manufactured gas product/fuel oil storage facility. Known pollutants in the National Grid Troy (Water Street) site include benzene, toluene, ethylbenzene, and xylenes (BTEX), and various types of polycyclic aromatic hydrocarbons (PAHs). These compounds were introduced to the subsurface through the disposal or spillage of tars and purifier wastes (NYSDEC 2003:7,8). The National Grid Troy (Water Street) Site - Areas 1 and 2 were adjacent parcels located to the north of the present Project (Area 3).

2.3 Description of the Area of Potential Effects (APE)

The area of potential effects (APE) includes all portions of the property that will be directly altered by the proposed undertaking. The APE will follow from the remediation plan aimed at removing contaminants from the Project. The specific plan has not been chosen. Therefore, for the purpose of this study, the Project and APE are considered to be synonymous and the terms are used interchangeably.

3 Environmental Background

The environment of an area is significant for determining the sensitivity of the Project for archeological resources. Precontact and historic groups often favored level, well-drained areas near wetlands and waterways. Therefore, topography, proximity to wetlands, and soils are examined to determine if there are landforms in the Project that are more likely to contain archeological resources. In addition, bedrock formations may contain chert or other resources that may have been quarried by precontact groups. Soil conditions can provide a clue to past climatic conditions, as well as changes in local hydrology.

3.1 Present Land Use and Current Conditions

A site visit was conducted by Matt Lesniak of Hartgen Archeological Associates, Inc. on June 28, 2018. There had been periods of rain the previous night, but no precipitation during the site visit.

Most of the Project is level, with a combination of earthen, grassy, concrete, and crushed stone surfaces (Photographs 3 and 4). There is an 18- to 24-inch berm parallel to the western edge of the Project, probably remnants of a spill containment structure that once surrounded the Chevron tanks (Photograph 5).

The Hudson River shore is about 7 meters (23 feet) below the rest of the Project (Photograph 6). Remains of wooden cribbing used to reinforce the riverbank were present (Photograph 7). There are also remnants of brick walls on the steep bank, likely elements of fill or discarded rubble.

3.2 Soils

Soil surveys provide a general characterization of the types and depth of soils that are found in an area. This information is an important factor in determining the appropriate methodology if and when a field study is recommended.

The Project is in a location mapped as Urban Land soils, for which no details were given. The Project is 200 feet from areas mapped as being in Hudson silt loam, a moderately well drained soil formed from clayey and silty glaciolacustrine deposits.

In describing the site geology for the Troy Water Street Area 2, adjacent to the present Project, the 2003 Record of Decision (ROD) described the location as being on a small delta outwash deposit consisting of sand and gravel overlying shale bedrock. There are also glacially deposited, interbedded soils ranging from clay to coarse sand and gravel. Various forms of historic-era disturbance have resulted in fill in the location being from 5 to 40 feet thick, made up of slag, cinders, ash, bricks, and gravel (NYSDEC 2003:6).

3.3 Bedrock Geology

The bedrock beneath the Project is composed predominantly of gray to black shale with some siltstone and minor amounts of sandstone occurring as lenses or blocks in a shale matrix. The shale has a pervasive, closely-spaced cleavage. Regional studies suggest that the Ordovician-aged rock found beneath the Project was originally deposited in a marine basin as bedded mud and sand deposits derived from the basin margins. The basin is interpreted to have formed as a foreland basin westward of the ancestral Taconic Mountains as they were being uplifted and displaced (Lim 2005; Rowley 1981).

The bedrock is known to be 27 to 39 feet (8 to 12 m) below ground surface, although there are outcrops above the Project area on the valley wall a short distance to the east (Brown and Caldwell Associates 2018:Table 1; NYSDEC 2003:6).

The Normanskill shale contains chert used by Native Americans for tools. There is a known precontact quarry site in the shale outside Troy's northern limits, approximately 6 miles (9.7 km) north of the Project.

3.4 Physiography and Hydrology

Steeply sloped areas are considered largely unsuitable for human occupation. As such, the standards for archeological fieldwork in New York State generally exclude areas with a slope in excess of 12% from archeological testing (NYAC 1994). Exceptions to this rule include steep areas with bedrock outcrops, overhangs, and large boulders that may have been used by precontact people as quarries or rock-shelters. Such areas may still warrant a systematic field examination.

The Project is in the floodplain of the Hudson River, on the east side of the river. It is at about 26 feet above mean sea level. Historically, in the early 19th century, the Project was the location of the mouth of the

Wynantskill. Today, the Wynantskill is a few hundred feet to the north, and there is a municipal storm sewer outflow in the north third of the Project.

4 Documentary Research

Hartgen conducted research using the New York State Cultural Resource Information System (CRIS), which is maintained by the New York SHPO and the Division for Historic Preservation DHP within OPRHP. CRIS contains a comprehensive inventory of archeological sites, State and National Register (NR) properties, properties determined eligible for the NR (NRE), and previous cultural resource surveys.

4.1 Archeological Sites

An examination of CRIS identified twenty five reported archeological sites within one mile (1.6 km) of the Project (Table 1). Previously reported archeological sites provide an overview of both the types of sites that may be present in the Project and relation of sites throughout the surrounding region. The presence of few reported sites, however, may result from a lack of previous systematic survey and does not necessarily indicate a decreased archeological sensitivity within the Project.

Twelve of the sites were *precontact*, meaning they are thought to date from before the earliest documented European expeditions to the interior of New York State, or before AD 1609. Sites dating from after direct Old World contact in the region are deemed *historic*. There are fourteen such sites. Two sites had both precontact and historic components (the Schuyler Flatts site, and the Van den Burgh Historic and Precontact Site). One site was not placed in either category (A08307.002425, the Meadows Site).

Table 1. Archeological sites within one mile (1.6 km) of the Project

OPRHP Site No.	NYSM Site No.	Site Identifier	Description	Proximity to Project
-	4586	ACP Rens "Village"	Native American village along the North Greenbush riverfront. Reported by State Archeologist A.C. Parker.	4,300 ft S
-	7071	Site 18	Historic site reported by Charles Fisher	4,300 ft SW
-	7372	ACP RENS no #	Precontact camp reported by A.C. Parker	800 ft N
00104.000002	-	Schuyler Flatts	NRL; site of 1643 Van Curler farmhouse sold to the Schuyler family in 1672; also the site of a Native American camp with Owasco and Orient artifacts. Within the Schuyler Flatts Archeological District	2,400 ft NW
00104.000541	-	Truck Service Well/ Cistern	Collapsed well associated with a historic house constructed c. 1834.	3,500 ft NW
00104.000556	-	Schuyler Flatts Burial Ground	NRE; historic cemetery site	3,500 ft NW
00104.000680	1631	Schuyler Flats Native American Burial Site	Precontact dispersed burials found along with pottery and projectile points.	1,800 ft NW
08307.000013	7061	Church Property	Historical standing ruins	4,200 ft NW
08307.000024	-	Site 6, Glenmore Road Site	Large Native American site of unknown date	3,300 ft SW
08307.000025	7078	Haydock House Site	19th-century farmstead site	3,800 ft SW
08307.002367	11170	Maychak-Gardner Site	NRE; Large Native American site of unknown date	3,700 ft SE
08307.002368	-	St. Joseph's Convent Historic Site	19th- and 20th-century convent site	2,700 ft SE
08307.002370	7060	Fisher Site 6	NRE; Large Native American site of unknown date	3,400 ft SE
08307.002380	-	C. N. Vandenburgh Farm Historic Site	Mid-19th-century, Greek Revival farmhouse with archeological deposits and sheet midden.	4,600 ft SE

OPRHP Site No.	NYSM Site No.	Site Identifier	Description	Proximity to Project
08307.002383	-	Van den Burgh Historic and Precontact Site	NRE; home of the Vandenburgh family, constructed c. 1790; also a precontact camp with Late Woodland pottery and Late Archaic, narrow stemmed projectile point; lithics and cracked rocks were also found. .	4.100 ft SE
08307.002425	-	The Meadows Site	No information	5,100 ft SE
08340.000024	-	Upper Burden Iron Works Site	NRL; site of iron works and water wheel constructed c. 1852 by Henry Burden.	2,300 ft NE
08340.000063	-	Village site	Precontact site with human remains	1,300 ft N
08340.002087	-	South Troy Native American Archae-ological Site	NRE; Precontact site with lithics and some evidence for soil features. Located near the Wynantskill.	900 ft NE
08340.002088	-	Albany Iron Works Site	Mid-19th century stone, brick and slag foundations associated with the historic Albany Iron works site.	1,500 ft NE
08340.002089	-	Lower Burden Iron Works Rolling Mill Site	Historic mill site constructed c. 1862.	2,000 ft NE
08340.002190	-	Batavia Street Historic Site	Mid-19th-century historic features related to dwellings along Batavia and Huston Streets, w/associated artifacts.	900 ft NE
08340.002268	-	Sixth Ward Cemetery	NRE; historic site with intact graves	3,000 ft E
08340.002293	-	Burden Estate Burial Site	Precontact human remains said to have been found on the Burden family estate, south of the Wynantskill	2,300 ft E
08340.002517	-	Firegirl Site P1	Precontact camp consisting of chert debitage.	2,700 ft SE

Only three of the previously recorded sites are 1,000 feet or closer to the Project. The nearest site was reported by the early 20th-century, New York State Archeologist Arthur C. Parker. It was a zone of Native American camps which had its southern extent just 800 feet north of the Project, and encompassed the lower reaches of the Wynantskill.

There is also the South Troy Native American Archeological Site (A08340.002087), located 900 feet northeast of the Project. Although initially thought of as a likely village, this aspect of the site was de-emphasized after further fieldwork. The site yielded an assortment of precontact lithics, a nutting stone, a hammerstone, and cracked rocks. There was also evidence for at least ten soil features. Based on projectile points found, the site dated from the Late Archaic to the Late Woodland periods. A proposed new road was designed around the site in a manner that would avoid ground-disturbing impacts to the site (Creighton Manning Engineering 2016:4-18).

In the same location as the South Troy Native American Archeological Site was the Batavia Street Historic Site (A08340.002190). The site consists of mid-19th-century historic features related to dwellings along Batavia Street and Huston Street. The features included a brick cistern, and some drains that indicated the presence of backyard privies.

4.2 Historic Properties

An examination of CRIS identified no NR properties, one NRE property, one property previously determined to be ineligible, and one property of undetermined status within the Project (Table 2). Initial filings for a fourth property, the King Fuels Historic District, was found in an appendix to a historic research report. The district included the present Project (it extended south from the Wynantskill to the Menands Bridge). The district contained the 19th-century coke plant, but was thought to derive its significance from the 1863 Albany Iron Work's Bessemer Steel plant (Murphy 1979). There was no formal determination on the district by SHPO.

The NY Route 378 Bridge, known locally as the Menands Bridge, was determined to be not eligible for the National Register. This is likely because of the 1960, superstructure replacement.

Table 2. Inventoried properties within or adjacent to the Project

USN	Property Name	Status	Description	Location and Proximity to Project Area
08340.002263	Albany Iron & Steel Machine Shop	NRE	Water Street, near Burden Avenue; c. 1890.	800 feet northeast
08340.002264	Albany Iron & Steel Rolling Mill Ruins	Undetermined	Water Street, near Burden Avenue; c. 1890.	800 feet northeast
None	Menands Bridge; DOT BIN 1062850	Not eligible	Constructed in 1932, super-structure replaced after 1960.	Bordering the southern boundary of the project area
None	King Fuel Historic District	Undetermined	Includes coke plant and also iron mill	Encompasses the project area

4.3 Previous Surveys

A review of CRIS identified two previous surveys within the immediate vicinity of the Project (Table 3).

Table 3 Relevant previous surveys within or adjacent to the Project

Project/Phase	Summary	Citation
Proposed South Troy Riverfront Pedestrian and Bicycle Trail Improvements, Phase I	Linear survey involved placing some shovel tests on the south edge of Water Street, a hundred feet east of the Project. The tests encountered disturbed soils.	(Hartgen 2003, 2004)
South Troy Industrial Park Road, Phase I & Historical Context Report	Survey resulted in the discovery of the Batavia Street Historic (A08340.002190) and the South Troy Native American Archeological (A08340.002087) sites.	(Hartgen 2011, 2013)

5 Historic Background

5.1 Contact

At the time of contact with European explorers and traders, Mohican territory covered a large area extending from the southern end of Lake Champlain to the north to Dutchess County to the south and from Schoharie Creek on the west to the Green and Berkshire Mountains on the east (Shirley W. Dunn 1994:50-55). Therefore, Mohican territory encompassed the confluence of the Hudson and Mohawk Rivers and the area of present-day Troy. Mohawk Iroquois territory began west of the mouth of the Schoharie Creek on the Mohawk River (Shirley W. Dunn 1994:57).

Henry Hudson and his crew sailed their ship, the *Halve Maen*, up the Hudson River and into Mohican territory in September of 1609. The northernmost anchorage of the ship was likely near Castleton-on-Hudson in southern Rensselaer County (Dunn 2009:14). Crew members were sent up the river in the ship's smaller boat to investigate if there was any possibility that the river would lead to a new route to the Far East. The boat may have gone as far as 25 to 30 miles up the river from Castleton (Shirley W. Dunn 1994:30). On this reconnaissance voyage, Mohicans living in villages near present-day Schodack, Rensselaer, Bethlehem, Lansingburgh, Troy, Watervliet, and Peebles Island may have gotten their first sight of Europeans, although trade goods had already made their way in the region likely from the French to the north. Apparently, these first encounters were friendly. Gifts including skins, furs, wampum, food, and tobacco were traded to the Dutch in return for metal, glass, cloth and other items.

Henry Hudson left to return to the Netherlands after spending about two weeks exploring the river that now bears his name. The Dutch returned again a year later sailing up as far as Albany this time (Shirley W. Dunn 1994:64). Over the next decade the Dutch furthered their relationship with the Mohicans by establishing trade relationships. In 1614, the Dutch built a small year-round trading post called Fort Nassau on Castle Island, a small island below present-day Albany. A few years later in 1624, the Dutch erected Fort Orange, a more permanent structure, on the mainland at what is now Albany (Shirley W. Dunn 1994:69-71).

There is some evidence of Contact period settlements in the immediate vicinity of Troy including two Native American "castles" as the Dutch called them, which were likely fortified villages. On a 1631-1632 map of

Rensselaerswyck Unuwat's Castle appears to be located just north of the Piscawan Kill in Lansingburgh, which has also been interpreted as just north of the Poesten Kill by some historians (Weise 1891:7). A slightly early map attributed to c. 1630 also shows a fortified village in this location. Unuwat may have been a chief of this community at one time. Unfortunately, little is known about Unuwat as the name is never mentioned in deeds or other historical records except the map showing this village.

Another Native American Contact period settlement documented in or near Troy was Monamin's Castle, which was reported in three locations. Around 1630 a *vasticheyt* or palisaded village was shown near Waterford, on the riverbank north of the Cohoes Falls. Around 1631-1632 the Monamin's Castle was shown on Peeble's Island near the Cohoes Falls. The Mohican chief Monamin was noted as killed in 1626 at the beginning of the war between the Mohawks and Mohicans (VRBM 1908:306); however his name was still being attributed to a community of people some 25 years later. It is not clear whether it was the Dutch or the Mohicans who named villages after past chief names.

One more Native American settlement documented in the Troy area was Dickop's House. Dickop's House is shown just south of the mouth of the Wynants Kill on the 1631-1632 map.

5.2 Patroonship

Kiliean Van Rensselaer of the Dutch West India Company began to negotiate the purchase of large tracts of now unoccupied land along the Hudson River around Fort Orange from the Native Americans in the 1630s. The Dutch West India Company wished to obtain land from the Native American owners to provide land to Dutch patentees for agricultural development. Van Rensselaer's land agents arranged the land transaction for Rensselaerwyck between 1630 and 1631 (Weise 1891:8).

Rensselaerswyck included parts of Albany, Columbia, Greene, and Rensselaer counties on the east and west sides of the Hudson River surrounding the area of Fort Orange. The portion of Rensselaerswyck on the east side of the Hudson River that would encompass Rensselaer County and the City of Troy appears to have been purchased in 1630 (Sylvester 1880:176). It seems that no deed was procured for specifically including the east side of the river north of Fort Orange until 1685, when the royal governor Thomas Dongan issued an official document establishing the patroonship as a legal entity and describing the borders for the Manor of Rensselaerswyck (VRBM 1908:167-168).

Reminiscences by early settler Elijah Adams recalled the area where downtown Troy is now located around the late 18th century when the town of Van der Heyden's Ferry was beginning to take hold. He characterized the area as having strips of land cultivated with Mohican corn crops surrounded by an oak forest. Another report stated that Native American wigwams were present in Lansingburgh around 1767 a short distance north of the farm of Jacob I. Van der Heyden just north of modern-day Hoosick Street (Woodworth 1860:8,12).

5.3 Industrial Development

The abundant natural resources from surrounding regions, powerful mountain streams to power mills, and established transportation network made Troy favorable towards manufacturing industries. Adjacent to the Project, the Wynants Kill served as waterpower for saw and grist mills since the 17th century. By the 1860s, two main industries, iron and shirt and collar manufacture, prevailed over the city's economy.

Troy's waterfront played an important role in its development. Ports, shipping yards, and manufacturing complexes lined the Hudson riverfront in the 19th and 20th centuries. The current Project is adjacent to some of the most prominent iron manufacturers in the city. In 1809, a section of steep cascades along the Wynants Kill east of the project area became the home of the Troy Iron & Nail Factory, later known as the Burden Iron Company (Upper Works), one of the most important industrial complexes in Troy. Henry Burden was a Scottish mechanic who rose to become the superintendent of the Troy Iron & Nail Factory. Burden's greatest innovations were his patented machines for making nails, railroad spikes, and horseshoes (Hartgen Archeological Associates 2013).

The Albany Iron Works steam mill was erected on the south side of the Wynants Kill, on the west side of Water Street in 1849. Beginning in 1862, the Lower Burden Iron Works was constructed on former farmland lying between the railroad and the Hudson River north of the Wynants Kill. The blast furnaces in the Lower Works were driven by large coal-fired steam engines. The last major iron industry development in the area was the Bessemer Steel Works built in 1864 in the area south of the Wynants Kill between the railroad and the river. The Bessemer Steel Works was the first steel plant in America capable of producing high-grade Bessemer steel (Hartgen Archeological Associates 2013).

Troy's iron industry reached its culmination toward the end of the 19th century. The intensity of industrial activity in the area in the late 19th century represented by additional building and railroad lines reflects this climax. However, the industry began a half-century decline around 1900. This was part of a general pattern of deterioration of the iron and steel industry in the East, which could not compete with newer manufacturers in the western U.S. with better access to coal, ore, and markets.

Brown and Caldwell's supplemental report on mitigation activities described developments in the Project in the 20th century:

> "In 1924, the Hudson Valley Coke and Products Corporation (HVC&PC) was formed, and a brick shed, presumably used for storage, was constructed on the Site (Figure 2). By 1938 HVC&PC had sold the facility to the Hudson Valley Fuel Corporation (HVFC), which merged into New York Power and Light, which in turn was consolidated into Niagara Mohawk Power Corporation (NMPC) in 1951. The brick shed, previously mentioned, was demolished and the HVFC constructed two tarvia tanks of unknown capacity. Tarvia is a coal tar byproduct used for road surfacing and dust abatement. Three tar products structures and a flux oil tank (10,000 gallons) were also constructed by the HVFC…"
>
> In 1955 Republic Steel Corporation sold the property to American Bitumuls & Asphalt Company, which was acquired by the Chevron Asphalt Company in 1965. The Chevron Asphalt Company constructed the asphalt plant on the land known as Area 3. In 1965, two above ground, vertical storage tanks (tank T-27 and tank T-41) were constructed…. Chevron ceased operations at the Site as an asphalt terminal around 1998, and the plant structures were razed in 2006, with the exception of the base of tank T-41, which, during demolition activities, tar was observed at the base of the structure" (Brown and Caldwell Associates 2016:2).

The larger of Chevron's tanks remained on site until 2005.

6 Historical Map Review

Several 17th and 18th-century maps of the Hudson River region indicate a settlement or two on the Hudson's eastern shore, near the mouth of the Wynantskill (Map 3). At that time, the Wynantskill had its mouth within or close to the Project. One of the maps labeled the settlement "Dickops House". Dickop was a well-known Mohican and a friend to the Dutch colonists; according to legend, he ran all the way to Manhattan to notify the settlement that the Mohawks had killed all of the cattle around Fort Orange (Hartgen 2013, citing Dunn and the Van Rensselaer manuscripts (Shirley W Dunn 1994:103) (VRBM 1908:304)).

Two maps from c. 1756 fail to show Dickops House, and then in 1767 there is a house or a settlement near the Project again. Although most of the homesteads on the map are labeled, the one by the Project is not. It may have represented Abraham Pietersz Vosburgh and Hans Jansz Rotterdam's mill on the Wynanskill, built c. 1656 (Hartgen Archeological Associates 2013).

The earliest detailed maps of the Project are the mid-19th-century landowner maps (Maps 4 and 5). The railroad was already in place on the east side of the Project in the 1851 map (Sidney). Map 4 also showed a long, southern leg of the Wynantskill, situating that creek's mouth within or adjacent to the Project. The Burden iron works were on the creek, with most of their buildings on the east side of Burden Avenue. Although the map did not

draw any structures within the Project, there is the word "Dock" nearby, suggesting that a dock or offloading structure could have been in the Project (ibid).

Map 5 also does not explicitly show a dock, but there are indications that the Hudson shore at the site was used to bring in raw materials or to off-load iron products. The map further suggests, by drawing trees all over it, that the area west of the former Wynantskill channel was undeveloped. Also note the presence of the Albany iron works on the west side of Burden Avenue, and the Troy Steel Works (Winslow, Griswold & Warren) on the waterfront north of the Project (Barton 1869). The manufactured gas industry developed to support Troy's iron and steel industries near the Project (Record of Decision 2003).

The map from only approximately four years later, Map 6, is the earliest map to clearly indicate a structure in the Project. It seems likely that the structure pertains to the large Bessemer Steel Works complex to the north, but it is also possible that it was a railroad structure. This map is also notable for no longer showing the southern leg of the Wynantskill (Young and Young 1873). Instead, the Wynantskill has its mouth on the Hudson about where it is today.

The earliest insurance map for the Project dates to 1885 (Map 7). The map shows several railroad track alignments within the Project, two of them leading north into the Bessemer department of the Albany Iron Works. There is a one-story, brick-nogged building within the Project, labeled "Locomotive Ho." Two of the tracks dead-end in the house, suggesting that it was large enough to accommodate at least two steam locomotives (Sanborn Map & Publishing Company 1885).

In 1890, the Troy Steel and Iron Company had swapped the Project area with the Troy and Greenbush Railroad Association to be used for railroad track (Brown and Caldwell Associates 2016). Manufactured gas production in the vicinity expanded during the 1920s, with coke ovens doubling in number and gas lines extended to communities west and north of Troy. Niagara Hudson Power Corporation (a forerunner to Niagara Mohawk) acquired the manufactured gas operations here in 1929 (NYSDEC 2003).

The more recent insurance maps do not depict the Project; however, the 1951 version of the insurance maps indicates a vast Troy Coke Plant to the north (Sanborn Map Company 1904, 1951). The aerial photograph of Troy from 1952, Figure 1, indicates two circular tanks and a row of three sheds in between them. The map also shows a path in white curving north out of the Project; this path is crossed by at least three other paths or railway alignments (U.S. Geological Survey (USGS) Earth Resources Observation and Science (EROS) Center nd). The two tanks and the sheds also appear on a 1946 map referred to in the client's Figure 2 (reproduced in this report also as Figure 2) (Brown and Caldwell Associates 2018). The large building north of the northern tank, located just outside of the Project, was a garage in the coke plant complex. The tall building on the Hudson River shore is a "Breaker House" in the coke plant, connected to the rest of the plant by a series of coal conveyors (Sanborn Map Company 1955).

There were three places where gas was produced at the coke plant: the coke ovens (the main plant); the producer plant; and the water gas plant. The main plant and the producer plant were sold to Republic Steel in 1951, with the coke ovens scrapped in 1960. The water gas plant stopped operation in 1956, and Republic Steel bought it in 1957 (NYSDEC 2003:2,3). The brick shed is Structure 3 (MDS), and the 1940s and 1950s structures were 4 to 8 (MDS). Changes to the Project occurred again in 1968 with the purchase of the by Chevron Asphalt Company in 1965. Structures 9 and 10 (MDS) are the storage tanks they constructed on site.

The mid-20th-century topographic map (not presented here) also depicts the curving path in the north portion of the Project. It shows the northern Tarvia tank, but not the southern tank nor the three sheds between them (United States Geological Survey (USGS) 1954). Map 8 is a topographic map dating from 1980. This map was on a 1953 base, with the purple or magenta features representing 1980 photorevisions. It is notable that the map does not show the Tarvia tanks, and it also does not have the two Chevron tanks. The Chevron tanks show up on the 1993 map, the most recent map consulted for this report (see Map 9).

6.1 Map-Documented and Existing Structures

Each past or current structure within the Project Area is assigned a unique structure number. Map-documented structures—those structures that are depicted on one or more maps—are distinguished using the abbreviation "MDS" after the structure number (e.g. Structure 3 (MDS)). The structures are shown in their mapped locations on Map 10.

The colonial-era historic maps also indicate a structure that was not included in Map 10 or Table 4: Dickop's House, a Mohican Indian house that was just south of the Wynantskill in the early 17th century. The maps which show the house are not precise enough to be sure whether it is within the project area, or a short distance south or east (see the van Scheyndel and the Vickenboons maps included in Map 3).

Table 4. Summary of map-documented and existing structures within the Project/APE

Structure #	Map 5. (Sidney 1851)	Map 6. (Barton 1869)	Map 7. (Young and Young 1873)	Map 8. (Sanborn Map & Publishing Company 1885)	Figure 1. Historic Aerial 1952	Map 9. (United States Geological Survey (USGS) 1980)	Map 9. (New York State Department of Transportation (NYSDOT) 1993)	Extant (2018)
1 (MDS)	-	-	X	-	-	-	-	-
2 (MDS)	-	-	-	Locomotive House	-	-	-	- [connected to MDS 3]
3 (MDS)	-	-	-	-	-	-	-	- [connected to MDS 2]
4 [extant]	-	-	-	-	X	X	X	Menands bridge
5 (MDS)	-	--	-	-	X	-	-	- [north Tarvia tank]
6 (MDS)	-	-	-	-	X	-	-	- [tar product bldgs.]
7 (MDS)	-	-	-	-	X	-	-	- [south Tarvia tank]
8 (MDS)	-	-	-	-	-	-	-	- [flux oil tank]
9 (MDS)	-	-	-	-		-	X	- [large Chevron T-27]
10 (MDS)	-	-	-	-		-	X	- [small Chevron T-41]

Structure 2 (MDS) is the locomotive house from the late 19th–century map, presumed to have been modified for the Hudson Valley Coke and Products Corporation's (HVC&PC) brick storage sheds (Structures 2 and 3 (MDS)). These sheds are referred to in Brown and Caldwell's report (see the block quotes on page 7 of this report), and shown in Figure 2 (from Brown and Caldwell) in the present report. If this sequence is correct, then Structure 2 (MDS) was built between 1873 and 1885, and Structure 3 (MDS) was built c. 1924.

Both brick sheds were demolished before 1952, and replaced by Niagara Mohawk's Structures 5 to 8 (MDS). These four structures were built after 1938, and were demolished by or before 1965.

7 Archeological Sensitivity Assessment

The New York Archaeological Council provides the following description of archeological sensitivity:

> Archaeologically sensitive areas contain one or more variables that make them likely locations for evidence of past human activities. Sensitive areas can include places near known prehistoric sites that share the same valley or that occupy a similar landform (e.g., terrace above a river), areas where historic maps or photographs show that a building once stood but is now gone as well as the areas within the former yards around such structures, an environmental setting similar to settings that tend to contain cultural resources, and locations where Native Americans and published sources note sacred places, such as cemeteries or spots of spiritual importance (NYAC 1994:9).

7.1 Precontact Archeological Sensitivity

The precontact sensitivity of an area is based on proximity to previously documented precontact archeological sites, known precontact resources (e.g. chert outcrops), and physiographic characteristics such as topography and drainage. Generally, areas in the vicinity of streams and wetlands are considered to have elevated sensitivity for sites associated with Native American use or occupation because they presented potential food and water sources as well as transportation corridors.

The historic map review indicates that there was a Mohican house or settlement within or close by the Project (Map 3), and there are numerous Mohican settlements along the Hudson in the region. Also, there are at least a dozen precontact sites in the vicinity of the Project, including two precontact sites within 1,000 feet (310 m). Therefore, the Project has a high sensitivity for precontact archeological sites.

7.2 Historic Archeological Sensitivity

The historic sensitivity of an area is based primarily on proximity to previously documented historic archeological sites, map-documented structures, or other documented historical activities (e.g. battlefields).

There are many historic sites nearby, but only limited historic activity within the Project. There appears to have been very tangential activity in the Project related to the coke production and manufactured gas plant to the north. Of the map-documented structures in the Project, only the first three (Structures 1 (MDS), 2 (MDS) and 3 (MDS)) may have archeological interest or anything to do with the 19th-century industrial activities of South Troy. Therefore, the historic archeological sensitivity is moderate, and limited to the northeastern quadrant of the Project.

8 Archeological Potential

Archeological potential is the likelihood of locating intact archeological remains within an area. The consideration of archeological potential takes into account subsequent uses of an area and the impact those uses would likely have on archeological remains.

There is a significant amount of prior disturbance at the Project. There are three principal types of past ground-disturbing activities at the Project:

- recent mitigation efforts,
- Chevron's fuel storage facilities, and
- buried utilities (as indicated in Photographs 8 to 11).

Therefore, the archeological potential is reduced to moderate, and is related to the depths of impact (deeper soils have more potential). Boring and geological work indicates that there is historic-era fill in the project to below the water table, or more than 15 feet in depth. We would not expect to find any 17th-century, 18th-century, or precontact deposits shallower than 15 feet below the current ground surface, and possibly much deeper.

What potential for historic deposits exists is limited to the northern half of the Project, where the 19th and 20th century map-documented structures were.

9 Recommendations

Because of the documented soil contamination at the Project, archeological exploration options are limited to documenting structures that are exposed either through archeological exploration, or through archeological monitoring during environmental remediation activities.

If archeological monitoring is not feasible, we recommend the use of deep testing techniques such as backhoe trenching to determine if there are structural remains or archeological deposits. The deep testing should be limited to areas that will be affected by proposed environmental remediation. It also should target the 17th- and 18th-century resources (Dickops house and the possible mill), and any remains of Structures 1, 2, or 3 (MDS)

(a c. 1870 structure associated with the Bessemer steel plant (1 (MDS)), a later locomotive house (2 (MDS)), and a brick storage shed built for the coke plant (3 (MDS))).

10 Bibliography

Barton, William
1869 *Map of the City of Troy, West Troy, and Green Island*, Troy, NY.

Brown and Caldwell Associates
2016 *Data Summary Report Remedial Investigation Troy (Water St.) Site - Area 3 Troy, New York*. B. a. C. Associates, Upper Saddle River, New Jersey. On file at New York Department of Environmental Conservation and Niagara Mohawk Power Corporation.

2018 *Data Summary Report Supplemental Remedial Investigation Troy (Water St.) Site - Area 3 Troy, New York*. B. a. C. Associates, Upper Saddle River, New Jersey. On file at Niagara Mohawk Power Corporation.

nd *Phase IA Cultural Resources Evaluation Scope of Work* Upper Saddle River, NJ.

Creighton Manning Engineering, LLP
2016 *Draft Design Report/Environmental Assessment, Highway Project PIN: 1754.59 South Troy Industrial Road Rensselaer County City of Troy CDTA MPO Project R195*. N. Y. S. D. o. T. (NYSDOT). On file at U.S. Department of Transportation Federal Hghway Administration and New York State Department of Transportation

Dunn, Shirley W
1994 *The Mohicans and Their Land: 1609-1730*. Purple Mountain Press, Fleischmanns, NY.

Dunn, Shirley W.
1994 *The Mohicans and Their Land: 1609-1730*. Purple Mountain Press, Fleischmanns, NY.

2009 *The River Indians: Mohicans Making History*. Purple Mountain Press, Fleischmanns, NY.

Hartgen Archeological Associates, Inc.
2003 *Phase IA Literature Review and Sensitivity Assessment, Proposed South Troy Riverfront Pedestrian and Bicycle Trail Improvements, City of Troy, Rensselaer County, New York, HAA #2764*. Submitted to Edman, Anthony & Associates. On file at HAA, Rensselaer, NY.

2004 *Phase IB Archeological Field Reconnaissance, Proposed South Troy Riverfront Pedestrian and Bicycle Trail Improvements, City of Troy, Rensselaer County, New York, HAA #2967*. Submitted to Edman, Anthony & Associates. On file at HAA, Rensselaer, NY.

2011 *Phase IA Literature Review and Sensitivity Assessment, South Troy Industrial Park Road, Southern Portion, New York State Route 378 to Main Street, City of Troy, Rensselaer County, New York, HAA #4416-11*. Submitted to Creighton Manning Engineering. On file at HAA, Rensselaer, NY.

2013 *Supplemental Phase IA Research/ Historical Context Report, South Troy Industrial Park Road, City of Troy, Rensselaer County, New York, HAA #4416-83*. Submitted to Creighton Manning Engineering. On file at HAA, Rensselaer, NY.

Lim, C., Kidd, W.S.F., and Howe, S.S.,
2005 Late Shortening and Extensional Structures and Veins in Western Margin of The Taconic Orogen (New York and Vermont). *Journal of Geology* 113:419-438.

Murphy, Duane T
1979 *Industrial Archaeology of South Troy*. H. M. I. Gateway. On file at NYSOPRHP 15PR06135, 15SR00654.

New York Archaeological Council (NYAC)
1994 *Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State*. NYAC, n.p.

New York State Department of Transportation (NYSDOT)
1993 *Troy South New York NYSDOT Digital Raster Graphic (DRG) Quadrangle, 1:24,000 scale*. NYS GIS Clearinghouse, Albany, New York, http://gis.ny.gov/.

NYSDEC, New York State Department of Environmental Conservation
2003 *Record of Decision NIMO Troy-Water Street MGP Operable Unit No. 1: Area 2 - Former Plant Site, Troy (C), Rensselaer County, New York Site No. 4-42-029*.

Office of Parks, Recreation and Historic Preservation (OPRHP)
2005 *New York State Historic Preservation Office (SHPO) Phase I Archaeological Report Requirements*. OPRHP, Waterford, New York.

Rowley, D.B. and Kidd, W.S.F.
1981 Stratigraphic Relationships and Detrital Composition of the Medial Ordovician Flysch of Western New England: Implications for the Tectonic Evolution of the Taconic Orogeny. *Journal of Geology* 89:199-218.

Sanborn Map & Publishing Company
1885 *Troy, New York, Volume I*. Sanborn Map & Publishing Company, New York.

Sanborn Map Company
1904 *Insurance Maps of Troy, New York, Rensselaer County, including Green Island & Watervliet, Albany County, New York, Volume Two*. Sanborn Map Company, New York.

1951 *Insurance Maps of Troy, New York, including Center Brunswick, Watervliet, and Parts of Towns of Brunswick and Colonie, Volume Two*. Sanborn Map Company, New York.

1955 *Insurance Maps of Troy, New York, including Center Brunswick, Part of Watervliet, and Parts of Towns of Brunswick and Colonie, Volume Two*. Sanborn Map Company, New York.

Sidney, J. C.
1851 *Map of the vicinity of Albany and Troy*. W. H. Young, Philadelphia.

Sylvester, Nathaniel Bartlett
1880 *History of Rensselaer County, New York*. Higginson Book Company, Salem, MA.

U.S. Geological Survey (USGS) Earth Resources Observation and Science (EROS) Center
nd 1952 Aerial Photograph. USGS.

United States Geological Survey (USGS)
1954 *Troy South, New York Topographic Quadrangle Map, 1:24,000 scale*. USGS Historical Topographic Map Explorer, Reston, Virginia, http://historicalmaps.arcgis.com/usgs.

1980 *Troy South, New York Topographic Quadrangle Map, 1:24,000 scale*. USGS Historical Topographic Map Explorer, Reston, Virginia, http://historicalmaps.arcgis.com/usgs.

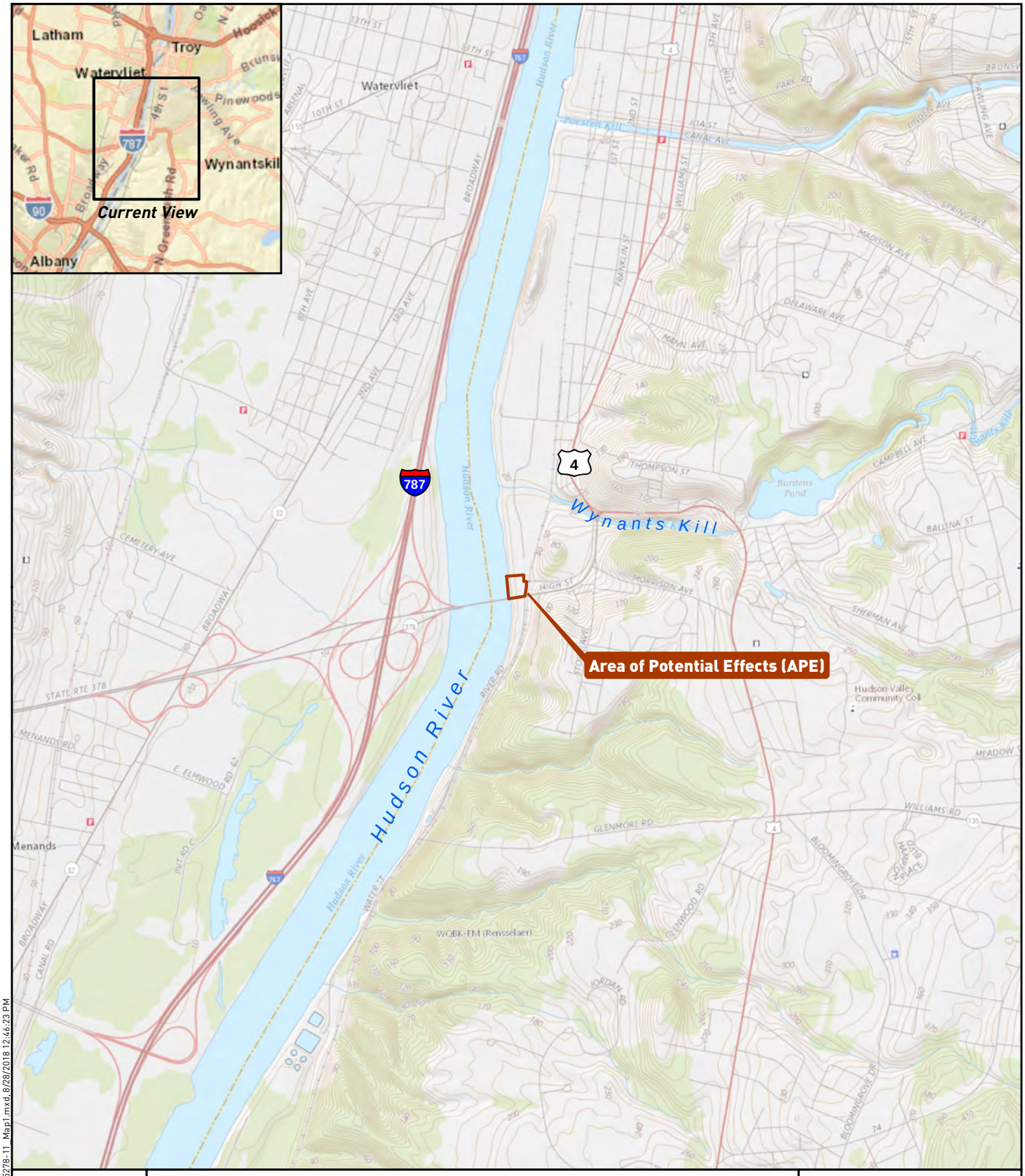
Van Rensselaer, Kiliaen and the New York State Library (VRBM)
1908 Van Rensselaer Bowier Manuscripts: Being the Letters of Kiliaen Van Rensselaer, 1630-1643, and Other Documents Relating to the Colony of Rensselaerswyck, edited by A. J. F. V. Laer. Translated by S. D. L. V. R. Strong. University of the State of New York, Albany, NY.

Weise, Arthur James
1891 *Troy's One Hundred Years: 1789-1889*. Higginson Book Company, Salem, MA.

Woodworth, J.
1860 *Reminiscences of Troy, from Its Settlement in 1790 to 1807: With Remarks on Its Commerce, Enterprise, Improvements, State of Political Parties, and Sketches of Individual Character ; Written at the Request of Several Gentlemen of Troy*. J. Munsell, Troy, New York.

Young, William H. and Blake Young
1873 *Map of the City of Troy*.

Maps



N

1,000 0 1,000 2,000 Feet

300 0 300 600 Meters

Note: Contour interval is 10 feet.

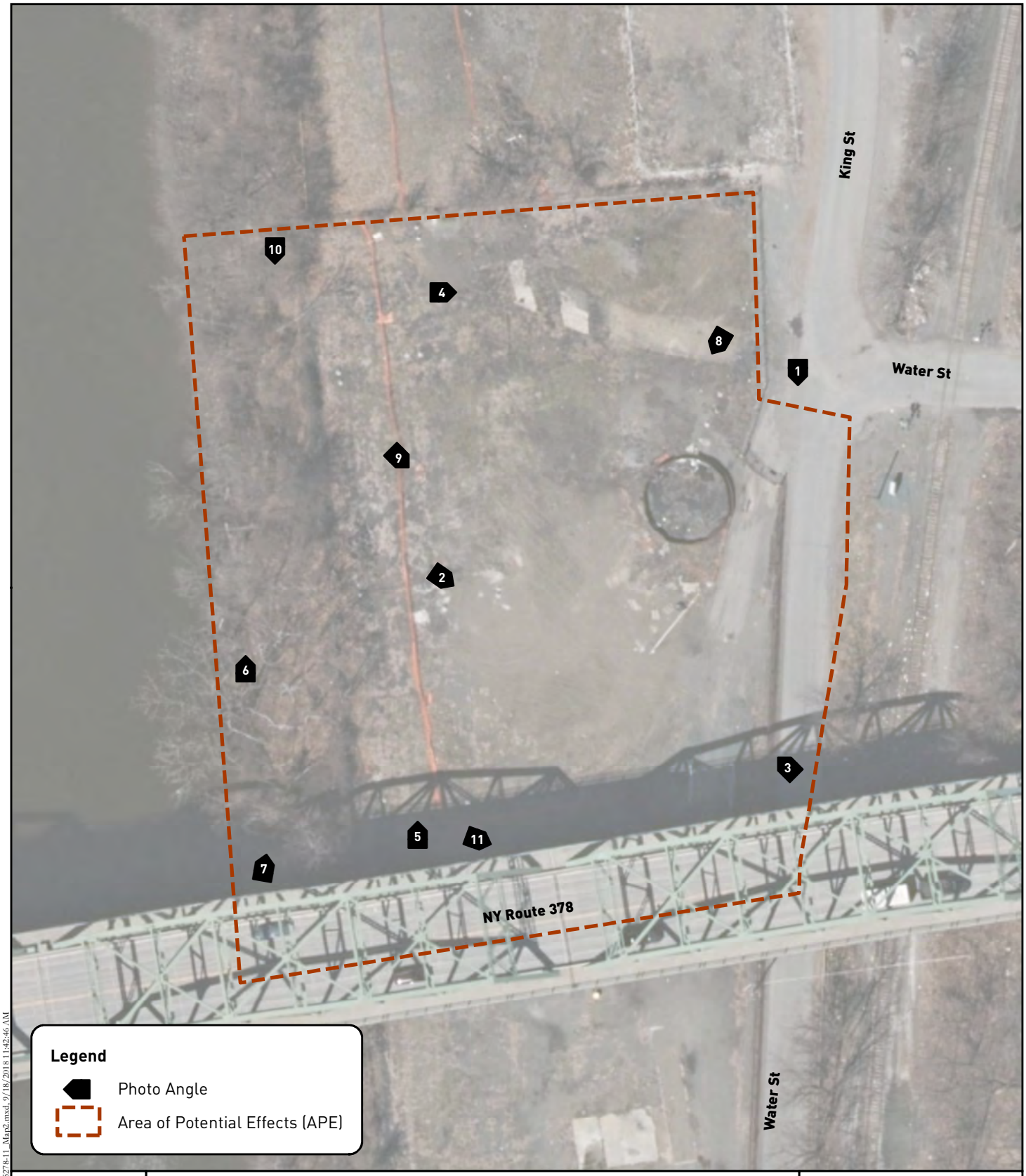
Project Location

GIS Services Accessed 9/25/2018:
Environmental Systems Research Institute, Inc., World Street Map
The National Map, USGS Topo Layer

HARTGEN archeological associates inc

Map 1

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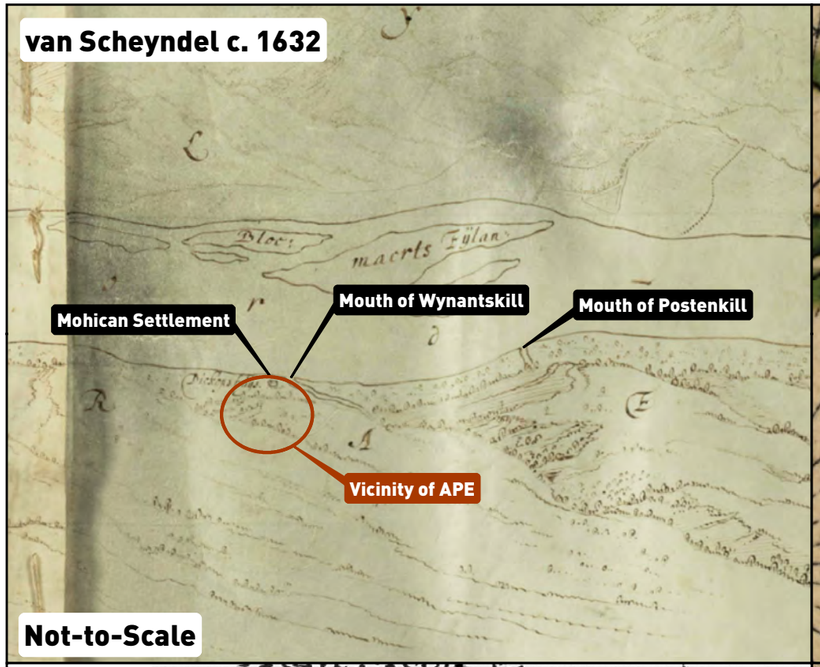
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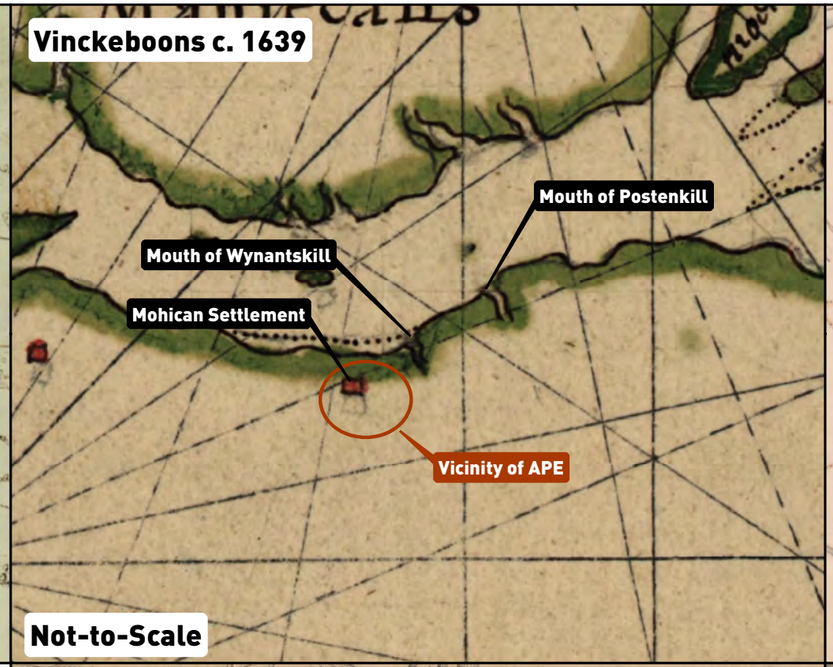
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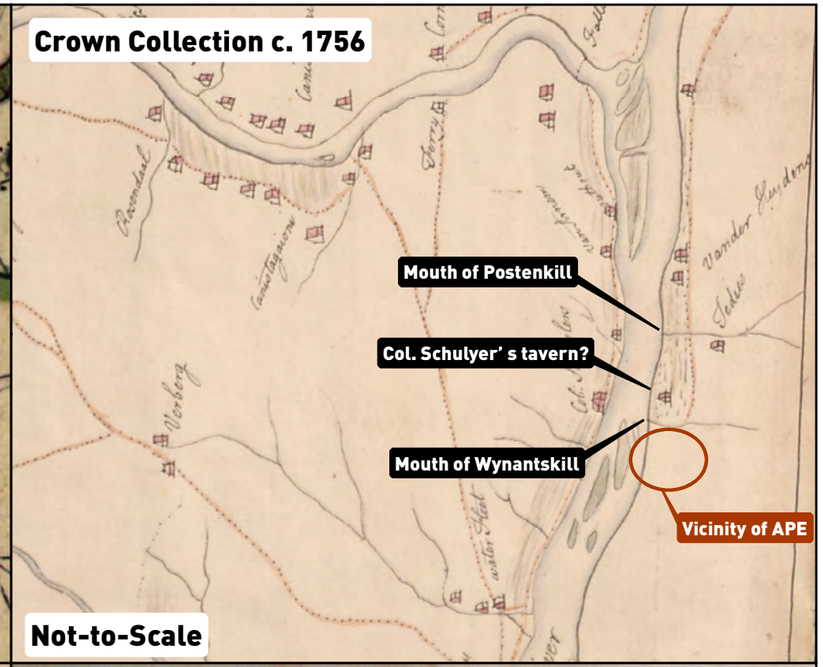
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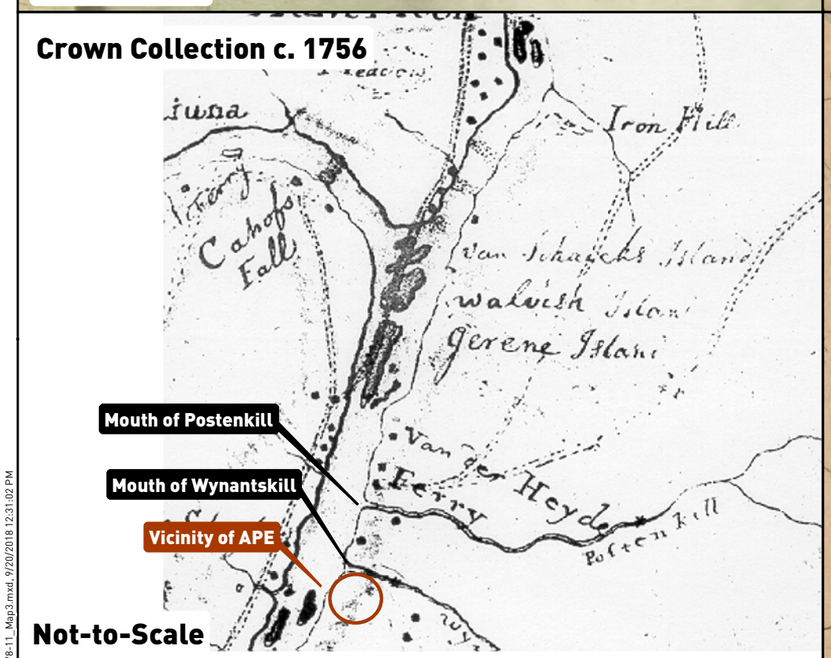
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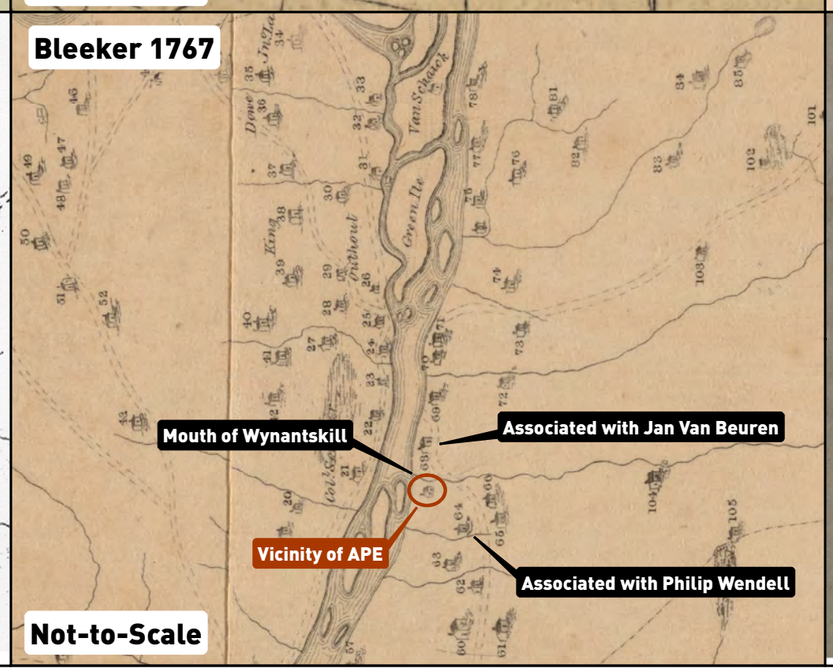
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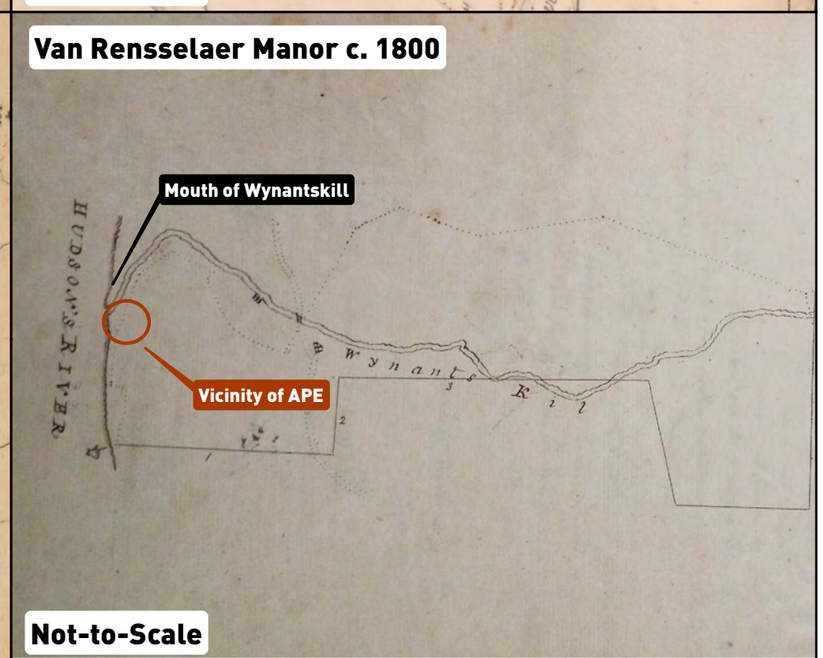












Legend

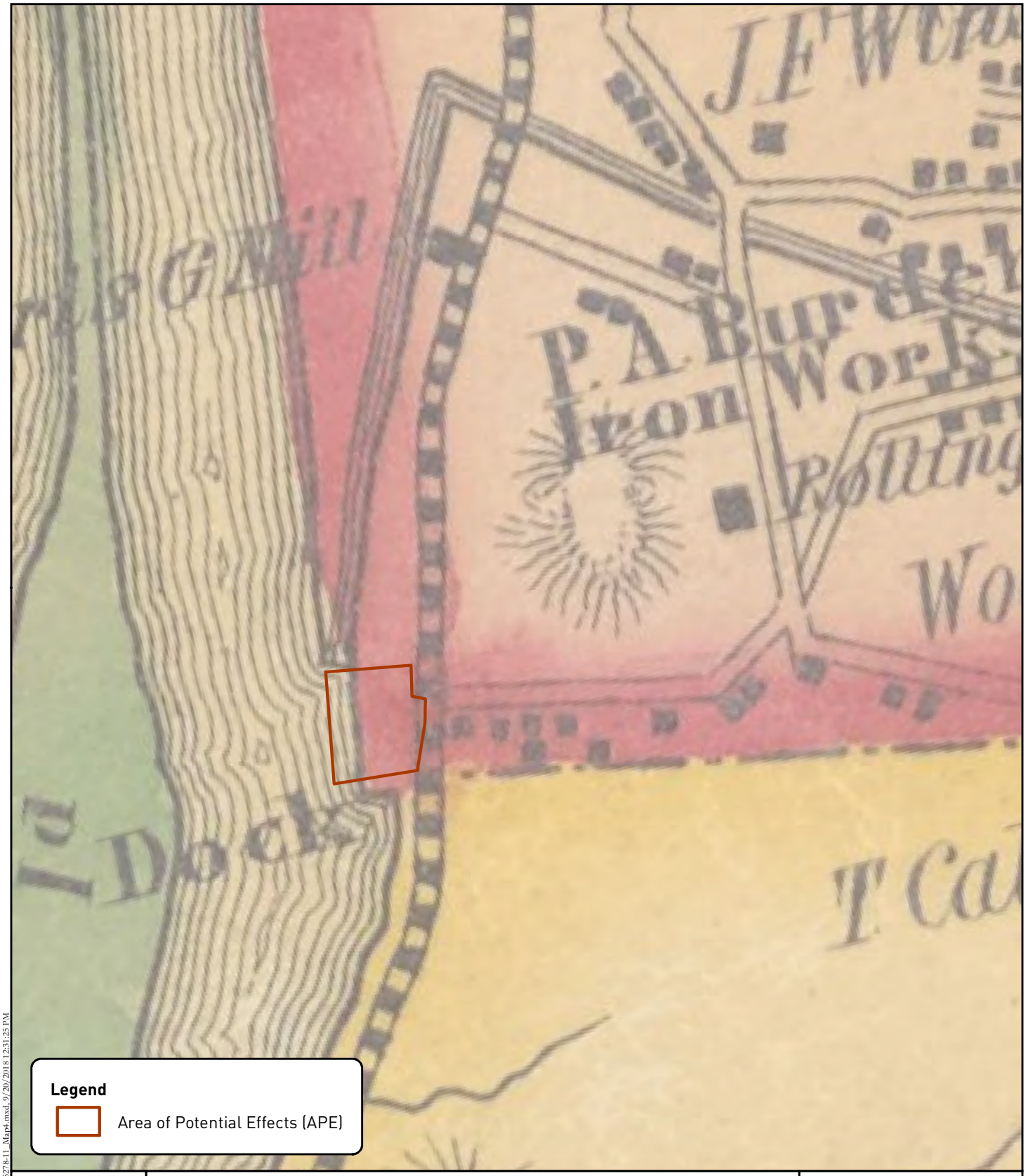
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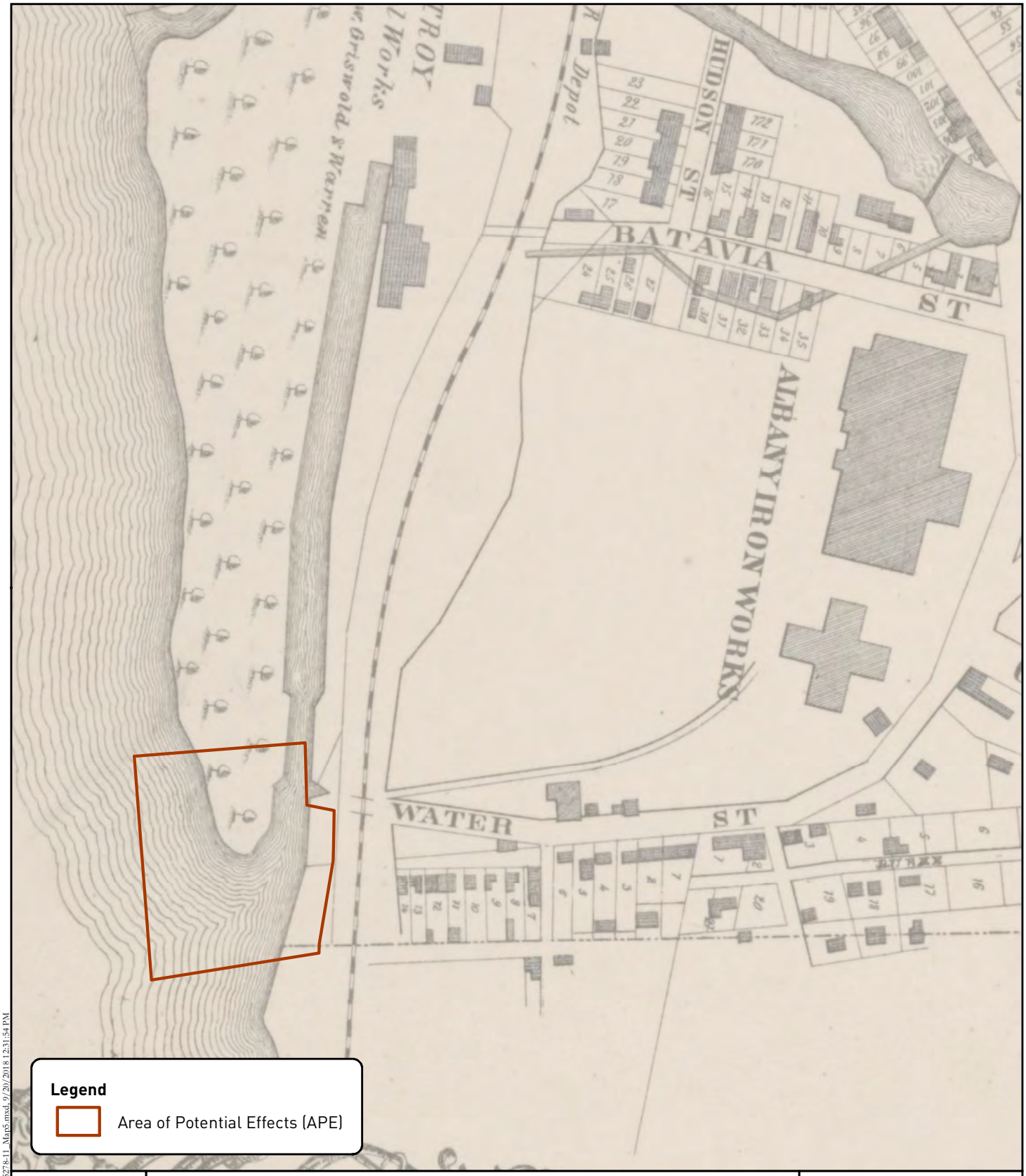
Historical Maps 1632-1800

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Map 3

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Legend
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200 0 200 400
Feet
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Meters
Historical Map
Sidney 1851
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archeological associates inc
Map 4
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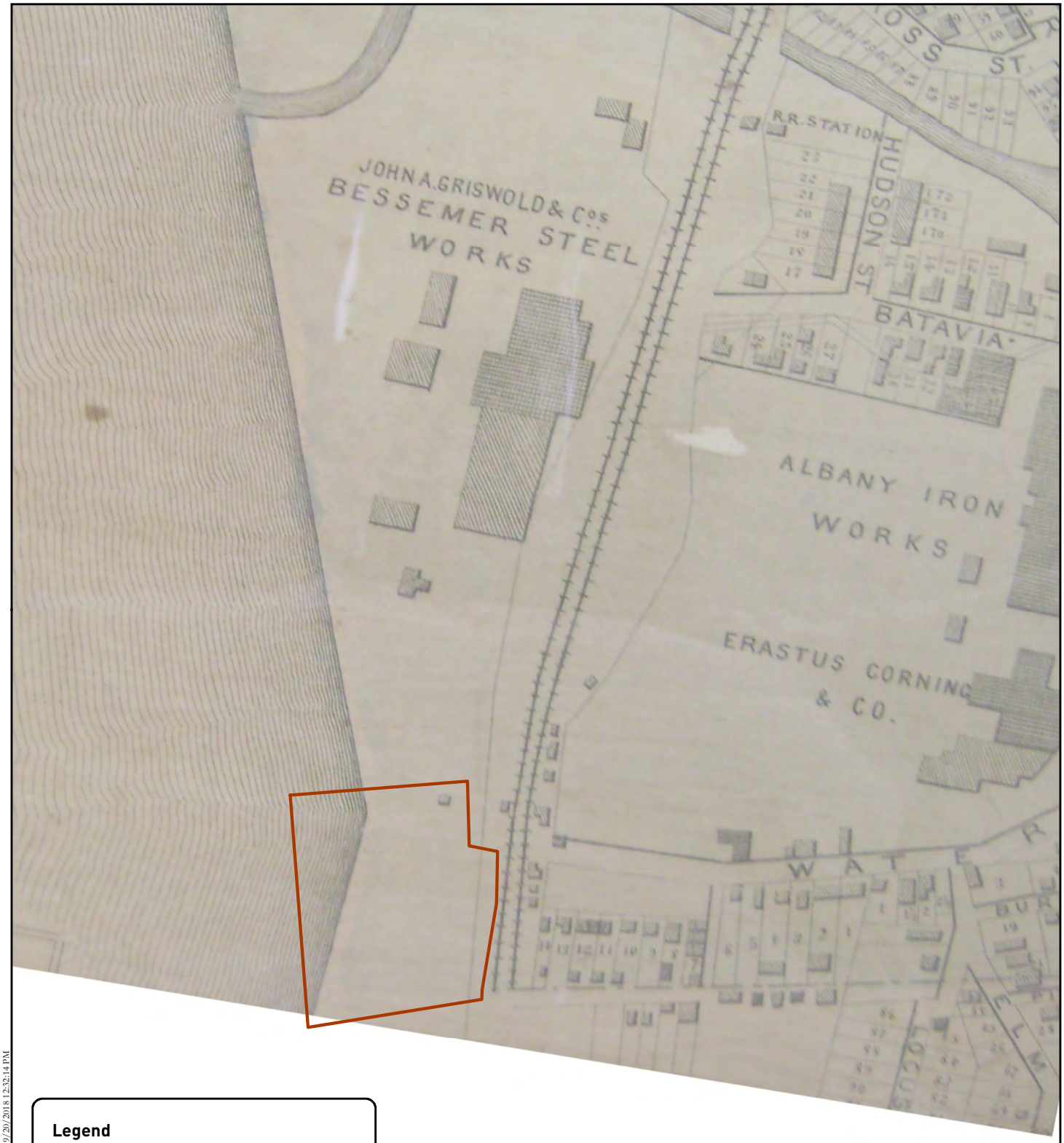
Historical Map

Barton 1869

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Map 5

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Legend

Area of Potential Effects (APE)

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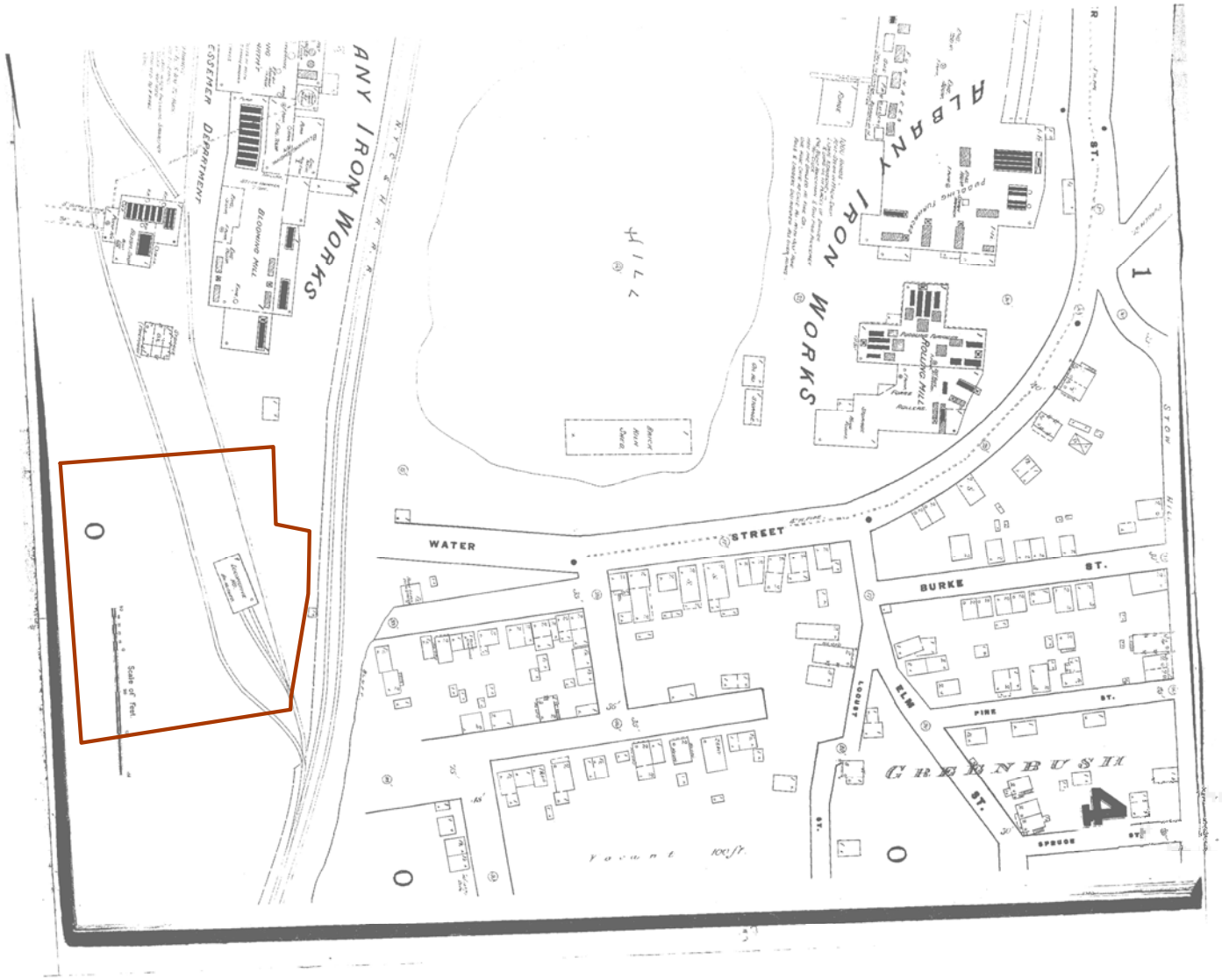
Historical Map

Young and Young 1873

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Map 6

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Area of Potential Effects (APE)

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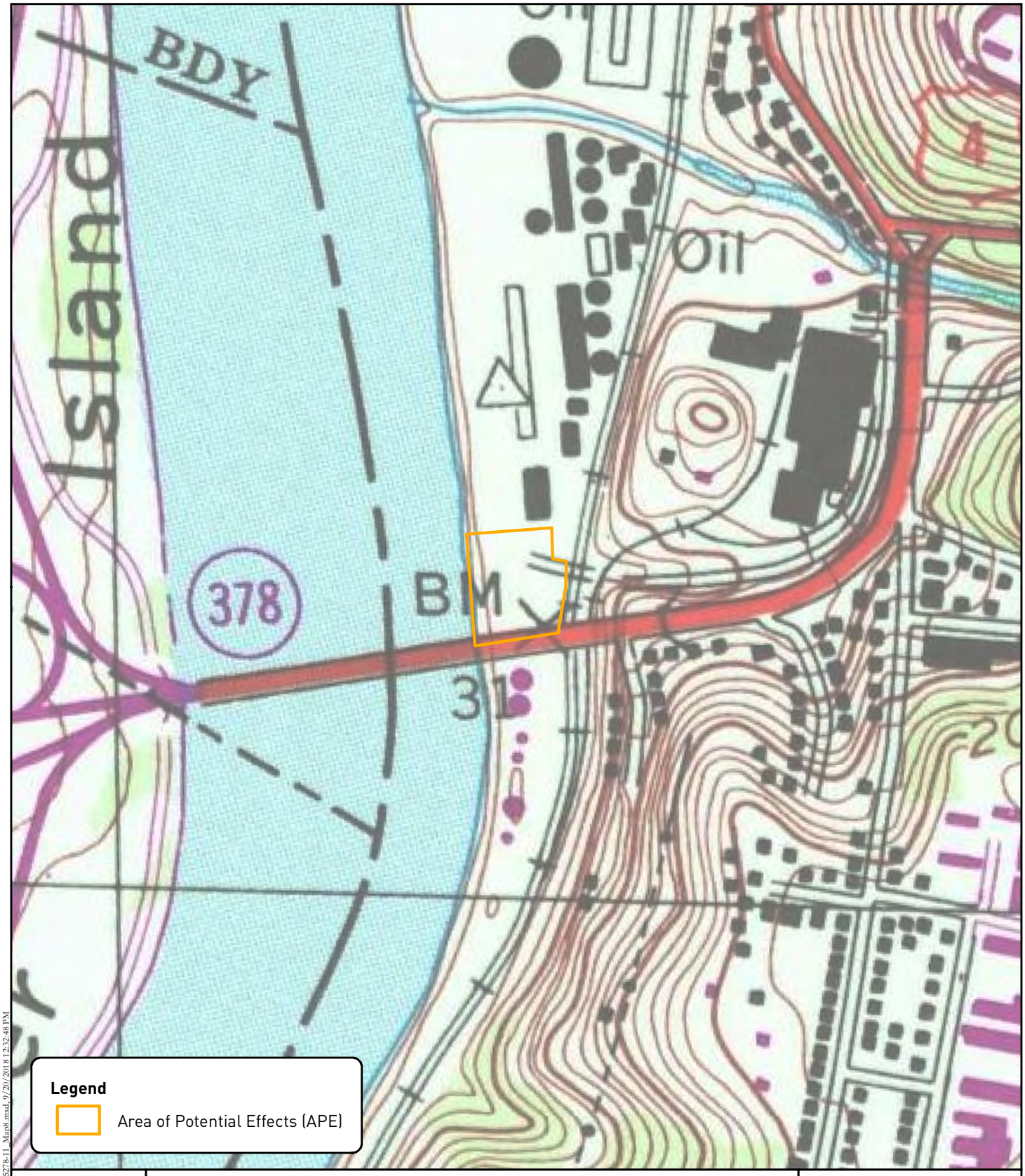
Historical Map

Sanborn 1885

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Map 7

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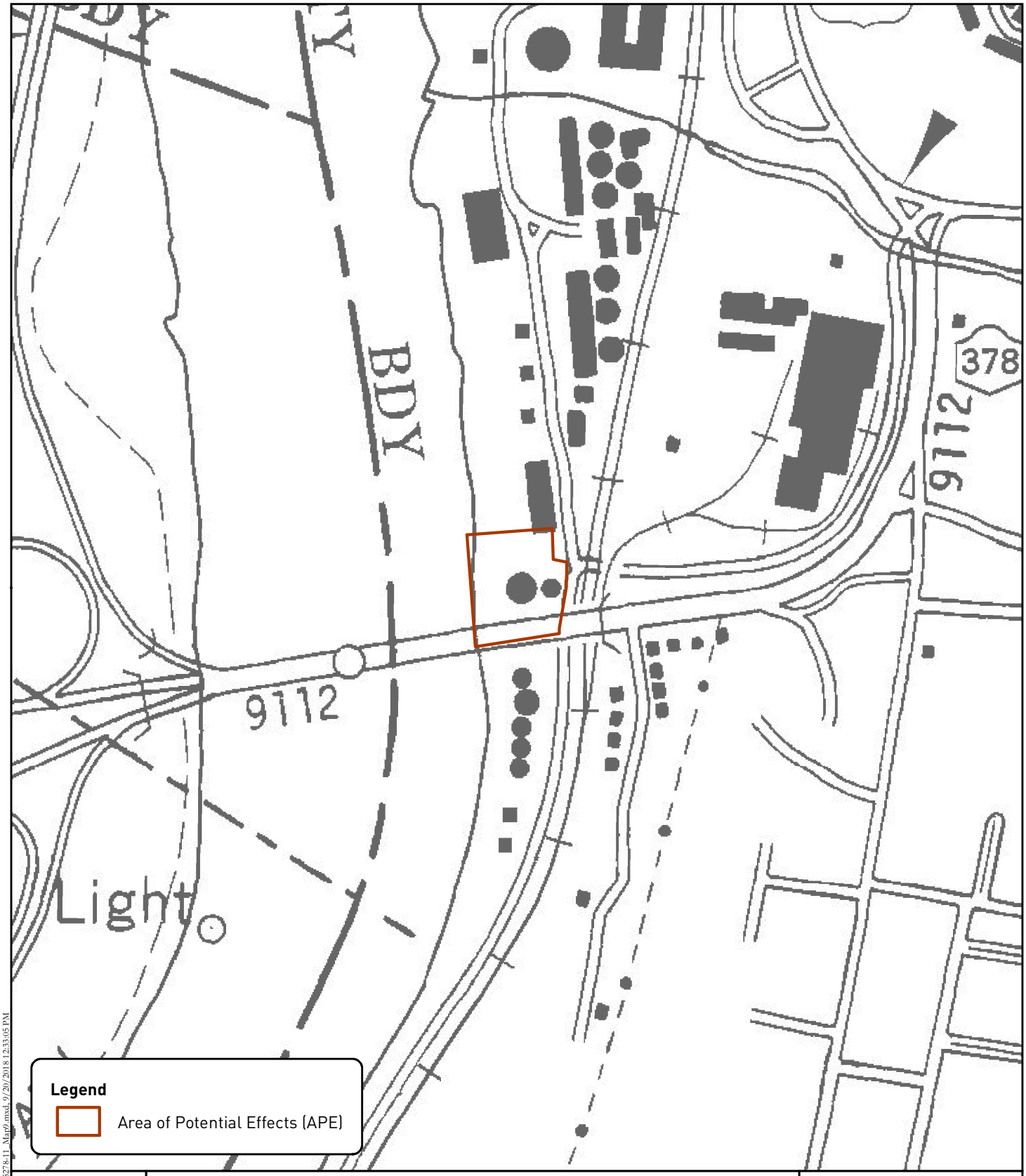
Historical Map

USGS (Troy South) 1980

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Map 8

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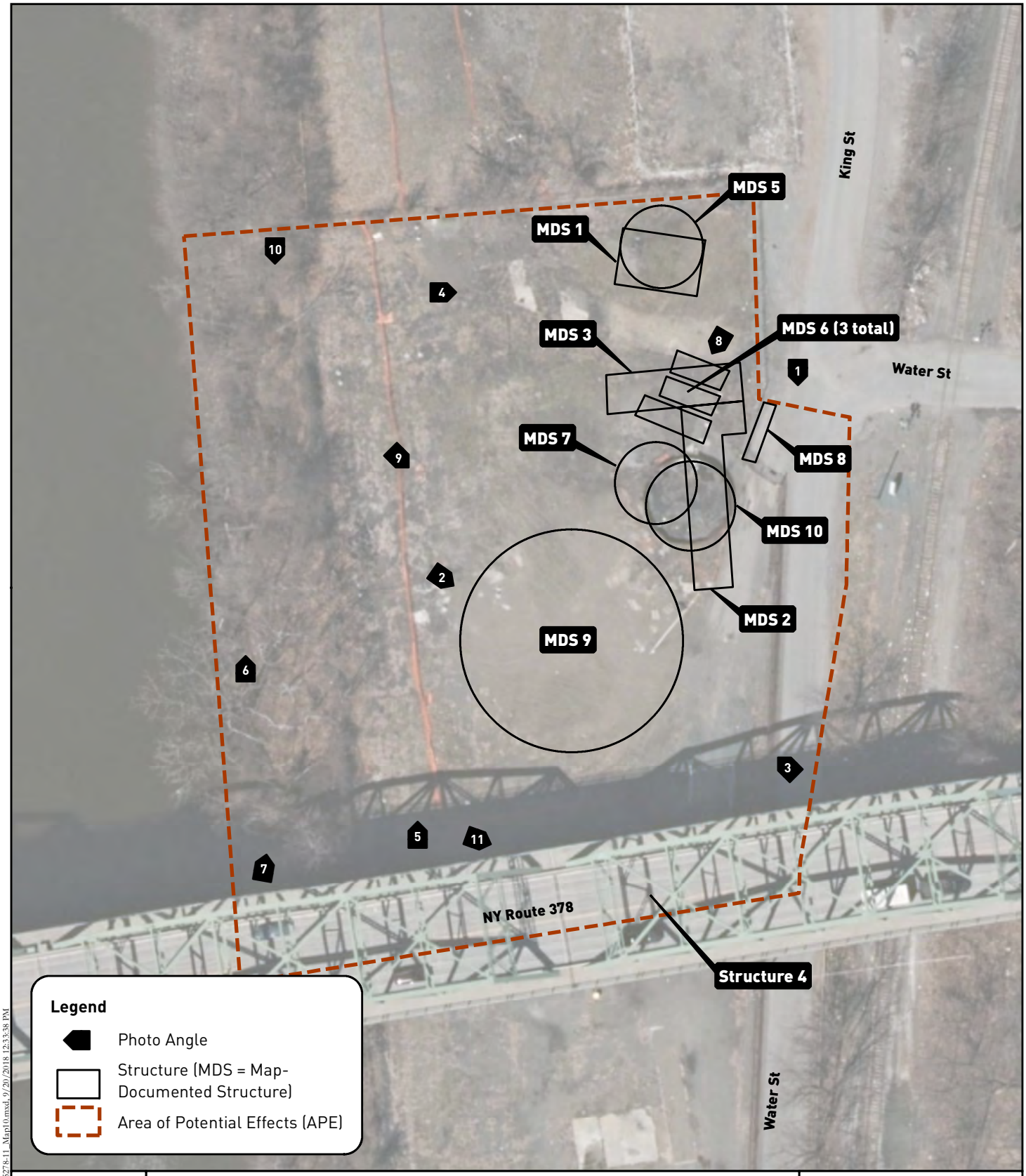
Historical Map

USDOT 1993

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Map 9

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Structures Map

Environmental Systems Research Institute, Inc., World Imagery Accessed 9/25/2018

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Map 10

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Photographs



Photo 1. Portion of Water Street included within the Project (paved road on left). Note the railroad tracks on the left edge of the photograph, located outside of the Project. View facing south.



Photo 2. NY Route 378 bridge, also known as the Troy-Menands bridge, and the southeast corner of the Project. The concrete barrier in the left edge of the photograph is a vehicle bridge over some soft ground above an active gas pipeline in the Project, running parallel to the bridge. View facing southeast.



Photo 3. Crushed stone marking the location of a recent excavation in the Project. View facing north northwest.



Photo 4. Concrete pads in the northeast corner of the Project. View facing east.



Photo 5. Western side of the Project, with an earthen berm on the left edge of the photograph. View facing north.



Photo 6. Hudson River shoreline along the western edge of the Project. At this point, the river is at mean sea level and it experiences tidal flows both up- and downstream. View facing upstream, to the north.



Photo 7. Remnants of wood and stone riverbank reinforcement structure on the Hudson River shoreline, at the western edge of the Project. View facing north.



Photo 8. Capped structures (the four vertical pipes) relating to ongoing monitoring and recent mitigation efforts. View facing south southwest.



Photo 9. Metal lids for an existing, underground vault in the Project. View facing southeast.



Photo 10. Municipal sewer outflow (corrugated metal pipe on right edge of photo) into the Hudson River. View facing south.



Photo 11. Three kinds of prior disturbance in the Project: monitoring well (teal-colored, square column on left side), Chevron structure (yellow-painted structure near center, surrounded by bollards), and previous utilities (the Jersey barrier in the background spans an existing, buried gas line oriented east/west along the southern edge of the Project). View facing east.

Figures



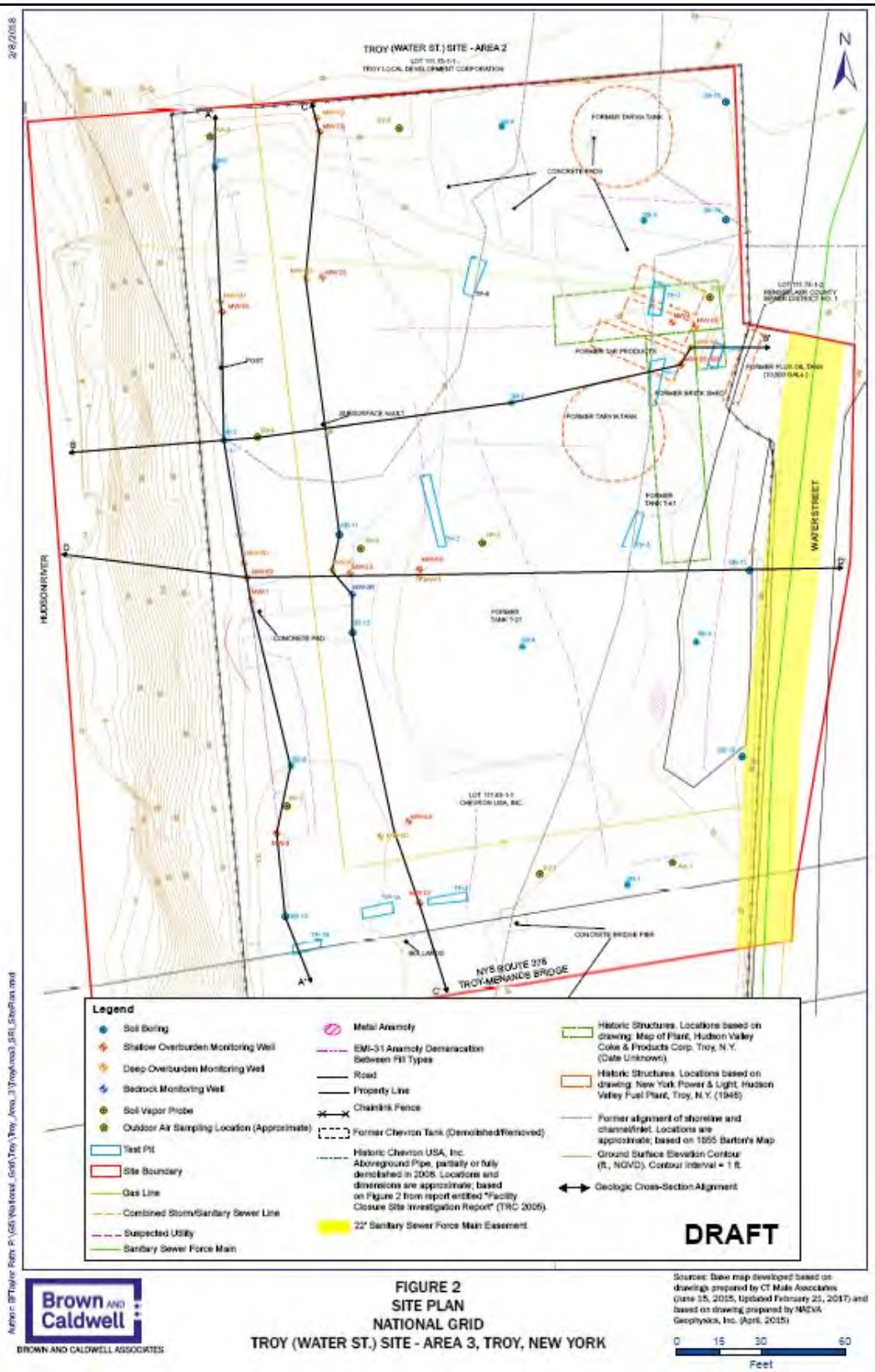
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1952 Aerial Photograph

U.S. Geological Survey (USGS) Earth Resources
Observation and Science (EROS) Center

HARTGEN
archeological associates inc

Figure 1



Draft Figure 2 Site Plan

Brown and Caldwell Associates, 2/8/2013

HARTGEN archeological associates inc

Figure 2

Appendix D: Soil Boring, Monitoring Well Construction, Soil Vapor Probe Construction and Test Pit Logs

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-1S** **Page** 1 **of** 2

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
BFT/Albany, NY	JLM	8.25"	2" PVC	0.020"	28.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Split Spoon	**Development Method:**
5/7/15 - 5/27/15	Atlantic Testing Laboratories, Inc.	**Hammer Type:** 140lb Auto.	Insufficient amount of water in well to perform development.

Driller:	**Drilling Method:**	**Drilling Equipment:**		
A. Conant	HSA	CME 75	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 27.2 ft.	**Easting:** 706978.7 ft. **Northing:** 1410304.0 ft. **TOC Elev:** 29.6 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	ppm Readings (ppm)	Remarks
	25		**FILL** Split-spoon samples not collected from 0-12' BGS. Refer to MW-1D boring log for description of soils from this interval					0.15' BGS: Solid tar-like material.
5								*0.0-8.0' BGS: Cement/Bentonite Grout*
	20							*8.0-10.0' BGS: Bentonite Seal*
10								*10.0-18.0' BGS: #1 Filter Sand*
	15	GP	Black cm GRAVEL, little mf Sand, trace Silt. Moist-Saturated.	5-9-8-5	1		0.1	*12.0-18.0' BGS: 0.020" Slot PVC Screen.* 12.0-12.4' BGS: Black discolored grains (flat luster).
		GP	Brown mf GRAVEL, some mf Sand, trace Silt. Saturated.	3-9-22-4	2		0	14.0-15.2' BGS: Black discolored grains (flat luster).
15		GW	Brown cmf GRAVEL (fire brick), little mf Sand. Moist-Saturated.	30-32-36-41	3		0.2	Sample MW-1S-16-18 collected and submitted for laboratory analysis.
	10	SP	Brown mf SAND, some mf Gravel, little Silt. Saturated.	50/5"	4		0.3	16.4-17.0' BGS: Black discolored grains (flat luster).
		GP/SP	Brown/red brown mf GRAVEL and cmf SAND, little Silt. Saturated.					18.0-18.5' BGS: Black discolored grains (flat luster).
20		SP	Brown mf SAND, little mf Gravel, trace Silt. Moist-Saturated.	18-3-4-5	5		59	*18.0' BGS: Begin using 3" split-spoon.*
		SP	Same as above.					*18.0-28.0' BGS: Bentonite Backfill*
	5	ML	Grey Clayey SILT, little mf Sand, trace f Gravel. Moist.	3-4-6-7	6		13.7	20.0-21.3' BGS: Black discolored grains (flat luster), moderate petroleum-like odor, slight sheen on surface of water in split-spoon.
		ML	Grey Clayey SILT, little mf Sand, little mf Gravel. Moist.					21.3-21.7' BGS: Slight petroleum-like odor.
		GP	Black mf GRAVEL, little (+) mf Sand. Saturated.	6-4-5-9	7		26	22.0-23.0' BGS: Sporadic black discoloration of grains, moderate petroleum-like odor.
25		GW	Brown cmf GRAVEL (brick, slag), some (+) cmf Sand. Saturated.	7-4-4-9	8		0.1	23.0-23.2' BGS: Black discolored grains (flat luster), moderate petroleum-like odor.
	0	SP	Same as above.					
		GW	Grey f SAND, trace Silt. Saturated.					
		SP	Brown cmf GRAVEL (brick, slag), some (+) cmf Sand. Saturated.					
		GW	Grey f SAND, trace Silt. Saturated.					
			Brown cmf GRAVEL (brick, slag), some (+) cmf Sand. Saturated.					

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-1S** **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well	ppm Readings (ppm)	Remarks
											24.0-25.4' BGS: Slight petroleum-like odor. 26.0-27.6' BGS: Slight petroleum-like odor.

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-1S-REP** **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
BFT/Albany, NY	JLM	8.25"	2" PVC	0.020"	23.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Split Spoon	**Development Method:**
1/24/17 - 1/24/17	Nothnagle Drilling, Inc.	**Hammer Type:** 140lb Auto.	Surge and Purge w/ Whale Pump: ~60 gallons purged.

Driller:	**Drilling Method:**	**Drilling Equipment:**		
S. Lorenty	HSA	CME 85	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 27.07 ft.	**Easting:** 706973.4 ft. **Northing:** 1410290.4 ft. **TOC Elev:** 29.12 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	ppm Readings (ppm)	Remarks
		GP	**FILL** Black discolored mf GRAVEL, some cmf	N/A	1		6.7	*Boring hand cleared to 5' BGS.*
		GW	Sand, little Silt. Dry.					During well development: slight fuel-like odor and moderate iridescent sheen observed during purging.
	25							0.0-0.2' BGS: Black discolored grains (flat luster), moderate tar-like odor.
		GW	Brown cmf GRAVEL, little mf Sand, trace Silt. Dry.					0.2-0.4' BGS: Black, hardened tar-like material, moderate tar-like odor.
			Brown cmf GRAVEL (concrete, brick, slag), little cmf Sand. Dry.					0.4-2.0' BGS: Moderate tar-like odor.
5		GW	Brown cmf GRAVEL (slag), little mf Sand.	6-16-9-6	2		0.7	2.0-5.2' BGS: Slight tar-like odor.
		GW	Dry.					7.4-8.1' BGS: Black discolored grains (flat luster).
	20		Grey cmf GRAVEL, little cmf Sand. Dry.					*0.0-14.0' BGS: Cement/Bentonite Grout*
			Light grey, pulverized fire brick.	4-4-4-8	3		3.2	
		GP	Grey mf GRAVEL (slag), little mf Sand.					
		ML	Dry.					
		GP	Brrown Clayey SILT, little f Sand. Dry.	4-3-4-6	4		0.3	
		GP						
10			Grey mf GRAVEL (slag), little mf Sand. Dry.					
		GP	Brown mf GRAVEL (slag), little mf Sand.	9-7-4-4	5		0.6	
	15		Moist.					
			Same as above.					
		GP	Same as above.	1-1-5-9	6		0.9	
								14.0-16.0' BGS: Bentonite Seal
15		SP	Black discolored mf SAND, little Silt. Dry.	7-14-50/4"	7		0.7	
	10							*16.0-23.0' BGS: #1 Filter Sand*
		GW	Brown cmf GRAVEL (slag), little mf Sand. Moist-Saturated.	9-14-22-40	8		0.3	17-18.4' BGS: Black discolored grains (flat luster).
		ML	Grey/dark grey SILT, little (+) f Sand.					*18.0-23.0' BGS: 0.020" Slot PVC Screen.*
		ML	Dry-Moist.					
20			Grey/green Silty CLAY/CLAY & SILT, trace f Gravel, trace f Sand. Moist-Saturated.					
		ML	Same as above.					21-22.5' BGS: Moderate mothball-like odor.
	5							
		SW	Black discolored cmf SAND, little f Gravel (slag). Saturated.					22.5-23' BGS: Black discolored grains (metallic luster), iridescent sheen visible on grains, strong mothball-like odor.
								Sample MW-1S-REP-22.5-23 collected and submitted for laboratory analysis

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-1D** **Page** 1 **of** 2

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
JA/Albany, NY	JLM	8.25"	2" PVC	0.020"	30.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Split Spoon	**Development Method:**
5/7/15 - 5/26/15	Atlantic Testing Laboratories, Inc.	**Hammer Type:** 140lb Auto.	Surge and Purge w/ Whale Pump: ~165 gallons purged.

Driller:	**Drilling Method:**	**Drilling Equipment:**		
A. Conant	HSA	CME 75	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 27.0 ft.	**Easting:** 706977.2 ft. **Northing:** 1410296.7 ft. **TOC Elev:** 29.6 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	ppm Readings (ppm)	Remarks
		SP	**FILL** Brown mf SAND, trace Silt. Dry.	8-6-5	1		27.4	0.15' BGS: Solid tar-like material. 0.5-1.4' BGS: Black semi-solid, tacky, tar-like material, strong tar-like odor.
	25		No recovery.	5-8-4-4	2		--	
5		SP	Dark brown mf SAND, little f Gravel (slag), little Silt. Moist.	2-3-13-12	3		3.7	
	20	SP	Dark brown mf SAND. little f Gravel. Moist.	8-6-5-6	4		8	
		SW	Dark brown cmf SAND. Moist.	1-6-6-5	5		1.7	
		SP	Grey f SAND. Moist.					
		SW	Dark brown cmf SAND. Moist.					
10		SW	Dark brown cmf SAND. Wet.	1-2-2-4	6		0.6	*0.0-20.0' BGS: Cement/Bentonite Grout*
	15	SW	Same as above.	4-5-6-7	7		6.4	
15		GW/SW	Black cmf GRAVEL and mf SAND. Wet.	22-34-50/3"	8		0.9	14.0-14.9' BGS: Black discolored grains (flat luster).
	10	SP	Black mf SAND, trace Silt. Wet.	40-56-23-17	9		10.8	16.0-17.5' BGS: Black discolored grains (flat luster).
		SP	Black mf SAND, little Silt, little (-) mf Gravel (brick). Wet.					
		SW	Dark brown cmf SAND, trace Silt. Wet.	26-37-24-18	10		0.5	
		CL	Dark green/gray CLAY (non-plastic). Wet.					
20		GM	Brown/gray SILT and cmf GRAVEL. Saturated.	3-5-7-7	11		224.9	20.0-20.8' BGS: Moderate petroleum-like odor. *20.0-22.0' BGS: Bentonite Seal* *22.0-29.0' BGS: #1 Filter Sand* *23.0-29.0' BGS: 0.020" Slot PVC Screen.*
		GW	Dark brown cmf GRAVEL. Saturated.					
	5		No recovery. Slough.	5-4-3-3	12		--	
25			No recovery. Slough.	2-2-2-4	13		--	24.0-24.3' BGS: Slight petroleum-like odors.
	0		No recovery. Slough.	8-6-3-6	14		--	26.0-26.3' BGS: Slight petroleum-like odors, slight sheen on surface of water in split-spoon.
		SP	**SAND AND SILT** Gray f SAND and SILT. Saturated.	1-1-1-50/5"	15		5.1	28.0-30.0' BGS: Black discolored grains (flat luster), slight petroleum-like odor. Sample MW-1D-28-29
30		BR	**WEATHERED BEDROCK** Gray weathered Shale.					

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-1D** **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well	ppm Readings (ppm)	Remarks
											collected and submitted for laboratory analysis Split-spoon refusal on top of rock surface @ 29.8' BGS.

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-2S** **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
RB/Albany, NY	JLM	8.25"	2" PVC	0.020"	22.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Split Spoon	**Development Method:**
5/7/15 - 5/22/15	Atlantic Testing Laboratories, Inc.	**Hammer Type:** 140lb Auto.	Bailer: ~10 gallons removed.

Driller:	**Drilling Method:**	**Drilling Equipment:**		
A. Conant	HSA	CME 75	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 25.9 ft.	**Easting:** 706845.6 ft. **Northing:** 1410321.6 ft. **TOC Elev:** 28.5 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	ppm Readings (ppm)	Remarks
	25	SW	**FILL** Dark brown cmf SAND and GRAVEL (slag, brick), some Silt. Dry.	N/A	1			*Boring hand cleared to 5' BGS.* 0.0-5.0' BGS: Black discolored grains (flat luster). 0.8-1.0' BGS: Black gravel sized solid tar-like material (submetallic luster).
		SW	Dark brown cmf SAND and GRAVEL (slag, brick), some Silt. Moist.					
		GW	Same as above.					
5		GW	Red brown/gray cmf GRAVEL (slag, brick), some (-) Sand, little Silt. Moist					*0.0-6.0' BGS: Cement/Bentonite Grout*
	20		Same as above.					
			Split-spoon samples not collected from 5-13' BGS. Refer to MW-2D boring log for description of soils from this interval.					*6.0-7.0' BGS: Bentonite Seal*
10								
	15							
		SW	Dark brown/white cmf SAND, some cmf Gravel (slag, fire brick, ash), little Silt. Dry.	28-51-50/2"	2		145.5	*13.0' BGS: Begin using 3" split-spoon.* 13.0-13.8' BGS: Faint mothball-like odor.
15		GW	Dark brown cmf GRAVEL (slag, brick), some cmf Sand, little Silt. Saturated.	20-28-33-50/2"	3		23.0	*7.0-20.0' BGS: #1 Filter Sand*
	10	SW	Black cmf SAND (slag, brick), some Silt. Saturated.					15.0-15.6' BGS: Black discoloration (flat luster). *10.0-20.0' BGS: 0.020" Slot PVC Screen.*
		GW	Black cmf GRAVEL (slag, brick), little mf Sand, little Silt. Saturated.	8-2-4-12	4		67.9	19.0-19.8' BGS: Black greasy tar-like material (flat to submetallic luster), moderate petroleum-like odor. Sample MW-2S-19-19.8 collected and submitted for laboratory analysis.
20		CL/ML	**SILT & CLAY/CLAY & SILT** Green brown/gray SILT & CLAY/ CLAY & SILT (increasing Clay content with depth). Wet.					*20.0-22.0' BGS: 2" PVC Sump w/ bentonite in annular space between borehole and sump.*
	5							

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-2D** **Page** 1 **of** 2

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
RB/Albany, NY	JLM	8.25"	2" PVC	0.020"	34.4 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Split Spoon	**Development Method:**
5/6/15 - 5/21/15	Atlantic Testing Laboratories, Inc.	**Hammer Type:** 140lb Auto.	Surge and Purge w/ Whale Pump: ~55 gallons purged.

Driller:	**Drilling Method:**	**Drilling Equipment:**		
A. Conant	HSA	CME 75	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 25.8 ft.	**Easting:** 706839.7 ft. **Northing:** 1410321.2 ft. **TOC Elev:** 29.0 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	ppm Readings (ppm)	Remarks
	25	SW	**FILL** Dark brown cmf SAND and GRAVEL (slag, brick), some Silt. Dry.	N/A	1			*Boring hand cleared to 5' BGS.* 0.0-5.0' BGS: Black discolored soils (flat luster). 1.0-1.2' BGS: Black solid tar-like material (submetallic luster).
		SW						
		GW	Dark brown cmf SAND and GRAVEL (slag, brick), little Silt. Dry.					
		GW	Dark brown cmf GRAVEL (slag, brick), some (+) cmf Sand, little Silt. Dry.					
		GW						
5	20	GW	Dark brown cmf GRAVEL (slag, brick), some cmf Sand, little Silt. Dry.	1-WOH-WOH-2	2		1.9	5.0-5.7' BGS: Infrequent black discoloration (flat to sub-metallic luster).
			Dark brown cmf GRAVEL (slag, brick), some cmf Sand, little Silt. Dry.					
		SW	Dark gray cmf GRAVEL (slag, brick), some cmf Sand, little Silt. Dry.	15-33-50/2"	3		>2000	Sample MW-2D-7-8.8 collected and submitted for laboratory analysis.
		SW						
		SW	Black mf SAND and SILT, trace f Gravel (slag, brick). Moist.					
		SW		15-16-33-26	4		15.3	7.0-7.8' BGS: Black tacky tar-like material (taffy-like consistency, flat to submetallic luster), strong mothball/petroleum-like odor.
10	15		Black mf SAND and SILT, trace f Gravel (slag, brick). Wet.					
		SW	Dark/red brown cmf GRAVEL and SAND (slag, brick), trace Silt. Wet.	19-19-30-43	5		28.9	
		SW	Dark/red brown cmf SAND and GRAVEL (slag, brick), little Silt. Moist.					7.8-8.1' BGS: Black discoloration (flat to submetallic).
		SW	Dark/red brown cmf SAND and GRAVEL (slag, brick), some Silt. Moist.	50/3"	6		9.3	9.0-10.3' BGS: Sporadic black discoloration (flat luster).
			Dark/red brown cmf SAND, some Silt, little mf Gravel, little Clay. Moist.					
15	10	GW		35-18-44-23	7		123.1	11.0-12.6' BGS: Sporadic black discoloration (flat luster).
		GW	Dark/red brown cmf SAND and GRAVEL (slag, brick), some Silt. Moist.					
		SW	Same as above.	27-50/3"	8		51.4	17.0-17.5' BGS: Black tacky/greasy tar-like material (flat to submetallic luster), faint petroleum-like odor, specks of sheen on surface of water in split-spoon.
			Dark/red brown cmf Gravel (slag, brick), some cmf Sand, some Silt. Wet.					
			Dark/red brown cmf Gravel (slag, brick), some cmf Sand, some Silt. Saturated.	3-2-3-10	9			
20	5		Black cmf SAND, little Silt, trace f Gravel (slag, brick, coal). Saturated.					
		CL/ML	No recovery.	14-18-9-10	10		26.1	*0.0-27.0' BGS: Cement/Bentonite Grout* 21.0-21.6' BGS: Specks of sheen on surface of water in split-spoon, faint petroleum-like odor.
			SILT & CLAY/ CLAY & SILT Gray brown/gray SILT & CLAY/CLAY & SILT, trace f Sand. Wet.					
		CL/ML		1-2-1-2	11		5.1	
			Green brown/gray SILT & CLAY/CLAY & SILT, trace f Sand, trace Organics (roots, wood). Wet.					
25	0	CL/ML	Green brown/gray SILT & CLAY/CLAY & SILT, trace Organics (roots, wood) (increasing Clay content with depth). Wet.	1-1-1-2	12		9.8	
		CL/ML	Same as above.	3-2-5-6	13		10.0	25.0-30.1' BGS: Faint petroleum-like odor.
								27.0-29.0' BGS: Bentonite Seal
		SW	**SAND AND GRAVEL**	1-WOH-5-6	14		5.0	Sample MW-2D-31-32.1 collected and submitted for laboratory analysis.
30	-5	SW	Dark gray cmf SAND and GRAVEL (angular to sub-angular), little Silt. Saturated.					
		SW						

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-2D** **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well	ppm Readings (ppm)	Remarks
		SW	Dark gray cmf SAND, little mf Gravel (sub-angular to rounded), little Silt. Saturated.	10-9-2-8	15					2.3	*29.0-33.0' BGS: #1 Filter Sand* *29.5-33.0' BGS: 0.020" Slot PVC Screen.*
		SW SP	Dark gray cmf SAND and Gravel (sub-angular to rounded), little Silt. Saturated. Wood fragments. Saturated. Dark gray cmf SAND and GRAVEL (sub-angular to rounded), some Silt, becoming more coarse with depth. Saturated. Dark gray cmf SAND, some Silt, little mf Gravel (sub-angular to rounded). Saturated.	19-19-50/4"	16					1.8	Split-spoon refusal on top of rock surface @ 33.7' BGS.
			WEATHERED BEDROCK Black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale. Saturated. Black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale.								

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-3S** **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
RB/Albany, NY	JLM	8.25"	2" PVC	0.020"	19.5 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Split Spoon	**Development Method:**
5/7/15 - 5/21/15	Atlantic Testing Laboratories, Inc.	**Hammer Type:** 140lb Auto.	Bailer: ~20 gallons removed.

Driller:	**Drilling Method:**	**Drilling Equipment:**		
A. Conant	HSA	CME 75	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 25.7 ft.	**Easting:** 706855.4 ft. **Northing:** 1410216.0 ft. **TOC Elev:** 28.3 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	ppm Readings (ppm)	Remarks
	25	SW	**FILL** Dark brown cmf SAND and GRAVEL (slag, brick), some (-) Silt. Dry.	N/A	1			*Boring hand cleared to 5' BGS* 0.0-5.0' BGS Black discolored grains (flat to submetallic luster).
		SW	Same as above.					*0.0-5.0' BGS: Cement/Bentonite Grout*
		ML	Dark to light brown Clayey SILT, little mf Sand. Dry.					
		SW	Dark brown/black cmf SAND and GRAVEL (slag, brick), some (-) Silt. Dry.					
5	20		Same as above.					
			Split-spoon samples not collected from 5-9' BGS. Refer to MW-3D boring log for description of soils from this interval.					*5.0-7.5' BGS: Bentonite Seal*
		GW	Dark brown cmf GRAVEL (slag, brick), some cm Sand, trace Silt. Saturated.	16-13-13-8	2		>2000	9.0'-12.8' BGS: Sporadic occurrences of black tacky tar-like material (taffy-like consistency, flat to submetallic luster), strong mothball-like odor, specks of sheen on surface of water in split-spoon. Sample MW-3S-11-13 collected and submitted for laboratory analysis
10	15							
		SW	Black cmf SAND, little mf Gravel (slag, brick). Saturated.	15-32-44-50/2"	3		>2000	
		GW	Red brick fragments					
		SW	Black cmf SAND and GRAVEL (slag, brick), trace Silt. Saturated.	13-16-33-37	4		1911	
		SW	Black cmf SAND, little mf Gravel (slag, brick) and Silt. Saturated.					
15	10	GW	Black cmf Gravel (slag, brick), some cmf Sand, trace Silt. Saturated.	10-8-6-6	5		1841	*7.5-19.5' BGS: #1 Filter Sand* *9.5-19.5' BGS: 0.020" Slot PVC Screen*
		SW	**SAND AND SILT** Black cmf SAND, some Silt, little Organics (roots, wood). Saturated.	10-76-23-15	6		1756	
		SW	Black mf SAND and SILT, trace Organics (roots, wood), trace Clay, compact. Wet.					
		SW	Black mf SAND and SILT, little f Gravel (sub-angular to sub-rounded), trace Organics (roots, wood), trace Clay. Wet.					*19.5-21.5' BGS: 2" PVC Sump w/ bentonite in annular space between borehole and sump.*

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-3D** **Page** 1 **of** 2

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
RB/Albany, NY	JLM	8.25"	2" PVC	0.020"	38.2 ft.

Start/Finish Date	Drilling Contractor:	Sampling:	Development Method:
5/6/15 - 5/20/15	Atlantic Testing Laboratories, Inc.	Split Spoon **Hammer Type:** 140lb Auto.	Surge and Purge w/ Whale Pump: ~70 gallons purged.

Driller:	Drilling Method:	Drilling Equipment:		
A. Conant	HSA	CME 75	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 25.5 ft.	**Easting:** 706849.0 ft. **Northing:** 1410216.9 ft. **TOC Elev:** 28.1 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	ppm Readings (ppm)	Remarks
	25	SW	**FILL** Dark brown cmf SAND and GRAVEL (slag, brick), some Silt. Dry.	N/A	1			*Boring hand cleared to 5' BGS.* 0.0-1.4' BGS: Black discolored grains (flat to submetallic luster).
		ML	Dark to light brown Clayey SILT, little mf Sand. Dry.					1.4-2.8' BGS: Infrequent black discoloration (flat luster).
		GW	Black cmf GRAVEL, some cm Sand, little Silt. Dry					
		GW	Same as above.					
5	20	GW	Dark brown cmf GRAVEL (slag, brick), some cm Sand, trace Silt and Organics (dried grass, roots). Moist.	WOH-1-WOH-3	2		19.7	2.8-3.0' BGS: Black discolored grains (flat to submetallic luster).
		GW	Dark brown cmf GRAVEL (slag, brick), some cm Sand, trace Silt. Moist.	1-1-3-12	3		11.7	5.0-7.6'BGS: Infrequent black discoloration (flat luster), faint to moderate mothball-like odor.
		GW	Black cmf GRAVEL (slag, brick), little c Sand. Saturated.	31-13-10-13	4		518.3	
10	15							*0.0-20.0' BGS: Cement/Bentonite Grout*
		GW	Black cmf GRAVEL (slag, brick), little c Sand. Saturated.	20-20-17-25	5		301.7	
		GW	Brown cmf SAND (slag, brick), little mf Gravel, little Silt. Wet.	21-18-18-19	6		552.9	9.0-15.9' BGS: Black tacky/greasy tar-like material (flat to submetallic luster), strong mothball/petroleum-like odor, specks of sheen on surface of water in split-spoon.
15	10	GW	Same as above.	6-10-10-14	7		143.9	
		SW	**SAND AND GRAVEL** Dark gray cmf SAND, some (-) Silt. Saturated.	10-20-25-20	8		908.2	17.0-32.1' BGS: Black tacky/greasy tar-like material (flat to metallic luster) strong mothball-like odor, specks of sheen on surface of water in split-spoon.
		SW	Black cmf SAND and mf GRAVEL, little Silt. Saturated.	7-7-5-37	9		1557	
20	5	SW	Black cmf SAND, some (-) Gravel (sub-angular to sub-rounded), some (-) Silt. Saturated.	36-8-21-14	10		743.9	*20.0-22.5' BGS: Bentonite Seal*
		SW	Same as above.					
		SW	Black cmf SAND and cmf GRAVEL (sub-rounded), little Silt. Saturated.	2-3-4-5	11		648.0	23.0-23.7' BGS: Sporadic NAPL blebs, sand grains partially coated with NAPL, black tacky/greasy tar-like material (flat to submetallic luster), strong mothball-like odor, specks of sheen on surface of water in split-spoon.
			Same as above.					
25	0	SW	Black cmf SAND and cmf GRAVEL (sub-rounded), little Silt, trace Organics (roots). Saturated.	4-5-5-12	12		1351	
		SW	Black cmf SAND, some Silt, little mf Gravel (sub-rounded to rounded), little Organics (roots). Wet.	14-9-8-9	13		393.5	*22.5-34.5' BGS: #1 Filter Sand* Sample MW-3D-33.5-34 collected and submitted for laboratory analysis
		SW	Black cmf SAND, some cmf Gravel (sub-rounded to rounded), some Silt. Saturated.	2-4-5-4	14		239.4	
30	-5							

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-3D** **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	ppm Readings (ppm)	Remarks
		SW	Same as above.	4-7-6-6	15		496.3	29.0-30.2' BGS: Sporadic NAPL blebs, sand grains partially coated with NAPL, black tacky/greasy tar-like material (flat to submetallic luster), strong mothball-like odor, specks of sheen on surface of water in split-spoon. *24.5-34.5' BGS: 0.020" Slot PVC Screen.* 32.1-32.4' BGS: Grains coated to saturated with NAPL, black tacky/greasy tar-like material (flat to submetallic luster), strong mothball-like odor, specks of sheen on surface of water in split-spoon. 33.6-34.0' BGS: Grains coated to saturated with NAPL, black tacky/greasy tar-like material (flat to submetallic luster), strong mothball-like odor, specks of sheen on surface of water in split-spoon. *34.5-35.5' BGS: 2" PVC Sump w/ bentonite in annual space between borehole and sump.* 35.0-35.6' BGS: Black discoloration (flat to sub-metallic), strong mothball-like odor. *35.5-38.2' BGS: Bentonite backfill* Split-spoon refsual on top of rock surface @ 37' BGS.
		GW ML GW	Black cmf GRAVEL (angular to sub-rounded), some cmf Sand and Silt, trace Organics (roots). Saturated. Dark gray Clayey SILT, some f Sand, trace Organics (roots). Moist.	8-12-10-11	16		81.9	
35	-10	SW SW	Black cmf GRAVEL (angular to sub-rounded), some cmf Sand and Silt, trace Organics (roots). Saturated. Dark gray/black cmf SAND and cmf GRAVEL (sub-angular to sub-rounded), some Silt. Same as above with pieces of black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale. Saturated.	14-12-19-16	17		241	
			WEATHERED BEDROCK Black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale. Saturated.	15-22-50/2"	18		19.5	

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-3R** **Page** 1 **of** 3

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
BFT/Albany, NY	JLM	10"/4"	2" PVC	0.020"	56.5 ft.

Start/Finish Date	Drilling Contractor:	Sampling: SS/Rock Core Hammer Type: 140lb Auto.	Development Method:
1/25/17 - 2/15/17	Nothnagle Drilling, Inc.		Surge and Purge w/ Whale Pump: ~60 gallons purged.

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NYS Plane NAD83 Vert Datum: NGVD 29 Ground Surface Elev: 27.07 ft.	Easting: 706973.4 ft. Northing: 1410290.4 ft. TOC Elev: 29.12 ft.
S. Lorenty	HSA/Rotary Core	CME 85		

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	ppm Readings (ppm)	Remarks
	25		**FILL** Samples not collected from 0-5' BGS. Refer to boring log for MW-3S for description of soils from this interval.					*Boring hand cleared to 5' BGS.*
5		SW	Dark brown cmf SAND, little (+) mf Gravel (slag), trace Silt. Dry.	4-4-2-2	1		0.4	*0.0-42.0' BGS: Cement/Bentonite Grout*
	20			2-3-2-2	2		1.1	
		SW	Same as above.					
		SW	Same as above.	3-7-11-7	3		3,174	9.0-9.7' BGS: Slight tar-like odor.
10		SP	Black discolored mf SAND, some (+) mf Gravel. Dry.					9.7-12.4' BGS: Black discolored grains (flat luster), black stringy, tacky tar-like material partially coating grains, strong tar-like odor.
		SP	Same as above.	3-8-24-31	4		2,724	
	15		Pulverized brick and concrete.					12.4-12.8' BGS: Faint tar-like odor.
		GW	Brown cmf GRAVEL (brick, slag), some mf Sand, trace Silt.	4-11-7-7	5		1,522	13.0-14.6' BGS: Little black discolored grains (flat luster), moderate tar-like odor.
15		SW	Brown/grey cmf SAND, some (+) mf Gravel (slag), trace Silt. Moist-Saturated.	3-6-6-6	6		12,911	15.0-16.3' BGS: Trace blebs of stringy tacky tar-like material, strong tar-like odor.
	10							
		SW	Same as above.	11-13-15-20	7		2,553	17.0-18.6' BGS: Trace blebs of stringy, tacky tar-like material, strong tar-like odor, slight iridescent sheen on water in split-spoon.
		—						
		SP	**SAND AND GRAVEL** Black discolored mf SAND, little mf Gravel, trace Silt. Saturated.	5-8-15-7	8		4,116	
20		SP	Same as above.	19-8-8-8	9		14,219	19.0-20.4' BGS: Black discolored grains (submetallic luster), brown NAPL partially coating grains, strong tar-like odor; slight iridescent sheen.
	5							
		SP	Same as above.	20-19-25-22	10		13,112	
25		SP	Black discolored mf SAND, little mf Gravel, trace Silt. Saturated.	4-7-7-5	11		2,474	21.0-21.8' BGS: Black discolored grains (submetallic luster), brown NAPL partially coating grains, strong tar-like odor; slight iridescent sheen.
	0	ML	Grey Clayey SILT/SILT & CLAY. Moist.					
		GW	Grey cmf GRAVEL (subrounded), little mf Sand, trace Clayey Silt. Saturated.	4-3-7-2	12		5,006	23.0-23.8' BGS: Black discolored grains (submetallic luster), sporadic blebs of brown NAPL, strong tar-like odor.
		GW	Same as above.	1-3-5-4	13		1,606	25.0-26.2' BGS: Black
30		SM	Wood fragments.					

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-3R** **Page** 2 **of** 3

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	ppm Readings (ppm)	Remarks
	-5		Grey Silty SAND, trace (-) f Gravel. Saturated. No Recovery.	6-6-6-6	14		--	discolored grains (flat luster), brown NAPL partially coating grains, strong tar-like odor.
		SM SW	Grey Silty SAND, trace (-) f Gravel. Saturated.	WOH-3-8-7	15		528.2	26.2-26.5' BGS: Moderate tar-like odor.
35		SW	Grey cmf SAND, little f Gravel, trace Silt. Saturated. Same as above.	6-7-11-13	16		354.2	27.0-28.4' BGS: Brown NAPL partially coating grains, strong tar-like odor.
	-10	GW GW	Grey cmf GRAVEL (subrounded), some mf Sand, little Silt. Saturated. Same as above.	2-12-20-18	17		127.4	29.0-29.9' BGS: Brown NAPL partially coating grains, slight iridescent sheen, strong tar-like odor.
		ML SP	Black SILT & CLAY (heavily weathered Shale). Moist.	14-50/2"	18		22.3	29.9-30.3' BGS: Moderate tar-like odor.
40		BR	Grey mf SAND, some (+) mf Gravel (subrounded). Saturated.					33.0-33.7' BGS: Brown NAPL partially coating grains, strong tar-like odor.
			BEDROCK					
	-15	BR	Black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale. Dry.	29%	19		0.0	33.7-34.7' BGS: Strong tar-like odor.
			Dark grey/black heavily fractured, heavily weathered, highly deformed Shale. @ 41.5-42.2': Heavily fractured and fragmented, moderately weathered. @ 42.2', 42.3', 42.6': Low angle fracture, moderately weathered, trace silt infilling fracture. @ 42.6'-43.1': Heavily fractured and					35.0-36.4' BGS: Strong tar-like odor.
45								36.4-36.7' BGS: Moderate tar-like odor.
								37.0-38.4' BGS: Faint tar-like odor.
	-20	BR	fragmented, moderately weathered. @ 43.1', 43.2', 43.4', 43.5': Horizontal/low angle fracture, moderately weathered, trace/little silt infilling fracture. @ 43.5-43.8': Heavily fractured and fragmented. @ 44.0', 44.2': Low angle fracture, moderately weathered.	41%	20		0.0	39.0-39.5' BGS: Slight tar-like odor.
50			@ 45.0': High angle fracture, slightly weathered. @ 45.7-45.8': Heavily fractured and fragmented, moderately weathered, little					Split-spoon refsual on top of rock surface @ 39.6' BGS.
	-25	BR	silt infilling fractures.	15%	21		0.0	*41.5' BGS: Base of 4" Steel Casing.*
			Dark grey heavily fractured, heavily weathered, highly deformed Shale. @ 46.9', 47.4', 47.7': Low angle fracture, moderately weathered, trace Silt infilling fracture. @					41.5-46.5' BGS: Slight iridescent sheen visible on outside of core and within fractures.
55			47.7-48.2': Heavily fractured and fragmented, moderately weathered. @ 48.5': Low angle fracture, slightly weathered. @ 48.9': Horizontal fracture, moderately weathered. @ 49.5': High angle fracture, moderately weathered, some calcite mineralization. @ 49.7, 49.9': Low angle fracture, moderately weathered, little Silt infilling fracture. @ 49.9-50.1' Vertical fracture, slightly weathered. @ 50.1', 50.2', 50.5', 50.6', 50.8': Low angle fracture, moderately weathered, trace Silt infilling fracture. @ 51.0': Calcite filled fracture. @ 51.1-51.5': Heavily fractured and fragmented, moderately weathered.					*42.0-45.0' BGS: Bentonite Seal*
								45.0-56.0' BGS: #1 Filter Sand
								47.0-56.0' BGS: 0.020" Slot PVC Screen.
			Dark grey heavily fractured, heavily weathered, heavily deformed Shale. @ 51.7', 52.0': High angle fracture, moderately weatehred, trace Silt infilling. @ 52.1', 52.4': Horizontal fracture, moderately weathered. @52.4-52.8': Heavily fractured and fragmented, moderately fractured. @ 52.8': High angle fracture, moderately weathered. @ 52.9', 53.2', 53.3': Horiztonal fracture, moderately weathered. @ 53.5', 53.8', 54.0', 54.1', 54.2': Low angle fracture, slightly to					

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-3R** **Page** 3 **of** 3

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well	ppm Readings (ppm)	Remarks
			moderately weathered. @ 54.3', 54.5', 54.6', 54.9': Horizontal fracture, slightly weathered. @ 55.0': High angle fracture, slightly weathered. @ 55.1', 55.3': Horizontal fracture, slightly weathered. @ 55.5', 56.1': High angle fracture, moderately weathered, little Silt infilling fracture. @ 56.1-56.5': Heavily fractured and fragmeneted, moderately weathered.								

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-4S** **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
RB/Albany, NY	JLM	8.25"	2" PVC	0.020"	21.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Split Spoon	**Development Method:**
5/6/15 - 5/20/15	Atlantic Testing Laboratories, Inc.	**Hammer Type:** 140lb Auto.	Bailer: ~20 gallons removed.

Driller:	**Drilling Method:**	**Drilling Equipment:**		
A. Conant	HSA	CME 75	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 25.3 ft.	**Easting:** 706876.3 ft. **Northing:** 1410127.4 ft. **TOC Elev:** 28.1 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	ppm Readings (ppm)	Remarks
		SW	**FILL** Dark brown cmf SAND and cmf GRAVEL (slag, brick), some Silt. Dry.	N/A	1			*Boring hand cleared to 5' BGS.*
		SW	Black cmf SAND, some (+) mf Gravel (slag, brick), some(+) Silt. Dry.					0.0-5.0' BGS: Black discolored grains (flat luster).
		GW	Black cmf SAND and cmf GRAVEL (slag, brick), littleSilt. Dry.					
5	20	GW	Black cmf GRAVEL, some (-) cm Sand (slag, brick). Dry.					
			Same as above.					*0.0-12.0' BGS: Cement/Bentonite Grout*
			Split-spoon samples not collected from 5-15' bgs. Refer to MW-4D boring log for description of soils from this interval.					
10	15							
								12.0-13.0' BGS: Bentonite Seal
15	10	SW	Black cmf SAND, some Silt, little Gravel (slag, brick), little Organics (wood fragments). Wet.	53-50/2"	2		2.6	*15.0' BGS: Begin using 3" split-spoon.*
		SW	Black cmf SAND, some Silt, little Gravel (slag, brick), little Organics (wood fragments). Saturated	30-50/1"	3		3.5	*13.0-21.0' BGS: #1 Filter Sand* *15.0-21.0' BGS: 0.020" Slot PVC Screen*
		SW	Same as above.	2-5-6-7	4		1.9	
20	5	CL/ML	**SILT & CLAY/CLAY & SILT** Green brown/gray SILT & CLAY/CLAY & SILT. Wet.					Sample MW-4S-19-19.6 collected and submitted for laboratory analysis.

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-4D** **Page** 1 **of** 2

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
RB/Albany, NY	JLM	8.25"	2" PVC	0.020"	35.9 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Split Spoon	Development Method:
5/6/15 - 5/19/15	Atlantic Testing Laboratories, Inc.	**Hammer Type:** 140lb Auto.	Surge and Purge w/ Whale Pump: ~90 gallons purged.

Driller:	Drilling Method:	Drilling Equipment:		
A. Conant	HSA	CME 75	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 25.0 ft.	**Easting:** 706866.3 ft. **Northing:** 1410122.3 ft. **TOC Elev:** 27.7 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	ppm Readings (ppm)	Remarks
		SW	**FILL** Dark brown cmf SAND and cmf GRAVEL (slag, brick), some Silt. Dry.	N/A	1			*Boring hand cleared to 5' BGS.* 0.0-5.0' BGS: Black discolored grains (flat to sub-metallic luster). 1.0-2.0'BGS: Gravel sized nodules of solid tar-like material (submetallic luster).
		SW	Black cmf SAND, some (+) mf Gravel (slag, brick), some (+) Silt. Dry.					
		GW	Black cmf SAND and cmf GRAVEL (slag, brick), little Silt. Dry.					
		GW	Black cmf GRAVEL, some (-) cm Sand (slag, brick). Dry.					
5	20	SW	Same as above.	1-WOH-WOH-2	2		0.9	
		GW	Dark brown/black cmf SAND, little Gravel (slag, brick, coal), little Silt. Moist. Same as above.	11-13-9-8	3		1.0	
		GW	Black cmf GRAVEL and cmf SAND (slag, brick, coal), little Silt. Dry.	5-12-21-32	4		0.8	
		SW	Dark/red brown cmf SAND, some Silt, little Gravel (slag, brick). Dry.					
10	15	SW	Dark/red brown cmf SAND, some Silt, little Gravel (slag, brick). Moist.	26-30-32-42	5		0.3	*0.0-23.0' BGS: Cement/Bentonite Grout*
		SW	Dark/red brown cmf SAND, some Silt, little Gravel (slag, brick), little Clay. Wet.	40-50/5"	6		0.6	
		SW	Dark gray mf SAND and SILT, trace f Gravel (slag, brick, coal), trace Clay, trace Organics (roots, wood). Saturated.	5-11-7-4	7		0.9	5.0-21.4' BGS: Sporadic black discolored grains (flat to sub-metallic luster).
15	10	SW	Same as above.	13-26-26-21	8		0.8	
		SW	**SAND AND SILT** Dark gray cmf SAND, some Silt, some mf Gravel (sub-angular to sub-rounded), little Organics (roots). Saturated.	6-8-7-15	9		0.1	
20	5	SW	Same as above.	15-12-10-9	10		0.2	
		SW	Dark gray mf SAND and SILT, little Clay, trace f Gravel, trace Organics (roots). Saturated.	4-5-6-5	11		0.3	
			SAND AND GRAVEL					*23.0-25.5' BGS: Bentonite Seal*
25	0	GW	Dark gray cmf SAND, some mf Gravel (sub-angular to sub-rounded), trace Silt, trace Organics (roots). Saturated.	5-25-26-6	12		0.4	
		GW	Dark gray cmf GRAVEL (sub-angular to sub-rounded), some cmf Sand, trace Organics (roots), trace Silt. Saturated. Same as above.	5-5-5-6	13		0.5	
30	-5	SW	Dark gray cmf SAND, little Silt, little Gravel, little Organics (roots, wood). Saturated.	1-3-4-2	14		0.5	Sample MW-4D-29-29.8 collected and submitted for laboratory analysis.

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-4D** **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well	ppm Readings (ppm)	Remarks
		SW	Same as above.	3-3-9-9	15					0.1	*25.5-34.0' BGS: #1 Filter Sand* *27.5-33.5' BGS: 0.020" Slot PVC Screen*
		SW	Same as above.	1-3-3-4	16					0.2	
		ML	Gray Clayey SILT, little f Sand. Saturated.								
35	-10		**WEATHERED BEDROCK** Black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale. Wet	14-50/5"	17					0.3	*34.0-35.9' BGS: Bentonite backfill* Split-spoon refusal on top of rock surface @ 35' BGS.

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-5S** **Page** 1 **of** 2

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
BFT/Albany, NY	JLM	8.25"	2" PVC	0.020"	23.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Split Spoon	**Development Method:**
2/13/17 - 2/13/17	Nothnagle Drilling, Inc.	**Hammer Type:** 140lb Auto.	Surge and Purge w/ Whale Pump: ~15 gallons purged.

Driller:	**Drilling Method:**	**Drilling Equipment:**		
S. Lorenty	HSA	CME 85	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 26.60 ft.	**Easting:** 706880.3 ft. **Northing:** 1410217.3 ft. **TOC Elev:** 28.97 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	ppm Readings (ppm)	Remarks
			FILL Split-spoon samples not collected from 0-13' BGS. Refer to MW-5 boring log for description of soils from 5-13' BGS.					During well development: Strong mothball-like odor and slight iridescent sheen observed during purging.
5	25							
	20							*0.0-8.0' BGS: Cement/Bentonite Grout*
10								
	15							
		SP	Black discolored mf SAND, little mf Gravel, trace Silt. Moist.	7-8-10-20	1		378.3	*8.0-10.0' BGS: Bentonite Seal* 13.0-14.7' BGS: Black discolored grains (flat luster), strong tar-like odor
15		GW	Black discolored cmf GRAVEL, little mf Sand, trace Silt. Moist	28-46-36-41	2		304.4	*10.0-22.0' BGS: #1 Filter Sand* 15.0-16.3' BGS: Black discolored grains (flat luster), strong tar-like odor
	10							
		GW SP	Black discolored cmf GRAVEL, little mf Sand, trace Silt. Saturated. Dark grey mf SAND, trace (+) Silt. Moist.	5-7-29-48	3		510.0	17.0-17.4' BGS Black discolored grains (flat luster), strong tar-like odor, slight iridescent sheen
		GW GW	Dark grey cmf GRAVEL, little mf Sand, trace Silt. Moist-Saturated.	11-10-7-13	4		163.9	17.4-19.0' BGS: Moderate tar-like odor
20		OL	Black discolored cmf GRAVEL, some mf Sand, little Silt. Saturated.					*12.0-22.0' BGS: 0.020" Slot PVC Screen*
	5	OL	**SILT & CLAY/CLAY & SILT** Green/brown Clayey SILT, trace Organics (wood fibers), trace f Sand. Moist. Same as above.	1-4-6-7	5		74.5	19.0-20.3' BGS: Black discolored grains (flat luster), trace blebs of brown NAPL visible on gravel, strong tar-like odor, slight iridescent sheen Sample MW-5S-19-20.3 collected and submitted for laboratory analysis. 20.3-20.8' BGS: Moderate tar-like odor 21.0-22.7' BGS: Slight tar-like odor, iridescent sheen visible on water in

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-5S** **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well	ppm Readings (ppm)	Remarks
											split-spoon *22.0-23.0' BGS: 2" PVC Sump w/ bentonite in annular space between borehole and sump.*

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-5** **Page** 1 **of** 2

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
BFT/Albany, NY	JLM	8.25"	2" PVC	0.020"	39.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Split Spoon	**Development Method:**
1/25/17 - 1/26/17	Nothnagle Drilling, Inc.	**Hammer Type:** 140lb Auto.	Surge and Purge w/ Whale Pump: ~127 gallons purged.

Driller:	**Drilling Method:**	**Drilling Equipment:**		
S. Lorenty	HSA	CME 85	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 26.49 ft.	**Easting:** 706880.2 ft. **Northing:** 1410214.5 ft. **TOC Elev:** 29.09 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	ppm Readings (ppm)	Remarks
	25		**FILL** Samples not collected from 0-5' BGS					*Boring hand cleared to 5' BGS.* During well development: Strong mothball-like odor and strong iridescent sheen observed during purging.
5		SP	Brown mf SAND, little mf Gravel (slag), trace Silt. Dry.	N/A	1		0.8	
	20							*0.0-23.0' BGS: Cement/Bentonite Grout*
		SP	Same as above.	N/A	2		17.4	
10		SP	Black discolored mf SAND, some (-) Silt, trace f Gravel (coal). Dry.					10.1-10.7' BGS: Black discolored grains (flat luster).
	15							
		SP	Same as above.	11-10-15-9	9		335.7	*23.0-25.0' BGS: Bentonite Seal* 13.0-14.7' BGS: Black discolored grains (flat luster), heavy iridescent sheen visible on water in split-spoon, strong tar-like odor.
15		SP	Black discolored mf SAND, little (+) Gravel (slag/coal), trace Silt. Moist-Saturated.	9-32-48-27	4		240.2	
	10	GW	Dark brown cmf GRAVEL (slag), some mf Sand, trace Silt. Dry.					
		GW		10-27-47-59	5		48.4	*25.0-27.0' BGS: #1 Filter Sand*
		SP	Dark brown cmf GRAVEL (slag), some mf Sand, trace Silt. Saturated.					15.0-15.8' BGS: Black discolored grains (submetallic luster), slight iridescent sheen visible on water in split-spoon, slight tar-like odor.
		GP	Brown mf SAND, little Silt, little f Gravel. Moist-Saturated.	13-12-9-11	6		110.4	
20		OL	Black discolored f GRAVEL (slag), little f Sand. Saturated.					
	5		**SILT & CLAY/CLAY & SILT**	3-3-4-4	7		--	15.8-16.8' BGS: Slight tar-like odor.
			Brown/grey Clayey SILT/SILT & CLAY. Dry.					
		OL	No Recovery.	1-1-2-3	8		7.4	17.0-17.7' BGS: Moderate iridescent sheen visible on water in split-spoon, strong tar-like odor.
			Brown/grey/green Clayey SILT/SILT & CLAY, trace Organics (wood fibers). Dry.					
25		OL	Same as above.	WOH-2-3-3	9		1.1	*27.0-37.0' BGS: 0.020" Slot PVC Screen*
	0							
		OL	Same as above.	5-7-15-14	10		67.1	19.0-19.7' BGS: Black discolored grains (metallic luster), brown blebs of NAPL partially coating grains, heavy iridescent sheen, strong tar-like odor.
		OL	Same as above.	6-6-9-9	11		20.0	19.7-20.7' BGS: Slight tar-like odor.
30		SP	**SAND AND SILT** Grey f SAND, trace (-) Silt. Saturated.					

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-5** **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well	ppm Readings (ppm)	Remarks
	-5	SP	Same as above.	9-5-9-12	12					3.4	*37.0-39.0' BGS: 2" PVC Sump w/ bentonite in annular space between borehole and sump.*
		SW GW	Grey cmf SAND and cmf GRAVEL (rounded), little Silt. Saturated.								23.0-24.8' BGS: Faint tar-like odor.
		SW	Grey cmf SAND. Saturated.	WOH-WOH-3-6	13					0.7	27.7-29.3' BGS: Brown NAPL partially coating grains, slight iridescent sheen, moderate tar-like odor.
		SM	Grey f SAND, some Silt. Saturated.								Sample MW-5-27.7-29.3 collected and submitted for laboratory analysis.
35		SM	Same as above.	8-6-8-10	14					0.7	29.3-30.0' BGS: Slight tar-like odor.
	-10	SW GW	**SAND AND GRAVEL** Grey cmf SAND and cmf GRAVEL (rounded). Saturated.	2-8-50/5"	15					0.2	31.0-31.4' BGS: Slight tar-like odor.
		SW GW	Same as above.								Split-spoon refusal on top of rock surface @3 8.5' BGS.
		BR	**WEATHERED BEDROCK** Black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale. Dry.								

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-6S** **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
SPW/Albany, NY	JLM	8.25"	2" PVC	0.020"	24.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Split Spoon	**Development Method:**
1/26/17 - 2/4/17	Nothnagle Drilling, Inc.	**Hammer Type:** 140lb Auto.	Surge and Purge w/ Whale Pump: ~40 gallons purged.

Driller:	**Drilling Method:**	**Drilling Equipment:**		
S. Lorenty	HSA	CME 85	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 25.68 ft.	**Easting:** 706818.6 ft. **Northing:** 1410214.5 ft. **TOC Elev:** 28.54 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	ppm Readings (ppm)	Remarks
	25		**FILL** Split-spoon samples not collected from 0-18' BGS. Refer to MW-6D boring log for description of soils from 5-18' BGS.					*Boring hand cleared to 5' BGS.*
5	20							*0.0-14.0' BGS: Cement/Bentonite Grout*
10	15							
15	10							*14.0-16.0' BGS: Bentonite Seal* *16.0-24' BGS: #1 Filter Sand*
		SP GP ML	**SAND AND GRAVEL** Brown/red mf SAND and mf GRAVEL (slag). Dry.	7-8-14-13	1		2.4	
20	5	SP GP SM ML SM GP ML	Gray/brown Clayey SILT/SILT & CLAY. Moist. Brown mf SAND and mf GRAVEL. Moist. Brown f SAND and SILT, trace f Gravel. Moist. Gray/brown Clayey SILT/SILT & CLAY. Moist. Black discolored f SAND and SILT, little f Gravel, little Clay. Moist. Black discolored mf GRAVEL (slag), some mf Sand. Saturated. Grey/ brown Clayey SILT/SILT & CLAY. Moist.	9-15-12-6 1-2-3-2	2 3		2.4 40.3	*18-24' BGS: 0.020" Slot PVC Screen.* 22.0-22.6' BGS: Moderate tar-like odor Sample MW-6S-22-23.5 collected and submitted for laboratory analysis. 22.6-23.3' BGS: Black discolored grains (flat luster), moderate tar-like odor.

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-6D** **Page** 1 **of** 2

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
SPW/Albany, NY	JLM	8.25"	2" PVC	0.020"	36.8 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Split Spoon	Development Method:
1/26/17 - 2/3/17	Nothnagle Drilling, Inc.	**Hammer Type:** 140lb Auto.	Surge and Purge w/ Whale Pump: ~75 gallons purged.

Driller:	Drilling Method:	Drilling Equipment:		
S. Lorenty	HSA	CME 85	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 25.54 ft.	**Easting:** 706817.7 ft. **Northing:** 1410219.5 ft. **TOC Elev:** 28.49 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	ppm Readings (ppm)	Remarks
	25		**FILL** Samples not collected from 0-5' BGS					*Boring hand cleared to 5' BGS.* 3.0-5.0' BGS: Strong tar-like odor.
5	20	SM	Brown f SAND and SILT, little f Gravel (slag). Moist.	3-9-6-6	1		42.3	5.0-6.0' BGS: Black discoloration on outside of soils, slight tar-like odor.
		SP	Brown mf SAND, some mf Gravel (brick). Dry.					
		SP	Brown mf SAND and mf Gravel (slag). Dry.	2-2-2-2	2		34.1	6.0-6.6' BGS: Slight tar-like odor. 7.0-8.2' BGS: Slight tar-like odor.
		SP	Brown mf SAND and SILT w/ intermittent Clay nodules. Dry.	4-3-2-2	3		32.7	9.0-10.0' BGS: Slight tar-like odor.
10	15		Brown mf SAND, some mf Gravel (slay and brick), trace Silt. Dry.					*0.0-24.0' BGS: Cement/Bentonite Grout*
		SP	Brown mf SAND and mf GRAVEL (slag), trace Silt. Dry.	2-1-1-1	4		5.7	11.0-11.8' BGS: Slight tar-like odor.
		SP	Brown mf SAND, some Silt, trace f Gravel. Moist.	WOH	5		10.0	13.0-13.2' BGS: Slight tar-like odor.
		SP						
		SW	Brown mf SAND and SILT, trace f gravel. Moist.					
15	10	GW		5-11-18-14	6		11.8	
		SP	Brown cmf SAND and cmf GRAVEL (slag).					
		GW						
		SP	Brown mf SAND and cmf GRAVEL (slag and brick). Moist.	5-5-4-5	7		3.2	
		GP						
		SC	Brown mf SAND and mf GRAVEL (slag) trace Silt. Moist.					
		ML	Grey/ brown Clayey SILT/SILT & CLAY, little mf Sand (slag). Moist.	5-7-3-6	8		80.6	19.0-19.9' BGS: Black discolored grains (flat luster), strong tar-like odor.
20	5	SP						
		GP	Pulverized brick.					
		ML	Grey/brown Clayey SILT/SILT & CLAY. Moist.	2-5-5-4	9		55.9	21.0-22.4' BGS: Black discolored grains (flat luster), strong tar-like odor.
		GC						
		GW	**SAND AND GRAVEL**					*22.0-24.0' BGS: Bentonite Seal*
		GC	Black discolored mf SAND and mf GARVEL (slag). Saturated.	5-3-5-15	10		37.0	23.0-23.2' BGS: Moderate tar-like odor.
		GW	Grey Clayey SILT/SILT & CLAY. Moist.					
25	0	GW	Black discolored mf GRAVEL and Clayey SILT/SILT & CLAY. Saturated.	2-2-10-30	11		55.5	23.2-24.2' BGS: Black discolored grains (flat luster), moderate tar-like odor.
			Black mf GRAVEL (sub angular), little mf Sand. Saturated.					*24.0-36.5' BGS: #1 Filter Sand*
		GW	Grey Clayey SILT/SILT & CLAY, some mf Gravel. Saturated.	8-10-14-16	12		30.1	25.0-26.0' BGS: Black discolored grains (submetallic luster), strong tar-like odor.
		GW	Black discolored cmf GRAVEL, trace mf Sand. Saturated.	16-18-15-12	13		16.5	27.0-27.7' BGS: Black
30	-5	SP	Black discolored cmf GRAVEL, trace mf Sand. Saturated.					

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-6D** **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well	ppm Readings (ppm)	Remarks
		SP	Same as above. Same as above.	6-8-5-6	14					8.4	discolored grains (submetallic luster), strong tar-like odor.
		SP	Black discolored mf SAND, little f Gravel, trace Silt. Saturated.	4-4-4-4	15					26.4	29.0-29.4' BGS: Black discolored grains (submetallic luster), strong tar-like odor.
		SP	Same as above.								29.4-29.9' BGS: Black discolored grains (submetallic luster); iridescent sheen, moderate tar-like odor.
		SP	Same as above.								*26.5-36.5' BGS: 0.020" Slot PVC Screen.*
35	-10	SM	Black discolored f SAND, little Silt. Saturated.	8-10-20-50/4"	16					8.1	31.0-31.4' BGS: Black discolored grains (submetallic luster); iridescent sheen, moderate tar-like odor.
			Black discolored f SAND, some Silt. Saturated.								Sample MW-6D-31-31.9 collected and submitted for laboratory analysis.
			Black discolored mf SAND and SILT, trace f Gravel. Saturated.								33.0-33.5' BGS: Black discolored grains (submetallic luster); iridescent sheen, moderate tar-like odor.
											33.5-34.0' BGS: Black discolored grains (flat luster), iridescent sheen on water in split-spoon, slight tar-like odor.
											35.0-35.8' BGS: Black discolored grains (flat luster), slight iridescent sheen, slight tar-like odor.
											36.0-36.5' BGS: Black discolored grains (flat luster), slight tar-like odor.
											Split-spoon refusal on apparent top of rock @ 36.5' BGS.

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-7S** **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
BFT/Albany, NY	JLM	8.25"	2" PVC	0.020"	24.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Split Spoon	**Development Method:**
1/25/17 - 2/10/17	Nothnagle Drilling, Inc.	**Hammer Type:** 140lb Auto.	Surge and Purge w/ Whale Pump: ~50 gallons purged.

Driller:	**Drilling Method:**	**Drilling Equipment:**		
S. Lorenty	HSA	CME 85	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 27.93 ft.	**Easting:** 706844.5 ft. **Northing:** 1410373.3 ft. **TOC Elev:** 31.06 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	ppm Readings (ppm)	Remarks
			FILL Split-spoon samples not collected from 0-14' BGS. Refer to MW-7D boring log for description of soils from 5-14' BGS.					*Boring hand cleared to 5' BGS.* During well development: Strong fuel-like odor and moderate iridescent sheen observed during purging.
5	25							
	20							*0.0-10.0' BGS: Cement/Bentonite Grout*
10	15							
15		SP	Brown/dark brown mf SAND, some cmf Gravel (brick, slag), trace (-) Silt. Dry-Moist.	5-7-19-14	1		2.1	*10.0-12.0' BGS: Bentonite Seal* 14.0-15.3' BGS: Slight fuel-like odor.
		GW	Dark brown cmf GRAVEL (slag), little mf Sand. Dry-Moist.	4-6-7-4	2		0.9	*12.0-14.0' BGS: #1 Filter Sand* 16.0-17.4' BGS: Slight fuel-like odor.
	10							
		GW	Dark brown cmf GRAVEL (slag), little mf Sand. Moist.	2-3-2-10	3		27.1	18.0-18.9' BGS: Slight fuel-like odor.
20		GW	Dark brown cmf GRAVEL (slag), little mf Sand. Moist-Saturated,					
		GP	**SAND AND GRAVEL** Black discolored mf GRAVEL (subangular) and mf SAND. Saturated.	3-6-8-10	4		60.0	*14.0-24.0' BGS: 0.020" Slot PVC Screen.* 20.0-21.4' BGS: Black discolored grains (flat luster), moderate fuel-like odor. Sample MW-7S-20-21.4 collected and submitted for laboratory analysis.
	5	GP	Same as above.	2-3-1-2	5		15.0	22.0-22.8' BGS: Black discolored grains (flat luster), moderate fuel-like odor.

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-7D** **Page** 1 **of** 2

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
BFT/Albany, NY	JLM	8.25"	2" PVC	0.020"	36.2 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Split Spoon	**Development Method:**
1/25/17 - 2/9/17	Nothnagle Drilling, Inc.	**Hammer Type:** 140lb Auto.	Surge and Purge w/ Whale Pump: ~75 gallons purged.

Driller:	**Drilling Method:**	**Drilling Equipment:**		
S. Lorenty	HSA	CME 85	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 27.90 ft.	**Easting:** 706843.5 ft. **Northing:** 1410378.3 ft. **TOC Elev:** 30.99 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	ppm Readings (ppm)	Remarks
			FILL Samples not collected from 0-5' BGS					*Boring hand cleared to 5' BGS.* During well development: Slight fuel-like odor observed during purging
	25							
5		SW	Dark brown cmf SAND, some cmf GRAVEL (slag). Dry.	2-3-1-1	1		0.9	
	20	SW	Same as above.	3-4-4-6	2		21.4	7.0-7.9' BGS: Faint fuel-like odor.
		SW	Same as above.	7-12-14-21	3		33.6	9.0-9.8' BGS: Faint fuel-like odor.
10		GW	Brown cmf GRAVEL (slag), trace mf Sand. Dry.					*0.0-24.0' BGS: Cement/Bentonite Grout*
		GW	Brown cmf GRAVEL (slag, fire brick), little mf Sand. Dry.	14-12-9-10	4		10.7	
	15							
		GW	Same as above.	8-5-3-7	5		11.5	
		SP	Grey/white mf SAND, little mf Gravel (brick). Dry.					
15		SP	Same as above.	8-5-13-27	6		22.3	
		SP	Black discolored mf SAND, trace (+) f Gravel (coal), trace Silt. Dry.					15.5-16.9' BGS: Black discolored grains (flat luster).
	10		No recovery.	6-5-7-8	7		--	
		GW	Brown cmf GRAVEL (slag), little mf Sand. Moist.	7-13-11-8	8		24.0	19.0-19.8' BGS: Moderate fuel-like odor.
20		GP	Black discolored mf GRAVEL (slag), little mf Sand. Saturated.	5-6-2-2	9		27.8	19.8-20.6' BGS: Black discolored grains (flat luster), slight iridescent sheen, strong fuel-like odor.
		—	Same as above.					21.0-21.9' BGS: Black discolored grains (flat luster), slight iridescent sheen, strong fuel-like odor.
	5		**SAND AND GRAVEL**					
		GW	Dark brown cmf GRAVEL (angluar), little mf Sand. Saturated.	WOH-5-3-2	10		23.4	*24.0-26.0' BGS: Bentonite Seal*
25			No recovery.	2-2-2-3	11		--	23.0-24.1' BGS: Moderate fuel-like odor.
	0	SW	Grey cmf SAND, little (+) mf Gravel (subrounded), trace Silt. Dry.	7-7-7-5	12		18.7	*26.0-36.5' BGS: #1 Filter Sand*
		SW	Same as above.	6-7-9-11	13		21.4	27.0-28.3' BGS: Slight iridescent sheen on water in split-spoon, moderate fuel-like odor.
30								29.0-30.2' BGS: Slight

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-7D** **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well	ppm Readings (ppm)	Remarks
		SW	Grey cmf SAND, trace Silt, trace f Gravel. Saturated.	4-3-5-7	14					25.7	iridescent sheen on water in split-spoon, moderate fuel-like odor.
	-5										
		SW	Same as above.	2-2-5-4	15					12.3	Sample MW-7D-29-30.2 collected and submitted for laboratory analysis
		GW	Grey cmf GRAVEL (rounded), little mf Sand, tace Silt. Saturated.								*28-36.5' BGS: 0.020" Slot PVC Screen.*
35		GW	Same as above.	15-18-20-50/3"	16					13.1	31.0-31.8' BGS: Slight fuel-like odor.
		BR	**WEATHERED BEDROCK** Black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale. Dry.								33.0-33.7' BGS: Slight fuel-like odor. 35.0-36.4' BGS: Slight fuel-like odor. Split-spoon refusal on top of rock @ 36.5' BGS.

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-8S** **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
SPW/Albany, NY	JLM	8.25"	2" PVC	0.020"	25.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Split Spoon	**Development Method:**
1/26/17 - 2/2/17	Nothnagle Drilling, Inc.	**Hammer Type:** 140lb Auto.	Surge and Purge w/ Whale Pump: ~30 gallons purged.

Driller:	**Drilling Method:**	**Drilling Equipment:**		
S. Lorenty	HSA	CME 85	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 25.77 ft.	**Easting:** 706809.7 ft. **Northing:** 1410309.0 ft. **TOC Elev:** 28.91 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	ppm Readings (ppm)	Remarks
0	25		**FILL** Split-spoon samples not collected from 0-15' BGS. Refer to MW-8D boring log for description of soils from 5-15' BGS.					*Boring hand cleared to 5' BGS.* During well development: Strong fuel-like odor and heavy iridescent sheen observed during purging.
5	20							*0.0-11.0' BGS: Cement/Bentonite Grout*
10	15							
15	10	SP GP	Brown mf SAND and mf GRAVEL (slag, brick). Dry.	17-21-12-32	1		2.6	*11.0-13.0' BGS: Bentonite Seal*
		SP	Tan mf SAND, trace f Gravel. Dry.					*13.0-25.0' BGS: #1 Filter Sand*
		GW SP	Grey/brown cmf GRAVEL (slag, brick), some mf Sand. Dry.	9-9-5-6	2		3.2	17.0-18.6' BGS: Slight tar-like odor.
		SP	Brown mf SAND, some Gravel (slag, brick). Dry.	2-2-3-2	3		6.3	
20	5	GP	Brown mf SAND and mf GRAVEL (brick), trace Silt. Moist.					*15.0-25.0' BGS: 0.020" Slot PVC Screen.*
		SP GP	Brown mf SAND and mf GRAVEL (slag, brick). Saturated.	2-1-3-2	4		14.9	21.0-21.6' BGS: Slight tar-like odor.
		SP GP	Black discolored mf SAND and mf GRAVEL (slag, brick). Saturated.	2-2-4-7	5		66.6	23.0-23.7' BGS: Slight tar-like odor. Sample MW-8S-23-23.7 collected and submitted for laboratory analysis.
25								

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-8D** **Page** 1 **of** 2

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
SPW/Albany, NY	JLM	8.25"	2" PVC	0.020"	32.3 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Split Spoon	**Development Method:**
1/26/17 - 2/2/17	Nothnagle Drilling, Inc.	**Hammer Type:** 140lb Auto.	Surge and Purge w/ Whale Pump: ~75 gallons purged.

Driller:	**Drilling Method:**	**Drilling Equipment:**		
S. Lorenty	HSA	CME 85	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 25.68 ft.	**Easting:** 706809.2 ft. **Northing:** 1410313.3 ft. **TOC Elev:** 28.99 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	ppm Readings (ppm)	Remarks
	25		**FILL** Samples not collected from 0-5' BGS					*Boring hand cleared to 5' BGS.* During well development: Slight fuel-like odor observed during purging.
5	20	GW	Black discolored cmf GRAVEL (slag), some mf Sand. Dry.	1-1-1-2	1		0.5	
		SP	Black discolored mf SAND and mf GRAVEL (slag). Dry.	2-1-1-1	2		3.9	7.0-7.9' BGS: Faint fuel-like odor.
		SP	Same as above.	2-1-1-1	3		2.5	9.0-9.8' BGS: Faint fuel-like odor.
10	15							*0.0-26.0' BGS: Cement/Bentonite Grout*
		SP	Black discolored f SAND, some Silt. Moist. Brown pulverized Brick. Dry.	28-20-10-12	4		>10000	
		GP SP	Black discolored mf SAND and mf GRAVEL (slag). Dry.	30-52-53-28	5		4027	
15	10	SP	Black discolored f SAND, some Silt. Moist.	5-16-18-32	6		247.9	
		SP	Tan/white mf SAND, some Silt. Moist.					15.5-16.9' BGS: Black discolored grains (flat luster).
		SP SP	Brown/red mf SAND and mf GRAVEL (slag). Moist. Brown/black discolored mf SAND, some mf Gravel (slag). Dry-Moist.	10-13-15-18	7		331	
		SP	Tan/brown mf SAND, little Silt, trace f Gravel (brick). Dry.	2-3-3-4	8		27.5	19.0-19.8' BGS: Moderate fuel-like odor.
20	5							19.8-20.6' BGS: Black discolored grains (flat luster), slight iridescent sheen, strong fuel-like odor.
		GW	Brown cmf GRAVEL (slag). Saturated.	2-3-1-1	9		65.3	21.0-21.9' BGS: Black discolored grains (flat luster), slight iridescent sheen, strong fuel-like odor.
		GW	Black discolored cmf GRAVEL (slag), some mf Sand. Saturated.	1-3-3-4	10		111.3	*26.0-28.0' BGS: Bentonite Seal*
25	0	SP	Black discolored mf SAND. Saturated.	1-3-7-5	11		82.3	23.0-24.1' BGS: Moderate fuel-like odor.
		GW	Black discolored cmf GRAVEL, some mf Sand. Saturated.					*28.0-32.0' BGS: #1 Filter Sand*
		SW GP	Black discolored cmf SAND and f GRAVEL (brick). Saturated.	4-6-6-7	12		24.3	27.0-28.3' BGS: Slight iridescent sheen on water in split-spoon, moderate fuel-like odor.
		CL SP	Black discolored Clayey SILT/SILT & CLAY. Moist.	7-5-3-3	13		27.6	
30	-5	GP SP	Black discolored mf SAND and mf GRAVEL, trace Silt. Saturated.					29.0-30.2' BGS: Slight

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-8D** **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well	ppm Readings (ppm)	Remarks
		GP SP SP SP SP BR	Black discolored mf SAND and mf GRAVEL (brick). Saturated. Black discolored f SAND, some Silt. Saturated. Black discolored mf SAND, trace f Gravel (brick). Saturated. **SAND AND SILT** Black discolored f SAND and SILT. Moist-Saturated. **WEATHERED BEDROCK** Black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale. Dry.								iridescent sheen on water in split-spoon, moderate fuel-like odor. Sample MW-8D-29-30.5 collected and submitted for laboratory analysis. *29.0-32.0' BGS: 0.020" Slot PVC Screen.* 31.0-31.8' BGS: Slight fuel-like odor. Split-spoon refusal on top of rock surface @ 32.2' BGS.

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-9** **Page** 1 **of** 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
BFT/Albany, NY	JLM	8.25"	2" PVC	0.020"	25.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Split Spoon	Development Method:
1/26/17 - 2/7/17	Nothnagle Drilling, Inc.	**Hammer Type:** 140lb Auto.	Surge and Purge w/ Whale Pump: ~50 gallons purged.

Driller:	Drilling Method:	Drilling Equipment:		
S. Lorenty	HSA	CME 85	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 24.76 ft.	**Easting:** 706829.2 ft. **Northing:** 1410123.3 ft. **TOC Elev:** 27.58 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	ppm Readings (ppm)	Remarks
			FILL Samples not collected from 0-5' BGS					*Boring hand cleared to 5' BGS.* During well development: slight fuel-like odor and slight iridescent sheen observed during purging.
5	20	SP	Dark brown mf SAND, little mf Gravel (slag), trace Silt. Dry.	1-3-2-1	1		0.5	5.0-5.8' BGS: Faint fuel-like odor
		SP	Dark brown mf SAND, trace f Gravel (slag), trace Silt. Dry.	1-1-2-2	2		0.8	*0.0-11.0' BGS: Cement/Bentonite Grout* 7.0-8.4' BGS: Faint fuel-like odor
10	15		No recovery.	2-2-4-4	3		--	
		SP SP SP	Brown/red mf SAND, little f Gravel (brick), trace Silt. Moist. Brown mf SAND, trace f Gravel (slag). Dry.	2-2-2-4	4		1.1	
		SP	Dark brown mf SAND, little f Gravel (slag). Dry. Same as above.	2-4-6-15	5		2.5	*11.0-13.0' BGS: Bentonite Seal*
15	10	SP	Same as above.	6-11-5-3	6		1.7	
		SP	Brown mf SAND, trace f Gravel (slag, coal, brick), trace Silt. Dry.					*13.0-15.0' BGS: #1 Filter Sand*
		SP	Brown mf SAND, trace f Gravel (slag, coal, brick), trace Silt. Moist.	6-9-7-16	7		1.7	
	5	SP	Brown mf SAND, trace (+) f Gravel (slag, coal, brick), trace Silt. Moist.	6-6-6-6	8		2.3	
20		SP — SP	Brown mf SAND, trace (+) f Gravel (slag, coal, brick), trace Silt. Saturated.	10-13-48-50/2"	9		13.1	*15.0-25.0' BGS: 0.020" Slot PVC Screen.* Sample MW-9-21-22.2 collected and submitted for laboratory analysis.
		GP	**SAND AND GRAVEL** Brown/grey mf SAND, trace f Gravel, trace Clayey Silt. Moist-Saturated.					
		GP	Black discolored mf GRAVEL, little mf Sand, trace Silt. Saturated.	60/50"	10		1.5	21.7-22.2' BGS: Black discolored grains (flat luster), moderate fuel-like odor.
25	0	SP	Same as above. Black discolored mf SAND, some mf Gravel, trace Silt.	24-50/5"	11		0.7	23.0-23.5' BGS: Black discolored grains (flat luster), moderate fuel-like odor. 24.0-25.0' BGS: Black discolored grains (flat luster), slight fuel-like odor.

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** **MW-10** **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
BFT/Albany, NY	JLM	8.25"	2" PVC	0.020"	25.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Split Spoon	**Development Method:**
1/26/17 - 2/7/17	Nothnagle Drilling, Inc.	**Hammer Type:** 140lb Auto.	Surge and Purge w/ Whale Pump: 50 gallons purged.

Driller:	**Drilling Method:**	**Drilling Equipment:**		
S. Lorenty	HSA	CME 85	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 25.25 ft.	**Easting:** 706880.3 ft. **Northing:** 1410098.1 ft. **TOC Elev:** 28.01 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	ppm Readings (ppm)	Remarks
			FILL Samples not collected from 0-5' BGS. Refer to test pit log TP-1 for description of soils from this interval.					*Boring hand cleared to 5' BGS.*
5	20	SW	Brown cmf SAND, some mf Gravel (slag). Dry.	1-2-1-1	1		0.0	
		SP	Dark brown mf SAND, trace f Gravel (coal, slag). Dry.	1-3-4-2	2		0.3	*0.0-11.0' BGS: Cement/Bentonite Grout*
		SP	Same as above.	10-8-6-4	3		0.3	
10	15	SP	Pulverized fire brick.					
		GW	Brown mf SAND, little (+) mf Gravel (brick, slag). Dry.	6-10-16-21	4		0.2	
		GW	Brown cmf GRAVEL (slag, brick), little mf Sand. Dry.	6-14-14-13	5		0.4	
15	10	GW	Same as above.	16-20-21-50/5"	6		1.3	*11.0-13.0' BGS: Bentonite Seal* 15.4-16.4' BGS: Black discolored grains (flat luster).
		SP	Black discolored mf SAND, little f Gravel (slag, coal), trace Silt. Dry.					*13.0-15.0' BGS: #1 Filter Sand*
		SW	Black discolored cmf SAND (slag, brick), mf SAND, trace Silt. Moist.	5-5-20-25	7		10.2	17.0-17.9' BGS: Black discolored grains (flat luster), slight fuel-like odor.
20	5	SW	Black discolored cmf SAND (slag, brick), mf SAND, trace Silt. Saturated.	2-4-6-9	8		12.4	19.0-19.4' BGS: Black discolored grains (flat luster), slight fuel-like odor.
		ML	Grey/brown Clayey SILT, trace f Sand. Moist.	2-4-7-4	9		0.8	Sample MW-10-19-20.5 collected and submitted for laboratory analysis.
		SM	Grey cmf GRAVEL (slag), trace f Sand. Saturated.					
		OL						
		ML	Grey/brown Clayey SILT, trace f Sand. Moist.	1-3-3-2	10		1.7	*15.0-25.0' BGS: 0.020" Slot PVC Screen.*
25			Brown Clayey SILT, some mf Sand, little mf Gravel (brick). Saturated.					
			SILT & CLAY/CLAY & SILT Brown/grey Clayey SILT, trace Organics (wood fibers), trace f Sand. Moist. Brown/grey Clayey SILT/SILT & CLAY Dry-Moist.					

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** SB-1 **Page** 1 **of** 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
RB/Albany, NY	JLM	8.25"	NA	N/A"	29.7 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Split Spoon	Development Method:
5/7/15 - 5/18/15	Atlantic Testing Laboratories, Inc.	Hammer Type: 140lb Auto.	N/A

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NYS Plane NAD83	Easting: 706954.5 ft.
A. Conant	HSA	CME 75	Vert Datum: NGVD 29	Northing: 1410104.9 ft.
			Ground Surface Elev: 26.4 ft.	TOC Elev: N/A ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Backfill	ppm Readings (ppm)	Remarks
		SW	**FILL** Dark brown cmf SAND and GRAVEL (slag, brick), some (-) Silt. Dry.	N/A	1			*Boring backfilled with cement/bentonite grout. Boring hand cleared to 5' BGS.*
	25	SW	Same as above.					0.0-2.15' BGS: Sporadic nodules of gravel-sized black material with a submetallic luster.
		ML	Dark to light brown Clayey SILT, little mf Sand. Dry.					
		SW	Dark brown cmf SAND and GRAVEL (slag, brick), some (-) Silt. Dry.					
5		GW	Same as above.	4-6-4-4	2		11.2	Sample SB-1-1-2 collected and submitted for laboratory analysis.
	20		Dark brown cmf GRAVEL (slag, brick), some (+) cm Sand, trace Silt. Dry.					2.15-2.6' BGS: Few occurrences of black discoloration (flat luster).
		GW	Same as above.	8-7-10-28	3		5.3	2.6-5.0' BGS: Black discoloration (flat to sub-metallic luster).
		GW	Dark brown cmf GRAVEL (slag, brick, ash, coal), little cm Sand. Moist.	7-13-13-7	4		5.9	Sample SB-1-5-5.7 collected and submitted for laboratory analysis.
10								
	15	GW	Dark/red brown cmf GRAVEL (slag, brick, ash, coal), little cm Sand, trace Silt. Moist.	15-15-12-13	5		5.0	Sample SB-1-11-12.3 collected and submitted for laboratory analysis.
		GW	Same as above.	8-6-7-16	6		0.3	
15		SW	Dark brown cmf SAND and SILT, some cm Gravel (slag, brick, coal). Moist.	13-7-10-51	7		0.0	5.0-21.1' BGS: Sporadic occurences of black discoloration (flat to submetallic luster).
	10							
		SW	Dark brown cmf SAND and SILT, some cm Gravel (slag, brick, coal), little Organics (wood fragments). Wet.	44-30-23-24	8		0.1	Sample SB-1-17-18.2 collected and submitted for laboratory analysis.
		SW	Dark brown cmf SAND and SILT, little Gravel (rounded), trace Organics (roots).	11-11-8-10	9		0.2	
20		GW	Saturated.					
	5	SW	Black cmf Gravel, some cm Sand (slag) Sand, trace Silt. Saturated.	11-10-5-3	10		0.0	
			SAND AND SILT					
		SP	Dark gray cmf SAND, some mf Gravel. Saturated.	4-7-6-4	11		0.0	Sample SB-1-23-24.3 collected and submitted for laboratory analysis.
			Dark gray f SAND and SILT, trace Organics (roots), @ 23.6' BGS lens of wood					
25		SP	fragments/coal. Saturated.	7-4-4-5	12		0.0	
	0		Dark gray f SAND and SILT, trace Organics (roots), trace f Gravel (sub-rounded) with layers/varve. Saturated.					
		SP	Same as above.	3-9-9-8	13		0.1	Sample SB-1-27-27.8 collected and submitted for laboratory analysis.
			WEATHERED BEDROCK Black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale. Wet.	25-44-50/3"	14		0.0	Split-spoon refusal on top of rock surface @ 29.1' BGS.

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** SB-2 **Page** 1 **of** 2

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
RB/Albany, NY	JLM	8.25"	NA	N/A"	33.2 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Split Spoon	Development Method:
5/7/15 - 5/13/15	Atlantic Testing Laboratories, Inc.	Hammer Type: 140lb Auto.	N/A

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NYS Plane NAD83	Easting: 706810.4 ft.
A. Conant	HSA	CME 75	Vert Datum: NGVD 29	Northing: 1410263.5 ft.
			Ground Surface Elev: 25.4 ft.	TOC Elev: N/A ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Backfill	ppm Readings (ppm)	Remarks
		SW	**FILL** Brown cmf SAND and GRAVEL (slag, brick), some Silt. Dry.	N/A	1			*Boring backfilled with cement/bentonite grout. Boring hand cleared to 5' BGS.*
		SW	Black cm SAND, some (+) mf Gravel (slag, brick), little Silt. Dry.					Sample SB-2-0-1 collected and submitted for laboratory analysis.
		SW	Brown cmf SAND and GRAVEL (slag, brick), littleSilt. Dry.					0.0-2.0' BGS Black discoloration (flat to submetallic luster), sporadic nodules of gravel-sized black material with a submetallic luster.
5	20	SW	Same as above.					2.0-5.0' BGS: Black discoloration (flat luster).
		SW	Same as above.	13-10-2-3	2		22.8	5.0-7.9' BGS: Infrequent black discoloration (flat to submetallic luster), faint mothball-like odor.
		SW	Black cmf SAND and mf GRAVEL (slag, brick), little (-) Silt. Dry.					Sample SB-2-7-7.9 collected and submitted for laboratory analysis.
		SW	Black cmf SAND and mf GRAVEL (slag, brick, coal), some Silt. Dry.	9-32-50/2"	3		72.4	
		GW	Red brown cmf GRAVEL (slag, brick), little (-) cm Sand. Dry.	1-3-1-2	4		1.3	
10	15	GW	Red brown cmf GRAVEL (slag, brick), little (-) cm Sand. Moist	2-2-2-2	5		8.6	
		GW	Black cmf GRAVEL (slag, brick), some cm Sand, trace Silt, trace Organics (roots). Moist.	14-19-14-32	6		335.4	Sample SB-2-13-14.5 collected and submitted for laboratory analysis.
15	10	SW	Black cmf SAND, some (-) Gravel (slag, brick), little Silt. Moist.	15-28-15-16	7		59.2	13.0-14.5' BGS: Black tacky/stringy tar-like material (sub-metallic to metallic luster), strong mothball-like odor.
		SW	Black cmf SAND and GRAVEL (slag, brick, ash), trace Silt. Moist.					15.0-19.3' BGS: Infrequent black discoloration (flat luster), faint to moderate mothball-like odor, specks of sheen on surface of water in split-spoon.
		GW	Black cmf SAND and GRAVEL (slag, brick, ash), trace Silt. Wet.	13-13-14-15	8		16.3	Sample SB-2-19-19.3 collected and submitted for laboratory analysis.
		GW	Dark gray cmf GRAVEL (slag, brick), little cm Sand. Moist.	2-3-2-2	9		72.3	
20	5	GW	Dark gray cmf GRAVEL (slag, brick), little cm Sand. Saturated	4-4-4-7	10		56.4	
		GW	Black cmf GRAVEL (slag, brick). Saturated.	4-6-2-2	11		37.9	
		GW	Black cmf GRAVEL (slag, brick), some mf Sand. Saturated.	1-5-5-3	12		45.6	21.0-32.0' BGS: Black discoloration (sub-metallic to metallic luster), faint to moderate petroleum-like odor, specks of sheen on surface of water in split-spoon.
25	0	GW	Same as above.	7-8-9-10	13		19.7	Sample SB-2-25-25.8 collected and submitted for laboratory analysis.
		SP SW SW	**SAND AND SILT** Dark gray/black f SAND and SILT. Saturated.	16-13-11-9	14		30.6	
30	-5		**SAND AND GRAVEL** Dark gray/black cmf GRAVEL (sub					

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** **SB-2** **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	ppm Readings (ppm)	Remarks
		SW	angular to rounded), some (+) cm Sand, trace Silt. Saturated.	7-50/5"	15					30.1	Sample SB-2-31-32 collected and submitted for laboratory analysis.
			Same as above.								
			Dark gray cmf SAND and cmf GRAVEL (sub-rounded), little (+) SIlt. Saturated.	50/2"	16					73.2	31.9' BGS: Top of weathered bedrock.
			WEATHERED BEDROCK Black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale.								

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** **SB-3** **Page** 1 **of** 2

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
RB/Albany, NY	JLM	8.25"	NA	N/A"	31.3 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Split Spoon	Development Method:
5/5/15 - 5/14/15	Atlantic Testing Laboratories, Inc.	Hammer Type: 140lb Auto.	N/A

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NYS Plane NAD83	Easting: 706960.3 ft.
A. Conant	HSA	CME 75	Vert Datum: NGVD 29	Northing: 1410341.8 ft.
			Ground Surface Elev: 27.5 ft.	TOC Elev: N/A ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	ppm Readings (ppm)	Remarks
		SW	**FILL** Dark brown cmf SAND, some Silt, little f Gravel (slag, brick). Dry.	N/A	1						*Boring backfilled with cement/bentonite grout. Boring hand cleared to 5' BGS.* 0.0-3.0' BGS: Faint to moderate mothball-like odor. 0.3-5.0' BGS: Black discoloration (flat luster). Sample SB-3-3-4 collected and submitted for laboratory analysis. 5.0-5.9' BGS: Black discoloration (sub-metallic to metallic luster). Sample SB-3-7-8.7 collected and submitted for laboratory analysis.
	25	SW	Same as above.								
		SW	Same as above.								
		SW	Dark brown cmf SAND and GRAVEL (slag, brick), some Silt. Dry.								
		SW	Same as above.								
5		SW	Dark brown cmf SAND, some (-) Gravel (slag, brick, coal), little Silt, little Organics (roots). Dry.	2-6-6-3	2					4.5	
	20	SW	Dark/red brown cmf SAND, some (-) Gravel (slag, brick, coal), little Silt. Dry.	6-10-13-15	3					3.7	
		SW	Same as above.	13-9-9-13	4					5.3	
10											
		SW	Same as above.	22-11-8-6	5					0.2	
	15										
		GW	Red brown cmf GRAVEL, some Sand, trace Silt. Moist.	4-31-33-12	6					0.5	Sample SB-3-13-14 collected and submitted for laboratory analysis.
15		GW	Same as above.	25-13-17-17	7					0.0	7.0-22.3' BGS: Sporadic occurences of black discoloration (flat luster).
	10	GW	Red brown cmf GRAVEL, some Sand, trace Silt. Wet	7-8-9-25	8					0.1	
		GW	Same as above.	8-14-10-6	9					1.4	
20		SW	White/red cmf SAND (fire brick, brick). Moist.								
		SW	Dark brown cmf SAND and GRAVEL (slag, brick). Wet.	8-4-3-3	10					2.4	Sample SB-3-21-22.3 collected and submitted for laboratory analysis.
	5		**SAND AND SILT**								
		SP	Dark gray/black f SAND and SILT, little f Gravel (rounded). Saturated.	WOH-WOH-WOH-1	11					0.1	
25		SP	Dark gray/black f SAND and SILT, some (-) Silty Clay, trace Gravel. Moist.								
		SP	Dark gray f SAND and SILT, some (-) Silty Clay. some Organics (wood), trace Gravel (shells). Moist.	2-3-24-21	12					25.9	Sample SB-3-25-25.4 collected and submitted for laboratory analysis.
	0		Dark gray/black f SAND and SILT, some (-) Silty Clay, trace Gravel with black weathered, decomposed bedrock (Silt andCclay), pieces of angular shale and core-sized pieces of wood.	62-37-44-33	13						
		SP		8-12-11-14	14					1.2	Sample SB-3-29-29.7 collected and submitted for laboratory analysis.
30		—	Wood fragments.								
			Dark gray f SAND and SILT, some (-) Silty								

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** **SB-3** **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	ppm Readings (ppm)	Remarks
			Clay, trace Gravel (black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale). Saturated. **WEATHERED BEDROCK** Black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale.	25-50/3"	15					0.0	Split-spoon refusal on top of rock surface @ 31.3' BGS.

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** **SB-4** **Page** 1 **of** 2

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
RB/Albany, NY	JLM	8.25"	NA	N/A"	40.7 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Split Spoon	**Development Method:**
5/7/15 - 5/13/15	Atlantic Testing Laboratories, Inc.	**Hammer Type:** 140lb Auto.	N/A

Driller:	**Drilling Method:**	**Drilling Equipment:**		
A. Conant	HSA	CME 75	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 26.9 ft.	**Easting:** 706916.9 ft. **Northing:** 1410189.8 ft. **TOC Elev:** N/A ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	ppm Readings (ppm)	Remarks
		SW	**FILL** Light brown cmf SAND, some mf Gravel and Silt. Dry.	N/A	1						*Boring backfilled with cement/bentonite grout. Boring hand cleared to 5' BGS.* 2.0-5.0' BGS: Black discoloration (flat luster). Sample SB-4-3-4 collected and submitted for laboratory analysis.
	25		Concrete pad								
		SW	Dark brown cmf SAND, some cmf Gravel (slag, brick) and Silt. Moist.								
		GW	Dark brown cmf SAND and GRAVEL (slag, brick). Moist.								
5		GW	Dark brown cmf GRAVEL (slag, brick), some cm Sand, little Silt. Moist.	1-2-2-2	2					1.6	
	20		Black cmf GRAVEL (slag, brick, fire brick),								
		GW	some (-) cm Sand, trace Silt. Dry. Same as above.	2-2-2-2	3					0.8	5.0-10.5' BGS: Infrequent occurrences of black discoloration (flat to sub-metallic luster). Sample SB-4-9-10.5 collected and submitted for laboratory analysis.
		SW	Red/light brown cmf SAND, some Silt,	1-WOH-WOH-8	4					1.2	
10		SW	trace f Gravel. Moist. Dark brown f SAND and SILT, trace f								
	15	GW	Gravel. Moist. Black cmf GRAVEL (slag, brick), little cm Sand. Moist.	24-10-6-17	5					0.3	
		GW	Black cmf GRAVEL (slag, brick), trace c Sand. Moist.	11-50/1"	6					0.0	
15		SW	Dark brown cmf SAND and mf GRAVEL (slag, brick, ash). Moist.	23-50/4"	7					0.9	Sample SB-4-15-15.6 collected and submitted for laboratory analysis.
	10										
		SW	Black cmf SAND and mf GRAVEL, little	14-5-4-60	8					9.1	
		SW	Silt. Saturated. Dark gray/black f SAND and SILT. Moist.								
		GW	Dark brown cmf GRAVEL (slag, brick,	9-12-44-32	9					0.3	17.0-22.1' BGS: Infrequent occurences of black discoloration (flat to sub-metallic), faint petroleum-like odor, specks of sheen of surface of water in split-spoon.
20			ash), some cmf Sand, trace Silt. Saturated.								
	5	GW	Same as above.	17-14-20-27	10					5.6	
		GW	Same as above.	3-3-6-8	11					0.7	Sample SB-4-21-22.1 collected and submitted for laboratory analysis.
		CL/ML	**SILT & CLAY/CLAY & SILT** Green brown/gray SILT & CLAY/CLAY								
25		CL/ML	& SILT. Wet. Same as above.	7-8-8-12	12					0.3	
	0										
		CL/ML	Green brown/gray SILT & CLAY/CLAY & SILT, trace c Sand, trace f Gravel. Wet.	8-9-15-15	13					0.8	Sample SB-4-27-28.7 collected and submitted for laboratory analysis.
		CL/ML	Green brown/gray SILT & CLAY/CLAY	1-3-3-5	14					0.0	
30			& SILT, trace c Sand, trace f Gravel, trace Organics, with layering/varving. Wet.								

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** **SB-4** **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	ppm Readings (ppm)	Remarks
	-5	CL/ML	Same as above.	7-8-11-9	15					0.0	
		SP	**SAND AND SILT**								
		SP	Brown/dark gray f SAND, some (+) Silt, some (+) Organics (wood). Wet.	1-2-1-2	16					0.4	
			Same as above.								
35		ML	Gray Clayey SILT, trace f SAND. Saturated.	6-8-12-27	17					0.0	Sample SB-4-35-36.9 collected and submitted for laboratory analysis.
		SP	Dark gray f SAND, some Silt, some Organics (wood), Wet.								
	-10										
		SW	**SAND AND GRAVEL**	25-23-22-26	18					0.0	
			Dark gray cmf SAND and GRAVEL (sub-rounded), little Silt. Saturated.								
			WEATHERED BEDROCK	7-20-60-50/2"	19					0.0	Sample SB-4-39-40.3 collected and submitted for laboratory analysis.
40			Black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale.								Split-spoon refusal on top of rock surface @ 39' BGS.

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** **SB-5** **Page** 1 **of** 2

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
RB/Albany, NY	JLM	8.25"	NA	N/A"	33.1 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Split Spoon	**Development Method:**
5/6/15 - 5/12/15	Atlantic Testing Laboratories, Inc.	**Hammer Type:** 140lb Auto.	N/A

Driller:	**Drilling Method:**	**Drilling Equipment:**		
A. Conant	HSA	CME 75	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 26.0 ft.	**Easting:** 706807.1 ft. **Northing:** 1410360.8 ft. **TOC Elev:** N/A ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	ppm Readings (ppm)	Remarks
	25	SW	**FILL** Dark brown cmf SAND and cmf GRAVEL (slag, brick), some Silt. Dry.	N/A	1						*Boring backfilled with cement/bentonite grout. Boring hand cleared to 5' BGS.* 0.0-3.0' BGS: Black discoloration (flat to submetallic luster), sporadic nodules of gravel-sized black material (submetallic luster).
		SW	Dark brown cmf SAND and cmf GRAVEL (slag, brick), some Silt. Moist.								
		GW	Dark/red brown cmf GRAVEL (slag, brick), some (-) cm Sand, little Silt. Moist.								
		GW	Same as above.								
5		ML	Same as above.	4-3-4-5	2					224.8	Sample SB-5-3-4 collected and submitted for laboratory analysis.
	20		Dark brown Clayey SILT, some (-) Sand, little Gravel (slag, brick). Wet.								
		ML	Same as above.	9-9-16-12	3					120.3	5.0-8.6' BGS: Black tacky/stringy tar-like material (sub-metallic to metallic luster),strong mothball-like odor. Sample SB-5-7-8.6 collected and submitted for laboratory analysis.
		ML	Dark brown Clayey SILT, some (-) Sand, little Gravel (slag, brick), little Organics								
		ML									
		SW	(wood fragments). Wet.	1-2-6-8	4					8.6	
10			Dark brown Clayey SILT, some (-) Sand, little Gravel (slag, brick). Wet.								
	15										
		SW	Black cm SAND and mf GRAVEL (slag, brick). Moist.	N/A	5					3.6	9.0-14.9' BGS: Faint mothball-like odor.
			Dark brown cmf SAND and cmf GRAVEL (slag, brick), little (-) Silt. Moist.								
		ML	Red brown Clayey SILT, some (+) cmf Sand. Moist.	7-8-16-42	6					2.2	Sample SB-5-13-14.9 collected and submitted for laboratory analysis.
		SW	Red brown cmf SAND and GRAVEL (slag,								
15		GW	brick), little Silt. Moist.	16-70-83-50/2"	7					7.7	
	10	GW	Dark gray cmf GRAVEL (slag, brick), some (-) Sand, trace Silt. Moist.								
		ML	Red brown cmf GRAVEL (slag, brick), some (-) Sand, trace Silt. Moist.	10-6-6-10	8					0.4	
		ML	Brown Clayey SILT, trace (-) f Sand. Moist.								
			Same as above.								
		SW	Black cm SAND and GRAVEL (slag,	11-17-12-9	9					8.2	
20		SW	brick), trace Silt. Moist.								
	5										
		GW	Black cm SAND and GRAVEL (slag, brick), trace Silt. Saturated	6-6-4-3	10					96.4	Sample SB-5-21-21.6 collected and submitted for laboratory analysis.
			Black mf GRAVEL, some (-) Sand, trace Silt. Saturated.								
		GW	Same as above.	1-2-3-2	11					124.3	
25											21.0-34.5' BGS: Strong to moderate petroleum-like odor, specks of sheen on surface of water in split-spoon.
	0	CL/ML	**SILT & CLAY/CLAY & SILT** Green brown/gray SILT & CLAY/CLAY & SILT, trace (-) f Sand. Wet.	2-4-6-6	12					61.0	
		CL/ML	Same as above.	2-2-2-3	13					28.6	Sample SB-5-25-23.6 collected and submitted for laboratory analysis.
		—									
		SW	**SAND AND SILT** Dark gray/black mf SAND, some Silt, little Gravel. Saturated.	8-10-8-5	14					19.6	
30	-5										

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** SB-5 **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	ppm Readings (ppm)	Remarks
		SW	Dark gray mf SAND, some Silt, little f Gravel. Saturated.	3-3-3-50/4"	15					25.5	Sample SB-5-31-32.5 collected and submitted for laboratory analysis.
			WEATHERED BEDROCK Black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale. Black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale.	50/1"	16					22.2	Split-spoon refusal on top of rock surface @ 32.9' BGS.

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** **SB-6** **Page** 1 **of** 2

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
RB/Albany, NY	JLM	8.25"	NA	N/A"	33.6 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Split Spoon	Development Method:
5/5/15 - 5/11/15	Atlantic Testing Laboratories, Inc.	Hammer Type: 140lb Auto.	N/A

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NYS Plane NAD83	Easting: 706909.6 ft.
A. Conant	HSA	CME 75	Vert Datum: NGVD 29	Northing: 1410375.4 ft.
			Ground Surface Elev: 27.4 ft.	TOC Elev: N/A ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Backfill	ppm Readings (ppm)	Remarks
		SW	**FILL** Dark brown cmf SAND, some (-) Silt, little mf Gravel (slag, brick). Dry.	N/A	1			*Boring backfilled with cement/bentonite grout. Boring hand cleared to 5' BGS.*
	25	SW	Black cm SAND and mf GRAVEL (slag, brick), some Silt. Dry.					1.5-5.0' BGS: Black discoloration (flat luster), moderate to strong mothball-like odor.
		GW	Same as above.					
		GW	Black cmf GRAVEL (slag, brick), some cm Sand, little Silt. Dry.					
5		SW	Same as above.	6-3-5-4	2		18.4	Sample SB-6-2-3 collected and submitted for laboratory analysis.
			Black cmf SAND, some f Gravel (slag, brick) and Silt. Dry.					1.5 -3.0' BGS: Gravel to cobble sized solid tar-like material (submetallic luster), strong mothball-like odor.
	20		No recovery	6-5-3-3	3			Sample SB-6-5-5.8 collected and submitted for laboratory analysis.
		SW	Red cm SAND, little (+) Gravel (slag, brick), little (+)Silt. Dry.	6-12-8-7	4		1.2	5.0-5.8' BGS: Black discoloration (flat to sub-metallic luster), strong mothball-like odor.
10		GW	Dark gray cmf GRAVEL (slag, brick), some cmf Sand. Moist.	17-17-13-8	5		3.0	Sample SB-6-9.5-10 collected and submitted for laboratory analysis.
	15	SW	Black cmf Sand (slag, brick), little (-) Silt. Moist.	3-2-2-9	6		0.4	9.0-14.0' BGS: Sporadic black discoloration (flat to submetallic), faint mothball-like odor.
		SW	Brown cmf Sand (slag, brick), little (-) Clayey Silt. Moist.	11-12-16-20	7		1.3	Sample SB-6-15-15.5 collected and submitted for laboratory analysis.
15		SW	Black cmf Sand (slag, brick), little (-) Silt. Wet.	6-10-11-9	8		0.8	
			Dark gray cmf SAND, some Silt, some f Gravel (slag, brick). Wet.	5-3-9-8	9		18.0	Sample SB-6-19.5-20 collected and submitted for laboratory analysis.
	10	SW	Same as above.	8-13-10-8	10		52.7	
20		GW	Dark gray/black mf GRAVEL (slag, brick), some (-) cm Sand, little Silt. Saturated	2-4-6-13	11		129	19.0-32.1' BGS: Faint to moderate petroleum-like odor.
		GW	Same as above.	6-4-2-4	12		66.5	Sample SB-6-25-25.5 collected and submitted for laboratory analysis.
	5			4-5-5-6	13		6.6	
		GW	Same as above.	5-5-5-6	14		21.8	
		ML	Green gray Clayey SILT, little f Sand. Wet.					
25		GW	Dark gray mf GRAVEL (slag, brick), some (-) cm Sand, little Silt. Saturated.					
		GW	Dark gray mf GRAVEL (slag, brick), some (-) cm Sand, little Silt. Saturated.					
		SW						
	0	SW	**SAND AND SILT** Dark gray/black mf SAND and SILT, little (-) Clay, little (-) Organics (roots). Moist.					
		SP	Dark gray mf SAND, some (+) Silt, little (-) Clay. Moist.					
30			Dark gray/black f SAND, some (-) Silt, some (-) Organics (roots). Wet.					

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** SB-6 **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	ppm Readings (ppm)	Remarks
		SP	Same as above.	5-6-7-32	15					66.3	Sample SB-6-31-31.5 collected and submitted for laboratory analysis.
	-5	SW	**SAND AND GRAVEL** Dark gray cmf GRAVEL (sub-rounded) and cmf SAND, trace (-) Silt. Wet.								
				50/6"	16					42.5	Split-spoon refusal on top of rock surface @ 33' BGS.
			WEATHERED BEDROCK Black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale.								

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** **SB-7** **Page** 1 **of** 2

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
RB/Albany, NY	JLM	8.25"	NA	N/A"	33.2 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Split Spoon	Development Method:
5/5/15 - 5/14/15	Atlantic Testing Laboratories, Inc.	Hammer Type: 140lb Auto.	N/A

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NYS Plane NAD83	Easting: 706912.9 ft.
A. Conant	HSA	CME 75	Vert Datum: NGVD 29	Northing: 1410276.8 ft.
			Ground Surface Elev: 26.0 ft.	TOC Elev: N/A ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	ppm Readings (ppm)	Remarks
	25	SW	**FILL** Dark brown mf SAND, some cmf Gravel (slag, brick, fire brick) and Silt. Moist.	N/A	1						*Boring backfilled with cement/bentonite grout. Boring hand cleared to 5' BGS.* Sample SB-7-0-1 collected and submitted for laboratory analysis.
		SW									
		GW	Same as above.								
		SW	Dark brown cmf GRAVEL, some cm Sand (slag, brick, fire brick), little Silt. Dry.								
		SW	Red cmf SAND and mf GRAVEL, little (+) Silt. Dry.								
5		GW	Same as above.	4-27-11-12	2					9.0	0.0-2.0' BGS: Black discoloration (flat luster), faint to moderate mothball-like odor.
	20		Dark brown cmf GRAVEL (slag, brick, coal), some Sand and Silt. Dry.								
		GW	Dark brown cmf GRAVEL (slag, brick, coal), some Sand, trace Silt. Dry.	8-8-9-9	3					5.9	Sample SB-7-5-5.7 collected and submitted for laboratory analysis.
		SW	Dark brown cmf SAND and cmf GRAVEL (slag, brick, coal), trace Silt. Dry.	10-8-7-7	4					2.0	
10	15										
		SW	Same as above.	20-34-18-15	5					1.6	Sample SB-7-11-12.1 collected and submitted for laboratory analysis.
		GW	Black cmf GRAVEL (slag, brick), some cm Sand. Dry.								
		SW	Dark brown cmf SAND and GRAVEL (slag, brick, ash), trace Silt. Moist.	10-17-14-13	6					0.4	5.0-21.0' BGS: Infrequent occurences of black discoloration (flat to submetallic luster).
15		SW	Dark brown cmf SAND and GRAVEL (slag, brick, ash), trace Silt. Wet.	14-50/5"	7					0.0	
	10										
		SW	Dark/red brown cmf SAND and cmf GRAVEL (slag, brick), little Clayey Silt. Wet.	19-18-15-53	8					0.0	Sample SB-7-17-18.3 collected and submitted for laboratory analysis.
		GW	Dark brown cmf GRAVEL (slag, brick), some (-) Sand. Wet.	22-24-13-10	9					0.0	
20		CL/ML									
	5		**SILT & CLAY/CLAY & SILT**								
		CL/ML	Green brown/gray SILT & CLAY/CLAY & SILT. Moist.	6-8-11-10	10					0.0	Sample SB-7-21-22.6 collected and submitted for laboratory analysis.
		CL/ML	Green brown/gray SILT & CLAY/CLAY & SILT, little Organics (roots). Wet. Same as above.	3-3-6-5	11					0.0	*21.0-27.0' BGS: 3" diamater split-spoons used.*
25		CL/ML	Same as above.	1-1-3-6	12					0.0	Sample SB-7-25-26.6 collected and submitted for laboratory analysis.
	0										
		SP	**SAND AND SILT**								
		SP	Dark gray f SAND, some Silt. Wet. Same as above.	10-10-13-13	13					0.0	
		SW	Dark gray cmf SAND, little Silt and Organics (roots, wood), trace f Gravel (rounded). Saturated.	3-6-8-8	14					0.0	
30											

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** SB-7 **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	ppm Readings (ppm)	Remarks
		SW	Same as above.	14-13-25-50/2"	15					0.0	Sample SB-7-31-32.1 collected and submitted for laboratory analysis.
			WEATHERED BEDROCK Black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale.								
			Black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale.	50/3"	16					0.0	Split-spoon refusal on top of rock surface @ 32.8 BGS.

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** SB-8 **Page** 1 **of** 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
RB/Albany, NY	JLM	8.25"	NA	N/A"	29.1 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Split Spoon	Development Method:
5/8/15 - 5/15/15	Atlantic Testing Laboratories, Inc.	Hammer Type: 140lb Auto.	N/A

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NYS Plane NAD83	Easting: 706979.0 ft.
A. Conant	HSA	CME 75	Vert Datum: NGVD 29	Northing: 1410191.5 ft.
			Ground Surface Elev: 26.9 ft.	TOC Elev: N/A ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	ppm Readings (ppm)	Remarks
		GW	**FILL** Dark brown cmf GRAVEL (slag, brick), some (+) cm Sand, little Silt. Dry.	N/A	1						*Boring backfilled with cement/bentonite grout. Boring hand cleared to 5' BGS.* Sample SB-8-0-1 collected and submitted for laboratory analysis. 1.0-3.0' BGS: Infrequent occurences of black discoloration (flat luster). Sample SB-8-5-6.3 collected and submitted for laboratory analysis. 5.0-8.2' BGS: Sporadic occurences black discoloration (flat to sub-metallic luster).
	25	SW	Dark brown cmf SAND and GRAVEL (slag, brick), some Silt. Dry.								
		GW	Same as above.								
		GW	Dark brown cmf GRAVEL (slag, brick), some cmf Sand, some Silt. Dry.								
5		SW	Same as above.	5-4-6-44	2					1.4	
	20		Black cmf SAND (slag, brick, coal), some (-) Silt, little Gravel. Dry.								
		GW	Red brown cmf GRAVEL (slag, brick), some cm Sand, trace Silt. Dry.	34-23-27-18	3					1.0	
		GW	Same as above.	7-14-29-50/1"	4					1.4	
10											
	15	GW ML	Red brown cmf GRAVEL (slag, brick), some cm Sand, trace Silt. Wet.	16-6-4-2	5					0.4	Sample SB-8-11-12 collected and submitted for laboratory analysis. 11.0-12.0' BGS: Sporadic black discoloration (flat to sub-metallic luster).
			SAND AND SILT								
		ML	Dark gray SILT, some f SAND, little Clay. Saturated.	1-2-2-7	6					0.2	
		SW	Dark gray SILT, some f SAND, some Organics (roots, wood), little Clay. Saturated.	2-2-34-43	7					0.0	
15		SW	Dark gray mf SAND, some (-) Silt. Saturated.								
	10	GW	Black cmf SAND and SILT, little Gravel (slag), trace Organics (wood). Wet.	17-26-25-18	8					0.5	Sample SB-8-17-18.3 collected and submitted for laboratory analysis. 15.0-20.4' BGS: Sporadic black discoloration (flat to sub-metallic luster).
		CL/ML	Dark gray cmf GRAVEL, some cm Sand, trace Silt. Wet.								
		ML	Green gray Clayey SILT. Wet.	5-2-2-4	9					0.0	
20			Green gray Clayey SILT, some (-) f Sand, trace f Gravel (rounded), trace Organics (wood). Wet.								
	5	CL/ML	Green brown/gray SILT & CLAY/CLAY & SILT, trace Organics (wood fragments). Saturated.	3-3-4-8	10					1.4	Sample SB-8-21-22.2 collected and submitted for laboratory analysis.
			Wood fragments.	4-3-3-6	11						
25		SP	Dark gray f SAND, little Silt, little Organics (wood, roots). Wet.	2-4-5-7	12					0.0	Sample SB-8-25-26.6 collected and submitted for laboratory analysis.
	0	SP	Dark gray f SAND, little Silt, little Organics (wood, roots). Saturated.	50/4"	13					0.0	27.3 BGS: Top of weathered bedrock.
			WEATHERED BEDROCK Black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale.	50/1"	14					0.0	

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** **SB-9** **Page** 1 **of** 2

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
RB/Albany, NY	JLM	8.25"	NA	N/A"	37.7 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Split Spoon	**Development Method:**
5/6/15 - 5/19/15	Atlantic Testing Laboratories, Inc.	**Hammer Type:** 140lb Auto.	N/A

Driller:	**Drilling Method:**	**Drilling Equipment:**		
A. Conant	HSA	CME 75	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 25.2 ft.	**Easting:** 706834.3 ft. **Northing:** 1410147.2 ft. **TOC Elev:** N/A ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	ppm Readings (ppm)	Remarks
		SW	**FILL** Dark brown cmf SAND and cmf GRAVEL (slag, brick), some Silt.	N/A	1						*Boring backfilled with cement/bentonite grout. Boring hand cleared to 5' BGS.*
		SW	Brown mf SAND, some (-) Silt. Dry.								0.0-3.0' BGS: Black discoloration (flat luster). Sample SB-9-1-2 collected and submitted for laboratory analysis.
		SW	Brown cmf SAND, some mf Gravel, some Silt. Dry.								
		SW	Same as above.								
5	20	SW	Brown cmf SAND and cmf GRAVEL, some Silt. Dry.	4-3-2-3	2					0.2	1.5 -3.0' BGS: Gravel to cobble sized solid tar-like material (submetallic luster), strong mothball-like odor. Sample SB-9-7-8.3 collected and submitted for laboratory analysis.
			Dark brown cmf SAND and GRAVEL (slag, brick), little Silt. Moist.								
		GW	Dark brown cmf GRAVEL (slag, brick, coal), little cm Sand. Moist.	3-2-2-2	3					0.3	
		GW	Dark brown cmf GRAVEL (slag, brick, coal), little cm Sand. Wet	1-1-3-22	4					1710	5.0-8.3' BGS: Black discoloration (flat to sub-metallic luster), faint to moderate mothball-like odor.
10	15										
		GW	Same as above.	11-5-8-6	5					>2000	
		ML	Brown Clayey SILT, little f Sand, little Organics (roots). Moist.								9.0-11.6' BGS: Black tacky/semi-solid tar-like material, black discolored grains (flat to sub-metallic luster), strong mothball-like odor. Sample SB-9-11-11.7 collected and submitted for laboratory analysis.
		SW	Dark brown cmf SAND and cmf GRAVEL (slag, brick, coal, ash), little (+) Silt. Moist.	6-9-10-15	6					191	
15	10	SW	Same as above.	3-6-23-21	7					36.0	
		SW	Dark brown cmf SAND (slag, brick), some (-) cmf Gravel, little Silt. Moist.	33-28-15-25	8					5.1	13.0-20.4' BGS: Black discoloration (flat luster). Sample SB-9-17-18.8 collected and submitted for laboratory analysis.
		ML	Dark brown Clayey SILT, some cmf Gravel, some Sand (slag, brick). Wet.	8-9-29-13	9					3.0	
20	5	SW	Dark brown cmf SAND and GRAVEL (slag, brick), some Clayey Silt. Wet.	5-4-9-8	10					1.4	
		SW	Same as above.								
		GW	Light/red brown cmf GRAVEL (slag, brick), little cm Sand, little Silt. Saturated.	1-1-2-2	11					4.6	Sample SB-9-23-24.3 collected and submitted for laboratory analysis.
		GW	Same as above.								
		CL/ML	**SILT & CLAY/CLAY & SILT** Green brown/gray SILT & CLAY/CLAY & SILT. Saturated. No Recovery	2-3-5-3	12						
25	0		No Recovery	1-3-2-5	13					84.5	
		GW	**SAND AND GRAVEL** Dark gray cmf GRAVEL (angular to sub-angular), some cm Sand, little Silt.	4-6-7-8	14					2.2	Sample SB-9-29-29.9 collected and submitted for laboratory analysis.
30	-5										

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** **SB-9** **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	ppm Readings (ppm)	Remarks
		GW	Saturated. Dark gray to gray cmf GRAVEL (sub-angular to sub-rounded), some cmf	2-6-5-3	15					1.7	
		SW	Sand, some Silt, little Organics (roots,). Saturated. Dark gray mf SAND, some Silt, some Organics (roots). Saturated.	1-2-5-35	16					2.2	
35	-10	GW	Dark gray cmf GRAVEL (sub-angular to rounded) and cmf SAND , little Silt (black weathering, decomposing (Silt and Clay), angular Shale). Saturated.	21-27-15-14	17					0.1	Sample SB-9-35-36.2 collected and submitted for laboratory analysis.
			WEATHERED BEDROCK Black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale.	31-50/3"	18					0.0	Split-spoon refusal on top of rock surface @ 37' BGS.

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** **SB-10** **Page** 1 **of** 2

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
BFT/Albany, NY	JLM	8.25"	NA	N/A"	32.8 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Split Spoon	Development Method:
1/24/17 - 1/25/17	Nothnagle Drilling, Inc.	Hammer Type: 140lb Auto.	N/A

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NYS Plane NAD83	Easting: 706989.4 ft.
S. Lorenty	HSA	CME 85	Vert Datum: NGVD 29	Northing: 1410384.0 ft.
			Ground Surface Elev: 28.03 ft.	TOC Elev: N/A ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Backfill	ppm Readings (ppm)	Remarks
			FILL Samples not collected from 0-5' BGS					*Boring backfilled with cement/bentonite grout. Boring hand cleared to 5' BGS.*
	25							
5		SW SP	Brown cmf SAND, little (+) mf Gravel (slag), trace Silt. Dry. Brown mf SAND, trace f Gravel. Dry.	1-1-2-2	1		0.6	Sample SB-10-5-6.2 collected and submitted for laboratory analysis.
		SP	Same as above.	9-11-22-30	2		1.3	5.8-7.4' BGS: Little black discolored grains (flat luster).
	20	SP	Black discolored f SAND, some Silt, trace f Gravel (coal). Dry.					7.4-10.6' BGS: Black discolored grains (flat luster).
		GP	Black discolored mf GRAVEL (slag), some mf SAND, trace Silt. Dry.	11-22-16-13	3		6.6	Sample SB-10-9-10.6 collected and submitted for laboratory analysis.
10			No Recovery.	4-10-6-7	4		--	
	15							
		GP	Black discolored mf GRAVEL (slag), some mf SAND, trace Silt. Dry.	7-7-9-11	5		4.7	13.0-16.0' BGS: Black discolored grains (flat luster).
15			No Recovery.	7-11-14-6	6		0.4	Sample SB-10-15-16 collected and submitted for laboratory analysis.
	10	SP	Brown mf SAND, some cmf Gravel (slag), trace Silt. Dry-Moist.	9-11-22-31	7		0.7	
		SP	Brown mf SAND, some cmf Gravel (slag), trace Silt. Saturated.	3-3-4-2	8		57.2	19.0-21.7' BGS: Iridescent sheen visible on water in split-spoon, moderate fuel-like odor.
20		SP	**SAND AND SILT** Dark grey f SAND, trace Silt. Saturated.	5-7-4-1	9		--	Sample SB-10-19-20.7 collected and submitted for laboratory analysis.
	5		No Recovery.					
		SP	Dark grey f SAND, trace Silt. Saturated.	5-4-5-3	10		22.5	23.0-23.2' BGS: Iridescent sheen visible on water in split-spoon, moderate fuel-like odor.
25		SM	Grey f SAND, little Silt, little (-) Gravel. Saturated.	1-2-1-1	11		27.5	25.0-26.8' BGS: Iridescent sheen visible on water in split-spoon, moderate fuel-like odor.
	0	SM	Grey f SAND, little Silt, little (-) Gravel. Saturated.	5-4-3-4	12		16.2	Sample SB-10-25-26.8 collected and submitted for laboratory analysis.
30			No Recovery.	1-2-1-1	13		--	27.0-28.6' BGS: Iridescent sheen visible on water in split-spoon, moderate

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** **SB-10** **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	ppm Readings (ppm)	Remarks
		SM GW BR	Grey f SAND, some Silt, trace f Gravel. Saturated. **SAND AND GRAVEL** Grey cmf GRAVEL (rounded), little cmf Sand. Saturated. **WEATHERED BEDROCK** Black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale. Dry.	WH-WH-8-50/3"	14					10.4	fuel-like odor. 31.0-32.4' BGS: Slight fuel-like odor. Sample SB-10-31-32.4 collected and submitted for laboratory analysis. Split-spoon refusal on top of rock surface @ 32.8' BGS.

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** **SB-11** **Page** 1 **of** 2

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
BFT/Albany, NY	JLM	8.25"	NA	N/A"	37.9 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Split Spoon	**Development Method:**
1/25/17 - 2/1/17	Nothnagle Drilling, Inc.	**Hammer Type:** 140lb Auto.	N/A

Driller:	**Drilling Method:**	**Drilling Equipment:**		
S. Lorenty	HSA	CME 85	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 27.42 ft.	**Easting:** 706851.6 ft. **Northing:** 1410229.9 ft. **TOC Elev:** N/A ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	ppm Readings (ppm)	Remarks
	25		**FILL** Samples not collected from 0-5' BGS. Refer to boring log for MW-3D for description of soils from this interval.								*Boring backfilled with cement/bentonite grout. Boring hand cleared to 5' BGS.*
5		SP	Brown mf SAND, little mf Gravel (slag), trace Silt. Dry.	3-2-2-2	1					0.1	
	20	SP	Same as above.	1-3-3-4	2					0.7	Sample SB-11-7-8.1 collected and submitted for laboratory analysis.
		GW	Dark brown cmf GRAVEL (slag), little mf Sand. Dry.								
		SP	Black discolored mf SAND, little mf Gravel (slag, brick), trace (-) Silt. Moist.	11-13-13-23	3					7.4	7.3-8.1' BGS: Orange discoloration on grains, slight tar-like odor.
10		SW	Black discolored cmf SAND, little mf Gravel, trace Silt. Moist.	7-10-10-13	4					124.7	9.0-10.4' BGS: Black discolored grains (flat luster), moderate tar-like odor.
	15	SW	Black discolored cmf SAND, some mf Gravel, trace Silt.	6-7-10-11	5					1945	11.0-11.8' BGS: Black discolored grains (flat luster), black stringy semi-solid tar-like material, strong tar-like odor.
15			No Recovery.	2-3-2-9	6					--	Sample SB-11-11-11.8 collected and submitted for laboratory analysis.
	10	GW	**SAND AND GRAVEL**	18-44-30-18	7					1727	13.0-14.2' BGS: Black discolored grains (flat luster), blebs of black stringy, tacky tar-like material, strong tar-like material.
		SP	Black discolored cmf GRAVEL trace f Sand. Moist.								
		SP	Brown mf SAND, some mf Gravel, trace Silt. Saturated.	4-6-6-7	8					391.1	17.0-17.3' BGS: Black discolor grains (flat luster), strong tar-like odor.
20			Same as above.								Sample SB-11-17-18.4 collected and submitted for laboratory analysis.
		SP	Black discolored mf SAND and mf	4-4-10-12	9					143.0	17.3-18.4' BGS: Black discoloration on outside of soil in split-spoon (flat luster), slight iridescent sheen on water in split-spoon, strong tar-like odor.
	5	GP	GRAVEL, trace Silt. Moist-Saturated.								
		SP	Same as above.	4-5-6-8	10					262.0	
		GP	Dark grey mf SAND, some mf Gravel, trace (+) Clayey Silt. Moist-Saturated.								
		SP									
25		SP	Same as above.	4-7-7-11	11					201	
		SW	Black discolored cmf SAND, little cmf Gravel, trace Silt. Saturated.								
		GW									
	0	GW	Grey cmf GRAVEL, trace f Sand.	4-7-11-8	12					18.9	19.0-19.3' BGS: Black discoloration on outside of soil in split-spoon (flat luster), slight iridescent sheen on water in split-spoon, strong tar-like
		SW	Saturated.								
			Dark grey cmf SAND and cmf GRAVEL, trace Silt. Saturated.								
		GM	Grey Clayey SILT, some mf Gravel (rounded), trace f Sand. Moist-Saturated.	6-7-8-7	13					10.4	
30											

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** **SB-11** **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	ppm Readings (ppm)	Remarks
		SW	Grey cmf SAND, trace Silt. Saturated.	H-2-4-6	14					40.8	odor. 21.0-22.2' BGS: Black discolored grains (submetallic luster), strong tar-like odor. 23.0-23.9' BGS: Black discolored grains (submetallic luster), strong tar-like odor. Sample SB-11-23-24.2 collected and submitted for laboratory analysis. 23.9-24.2' BGS: Moderate tar-like odor. 25.0-25.4' BGS: Moderate tar-like odor. 25.4-26.2' BGS: Black discolored grains (flat luster), brown NAPL partially coating grains, strong tar-like odor. 26.2-26.4' BGS: Moderate tar-like odor. 27.0-27.7' BGS: Slight iridescent sheen on water in split-spoon, moderate tar-like odor. 31.0-32.2' BGS: Slight tar-like odor. Sample SB-11-31-32.2 collected and submitted for laboratory analysis. 33.0-34.3' BGS: Slight tar-like odor. Sample SB-11-37-37.9 collected and submitted for laboratory analysis. Split-spoon refusal on top of rock surface @ 37.9' BGS.
	-5	SW	Wood fragments.								
		SW	Grey cmf SAND, some mf Gravel (rounded), trace Silt. Saturated. Same as above.	4-6-10-10	15					3.9	
35		SW	Grey cmf SAND, some (-) mf Gravel, trace Silt, trace Organics (wood). Saturated.	14-13-14-15	16					3.1	
	-10	SW	Same as above.	11-50/3"	17					0.0	
		BR	**WEATHERED BEDROCK** Black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale. Dry.								

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** **SB-12** **Page** 1 **of** 2

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
BFT/Albany, NY	JLM	8.25"	NA	N/A"	38.4 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Split Spoon	**Development Method:**
1/25/17 - 1/31/17	Nothnagle Drilling, Inc.	**Hammer Type:** 140lb Auto.	N/A

Driller:	**Drilling Method:**	**Drilling Equipment:**		
S. Lorenty	HSA	CME 85	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 27.19 ft.	**Easting:** 706856.2 ft. **Northing:** 1410194.7 ft. **TOC Elev:** N/A ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Backfill	ppm Readings (ppm)	Remarks
			FILL Samples not collected from 0-5' BGS					*Boring backfilled with cement/bentonite grout. Boring hand cleared to 5' BGS.*
	25							
5		SP	Black cm SAND (misc. fill). Dry.	1-2-1-1	1		0	
	20	SW GP	Black/grey cmf SAND and mf GRAVEL (misc. fill, cinders, brick). Moist-Wet.	1-3-2-4	2		0	Sample SB-12-7-8 collected and submitted for laboratory analysis.
		SW GP	Same as above. Wood fragments.	2-8-15-23	3		3160	
10		SP SW	Black discolored mf SAND, some Silt, little Gravel (misc. fill). Moist.	3-9-7-6	4		290	10.0-10.5' BGS: Black discolored grains (flat luster), moderate tar-like odor.
	15		Black/grey cmf SAND, some Silt, little mf Gravel. Moist-Wet.					11.0-12.0' BGS: Black discolored grains (submetallic luster), trace iridescent sheen visible on water in split-spoon, strong tar-like odor.
		SW	Black/grey cmf SAND, some Silt, little Gravel (cinders). Wet.	4-8-10-18	5		429	
15		SW GP	Black/grey cmf SAND and mf GRAVEL. Saturated.	4-4-7-9	6		178.3	Sample SB-12-13-14.8 collected and submitted for laboratory analysis.
	10	SW	Grey cmf SAND, some Silt. Saturated.	6-8-53-22	7		32.7	13.0-14.3' BGS: Black discolored grains (flat luster), moderate tar-like odor.
		SP SP SP	Grey cm SAND and mf GRAVEL (misc. fill: coke, cinders). Saturated. Black/grey mf SAND, some Silt, little f Gravel (subrounded). Moist.	8-6-7-8	8		13	15.0-15.3' BGS: Black discolored grains (submetallic luster), trace sheen visible on water in split-spoon, moderate tar-like odor.
20			**SAND AND GRAVEL**					
	5		Grey mf SAND, some mf Gravel (rounded/subrounded), little Silt. Moist. No Recovery.	5-10-12-13	9		--	18.1-18.5' BGS: Black discolored grains (flat luster), faint tar-like odor.
		SW	Grey cmf SAND, some mf Gravel (subrounded), little (-) Silt. Saturated.	4-6-6-7	10		6.8	Sample SB-12-19-20 collected and submitted for laboratory analysis.
25		GP SW	Grey mf GRAVEL and cmf SAND, little Silt. Saturated.	4-7-6-8	11		67.5	23.0-24.0' BGS: Slight tar-like odor.
	0		No Recovery.	6-8-12-9	12		--	24.0-24.2' BGS: Black discolored grains (flat luster), moderate tar-like odor.
		SP GP SM	Grey cm SAND and mf GRAVEL, trace Silt. Saturated. Grey mf SAND and SILT, little Organics.	6-8-9-6	13		187.2	25.0-25.9' BGS: Black discolored grains (flat luster). Sample SB-12-25-26.1 collected and submitted for
30								

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** SB-12 **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	ppm Readings (ppm)	Remarks
		SW	Saturated.	7-8-8-13	14					74.5	laboratory analysis. 26.1-26.2' BGS: NAPL partially coating grains, black discolored grains (metallic luster), strong tar/mothball-like odor. 27.0-29.0' BGS: No recovery - iridescent sheen visible on outside of split-spoon. 29.0-29.2' BGS: Black discolored grains (submetallic luster), NAPL coating grains, strong tar/mothball-like odor. 29.2-30.0' BGS: Black discolored grains, submetallic luster, strong tar/mothball-like odor. 30.0-30.2' BGS: Flat luster, moderate tar/mothball-like odor. 31.0-31.3' BGS: Black discolored grains (submetallic luster), NAPL coating grains, strong tar-like odor. 33.0-34.1' BGS: Black discolored grains (metallic luster), few blebs of NAPL, slight iridescent sheen, moderate tar-like odor. Sample SB-12-33-34.1 collected and submitted for laboratory analysis. 35.0-36.2' BGS: Slight iridescent sheen visible on outside of soils, slight tar-like odor. 37.0-38.2' BGS: Faint tar-like odor. Sample SB-12-37-38.2 collected and submitted for laboratory analysis. Split-spoon refusal on top of rock surface @ 38.4' BGS.
	-5	GW	Grey cmf SAND and cmf GRAVEL, little Silt. Saturated.								
		SW	Grey cmf SAND, some mf Gravel, little Silt. Saturated.	6-11-32-24	15					67.2	
35		SW	Grey cmf SAND, some mf Gravel, little Silt. Saturated.	11-12-12-14	16					22.3	
	-10	SP	Grey mf SAND, little (+) f Gravel (rounded), trace Silt. Saturated.	12-20-50/4"	17					13.5	
		BR	**WEATHERED BEDROCK** Black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale. Dry.								

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** **SB-13** **Page** 1 **of** 2

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
BFT/Albany, NY	JLM	8.25"	NA	N/A"	35.7 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Split Spoon	Development Method:
1/26/17 - 1/30/17	Nothnagle Drilling, Inc.	Hammer Type: 140lb Auto.	N/A

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NYS Plane NAD83	Easting: 706831.7 ft.
S. Lorenty	HSA	CME 85	Vert Datum: NGVD 29	Northing: 1410093.4 ft.
			Ground Surface Elev: 25.88 ft.	TOC Elev: N/A ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Backfill	ppm Readings (ppm)	Remarks
	25		**FILL** Samples not collected from 0-5' BGS. Refer to test pit log TP-1B for description of soils from this interval.					*Boring backfilled with cement/bentonite grout. Boring hand cleared to 5' BGS.*
5	20	SW	Dark brown cmf SAND, little mf Gravel, trace Silt. Dry.	1-2-2-3	1		0.8	Sampe SB-13-5-6.1 collected and submitted for laboratory analysis.
		SW	Same as above.	1-2-4-4	2		0.7	
		SP	Brown mf SAND, little f Gravel. Dry.	4-6-10-4	3		13.2	9.0-9.7' BGS: Little black discolored grains (flat luster), moderate tar-like odor.
10	15		Black geotextile-like material.					
		SW	Dark brown cmf SAND, some mf Gravel (slag, fire brick). Dry.	4-6-6-5	4		7.8	Sample SB-13-9-10.3 collected and submitted for laboratory analysis.
		SW	Same as above.	4-6-3-3	5		6.3	9.7-10.8' BGS: Moderate tar-like odor. 11.0-11.9' BGS: Slight tar-like odor.
15	10		No Recovery.	5-2-1-4	6		--	
		SP GP	Brown mf SAND, little f Gravel, trace Silt. Moist-Saturated.	10-11-4-3	7		2.2	Sample SB-13-17-18.2 collected and submitted for laboratory analysis.
		GW	Brown mf GRAVEL (slag), little cmf SAND. Saturated.	2-2-4-3	8		0.5	
20	5	OL SP	Brown cmf GRAVEL, little mf Sand, trace Silt. Saturated.					
		SP	**SAND AND SILT**	1-1-1-2	9		0.9	
		SP	Dark Grey Clayey SILT, little f Sand. Moist-Saturated.					
		SP	Dark grey f SAND, little Clayey Silt, little (-) Organics (wood fibers). Moist-Saturated.	WOH1-2-3	10		0.4	Sample SB-13-23-24.2 collected and submitted for laboratory analysis.
			Same as above.					
25			Same as above.					
	0	SP	Dark Grey f SAND, some (+) Clayey Silt, trace Organics (wood fibers). Saturated.	1-1-2-2	11		0.7	
		SP	Same as above.	H-H-1-1	12		0.6	
		SW GP	**SAND AND GRAVEL** Grey cmf SAND and mf GRAVEL, trace Silt. Saturated.	2-4-4-3	13		0.5	Sample SB-13-29-30.2 collected and submitted for laboratory analysis.
30	-5							

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** **SB-13** **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	ppm Readings (ppm)	Remarks
		SW	Grey cmf SAND, some (-) mf Gravel. Saturated.	6-7-6-9	14					0.7	
				1-2-2-1	15					0.2	
35		SW	Same as above.	6-50/2"	16					0.1	Sample SB-13-35-35.5 collected and submitted for laboratory analysis. Split-spoon refusal on top of rock surface @ 35.7' BGS.
		BR	**WEATHERED BEDROCK** Black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale. Dry.								

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** **SB-14** **Page** 1 **of** 2

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
BFT/Albany, NY	JLM	8.25"	NA	N/A"	32.3 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Split Spoon	Development Method:
1/24/17 - 1/25/17	Nothnagle Drilling, Inc.	Hammer Type: 140lb Auto.	N/A

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NYS Plane NAD83	Easting: 706989.5 ft.
S. Lorenty	HSA	CME 85	Vert Datum: NGVD 29	Northing: 1410342.3 ft.
			Ground Surface Elev: 28.76 ft.	TOC Elev: N/A ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Backfill	ppm Readings (ppm)	Remarks
		SP	**FILL** Brown mf SAND, little mf Gravel, trace Silt. Dry.	N/A			0.0	*Boring backfilled with cement/bentonite grout. Boring hand cleared to 5' BGS.*
		SP						
		GW	Same as above.					
			Concrete.					
	25		Brown/yellow brown cmf GRAVEL (fire brick), little mf Sand. Dry.					
5		GP	Brown mf GRAVEL (concrete, brick), little mf Sand, trace Silt. Dry.	2-11-7-11	1		1.1	Sample SB-14-5-6.6 collected and submitted for laboratory analysis.
		SP	Black discolored mf SAND, little (-) f Gravel, trace (+) Silt. Dry.					
		SW		7-18-34-18	2		1.6	5.9-7.8' BGS: Black discolored grains (flat luster).
	20	SW	Black discolored cmf SAND, little f Gravel (coal). Dry.					
		SW	Brown cmf SAND, mf Gravel, little Silt (ash). Dry.	3-8-3-4	3		0.7	Sample SB-14-9-10.3 collected and submitted for laboratory analysis.
10		ML	Brown cmf SAND, mf Gravel, little Silt (ash). Moist.					
		ML	Brown Clayey SILT/SILT & CLAY, little f Sand. Moist.	1-2-7-7	4		2.2	11.4-17.6' BGS: Little black discolored grains (flat luster).
		GP	Same as above.					
	15	GP	Brown mf GRAVEL (slag, coal), little mf Sand. Moist.	4-4-4-3	5		3.7	
			Same as above.					
15		GP	Same as above.	2-8-7-9	6		1.7	Sample SB-14-15-16.8 collected and submitted for laboratory analysis.
		SP	Brown mf SAND, little Silt, little f Gravel.					
		SP	Moist.	9-5-2-7	7		1.6	
		GP	Same as above.					
	10		Brown mf GRAVEL, little mf Sand. Dry.					
		ML	**SAND AND SILT**	2-2-4-3	8		3.0	19-20.6' BGS: Slight fuel-like odor.
20			Brown/grey Clayey SILT, little f Sand.					Sample SB-14-19-20.6 collected and submitted for laboratory analysis.
		SP	Saturated.					
			Grey f SAND, little Silt. Saturated. No Recovery.	3-6-4-7	9		--	
	5	GP	Black discolored mf GRAVEL, little cmf Sand. Saturated.	3-5-1-1	10		32.9	23-24' BGS: Black discolored grains (metallic luster), slight iridescent sheen visible on water in split-spoon, strong fuel-like odor.
		ML	Grey Clayey SILT, little f Sand. Saturated.					
25		SW	**SAND AND GRAVEL**	1-3-4-6	11		11.3	
		SP	Black discolored cmf SAND, little mf Gravel. Saturated.					
		SP	Grey mf SAND, little Silt. Saturated.	3-4-7-8	12		10.2	Sample SB-14-23-24 collected and submitted for laboratory analysis.
			Grey mf SAND, little mf Gravel. Saturated.					
	0							24.0-24.1' BGS: Moderate fuel-like odor.
		SP	Same as above.	1-1-3-5	13		3.7	
30		SP	Grey mf SAND, little (-) f Gravel, trace Silt.					25.0-25.7' BGS: Black discolored grains (submetallic luster), slight

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** **SB-14** **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	ppm Readings (ppm)	Remarks
		SP BR	Saturated. Grey mf SAND, some cmf Gravel (rounded), little Organics (wood). Saturated. **WEATHERED BEDROCK** Black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale. Dry.	23-29-50/4"	14					2.1	fuel-like odor. 25.7-26.1' BGS: Slight fuel-like odor. 27.0-28.1' BGS: Black discolored grains (flat luster), moderate fuel-like odor. Sample SB-14-29-30.4 collected and submitted for laboratory analysis. 30.0-31.9' BGS: Slight fuel-like odor. 31.9' BGS: Blue-green discoloration visible on gravel. Split-spoon refusal on top of rock surface @ 32.3' BGS.

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** **SB-15** **Page** 1 **of** 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
BFT/Albany, NY	JLM	8.25"	NA	N/A"	28.5 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Split Spoon	Development Method:
1/26/17 - 1/27/17	Nothnagle Drilling, Inc.	Hammer Type: 140lb Auto.	N/A

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NYS Plane NAD83	Easting: 706998.0 ft.
S. Lorenty	HSA	CME 85	Vert Datum: NGVD 29	Northing: 1410216.8 ft.
			Ground Surface Elev: 29.44 ft.	TOC Elev: N/A ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Backfill	ppm Readings (ppm)	Remarks
		—	Asphalt.					*Boring backfilled with cement/bentonite grout.*
			Concrete.	4-12-15-30			0.8	*Boring hand cleared to 5' BGS.*
		SP	**FILL**	N/A			0.0	
		SP	Brown mf SAND, little mf Gravel, trace Silt. Dry.					
		GP	Same as above,					
	25	GP	Brown mf GRAVEL (slag), some mf Sand,					
5		SP	trace Silt. Dry.	1-3-5-17	1		0.5	Sample SB-15-4-5 collected and submitted for laboratory analysis.
		SP	Same as above,					5.8-7.4' BGS: Black discolored grains (flat luster).
		SP	Brown mf SAND, some mf Gravel, trace Silt. Dry.	11-20-11-8	2		2.6	
		GP	Pulverized brick.					
	20	GP	Black discolored mf SAND, little f Gravel (coal), little Silt. Dry.	3-6-5-6	3		2.3	Sample SB-15-9-10.2 collected and submitted for laboratory analysis.
10			Same as above.					
		GP	Brown mf GRAVEL (slag), little cmf Sand, trace Silt.	3-3-6-3	4		0.7	
			Same as above.					
			Same as above.					
		GP	Brown f GRAVEL (slag, coal, brick) and cmf SAND, trace Silt. Moist.	4-3-1-3	5		1.0	
	15							
15		GP	Same as above.					Sample SB-15-15-17 collected and submitted for laboratory analysis.
		SP	Black discolored mf SAND, little f Gravel (coal), trace (+) Silt. Moist.					15.8-17.0' BGS: Black discolored grains (flat luster).
		GP	Brown mf GRAVEL (slag, brick), some cmf Sand, trace Silt. Moist-Saturated.	9-7-6-13	6		0.7	
	10		No Recovery.	18-19-8-9	7		--	
20								
		GP	Brown mf GRAVEL (slag, brick), some cmf	2-2-4-4	8		0.2	Sample SB-15-21-22.8 collected and submitted for laboratory analysis.
		OL	Sand, trace Silt. Moist-Saturated.					
			SAND AND SILT					
		OL	Grey/green Clayey SILT, little f Sand, trace (-) f Gravel. Moist.	1-2-3-4	9		0.8	
	5		Same as above.					
25		OL	Same as above.	1-2-4-4	10		0.5	
		SP	Grey f SAND, little Silt, little Organics (wood). Moist-Saturated.					
		SP	Grey f SAND, little Silt, trace mf Gravel (subrounded). Moist-Saturated.	3-4-50/5"	11		0.0	Sample SB-15-27-28.3 collected and submitted for laboratory analysis.
		BR	**WEATHERED BEDROCK**					Split-spoon refusal on top of rock surface @ 28.5' BGS.
			Black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale. Dry.					

BORING LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Boring No.** **SB-16** **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
BFT/Albany, NY	JLM	8.25"	NA	N/A"	27.4 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Split Spoon	**Development Method:**
1/26/17 - 1/30/17	Nothnagle Drilling, Inc.	**Hammer Type:** 140lb Auto.	N/A

Driller:	**Drilling Method:**	**Drilling Equipment:**		
S. Lorenty	HSA	CME 85	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 28.45 ft.	**Easting:** 706995.3 ft. **Northing:** 1410150.4 ft. **TOC Elev:** N/A ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Backfill	ppm Readings (ppm)	Remarks
			FILL Samples not collected from 0-5' BGS					*Boring backfilled with cement/bentonite grout. Boring hand cleared to 5' BGS.*
	25							
5		SP SW	Brown mf SAND, little (+) cmf Gravel, trace Silt. Dry.	2-3-5-12	1		0.5	Sample SB-16-5-6.7 collected and submitted for laboratory analysis.
		GP GW	Dark brown cmf SAND and mf GRAVEL, trace Silt. Dry.	14-18-25-19	2		3.7	
	20		Dark brown cmf GRAVEL (slag, brick), little mf Sand. Dry.					
		GW	Same as above.	4-10-8-13	3		8.4	Sample SB-16-9-10.4 collected and submitted for laboratory analysis.
10								
		GW	Dark brown cmf GRAVEL (slag, brick), little mf Sand. Dry.	3-4-7-4	4		3.4	
	15	GW	Same as above.	1-5-5-7	5		2.7	
		SP	Black discolored mf SAND, some (-) f Gravel (coal), trace Silt. Dry.					13.4-17.8' BGS: Black discolored grains (flat luster).
15		SP	Black discolored mf SAND, some (-) f Gravel (coal), trace Silt. Moist.	10-14-30-32	6		3.1	Sample SB-16-15-16.7 collected and submitted for laboratory analysis.
		SP	Same as above.	3-3-7-6	7		1.4	
	10	SP	Black discolored f SAND, trace f Gravel (brick, coal), trace Silt. Moist.					
		SP	Dark brown f SAND, trace (+) f Gravel (brick), trace Silt. Moist-Saturated.	19-35-34-26	8		1.5	Sample SB-16-19-21 collected and submitted for laboratory analysis.
20								
		SM	**SAND AND SILT**	7-4-8-9	9		0.0	
		OL	Grey Silt, little mf SAND, little f Gravel. Moist.					
		SM						
	5	SM	Grey/green Clayey SILT, little f Sand, trace Organics (wood) Moist.	3-4-3-5	10		0.0	
			Grey f SAND, trace Silt. Moist.					
25		SM	Grey f SAND, some Silt, little Organics (wood). Moist.	5-3-2-5	11		0.0	Sample SB-16-25-27 collected and submitted for laboratory analysis.
			Brown f SAND and SILT, some Organics (wood). Moist.					
		SM	Same as above.	50/5"	12		0.0	
		BR	**WEATHERED BEDROCK** Black weathered, decomposed bedrock (Silt and Clay), pieces of angular Shale. Dry.					Split-spoon refusal on top of rock surface @ 27.4' BGS.

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** SV-1 **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
BFT/Albany, NY	JLM	3"	N/A" N/A	N/A"	8.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
11/1/17 - 11/1/17	Nothnagle Drilling, Inc.	**Hammer Type:** NA	N/A

Driller:	**Drilling Method:**	**Drilling Equipment:**		
J. Schwartzel	Direct-push	Geoprobe 6610DT	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 27.86 ft.	**Easting:** 706923.1 ft. **Northing:** 1410108.7 ft. **TOC Elev:** N/A ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well (Traffic Rated Vault Box)	ppm Readings (ppm)	Remarks
			FILL Samples not collected from 0-5' BGS	N/A							*Boring hand cleared to 5' BGS.* *0.0-2.5' BGS: Backfill with soil cuttings.* *2.5-5.5' BGS: Bentonite seal.*
	25										
5		GP SP	Dark brown mf GRAVEL (slag), little cmf Sand, trace Silt. Dry. Black discolored mf SAND, trace (-) Silt. Dry.	N/A	1					1.4	*5.5-8.0BGS: Glass bead filter pack.* 5.8-6.9' BGS: Black discoloration (flat luster). *7.5-8.0' BGS: Stainless steel screen.*
	20										

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** SV-2 **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
BFT/Albany, NY	JLM	3"	N/A" N/A	N/A"	7.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
11/1/17 - 11/1/17	Nothnagle Drilling, Inc.	**Hammer Type:** NA	N/A

Driller:	**Drilling Method:**	**Drilling Equipment:**		
J. Schwartzel	Direct-push	Geoprobe 6610DT	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 26.43 ft.	**Easting:** 706832.9 ft. **Northing:** 1410133.0 ft. **TOC Elev:** N/A ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well	ppm Readings (ppm)	Remarks
	25		**FILL** Samples not collected from 0-5' BGS. Refer to boring log for SB-9 for description of soils from this interval.	N/A					Traffic Rated Vault Box		*Boring hand cleared to 5' BGS.* *0.0-2.5' BGS: Backfill with soil cuttings.* *2.5-4.5' BGS: Bentonite seal.*
5	20	SW	Dark brown cmf SAND, some mf Gravel (slag), trace (-) Silt. Dry.	N/A	1					0.5	*4.5-7.0' BGS: Glass bead filter pack.*
		SW	Brown cmf SAND, little (-) f Gravel, trace (-) Silt. Moist.								*6.5-7.0' BGS: Stainless steel screen.*

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** SV-3 **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
BFT/Albany, NY	JLM	3"	N/A" N/A	N/A"	7.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
11/1/17 - 11/1/17	Nothnagle Drilling, Inc.	**Hammer Type:** NA	N/A

Driller:	**Drilling Method:**	**Drilling Equipment:**		
J. Schwartzel	Direct-push	Hand Auger/Geoprobe 6610DT	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 27.03 ft.	**Easting:** 706858.9 ft. **Northing:** 1410224.9 ft. **TOC Elev:** N/A ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well (Traffic Rated Vault Box)	ppm Readings (ppm)	Remarks
	25	SW	**FILL** Brown cmf SAND, some cmf Gravel (slag). Dry.	N/A	1		1.7	*Boring hand cleared to 5' BGS.* *0.0-2.5' BGS: Backfill with soil cuttings.* *2.5-4.5' BGS: Bentonite seal.*
		SW	Dark bown cmf SAND, little (+) cmf Gravel (slag, asphalt). Dry.					
5		SW	Dark brown cmf SAND, some mf Gravel (slag). Dry.	N/A	2		3.2	*4.5-7.0' BGS: Glass bead filter pack.* *6.5-7.0' BGS: Stainless steel screen.*

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** SV-4 **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
BFT/Albany, NY	JLM	3"	N/A" N/A	N/A"	8.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
11/1/17 - 11/1/17	Nothnagle Drilling, Inc.	**Hammer Type:** NA	N/A

Driller:	**Drilling Method:**	**Drilling Equipment:**		
J. Schwartzel	Direct-push	Geoprobe 6610DT	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 27.23 ft.	**Easting:** 706822.4 ft. **Northing:** 1410264.7 ft. **TOC Elev:** N/A ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well (Traffic Rated Vault Box)	ppm Readings (ppm)	Remarks
	25		**FILL** Samples not collected from 0-5' BGS. Refer to boring log for SB-2 for description of soils from this interval.	N/A							*Boring hand cleared to 5' BGS.* *0.0-2.5' BGS: Backfill with soil cuttings.* *2.5-5.5' BGS: Bentonite seal.*
5		SW	Dark brown cmf SAND, little mf Gravel (slag, asphalt), trace (-) Silt. Dry.	N/A	1					7.2	*5.5-8.0BGS: Glass bead filter pack.* *7.5-8.0' BGS: Stainless steel screen.*
	20										

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** SV-5 **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
BFT/Albany, NY	JLM	3"	N/A" N/A	N/A"	8.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
11/1/17 - 11/1/17	Nothnagle Drilling, Inc.	**Hammer Type:** NA	N/A

Driller:	**Drilling Method:**	**Drilling Equipment:**		
J. Schwartzel	Direct-push	Geoprobe 6610DT	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 29.35 ft.	**Easting:** 706873.0 ft. **Northing:** 1410374.8 ft. **TOC Elev:** N/A ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well	ppm Readings (ppm)	Remarks
			FILL Samples not collected from 0-5' BGS	N/A					Traffic Rated Vault Box		*Boring hand cleared to 5' BGS.* *0.0-2.5' BGS: Backfill with soil cuttings.* *2.5-5.5' BGS: Bentonite seal.*
	25										
5		SP	Brown/dark brown mf SAND, some (+) cmf Gravel (brick, fire brick, slag). Dry.	N/A	1					7.3	*5.5-8.0BGS: Glass bead filter pack.* *7.5-8.0' BGS: Stainless steel screen.*

WELL LOG

Brown AND Caldwell	**Project Name:** Troy (Water St.) Site - Area 3 **Project Number:** 146094 **Project Location:** Troy, NY	**Permit Number:** N/A	**Well No.** SV-6 **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
BFT/Albany, NY	JLM	3"	N/A" N/A	N/A"	8.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
11/1/17 - 11/1/17	Nothnagle Drilling, Inc.	**Hammer Type:** NA	N/A

Driller:	**Drilling Method:**	**Drilling Equipment:**		
J. Schwartzel	Direct-push	Geoprobe 6610DT	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 28.95 ft.	**Easting:** 706983.8 ft. **Northing:** 1410314.4 ft. **TOC Elev:** N/A ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	ppm Readings (ppm)	Remarks
			FILL Samples not collected from 0-5' BGS. Refer to boring log for MW-1D for description of soils from this interval.	N/A				*Boring hand cleared to 5' BGS.* *0.0-2.5' BGS: Backfill with soil cuttings.* *2.5-5.5' BGS: Bentonite seal.*
	25							
5		SW/GP	Brown/dark brown cmf SAND and mf GRAVEL (slag). Dry.	N/A	1		3.7	*5.5-8.0BGS: Glass bead filter pack.*
		SP	Dark brown mf SAND, some mf Gravel (slag, fire brick), trace Silt. Dry.					*7.5-8.0' BGS: Stainless steel screen.*

Well: Traffic Rated Vault Box

Test Pit Log

SITE NAME	Troy (Water Street) Site – Area 3	TEST PIT ID	TP-1
SITE LOCATION	Troy, NY	BC REPRESENTATIVE	B. Taylor
GENERAL LOCATION	Below Span of Troy-Menands Bridge	CONTRACTOR	Atlantic Testing Laboratories, Inc.
DATE	5/27/2015	OTHERS	David Herman (NYSDEC)
TIME OPENED	14:45	TIME CLOSED	15:10
DEPTH TO WATER (ft.bgs)	Not Encountered	EQUIPMENT	Kobelco SK140SRLC-3
DEPTH TO BASE OF FILL (ft. BGS)	Not Encountered	TOTAL LENGTH (ft.)	12 (east-west orientation)
		TOTAL DEPTH (ft. BGS)	10
		NORTHING (ft., NAD83)	1410099.76
GS ELEV. (ft. NGVD 29)	25.35	EASTING (ft., NAD83)	706890.52
OBSERVATIONS • 0-10.0' BGS: Black discoloration (flat luster). • No visual or olfactory observations/indications of potential purifier waste material		REMARKS • Sample TP-1-8-9 collected and submitted for laboratory analysis.	



Orientation: View is south.

0.0-8.0' BGS: Black cmf SAND, some cmf Gravel (slag, coal). Dry.

8.0-9.0' BGS: Black mf GRAVEL (lightweight slag-like material), some mf Sand. Dry.

9.0-10.0' BGS: Black mf SAND, trace f Gravel. Dry.

Test Pit Log

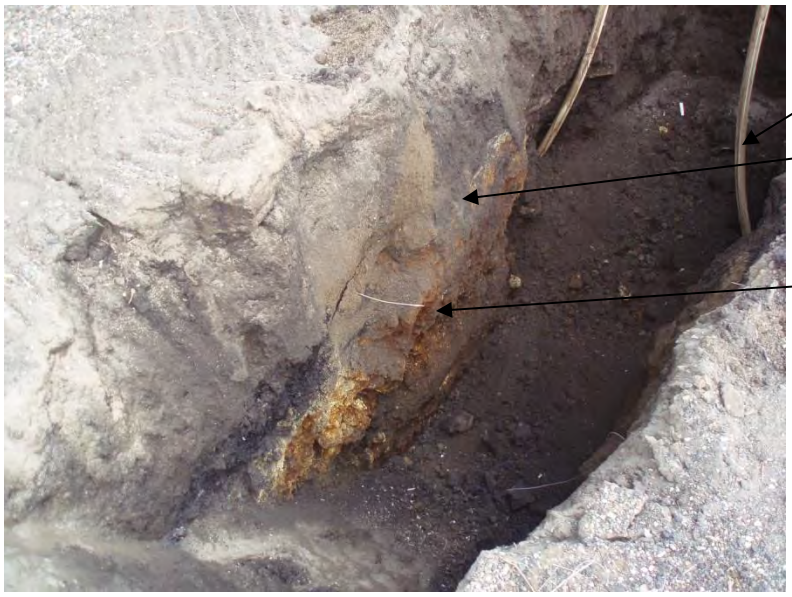
SITE NAME	Troy (Water Street) Site – Area 3	TEST PIT ID	TP-1A
SITE LOCATION	Troy, NY	BC REPRESENTATIVE	B. Taylor
GENERAL LOCATION	Below Span of Troy-Menands Bridge	CONTRACTOR	Atlantic Testing Laboratories, Inc.
DATE	5/27/2015	OTHERS	David Herman (NYSDEC)
TIME OPENED	15:15	TIME CLOSED	15:30
DEPTH TO WATER (ft.bgs)	Not Encountered	EQUIPMENT	Kobelco SK140SRLC-3
DEPTH TO BASE OF FILL (ft. BGS)	Not Encountered	TOTAL LENGTH (ft.)	11 (east-west orientation)
		TOTAL DEPTH (ft. BGS)	6
		NORTHING (ft., NAD83)	1410095.83
GS ELEV. (ft. NGVD 29)	25.24	EASTING (ft., NAD83)	706865.02

OBSERVATIONS

- 0-3.0' BGS: Black discoloration (flat luster).
- No visual or olfactory observations/indications of potential purifier waste material.

REMARKS

- Test pit termintated at 6' due to presence of 2" PVC pipe at 4.5' BGS. Pipe was kinked during excavation and exhibited no liquid flow or contents under pressure.



Orientation: View is southwest.

4.5' BGS: 2" PVC pipe oriented north-south.

0.0-3.0' BGS: Black/grey cmf SAND, little (+) mf Gravel. Dry.

3.0-6.0' BGS: Tan/red cmf GRAVEL (firebrick), little mf Sand. Dry.

Test Pit Log

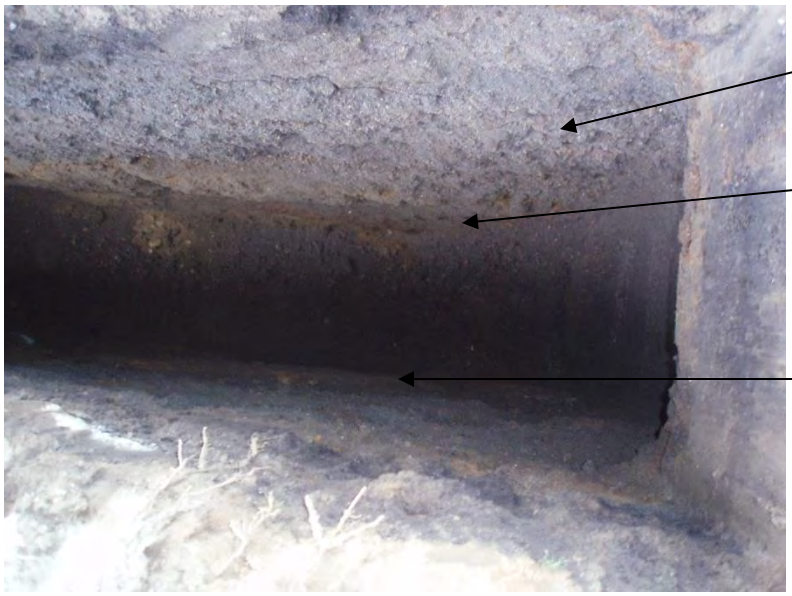
SITE NAME	Troy (Water Street) Site – Area 3	TEST PIT ID	TP-1B
SITE LOCATION	Troy, NY	BC REPRESENTATIVE	B. Taylor
GENERAL LOCATION	Below Span of Troy-Menands Bridge	CONTRACTOR	Atlantic Testing Laboratories, Inc.
DATE	5/27/2015	OTHERS	David Herman (NYSDEC)
TIME OPENED	15:45	TIME CLOSED	16:05
DEPTH TO WATER (ft.bgs)	Not Encountered	EQUIPMENT	Kobelco SK140SRLC-3
DEPTH TO BASE OF FILL (ft. BGS)	Not Encountered	TOTAL LENGTH (ft.)	10 (east-west orientation)
		TOTAL DEPTH (ft. BGS)	10
		NORTHING (ft., NAD83)	1410082.67
GS ELEV. (ft. NGVD 29)	24.27	EASTING (ft., NAD83)	706840.20

OBSERVATIONS

- 0-4.0' BGS: Black discoloration (flat luster).
- 6.0-10.0' BGS: Black discoloration (flat luster).
- No visual or olfactory observations/indications of potential purifier waste material.

REMARKS

- Sample TP-1B-9-10 collected and submitted for laboratory analysis.



Orientation: View is north.

0.0-4.0' BGS: Black cmf SAND and mf GRAVEL (light weight slag-like material, coal). Dry.

4.0-6.0' BGS: Red brown/grey mf GRAVEL, some Clayey Silt (fill material), little mf Sand. Dry.

6.0-10.0' BGS: Black cmf SAND, some mf Gravel, trace Silt. Moist.

Test Pit Log

SITE NAME	Troy (Water Street) Site – Area 3	TEST PIT ID	TP-2
SITE LOCATION	Troy, NY	BC REPRESENTATIVE	B. Taylor
GENERAL LOCATION	Northern portion of Former Tank T-27	CONTRACTOR	Atlantic Testing Laboratories, Inc.
DATE	5/28/2015	OTHERS	Jeff Anderson (BC), David Herman (NYSDEC)
TIME OPENED	07:35	TIME CLOSED	08:20
DEPTH TO WATER (ft.bgs)	Not Encountered	EQUIPMENT	Kobelco SK140SRLC-3
DEPTH TO BASE OF FILL (ft. BGS)	Not Encountered	TOTAL LENGTH (ft.)	29 (north-south orientation)
		TOTAL DEPTH (ft. BGS)	5
		NORTHING (ft., NAD83)	1410238.78
GS ELEV. (ft. NGVD 29)	25.86	EASTING (ft., NAD83)	7068853.10
OBSERVATIONS 2.0-5.0' BGS: Black discoloration (flat luster).		REMARKS • 0.4-1.0' BGS: Brittle concrete slab (grout-like texture). North edge of pad ~16' north of south wall of test pit. • Sample TP-2-4-5 collected and submitted for laboratory analysis.	



Orientation: View is northeast.

0.0-0.4' BGS: Brown mf SAND, trace f Gravel. Dry.

0.4-1.0' BGS: Brittle concrete slab w/ grout-like texture. Note: edge of concrete slab 16' north of southern wall of test pit.

1.0-2.0' BGS: Brown cmf SAND, some (+) cmf Gravel, little Silt. Dry.

2.0-5.0' BGS: Black cmf SAND, some mf Gravel (light weight slag/coal material). Dry

Test Pit Log

SITE NAME	Troy (Water Street) Site – Area 3	TEST PIT ID	TP-3
SITE LOCATION	Troy, NY	BC REPRESENTATIVE	B. Taylor
GENERAL LOCATION	North of Former Tank T-41	CONTRACTOR	Atlantic Testing Laboratories, Inc.
DATE	5/28/2015	OTHERS	Jeff Anderson (BC), David Herman (NYSDEC)
TIME OPENED	08:25	TIME CLOSED	09:40
DEPTH TO WATER (ft.bgs)	Not Encountered	EQUIPMENT	Kobelco SK140SRLC-3
DEPTH TO BASE OF FILL (ft. BGS)	Not Encountered	TOTAL LENGTH (ft.)	16 (north-south orientation)
		TOTAL DEPTH (ft. BGS)	5
		NORTHING (ft., NAD83)	1410284.08
GS ELEV. (ft. NGVD 29)	27.00	EASTING (ft., NAD83)	706964.03

OBSERVATIONS	REMARKS
9' North of T-41 - ~1' thick layer (just below ground surface) of semi-solid, stringy, tacky tar-like material mixed with gravel, PID headspace reading - 140.8 ppm.	• 0.4’ BGS: 3.5’ North of T-41: 2’ thick concrete slab extending south. • 5’ North of T-41: 2” metal pipe (at ground surface) containing viscous tar-like material, strong tar-like odor. • Sample TP-3-4-5 collected and submitted for laboratory analysis.



Orientation: View is south.

0.0-2.0 BGS: 3.5’ north of T-41: 2’ thick concrete slab extending south.

0.0-0.6’ BGS: Grey mf SAND, trace Silt. Dry.

0.6-3.0’ BGS: Brown mf SAND, little mf Gravel, trace Silt. Dry.

3.0-5.0’ BGS: Dark brown mf SAND, little mf Gravel, trace Silt. Dry.

Test Pit Log

SITE NAME	Troy (Water Street) Site – Area 3	TEST PIT ID	TP-3
Date	5/28/2015	BC REPRESENTATIVE	B. Taylor



Orientation: View is west.

View of semi-solid, tacky, stringy, tar-like material, mixed with Gravel. Strong tar-like odor.



Orientation: View is west.

5' North of T-41: 2" metal pipe, at ground surface, containing viscous tar-like material, strong tar-like odor.

Test Pit Log

SITE NAME	Troy (Water Street) Site – Area 3	TEST PIT ID	TP-4
SITE LOCATION	Troy, NY	BC REPRESENTATIVE	B. Taylor
GENERAL LOCATION	Area of Former Brick Shed	CONTRACTOR	Atlantic Testing Laboratories, Inc.
DATE	5/27/2015	OTHERS	Jim Marolda (BC), David Herman (NYSDEC)
TIME OPENED	13:43	TIME CLOSED	14:20
DEPTH TO WATER (ft.bgs)	Not Encountered	EQUIPMENT	Kobelco SK140SRLC-3
DEPTH TO BASE OF FILL (ft. BGS)	Not Encountered	TOTAL LENGTH (ft.)	15 (north-south orientation)
		TOTAL DEPTH (ft. BGS)	9.5
		NORTHING (ft., NAD83)	1410321.79
GS ELEV. (ft. NGVD 29)	26.63	EASTING (ft., NAD83)	706899.47
OBSERVATIONS 8' BGS: Piece of cemented lime-like matieral, white w/ blue-green tinge, slight to moderate sulfur-like odor.		REMARKS • No observations or indications of former/historical structures.	



<u>Orientation:</u> View is east.

<u>0.0-3.0' BGS:</u> Dark brown mf SAND, some cmf Gravel (brick/fire brick). Dry.

<u>3.0-4.0' BGS:</u> Brown f SAND, little Clayey Silt. Dry.

<u>4.0-8.0' BGS:</u> Dark brown cmf GRAVEL and cmf SAND (fill material: brick, firebrick, slag). Dry.

<u>8.0-9.5' BGS:</u> Brown cmf GRAVEL and cmf SAND (fill material: brick, fire brick, slag). Dry.

Test Pit Log

SITE NAME	Troy (Water Street) Site – Area 3	TEST PIT ID	TP-4
Date	5/27/2015	BC REPRESENTATIVE	B. Taylor



Orientation: View is northeast.

Spoils from TP-4 showing no observations or indications of MGP-related or other impacts.

Test Pit Log

SITE NAME	Troy (Water Street) Site – Area 3	TEST PIT ID	TP-5
SITE LOCATION	Troy, NY	BC REPRESENTATIVE	B. Taylor
GENERAL LOCATION	South of Former Tank T-41	CONTRACTOR	Atlantic Testing Laboratories, Inc.
DATE	5/28/2015	OTHERS	David Herman (NYSDEC)
TIME OPENED	09:40	TIME CLOSED	10:15
DEPTH TO WATER (ft.bgs)	Not Encountered	EQUIPMENT	Kobelco SK140SRLC-3
DEPTH TO BASE OF FILL (ft. BGS)	Not Encountered	TOTAL LENGTH (ft.)	13 (north-south orientation)
		TOTAL DEPTH (ft. BGS)	7.5
		NORTHING (ft., NAD83)	1410231.26
GS ELEV. (ft. NGVD 29)	26.80	EASTING (ft., NAD83)	706956.857

OBSERVATIONS	REMARKS
3.0-7.5’ BGS: Some black discoloration (flat luster) w/ ash-like material within fill, faint sulfur-like odor.	• 2’ south of T-41, south edge of 2’ thick concrete slab. • Sample TP-5-7-7.5 collected and submitted for laboratory analysis.



Orientation: View is north.

0.0-2.0’ BGS: 2’ South of T-41, south edge of concrete slab.

0.0-1.0’ BGS: Brown cmf SAND, little mf Gravel, trace Silt. Dry.

1.0-3.0’ BGS: Dark brown cmf SAND, some mf Gravel, trace Silt. Dry.

3.0-7.5’ BGS: Dark brown cmf SAND and cmf GRAVEL (brick, fire brick, slag). Dry.

Test Pit Log

SITE NAME	Troy (Water Street) Site – Area 3	TEST PIT ID	TP-6
SITE LOCATION	Troy, NY	BC REPRESENTATIVE	J. Marolda
GENERAL LOCATION	Area of Former Flux Oil Tank (North of Former Tank T-41)	CONTRACTOR	Nothnagle Drilling, Inc.
DATE	2/8/2017	OTHERS	B. Taylor (BC) David Herman (NYSDEC)
TIME OPENED	07:35	TIME CLOSED	09:20
DEPTH TO WATER (ft.bgs)	Not Encountered	EQUIPMENT	Wacker Neuson $50Z3_2$
DEPTH TO BASE OF FILL (ft. BGS)	Not Encountered	TOTAL LENGTH (ft.)	9 (north-south orientation)
		TOTAL DEPTH (ft. BGS)	8.5
		NORTHING (ft., NAD83)	1410293.67
GS ELEV. (ft. NGVD 29)	29.12	EASTING (ft., NAD83)	706986.07
OBSERVATIONS • 0.5-4.0' BGS: Boulder sized chunks of hardened asphalt/tar-like material, faint tar-like odor.		REMARKS • Samples TP-6-4 and TP-6-8.5 collected and submitted for laboratory analysis.	



Orientation: Top of photo is west.

0.0-4.0’ BGS: Brown cmf SAND and mf GRAVEL. Moist. Faint tar-like odor. Wood planking and hardened asphalt/tar-like material mixed in.

4.0-8.5’ BGS: Brown/black misc. fill material, cmf SAND and cmf GRAVEL (cinders, bricks, slag). Moist.

0.5-4.0’ BGS: Concrete wall on eastern wall of test pit.

Test Pit Log

SITE NAME	Troy (Water Street) Site – Area 3	TEST PIT ID	TP-6
SITE LOCATION	2/8/2017	BC REPRESENTATIVE	J. Marolda



Orientation: Top of photo is north.

0.0-4.0' BGS: Brown cmf SAND and mf GRAVEL. Moist. Faint tar-like odor. Wood planking and hardened asphalt/tar-like material mixed in.

Test Pit Log

SITE NAME	Troy (Water Street) Site – Area 3	TEST PIT ID	TP-7
SITE LOCATION	Troy, NY	BC REPRESENTATIVE	J. Marolda
GENERAL LOCATION	Area of Former Tar Products (North of Former Tank T-41)	CONTRACTOR	Nothnagle Drilling, Inc.
DATE	2/8/2017	OTHERS	B. Taylor (BC) David Herman (NYSDEC)
TIME OPENED	09:35	TIME CLOSED	11:00
DEPTH TO WATER (ft.bgs)	Not Encountered	EQUIPMENT	Wacker Neuson $50Z3_2$
DEPTH TO BASE OF FILL (ft. BGS)	Not Encountered	TOTAL LENGTH (ft.)	11 (north-south orientation)
		TOTAL DEPTH (ft. BGS)	8.5
		NORTHING (ft., NAD83)	1410313.71
GS ELEV. (ft. NGVD 29)	28.81	EASTING (ft., NAD83)	706965.10
OBSERVATIONS • No observations or odor indicative of MGP-related or other impacts.		REMARKS • Samples TP-7-3.5 and TP-7-8.5 collected and submitted for laboratory analysis.	



Orientation: Top of photo is north.

0.0-0.7' BGS: Concrete pad on northernmost extent of test pit.

0.0-3.5' BGS: Brown misc. fill, cm SAND and cmf GRAVEL (slag, brick, cinders, coal). Dry.

3.5-8.5' BGS: Brown/black misc. fill cmf SAND and cmf GRAVEL (slag, clinkers). Moist.

Appendix E: Packer Pressure Test Data

BOREHOLE PACKER HYDRAULIC CONDUCTIVITY DATA

Location	Borehole Diameter (inches)	Borehole Radius (R) (cm)	Test Interval (ft)	Length (L) (ft)	Length (L) (cm)	Injection Rate (q) (gal/min)	Injection Rate (q) (cm^3/sec)	Gauge Pressure (psi)	Approx. Depth to Groundwater (ft)	Calculated Total Head (H) (ft)	Calculated Total Head (H) (cm)	Hydraulic Conductivity (K) (cm/sec)
MW-3R												
	4	5.1	***41.5 - 46.5***	5	152	***0.17***	10.7	***13.2***	***24.8***	55.3	1684.39	2.3E-05
	4	5.1	***41.5 - 46.5***	5	152	***0.24***	15.1	***23.1***	***24.8***	78.1	2381.43	2.3E-05
	4	5.1	***41.5 - 46.5***	5	152	***0.04***	2.5	***33.0***	***24.8***	101.0	3078.48	2.9E-06
	4	5.1	***41.5 - 46.5***	5	152	***0.02***	1.3	***23.1***	***24.8***	78.1	2381.43	1.9E-06
	4	5.1	***41.5 - 46.5***	5	152	***1.60***	101.0	***13.2***	***24.8***	55.3	1684.39	2.1E-04
	4	5.1	***46.5 - 51.5***	5	152	***3.46***	218.3	***14.7***	***24.7***	58.6	1786.95	4.3E-04
	4	5.1	***51.5 - 56.5***	5	152	***10.00***	631.0	***16.2***	***24.8***	62.2	1895.61	1.2E-03

Notes:
1. Field data ***(in bold italics)*** obtained from borehole tests.
2. Calculations made in accordance with US Bureau of Reclamation, (1990), Earth Manual, Method No. USBR 7310-89.
3. Flows (q) as low as approximately 3 cm^3/sec (0.05 gpm) could be measured with the field equipment. 4. For intervals with measurable flow (q), injection rate was averaged over five minute period.

$$K = \frac{q}{2\pi LH} \ln \frac{L}{r}$$

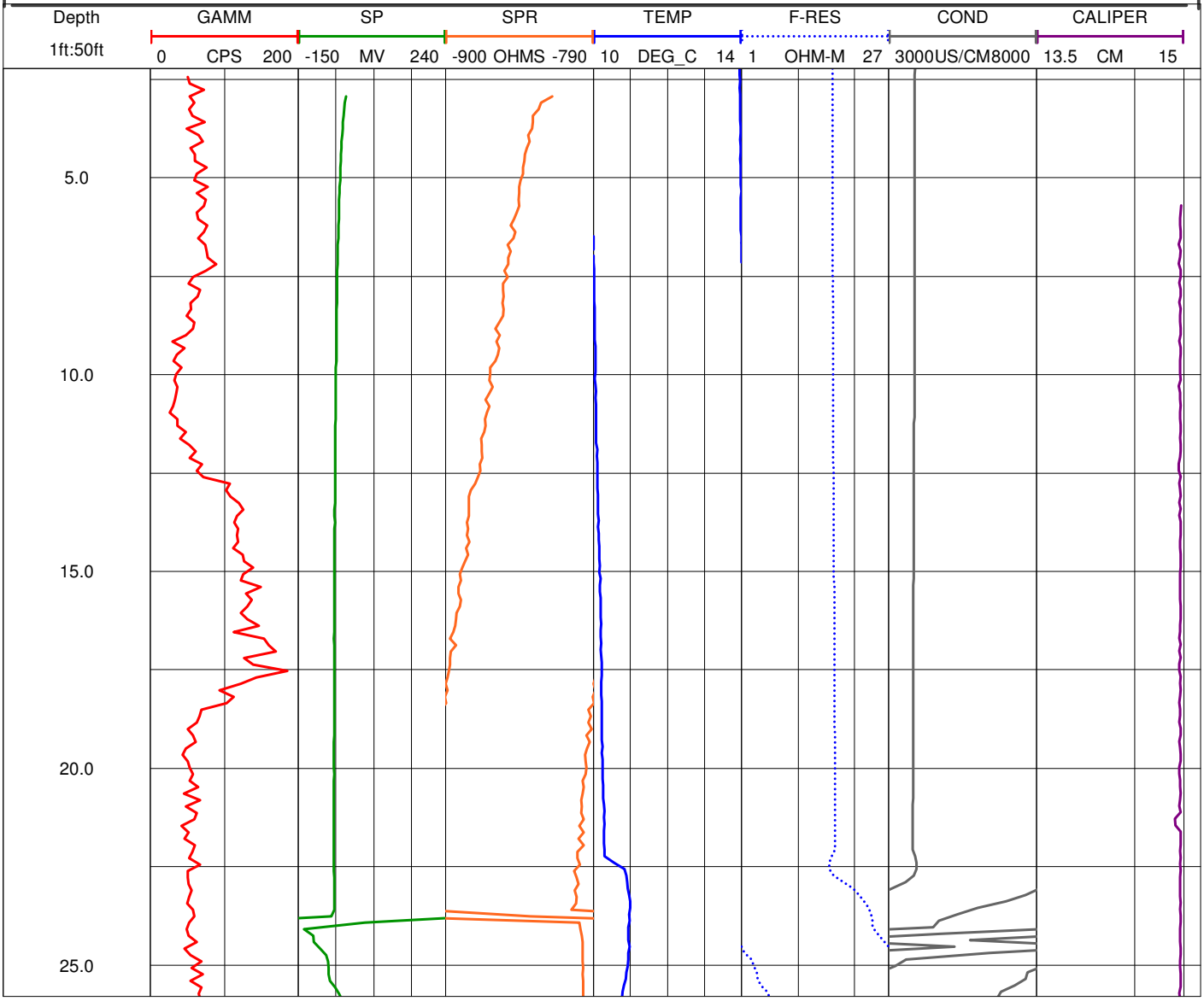
where:
K = hydraulic conductivity (cm/sec)
q = constant flow water injection rate (cm^3/sec); 3 cm^3/sec used as injection rate for intervals that did not take any water
L = test interval length (cm)
H = differential head during test (cm). H = Gravity head (H_g) + Pressure head (H_p). H_g = vertical distance from pressure gage to static groundwater level, H_p = water injection pressure from gauge.
r = radius of borehole (cm)

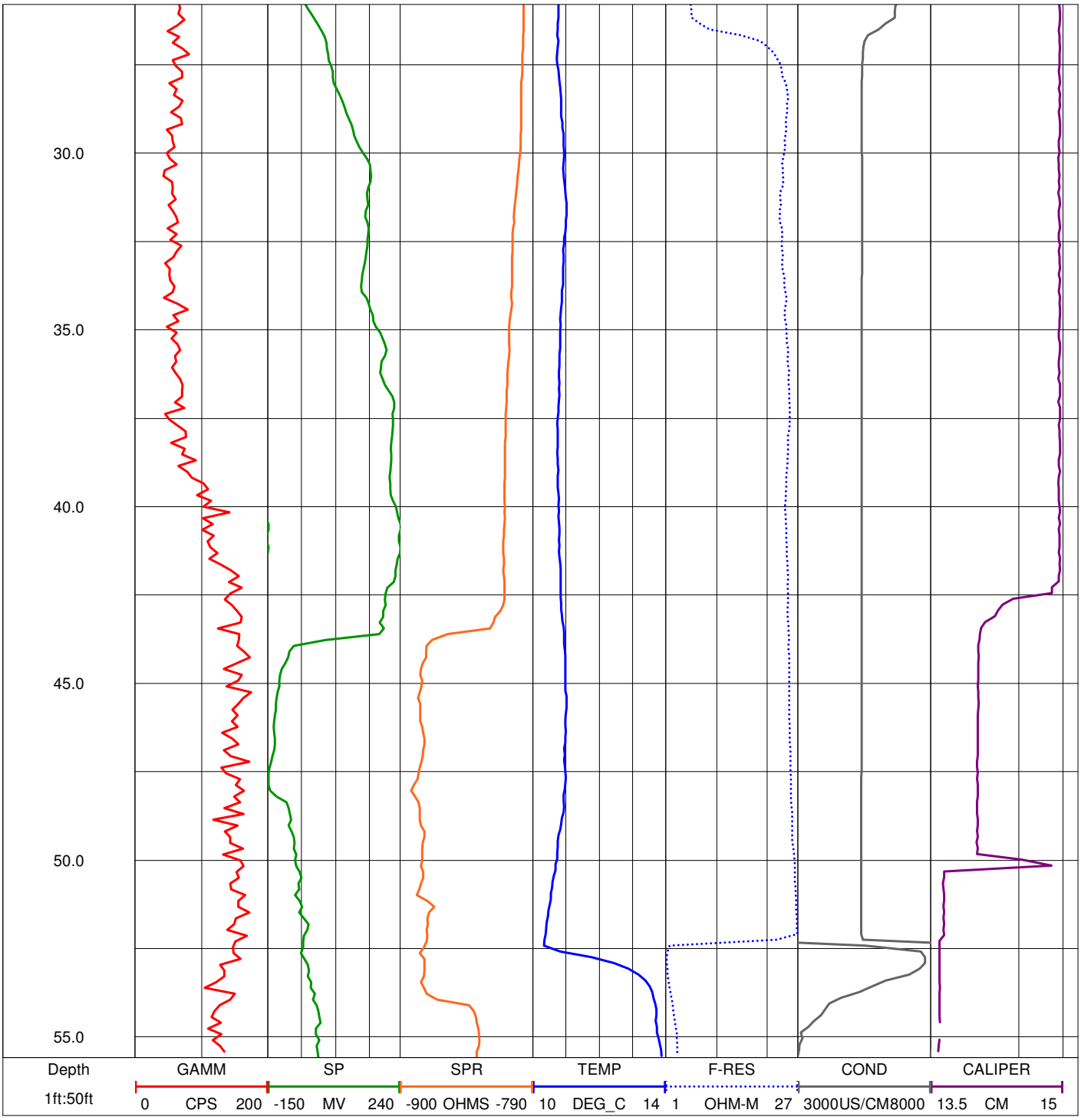
Appendix F: Geophysical Log

Brown AND Caldwell

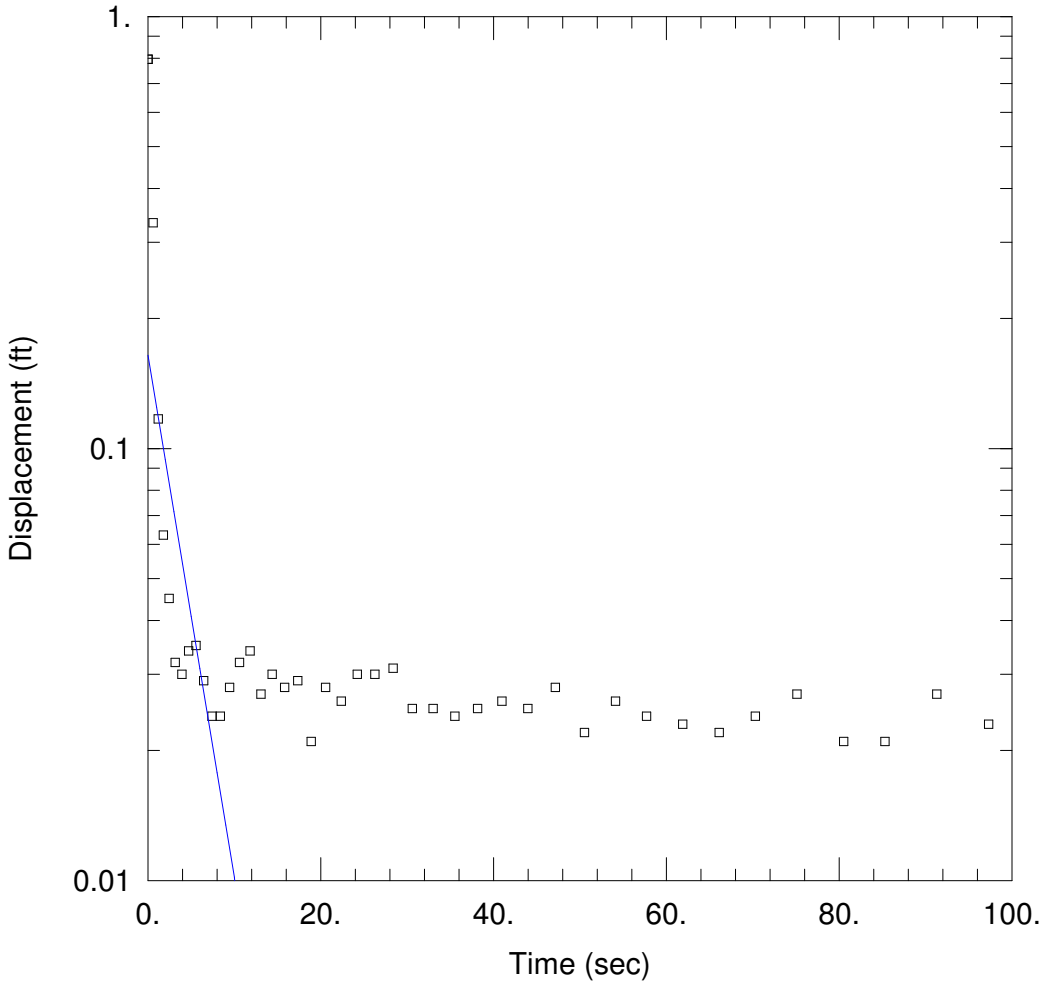
PROJECT: *Troy (Water St.) Site - Area 3 - 146094*
TEST TYPE: *Borehole Geophysics*
WELL ID: *MW-3R*
SURFACE CASING: *Base of 4" steel casing: 41.5' BGS*
LOCATION: *Troy, NY*
BOREHOLE DIAMETER: *4" from 41.5-56.5' BGS*
TEST DATE: *2/14/2017*
PERSONNEL: *BFT*

NORTHING: *1410290.4*
G.S. ELEV: *27.07*
EASTING: *706973,4*
DEPTH LOGGED: *2.2-38.6' BGS*




30.0
35.0
40.0
45.0
50.0
55.0
Depth
1ft:50ft
GAMM
0 CPS 200
SP
-150 MV 240
SPR
-900 OHMS -790
TEMP
10 DEG_C 14
F-RES
1 OHM-M 27
COND
3000US/CM8000
CALIPER
13.5 CM 15

Appendix G: In-Situ Hydraulic Conductivity Plots



WELL TEST ANALYSIS

Data Set: P:\...\MW-1S-REP.aqt
Date: 12/06/17 Time: 07:41:33

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 146094.500
Location: Troy, NY
Test Well: MW-1S-REP
Test Date: 4/11/17

AQUIFER DATA

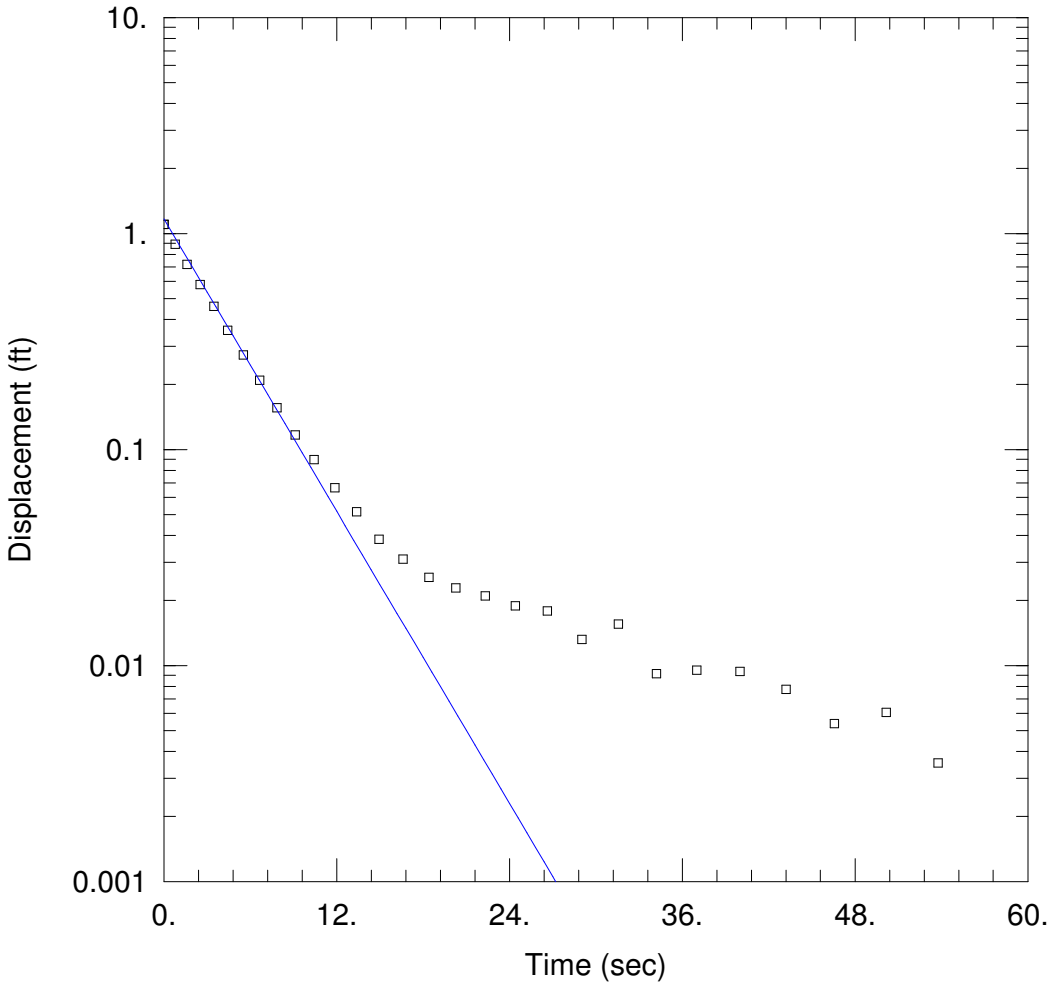
Saturated Thickness: 11.93 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-1S-REP)

Initial Displacement: 0.797 ft Static Water Column Height: 5.13 ft
Total Well Penetration Depth: 5.13 ft Screen Length: 5. ft
Casing Radius: 0.083 ft Well Radius: 0.34 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev
K = 0.01368 cm/sec y0 = 0.1645 ft



MW-1D

Data Set: P:\...\MW-1D.aqt
Date: 08/11/15 Time: 09:11:46

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 146094
Location: Troy, NY Site - Area 3
Test Well: MW-1D
Test Date: 6/23/2015

AQUIFER DATA

Saturated Thickness: 11.13 ft Anisotropy Ratio (Kz/Kr): 1.

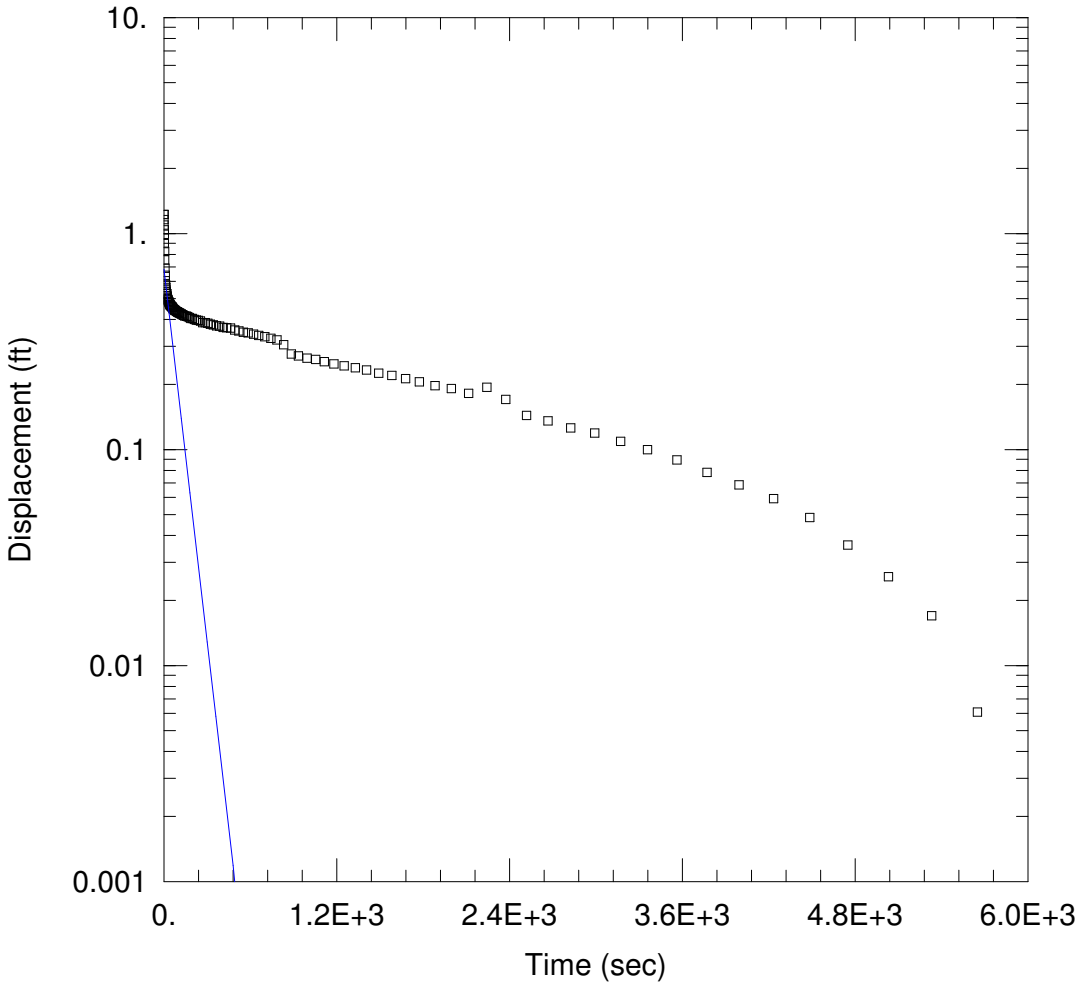
WELL DATA (MW-1D)

Initial Displacement: 1.101 ft Static Water Column Height: 10.33 ft
Total Well Penetration Depth: 10.33 ft Screen Length: 6. ft
Casing Radius: 0.0833 ft Well Radius: 0.34 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.009854 cm/sec y0 = 1.167 ft



MW-2S

Data Set: P:\...\MW-2S.aqt
Date: 08/11/15 Time: 09:06:40

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 146094
Location: Troy, NY Site - Area 3
Test Well: MW-2S
Test Date: 6/23/2015

AQUIFER DATA

Saturated Thickness: 14.69 ft Anisotropy Ratio (Kz/Kr): 1.

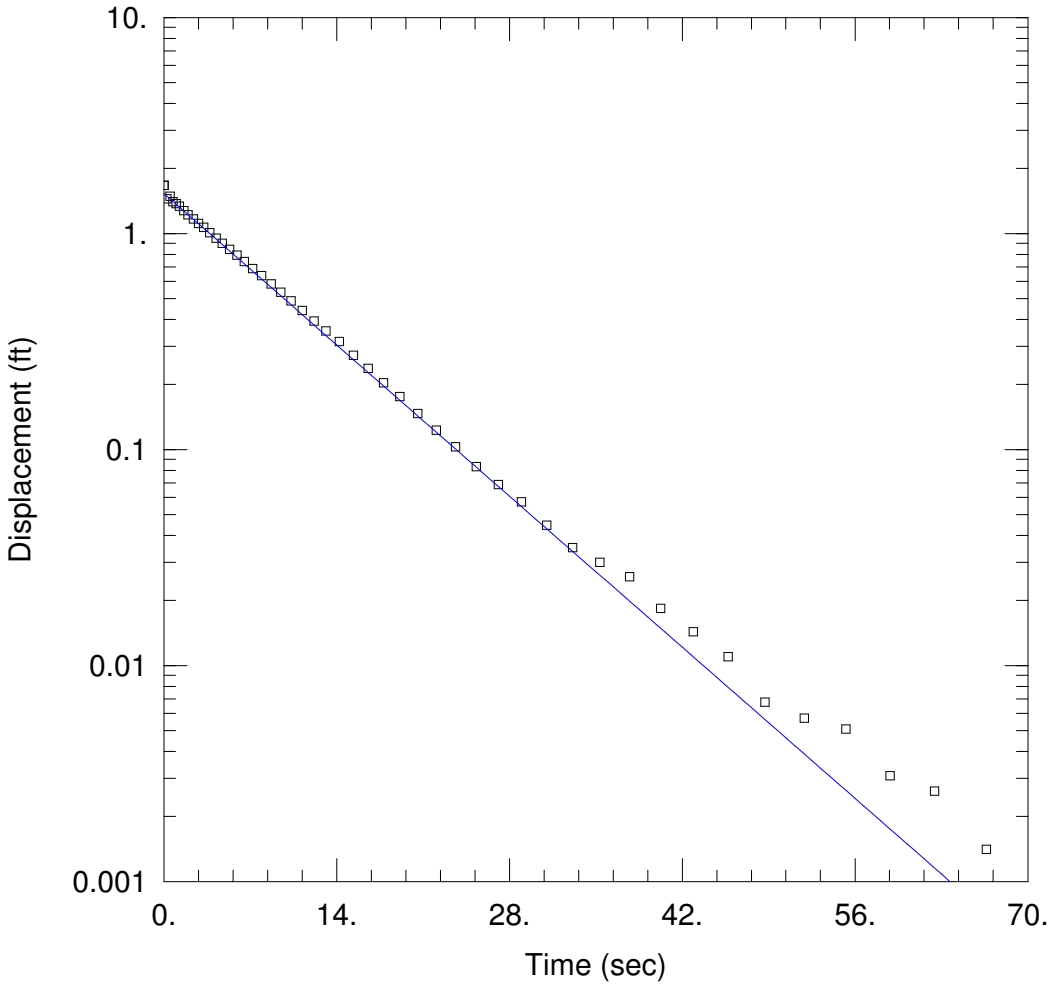
WELL DATA (MW-2S)

Initial Displacement: 1.226 ft
Total Well Penetration Depth: 0.99 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 0.99 ft
Screen Length: 0.99 ft
Well Radius: 0.34 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.00124 cm/sec y0 = 0.6838 ft



MW-2D

Data Set: P:\...\MW-2D.aqt
Date: 08/10/15 Time: 11:12:40

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 146094
Location: Troy, NY Site - Area 3
Test Well: MW-2D
Test Date: 6/23/2015

AQUIFER DATA

Saturated Thickness: 12.59 ft Anisotropy Ratio (Kz/Kr): 1.

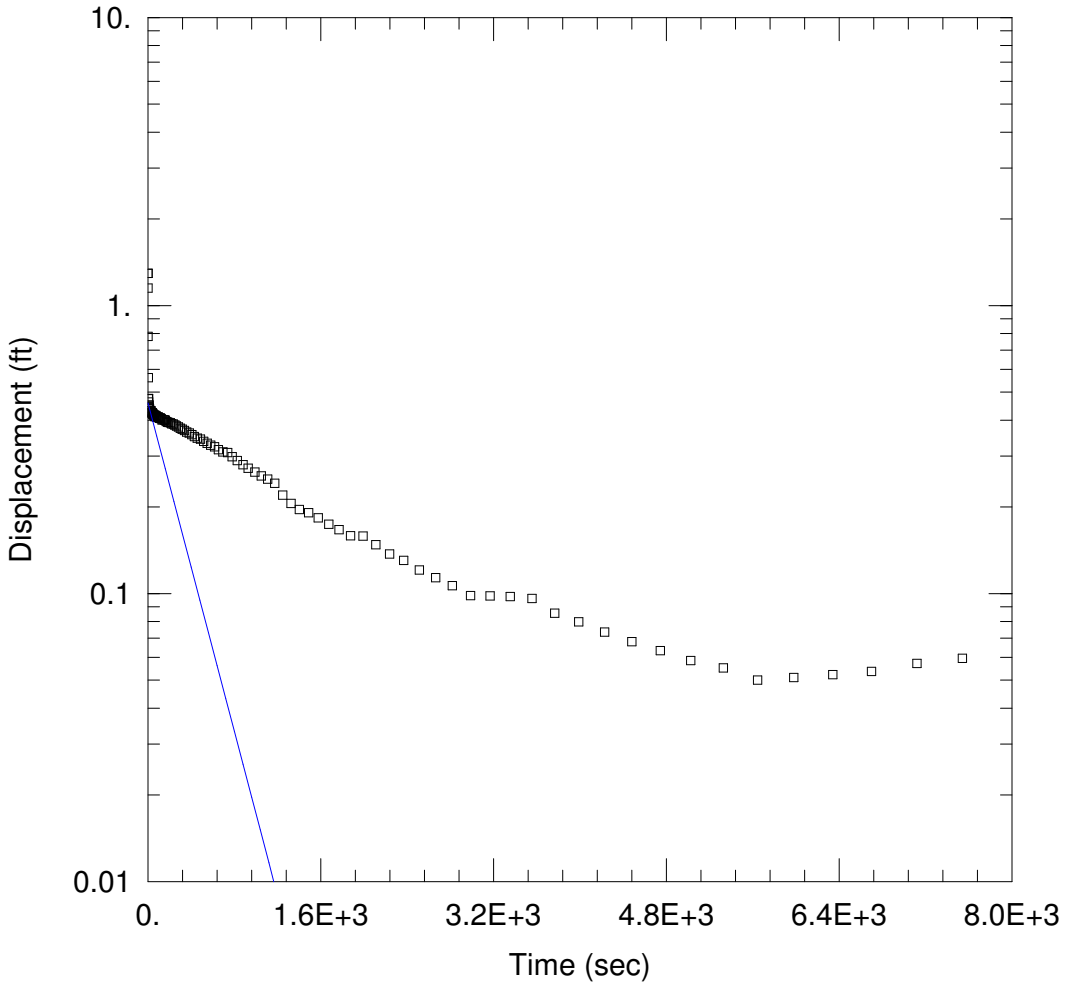
WELL DATA (MW-2D)

Initial Displacement: 1.671 ft
Total Well Penetration Depth: 11.89 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 11.89 ft
Screen Length: 3.5 ft
Well Radius: 0.34 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.006103 cm/sec y0 = 1.531 ft



MW-3S

Data Set: P:\...\MW-3S.aqt
Date: 08/10/15 Time: 10:55:39

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 146094
Location: Troy, NY Site - Area 3
Test Well: MW-3S
Test Date: 6/23/2015

AQUIFER DATA

Saturated Thickness: 21.74 ft Anisotropy Ratio (Kz/Kr): 1.

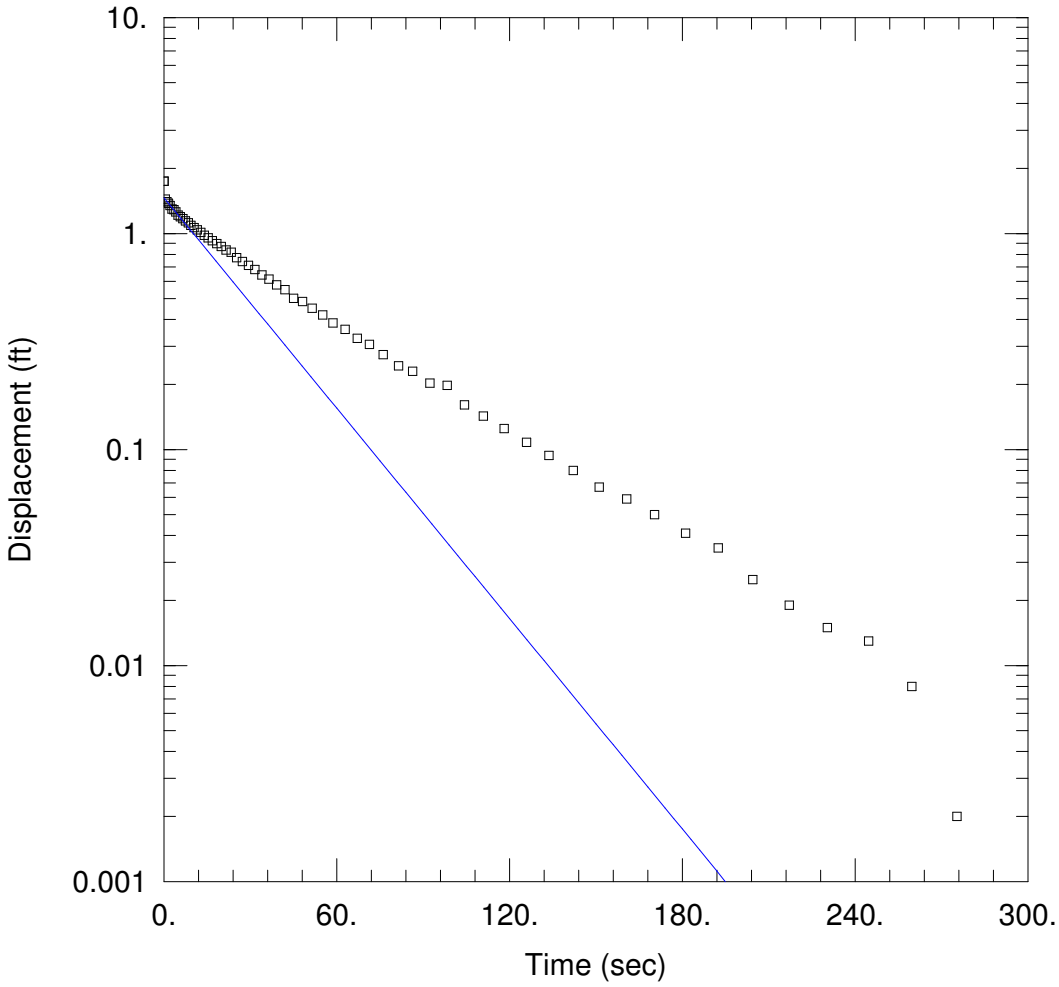
WELL DATA (MW-3S)

Initial Displacement: 1.294 ft
Total Well Penetration Depth: 5.74 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 5.74 ft
Screen Length: 5.74 ft
Well Radius: 0.34 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.0001282 cm/sec y0 = 0.4587 ft



MW-3D

Data Set: P:\...\MW-3D.aqt
Date: 08/10/15 Time: 10:30:55

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 146094
Location: Troy, NY Site - Area 3
Test Well: MW-3D
Test Date: 6/23/2015

AQUIFER DATA

Saturated Thickness: 14.18 ft Anisotropy Ratio (Kz/Kr): 1.

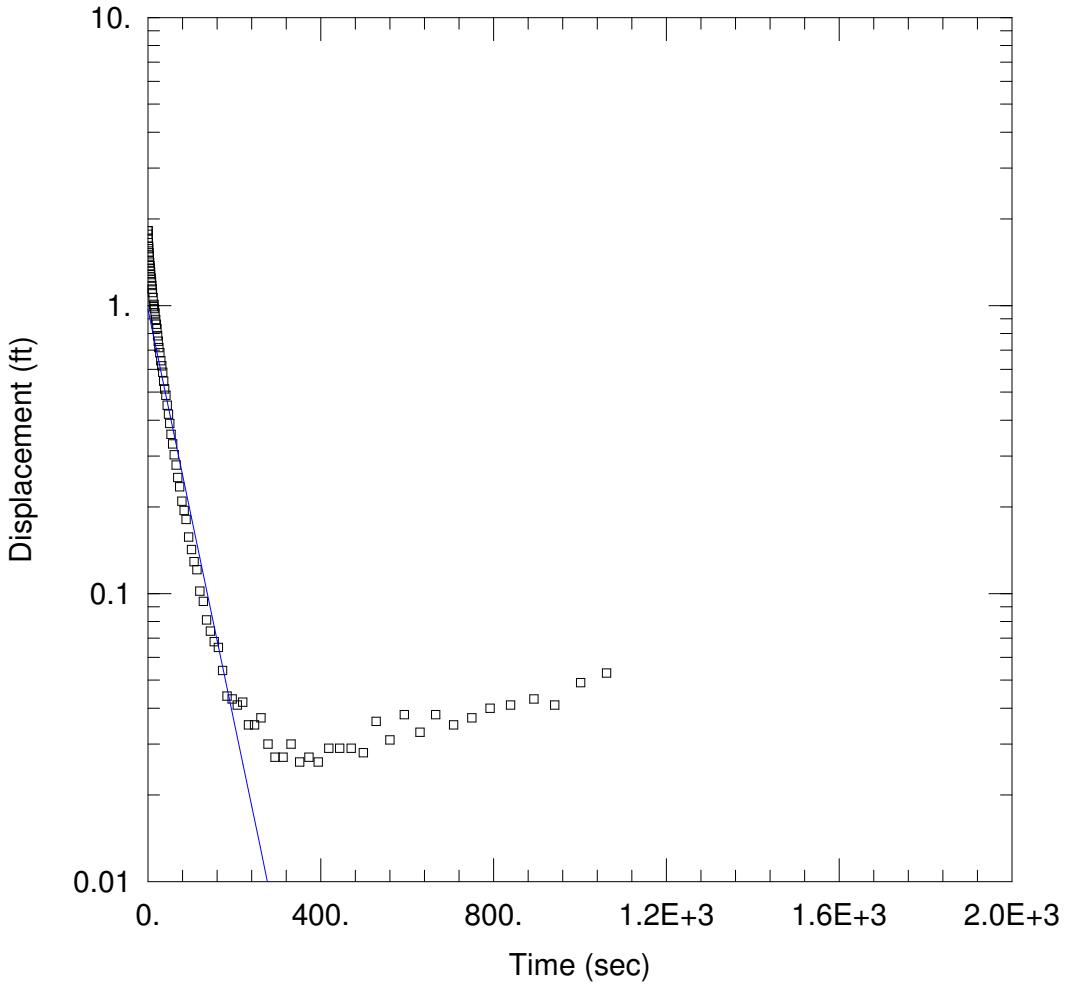
WELL DATA (MW-3D)

Initial Displacement: 1.747 ft
Total Well Penetration Depth: 13.18 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 13.18 ft
Screen Length: 10. ft
Well Radius: 0.34 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.001002 cm/sec y0 = 1.463 ft



WELL TEST ANALYSIS

Data Set: P:\...\MW-3R.aqt
Date: 12/06/17 Time: 07:59:24

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 146094.500
Location: Troy, NY
Test Well: MW-3R
Test Date: 4/11/17

AQUIFER DATA

Saturated Thickness: 9. ft Anisotropy Ratio (Kz/Kr): 1.

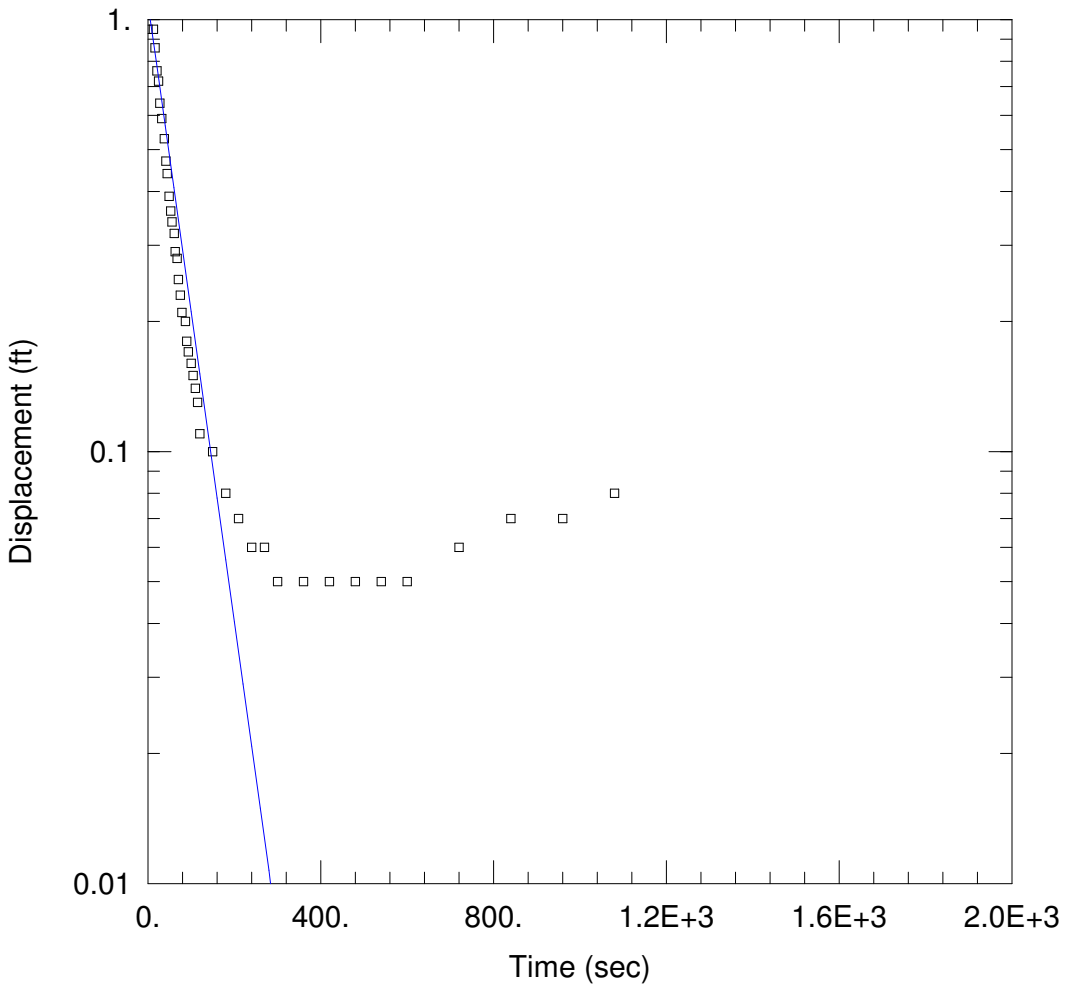
WELL DATA (MW-3R)

Initial Displacement: 1.818 ft Static Water Column Height: 35.84 ft
Total Well Penetration Depth: 9. ft Screen Length: 9. ft
Casing Radius: 0.083 ft Well Radius: 0.166 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.0008885 cm/sec y0 = 0.9685 ft



WELL TEST ANALYSIS

Data Set: P:\...\MW-3R-Manual.aqt
Date: 12/06/17 Time: 08:04:59

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 146094.500
Location: Troy, NY
Test Well: MW-3R-Manual
Test Date: 4/11/17

AQUIFER DATA

Saturated Thickness: 9. ft Anisotropy Ratio (Kz/Kr): 1.

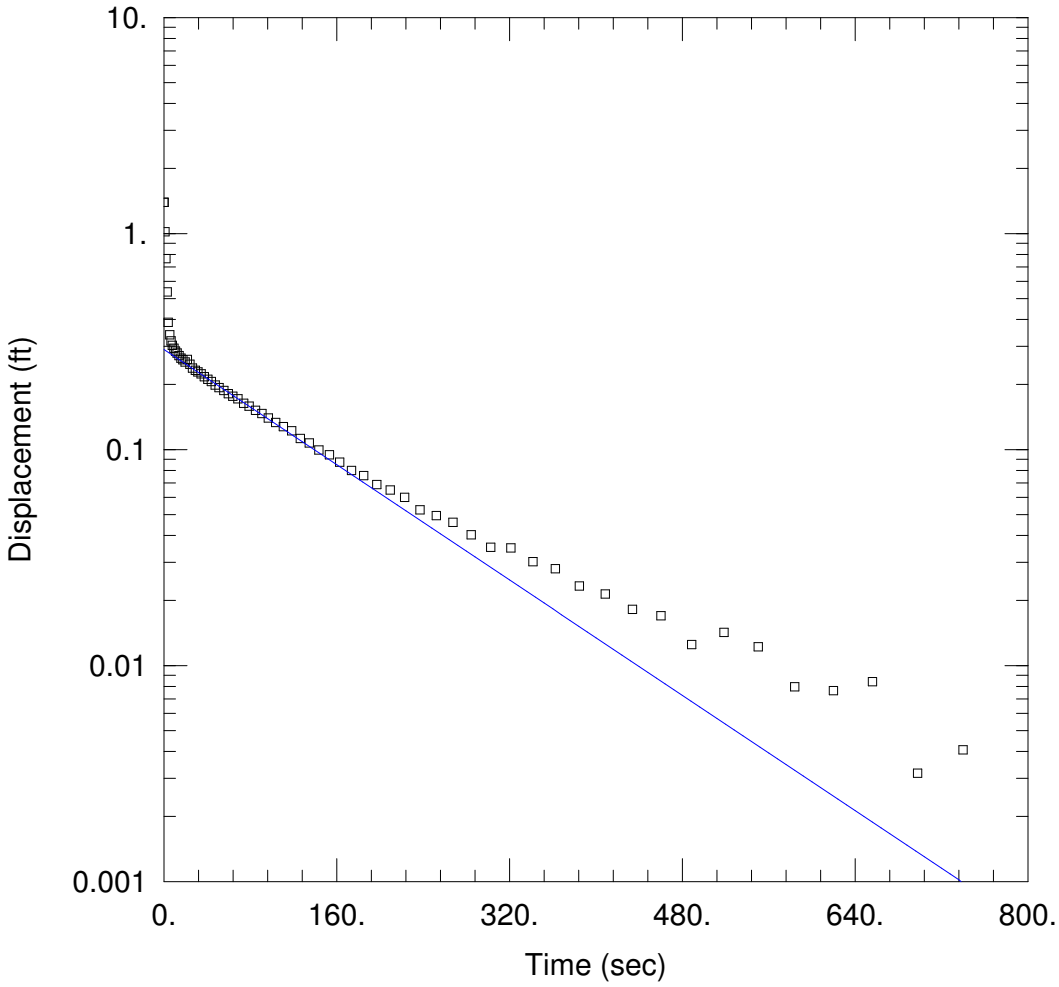
WELL DATA (MW-3R-Manual)

Initial Displacement: 0.95 ft
Total Well Penetration Depth: 9. ft
Casing Radius: 0.083 ft
Static Water Column Height: 35.84 ft
Screen Length: 9. ft
Well Radius: 0.166 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.0008882 cm/sec y0 = 1.1 ft



MW-4S

Data Set: P:\...\MW-4S.aqt
Date: 08/10/15 Time: 10:28:53

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 146094
Location: Troy, NY Site - Area 3
Test Well: MW-4S
Test Date: 6/23/2015

AQUIFER DATA

Saturated Thickness: 17.93 ft Anisotropy Ratio (Kz/Kr): 1.

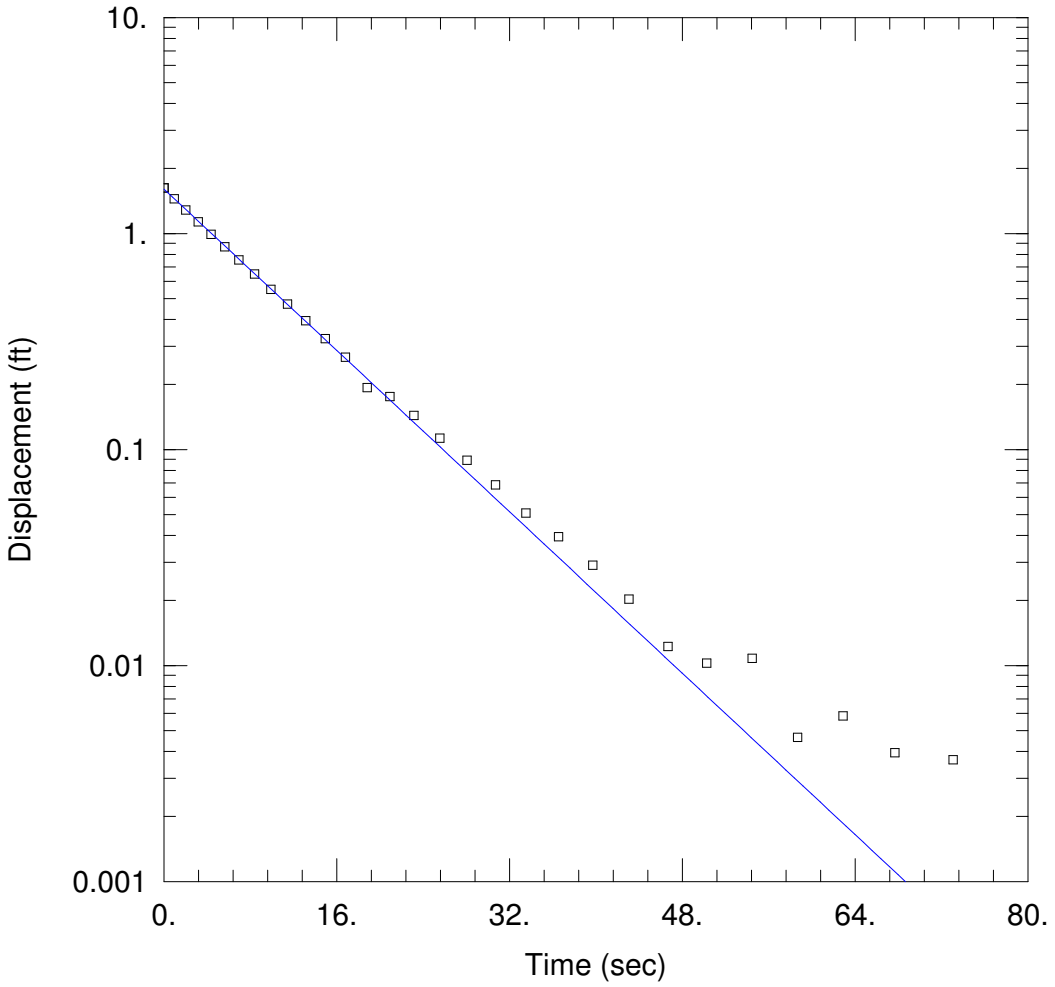
WELL DATA (MW-4S)

Initial Displacement: 1.394 ft
Total Well Penetration Depth: 3.93 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 3.93 ft
Screen Length: 3.93 ft
Well Radius: 0.34 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.0003803 cm/sec y0 = 0.2907 ft



MW-4D

Data Set: P:\...\MW-4D.aqt
Date: 08/10/15 Time: 09:58:09

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 146094
Location: Troy, NY Site - Area 3
Test Well: MW-4D
Test Date: 6/23/2015

AQUIFER DATA

Saturated Thickness: 14.14 ft Anisotropy Ratio (Kz/Kr): 1.

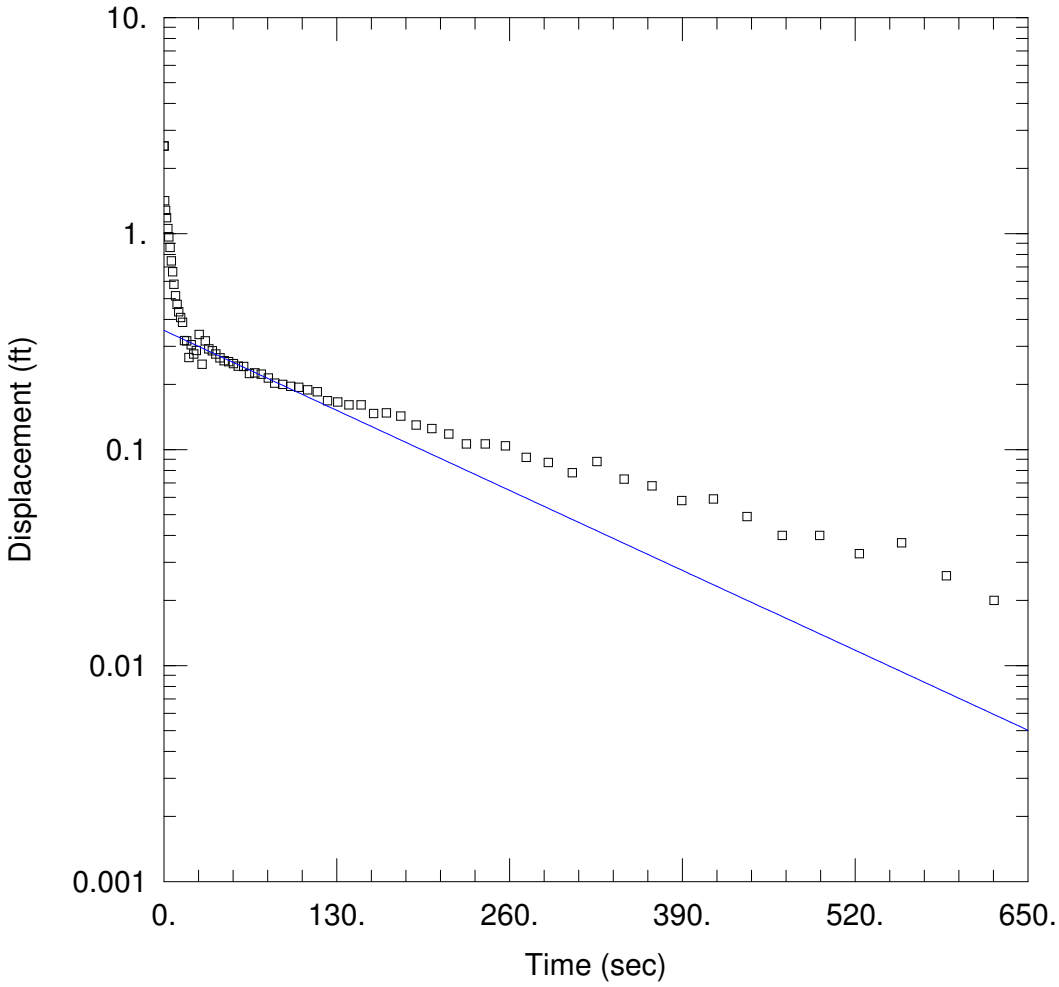
WELL DATA (MW-4D)

Initial Displacement: 1.626 ft
Total Well Penetration Depth: 12.64 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 12.64 ft
Screen Length: 6. ft
Well Radius: 0.34 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.004079 cm/sec y0 = 1.605 ft



WELL TEST ANALYSIS

Data Set: P:\...\MW-5S.aqt
Date: 12/06/17 Time: 08:08:59

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 146094.500
Location: Troy, NY
Test Well: MW-5S
Test Date: 4/11/17

AQUIFER DATA

Saturated Thickness: 21.84 ft Anisotropy Ratio (Kz/Kr): 1.

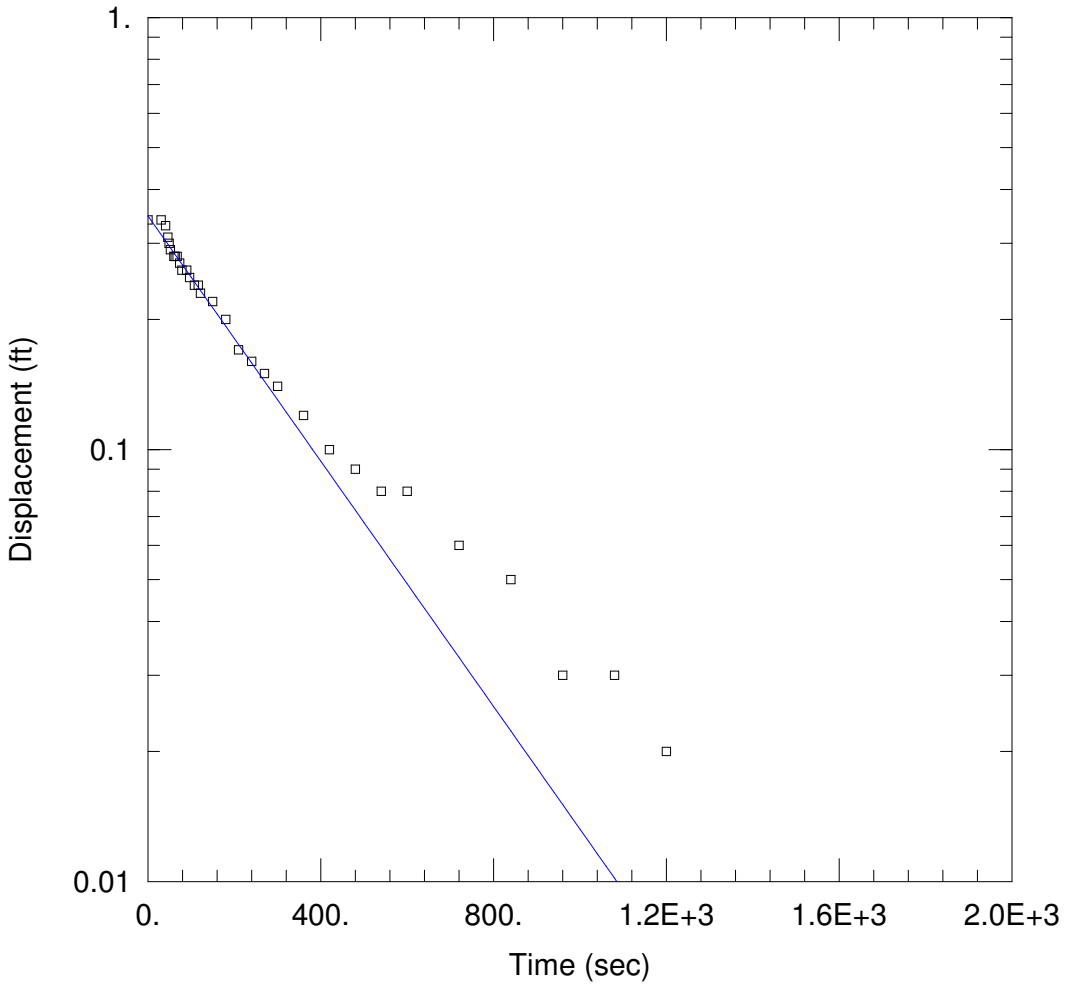
WELL DATA (MW-5S)

Initial Displacement: 2.538 ft
Total Well Penetration Depth: 5.64 ft
Casing Radius: 0.083 ft
Static Water Column Height: 5.64 ft
Screen Length: 5.64 ft
Well Radius: 0.34 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.0002984 cm/sec y0 = 0.3559 ft



WELL TEST ANALYSIS

Data Set: P:\...\MW-5S-Manual.aqt
Date: 12/06/17 Time: 08:09:42

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 146094.500
Location: Troy, NY
Test Well: MW-5S-Manual
Test Date: 4/11/17

AQUIFER DATA

Saturated Thickness: 21.84 ft Anisotropy Ratio (Kz/Kr): 1.

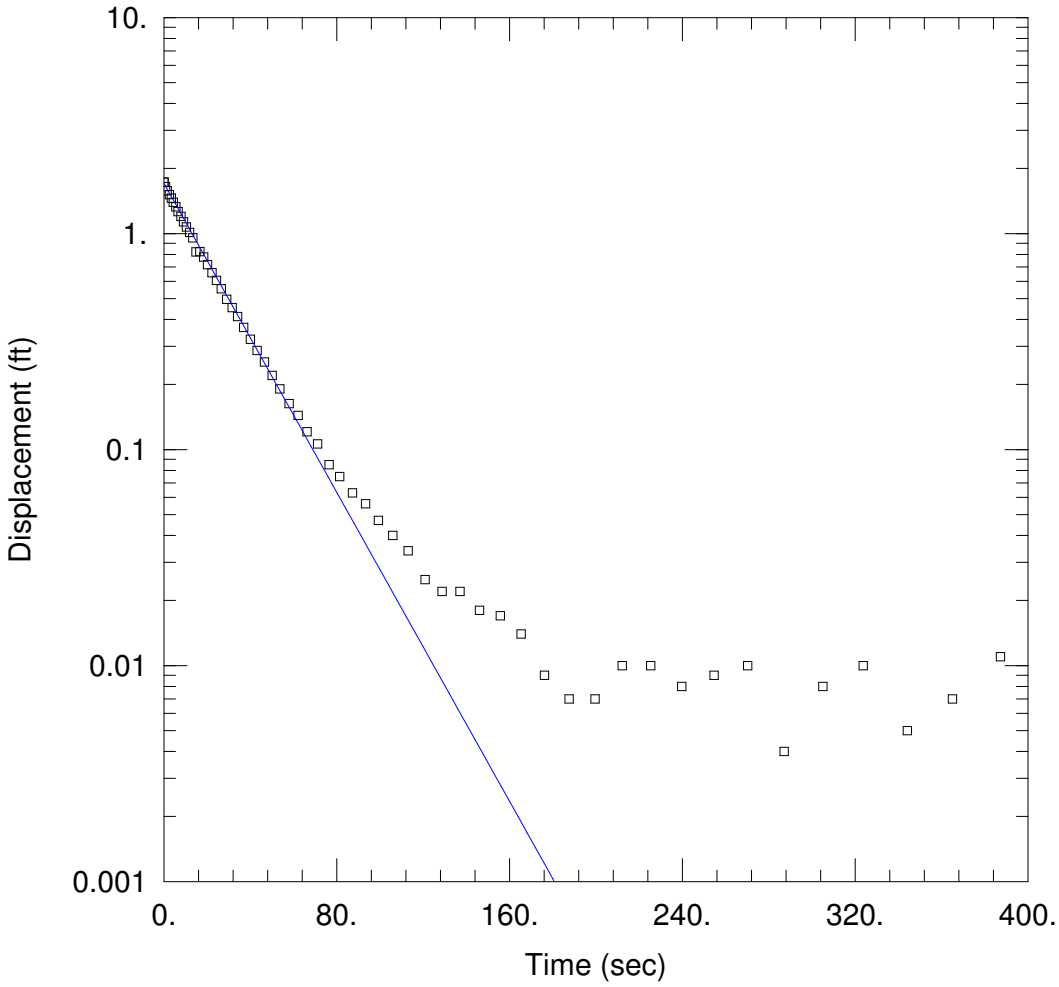
WELL DATA (MW-5S-Manual)

Initial Displacement: 0.34 ft
Total Well Penetration Depth: 5.64 ft
Casing Radius: 0.083 ft
Static Water Column Height: 5.64 ft
Screen Length: 5.64 ft
Well Radius: 0.34 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.0001488 cm/sec y0 = 0.3473 ft



WELL TEST ANALYSIS

Data Set: P:\...\MW-5.aqt
Date: 12/06/17 Time: 08:19:19

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 146094.500
Location: Troy, NY
Test Well: MW-5
Test Date: 4/11/17

AQUIFER DATA

Saturated Thickness: 17.23 ft Anisotropy Ratio (Kz/Kr): 1.

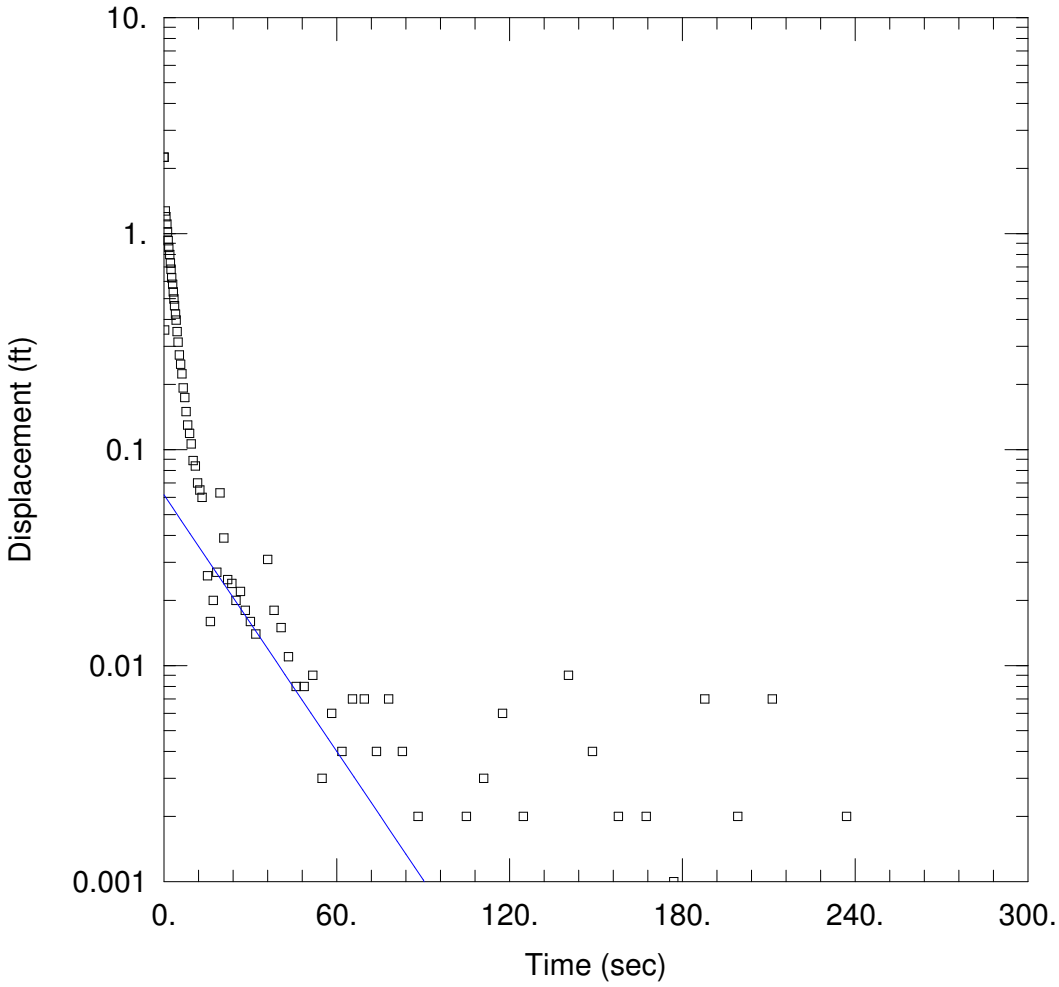
WELL DATA (MW-5)

Initial Displacement: 1.728 ft
Total Well Penetration Depth: 16.03 ft
Casing Radius: 0.083 ft
Static Water Column Height: 16.03 ft
Screen Length: 10. ft
Well Radius: 0.34 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.001271 cm/sec y0 = 1.706 ft



WELL TEST ANALYSIS

Data Set: P:\...\MW-6S.aqt
Date: 12/06/17 Time: 08:22:37

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 146094.500
Location: Troy, NY
Test Well: MW-6S
Test Date: 4/12/17

AQUIFER DATA

Saturated Thickness: 16.32 ft Anisotropy Ratio (Kz/Kr): 1.

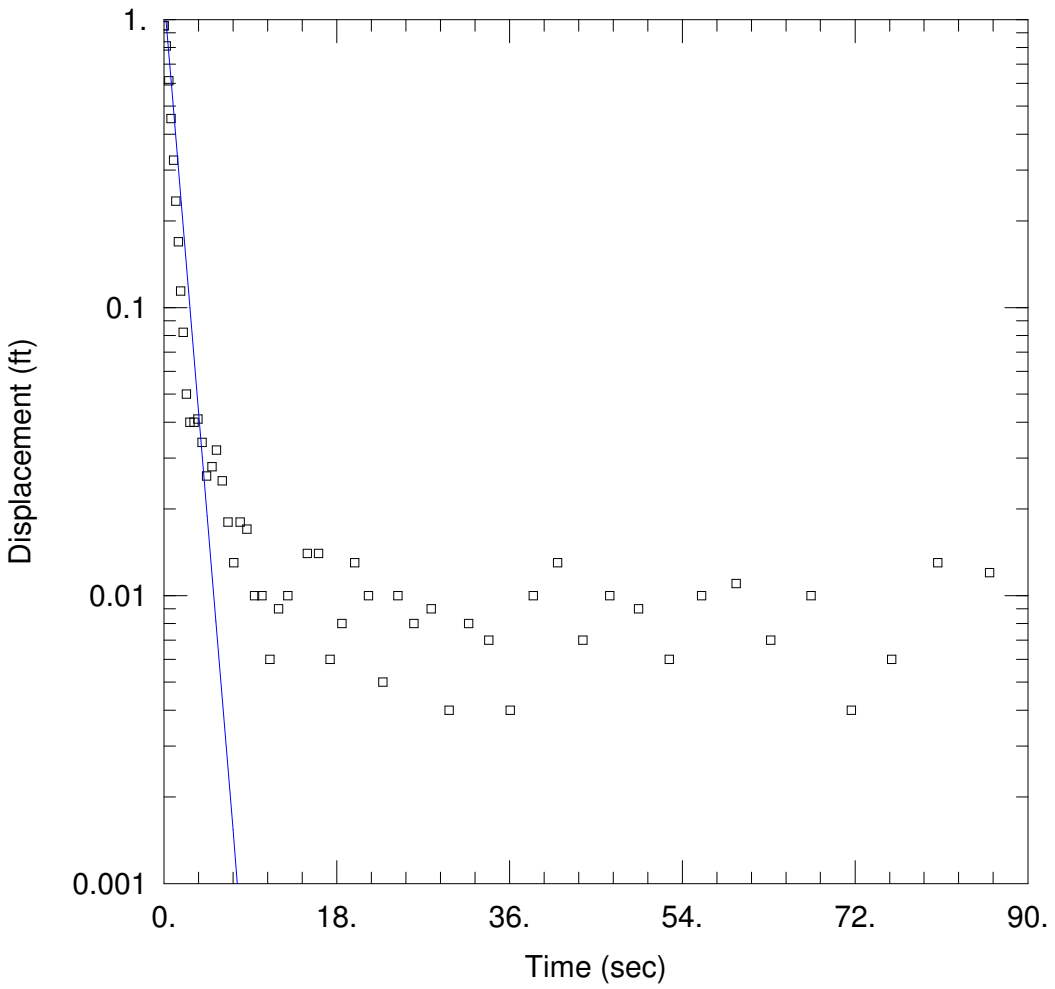
WELL DATA (MW-6S)

Initial Displacement: 2.257 ft
Total Well Penetration Depth: 3.82 ft
Casing Radius: 0.083 ft
Static Water Column Height: 3.82 ft
Screen Length: 3.82 ft
Well Radius: 0.34 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.002643 cm/sec y0 = 0.06163 ft



WELL TEST ANALYSIS

Data Set: P:\...\MW-6D.aqt
Date: 12/06/17 Time: 08:25:47

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 146094.500
Location: Troy, NY
Test Well: MW-6D
Test Date: 4/12/17

AQUIFER DATA

Saturated Thickness: 16.46 ft Anisotropy Ratio (Kz/Kr): 1.

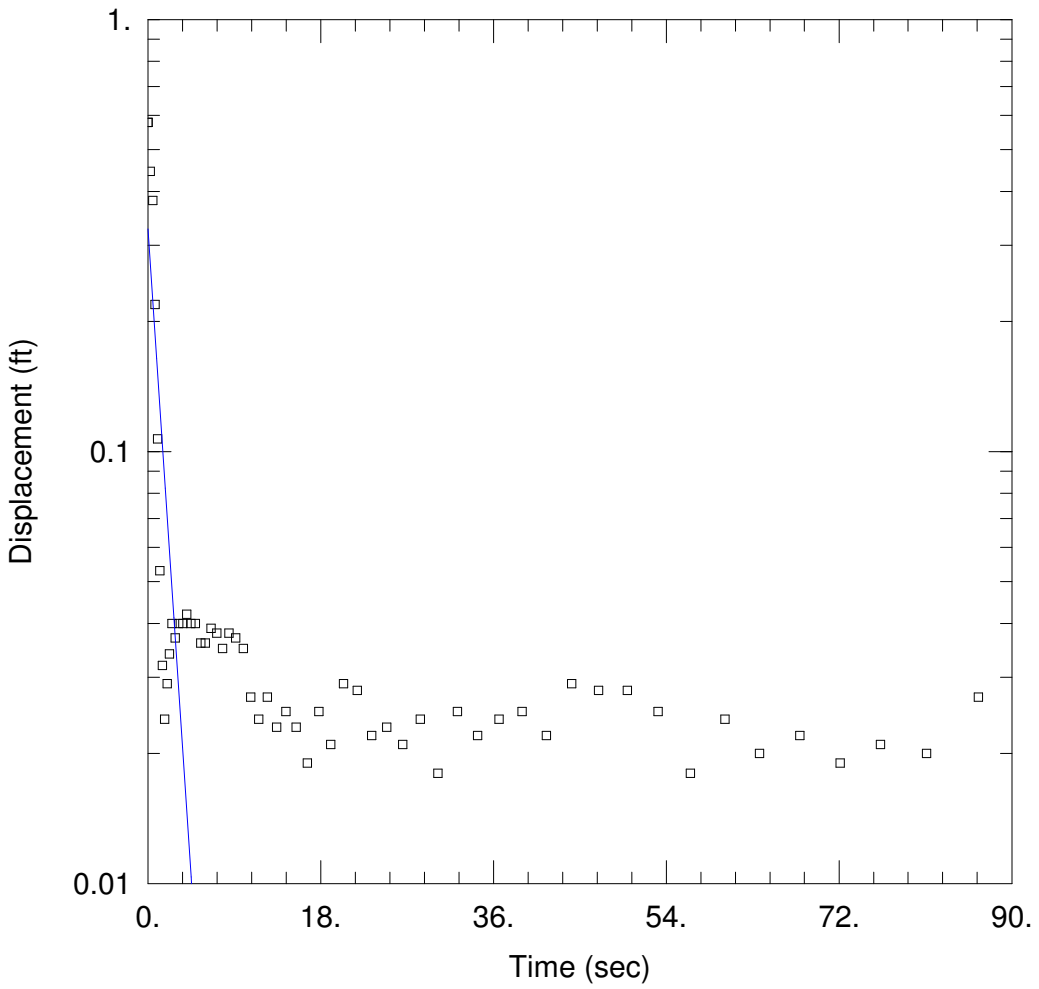
WELL DATA (MW-6D)

Initial Displacement: 0.952 ft
Total Well Penetration Depth: 16.46 ft
Casing Radius: 0.083 ft
Static Water Column Height: 16.46 ft
Screen Length: 10. ft
Well Radius: 0.34 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.03453 cm/sec y0 = 1.227 ft



WELL TEST ANALYSIS

Data Set: P:\...\MW-7S.aqt
Date: 01/08/18 Time: 15:02:48

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 146094.500
Location: Troy, NY
Test Well: MW-7S
Test Date: 4/11/17

AQUIFER DATA

Saturated Thickness: 17.42 ft Anisotropy Ratio (Kz/Kr): 1.

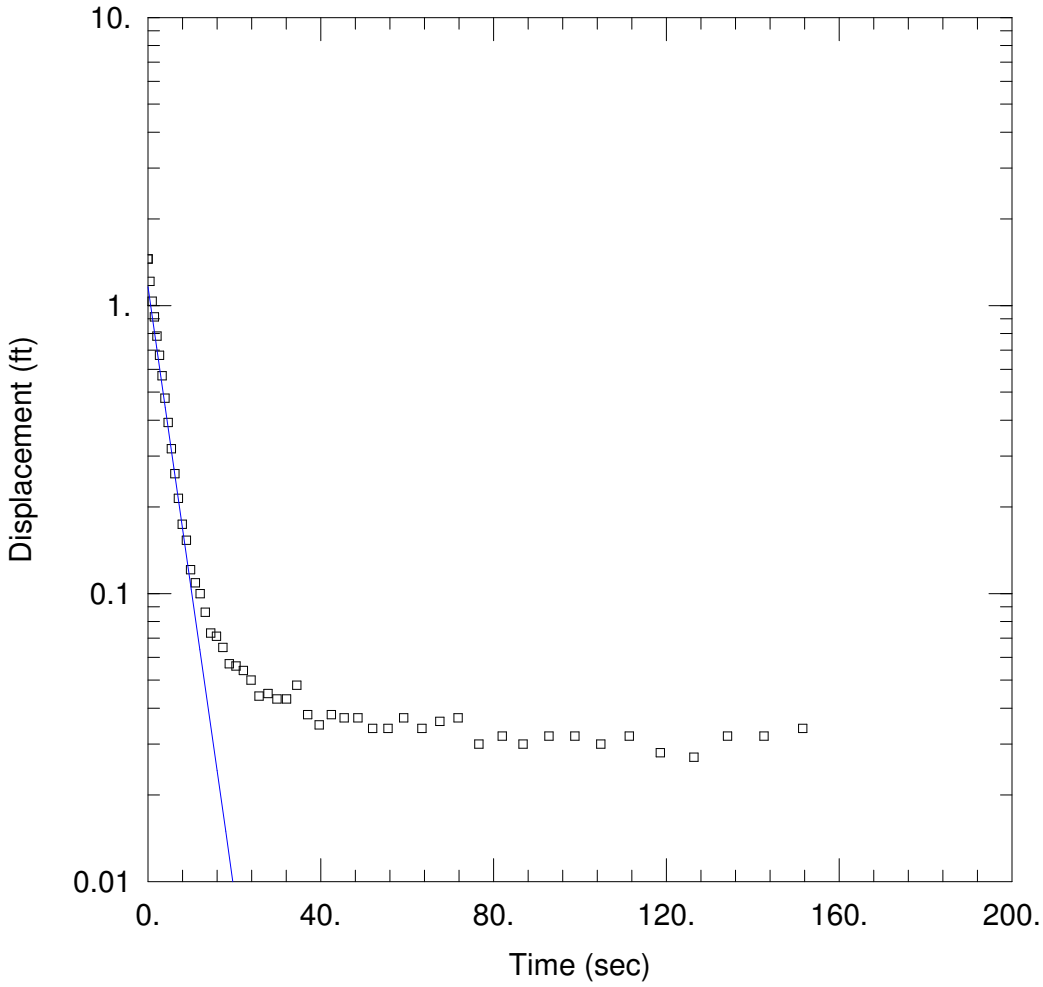
WELL DATA (MW-7S)

Initial Displacement: 0.578 ft
Total Well Penetration Depth: 5.02 ft
Casing Radius: 0.083 ft
Static Water Column Height: 5.02 ft
Screen Length: 5.02 ft
Well Radius: 0.34 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.03764 cm/sec y0 = 0.3277 ft



WELL TEST ANALYSIS

Data Set: P:\...\MW-7D.aqt
Date: 12/06/17 Time: 08:31:23

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 146094.500
Location: Troy, NY
Test Well: MW-7D
Test Date: 4/11/17

AQUIFER DATA

Saturated Thickness: 14.6 ft Anisotropy Ratio (Kz/Kr): 1.

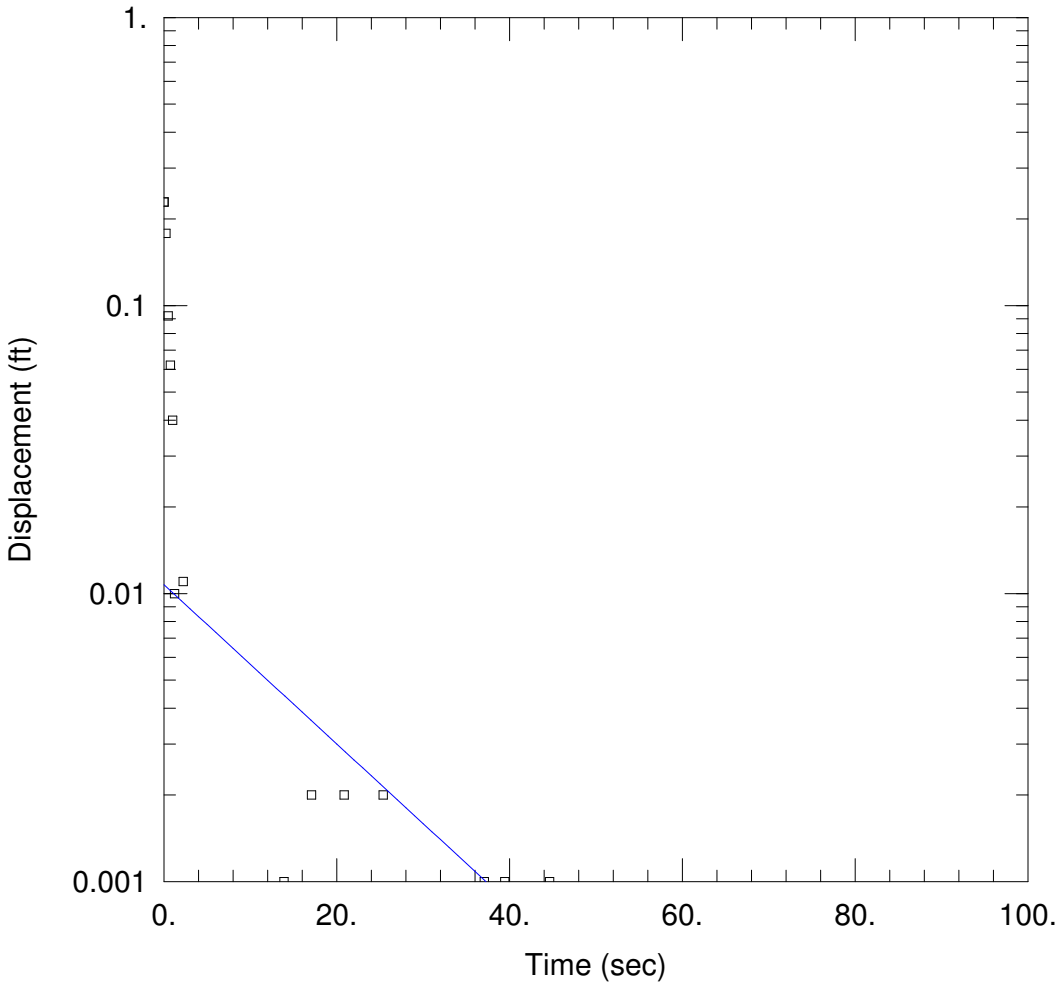
WELL DATA (MW-7D)

Initial Displacement: 1.452 ft
Total Well Penetration Depth: 14.7 ft
Casing Radius: 0.083 ft
Static Water Column Height: 14.7 ft
Screen Length: 8.5 ft
Well Radius: 0.34 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.01016 cm/sec y0 = 1.161 ft



WELL TEST ANALYSIS

Data Set: P:\...\MW-8S.aqt
Date: 12/06/17 Time: 08:35:41

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 146094.500
Location: Troy, NY
Test Well: MW-8S
Test Date: 4/12/17

AQUIFER DATA

Saturated Thickness: 11.83 ft Anisotropy Ratio (Kz/Kr): 1.

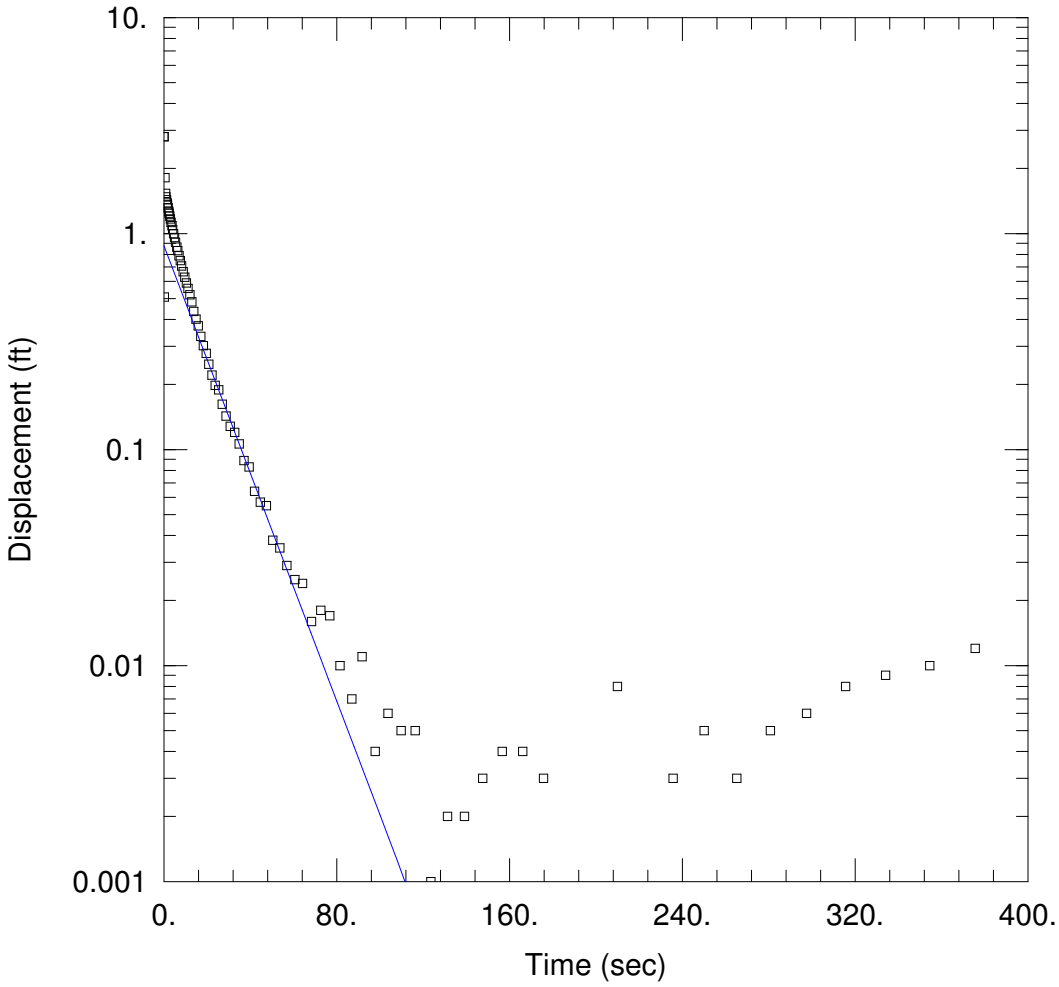
WELL DATA (MW-8S)

Initial Displacement: 0.229 ft
Total Well Penetration Depth: 4.83 ft
Casing Radius: 0.083 ft
Static Water Column Height: 4.83 ft
Screen Length: 4.83 ft
Well Radius: 0.34 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.003199 cm/sec y0 = 0.01073 ft



WELL TEST ANALYSIS

Data Set: P:\...\MW-8D.aqt
Date: 12/06/17 Time: 08:43:47

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 146094.500
Location: Troy, NY
Test Well: MW-8D
Test Date: 4/12/17

AQUIFER DATA

Saturated Thickness: 11.68 ft Anisotropy Ratio (Kz/Kr): 1.

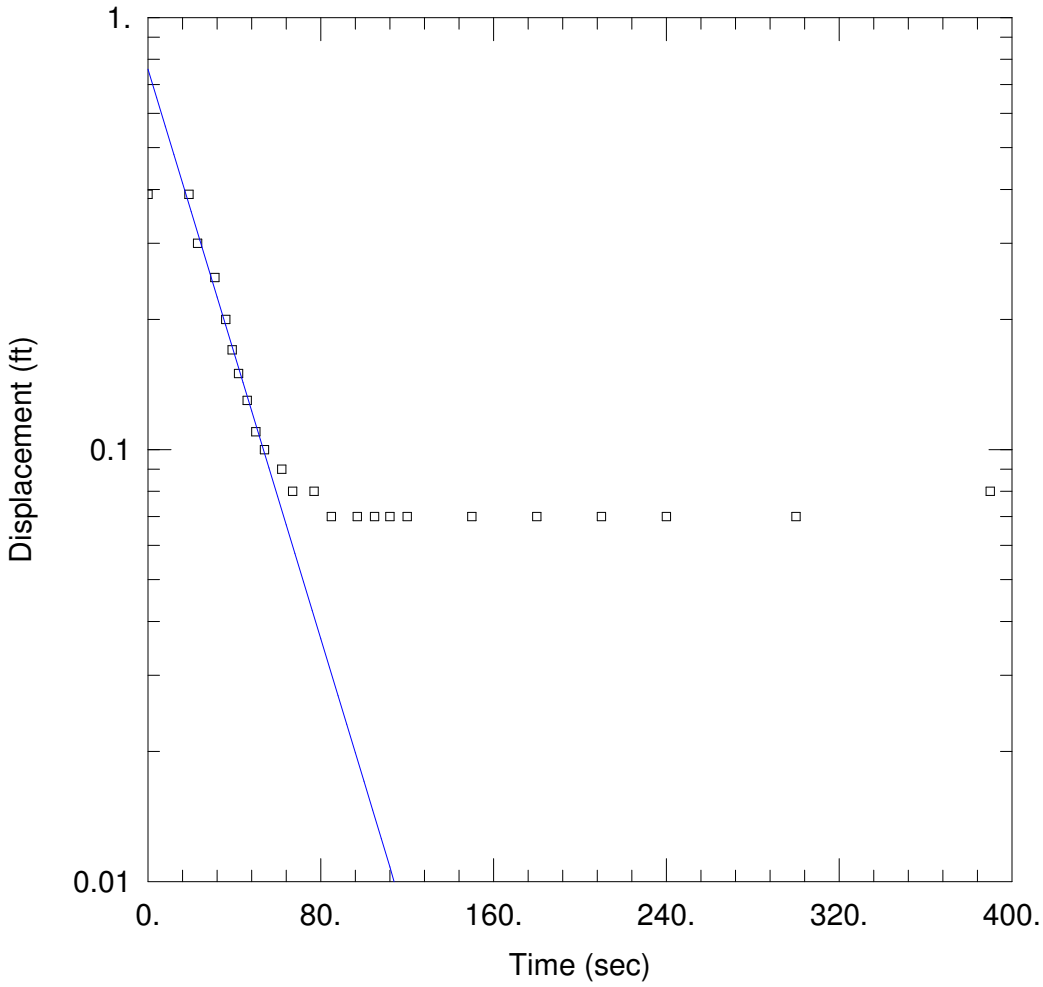
WELL DATA (MW-8D)

Initial Displacement: 2.805 ft
Total Well Penetration Depth: 11.68 ft
Casing Radius: 0.083 ft
Static Water Column Height: 11.68 ft
Screen Length: 3. ft
Well Radius: 0.34 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.005304 cm/sec y0 = 0.8769 ft



WELL TEST ANALYSIS

Data Set: P:\...\MW-8D-Manual.aqt
Date: 12/06/17 Time: 08:54:07

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 146094.500
Location: Troy, NY
Test Well: MW-8D-Manual
Test Date: 4/12/17

AQUIFER DATA

Saturated Thickness: 11.68 ft Anisotropy Ratio (Kz/Kr): 1.

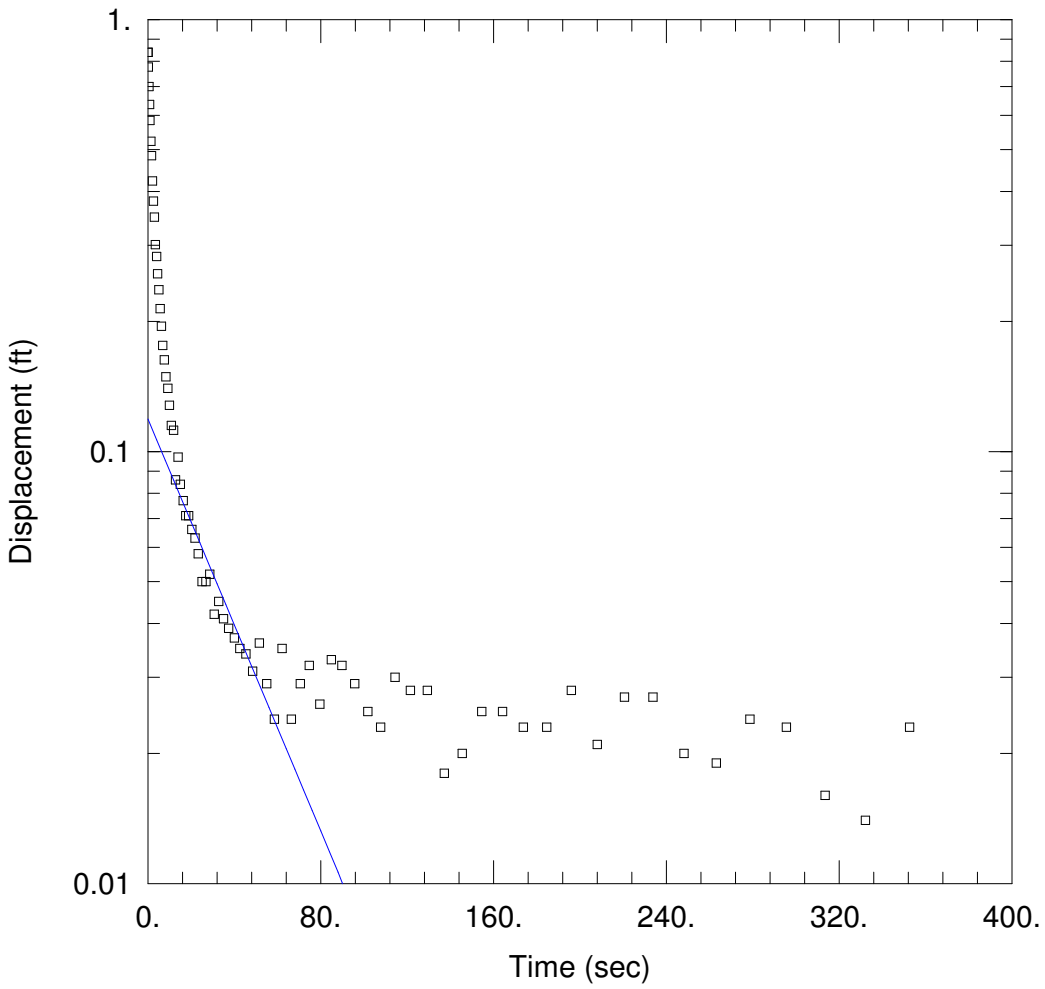
WELL DATA (MW-8D-Manual)

Initial Displacement: 0.39 ft
Total Well Penetration Depth: 11.68 ft
Casing Radius: 0.083 ft
Static Water Column Height: 11.68 ft
Screen Length: 3. ft
Well Radius: 0.34 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.003319 cm/sec y0 = 0.7596 ft



WELL TEST ANALYSIS

Data Set: P:\...\MW-9.aqt
Date: 12/06/17 Time: 11:25:44

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 146094.500
Location: Troy, NY
Test Well: MW-9
Test Date: 4/11/17

AQUIFER DATA

Saturated Thickness: 16.05 ft Anisotropy Ratio (Kz/Kr): 1.

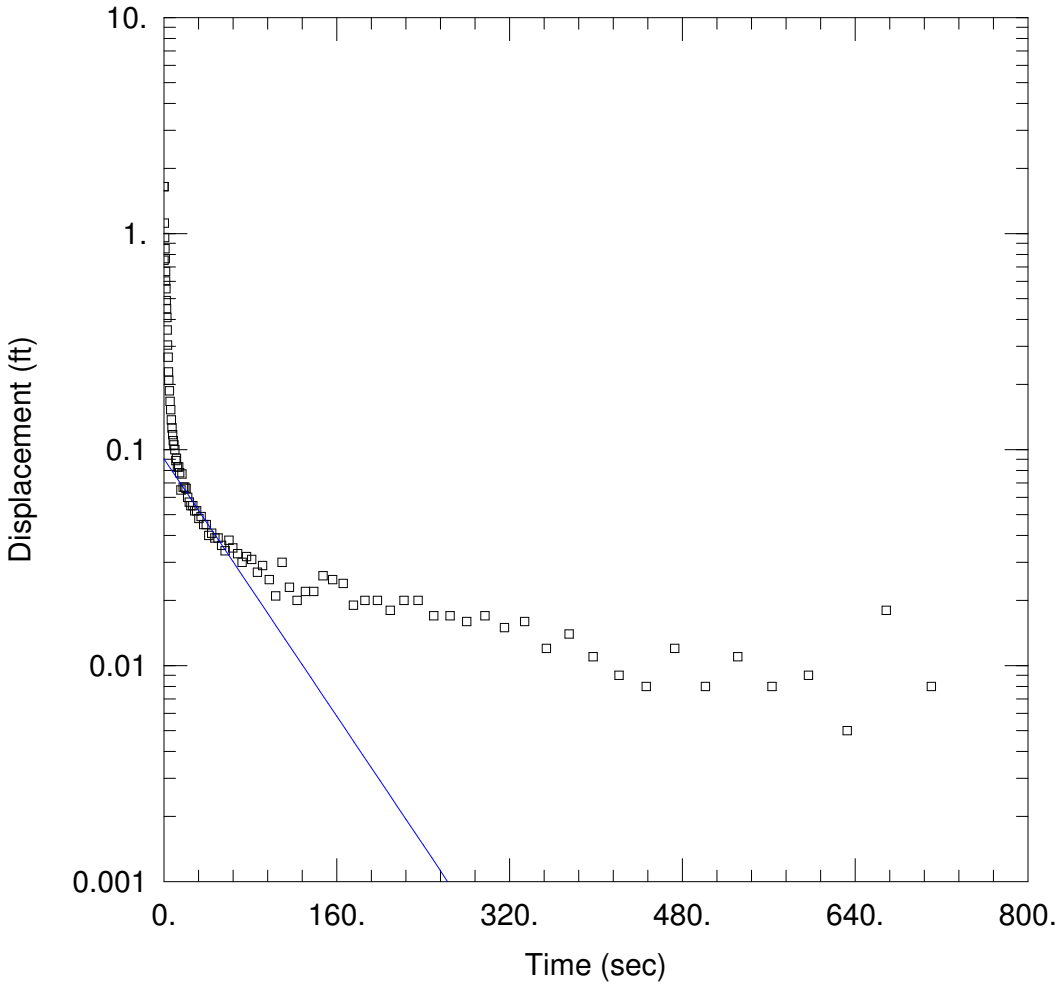
WELL DATA (MW-9)

Initial Displacement: 0.839 ft
Total Well Penetration Depth: 5.55 ft
Casing Radius: 0.083 ft
Static Water Column Height: 5.55 ft
Screen Length: 5.55 ft
Well Radius: 0.34 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.001262 cm/sec y0 = 0.1188 ft



WELL TEST ANALYSIS

Data Set: P:\...\MW-10.aqt
Date: 12/06/17 Time: 11:27:08

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 146094.500
Location: Troy, NY
Test Well: MW-10
Test Date: 4/12/17

AQUIFER DATA

Saturated Thickness: 19.08 ft Anisotropy Ratio (Kz/Kr): 1.

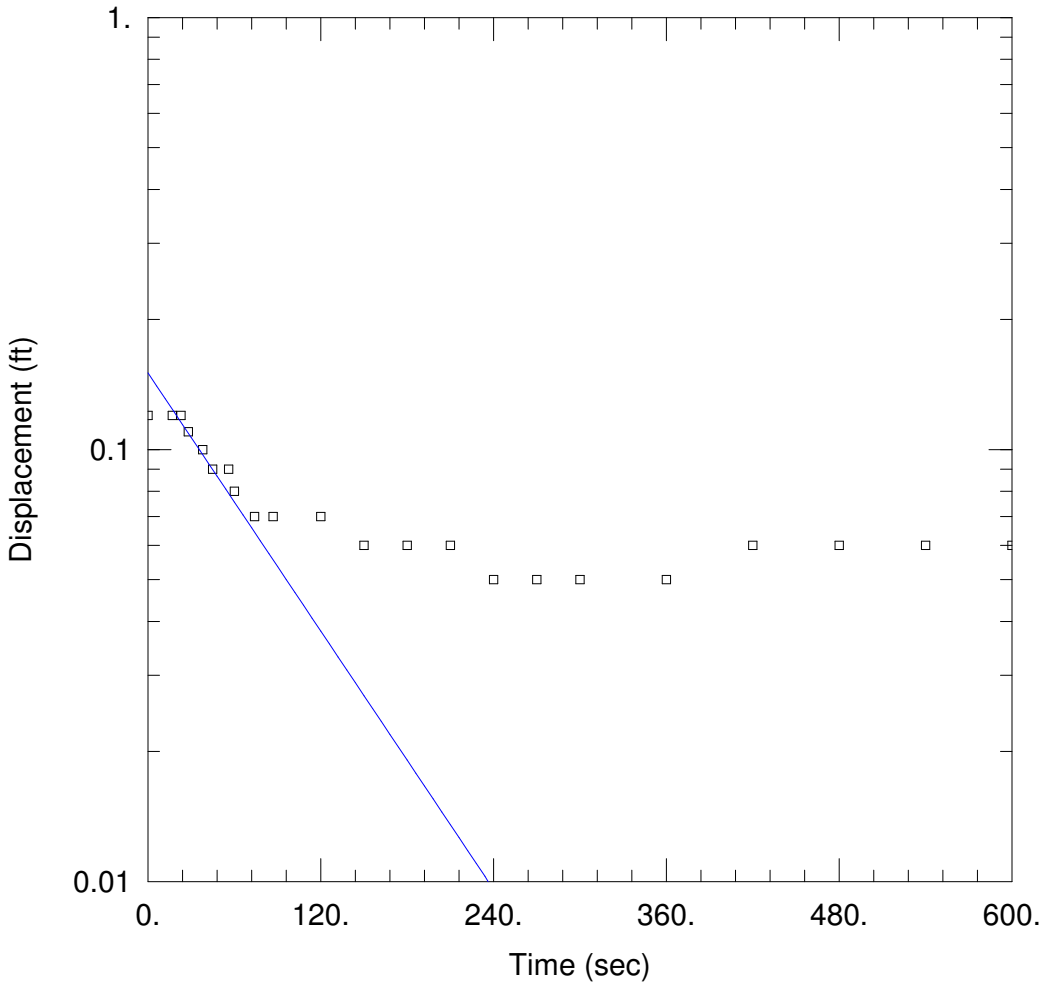
WELL DATA (MW-10)

Initial Displacement: 1.651 ft
Total Well Penetration Depth: 9.08 ft
Casing Radius: 0.083 ft
Static Water Column Height: 9.08 ft
Screen Length: 9.08 ft
Well Radius: 0.34 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.0005665 cm/sec y0 = 0.09053 ft



WELL TEST ANALYSIS

Data Set: P:\...\MW-10-Manual.aqt
Date: 01/08/18 Time: 14:57:58

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 146094.500
Location: Troy, NY
Test Well: MW-10-Manual
Test Date: 4/12/17

AQUIFER DATA

Saturated Thickness: 9.08 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-10-Manual)

Initial Displacement: 0.12 ft
Total Well Penetration Depth: 9.08 ft
Casing Radius: 0.083 ft
Static Water Column Height: 9.08 ft
Screen Length: 9.08 ft
Well Radius: 0.34 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.0006107 cm/sec y0 = 0.1504 ft

Appendix H: Groundwater Sampling Field Data Sheets

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-1
Sample I.D.: (if different from well no.)

Project: Troy Area SMC
Personnel: BFT SPW

Date: 9/21/15 Time: 1438
Weather: Sunny Air Temp.: 65°

WELL DATA:

Casing Diameter: 8" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 4" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 20.50 ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☑ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 300 ml/min Elapsed Time: 30 min Volume Pumped: ~3 gallons
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: _____
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☐ No ☑ Yes Name: DUP-092115
MS/MSD : ☑ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 9/21/15

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy Area 3 AT
Client: National Grid
Personnel: BFT SPW
Purge/Sample Depth:

Project Number: 146094
Date: 9/21/15
Well ID: MW-1
Sample ID:

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1438	6.62	16.86	0.771	2.52	131	-68	22.8	300 ml/min	
1441	6.63	16.09	0.770	2.57	103	-68			
1444	6.49	14.91	0.749	2.16	58.4	-55			
1447	6.48	14.85	0.758	2.32	56.3	-51			
1450	6.52	14.77	0.756	2.47	53.8	-52	22.8		
1453	6.50	14.72	0.757	2.64	52.3	-49			
1456	6.55	14.72	0.762	2.85	47.8	-51			
1459	6.58	14.67	0.770	3.02	44.7	-51	22.8		
1502	6.61	14.70	0.772	3.09	43.3	-53			
1505	6.61	14.66	0.776	3.17	40.8	-52			
1508	6.61	14.63	0.782	3.21	37.0	-52	22.8		
1512	Sample	Collected							

9/21/15

Certified Sample Information:
Time of Sample: 1512
Analyst Signature:

Instrument Data:
Manufacturer/Model:
Serial No. Unit:
Serial No. Handheld:
Calibration Date/Time:

9/21/15

Are low-flow parameters subject to field lab certification? ☐ Yes ☐ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW 19
Sample I.D.: (if different from well no.)

Project: troy area 3 RI
Personnel: Swen Baylor

Date: 9/22/15 Time: 0927
Weather: cloudy Air Temp.: 53

WELL DATA:

Casing Diameter: 4 ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 22.02 ft Bottom of Well: 71.65 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☑ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☒ Polypropylene ☐ Other: _____

Pumping Rate: 250 ml/min Elapsed Time: 39 min Volume Pumped: ~3 gallons
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: _____
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: _____
MS/MSD : ☑ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 9/22/15

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troyaren 3 RI
Client: Nat Grid
Personnel: Suren B Taylor
Purge/Sample Depth:

Project Number:
Date: 9/22/15
Well ID: MW-1D
Sample ID:

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond ( )	DO (mg/L)	Turbidity (NTU)				
~~0427~~									
0930	7.18	14.92	2.09	6.46	991	-148	22.02	250 ml/min	
0933	7.18	14.93	2.09	6.11	556	-142			
0936	7.18	14.92	2.09	5.93	452	-142			
0939	7.14	14.74	2.09	5.60	312	-139			
0942	7.13	14.75	2.09	5.43	262	-137			
0945	7.15	14.75	2.09	5.19	213	-136			
0948	7.18	14.75	2.09	5.07	180	-136			
0951	7.17	14.75	2.09	5.07	170	-136			
0954	7.18	14.74	2.09	4.89	150	-136	22.05		
0957	7.17	14.75	2.09	4.84	143	-136			
1000	7.17	14.78	2.09	4.81	127	-134			
1003	7.18	14.78	2.09	4.80	108	-134			
~~1006~~ 1006	7.18	14.78	2.09	4.80	102	-134			
1009	7.18	14.78	2.09	4.80	96	-134	22.02		
1012	Sample								

Certified Sample Information:
Time of Sample: 1012
Analyst Signature:

Instrument Data:
Manufacturer/Model:
Serial No. Unit:
Serial No. Handheld:
Calibration Date/Time:

Are low-flow parameters subject to field lab certification? ☐ Yes ☐ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-25
Sample I.D.: (if different from well no.)

Project: Trn Area 3 NI
Personnel: BPT SPW

Date: 9/22/15 Time: 1235
Weather: Sunny Air Temp.: 70

WELL DATA:

Casing Diameter: 4" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 22.10 ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☑ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No
VOLUME OF WATER: Standing in well: 8 To be purged: _____

PURGE DATA:

METHOD: ☑ Bailer, Size: 1.5 ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☑ Other: Poly
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 100 Elapsed Time: 25 Volume Pumped: ~1.5 gallons
Was well Evacuated? ☑ Yes ☐ No Number of Well Volumes Removed: 1
PURGING EQUIPMENT: ☑ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☑ Bailer, Size: 1.5 ☐ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☐ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☑ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☑ Yes ☐ No Method: _____
APPEARANCE: ☐ Clear ☑ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: _____
MS/MSD : ☑ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 9/22/15 Purge Date
9/23/15 Sample Date

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Tiny Area 3 NE
Client: National Guard
Personnel: BFT SPW
Purge/Sample Depth: 23.65

Project Number: 14/054
Date: 9/22/15
Well ID: MW-25
Sample ID: MW-25

Actual Time	Certified Parameters: pH	Temp (°C)	Cond ( )	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1235	Begin Purging well to maintain ~ well	@ 250 ml/min				to check if a water level can			
1247	6.83	21.32	2.28	2.51	75.8	-136	22.34	100	
1250	6.84	20.47	2.29	2.40	87.2	-138	22.42		
1253	6.82	19.47	2.27	2.13	114	-138			
1256	6.72	18.52	2.22	1.90	178	-136	23.00		
1259	6.77	17.70	1.99	1.96	400	-141	23.65	Pump Increased to 250 ml/min to Evacuate well	
		~~16.5~~						well Evacuated to Deposit Bags	
1310	well fully Evacuated w/ Bailer								
	Formation Water								
1600	6.82	16.54	1.79	229	5.84	-119	22.99		
	well to be sampled within 24 hours on						9/23		

9/22/15

Certified Sample Information:
Time of Sample: 9/22/15 ~~0815~~ 750 @
Analyst Signature:

Instrument Data:
Manufacturer/Model:
Serial No. Unit:
Serial No. Handheld:
Calibration Date/Time:

Are low-flow parameters subject to field lab certification? ☐ Yes ☐ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-2D
Sample I.D.: (if different from well no.)

Project: Troy area 3 RI
Personnel: Swren B Taylor

Date: 9/23/15 Time: 746
Weather: Foggy Air Temp.: 50

WELL DATA:

Casing Diameter: 4 ☑ Stainless Steel ☐ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 25.41 ft Bottom of Well: 35.80 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☑ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☐ Polyethylene ☑ Polypropylene ☐ Other: _____

Pumping Rate: 200 ml/min Elapsed Time: 30 min Volume Pumped: ~2 gallon
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: _____
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☐ No ☐ Yes Name: _____
MS/MSD : ☐ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 9/23/15

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy area 3 RI
Client: Nat Grid
Personnel: Sweden B Taylor
Purge/Sample Depth:

Project Number:
Date: 9/23/15
Well ID: MW-2D
Sample ID:

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond ( )	DO (mg/L)	Turbidity (NTU)				
746	6.93	13.33	2.16	6.34	226	-118	25.41	200 ml/m	
749	6.93	13.46	2.19	4.74	144	-139			
751	6.99	13.51	2.20	3.78	118	-139			
754	7.00	13.42	2.20	3.42	116	-137			
757	7.02	13.44	2.20	3.32	109	-137			
800	7.04	13.40	2.18	3.25	104	-136			
803	7.05	13.44	2.17	3.21	100	-133			
806	7.05	13.44	2.17	3.20	100	-133	25.41		
809	7.05	13.42	2.16	3.20	95	-133			
812	7.05	13.42	2.16	3.20	95	-133			
815	7.05	13.42	2.16	3.20	94	-133			

Certified Sample Information:
Time of Sample: 0815
Analyst Signature:

Instrument Data:
Manufacturer/Model:
Serial No. Unit:
Calibration Date/Time:
Serial No. Handheld:

Are low-flow parameters subject to field lab certification? ☐ Yes ☐ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-35
Sample I.D.: (if different from well no.)

Project: Troy Ave JAD
Personnel: BFT SPW

Date: 9/22/15 Time: 1355
Weather: Sunny Air Temp.: 70°

WELL DATA:

Casing Diameter: 4" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 17.16 ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☐ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☑ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☑ Bailer, Size: 1.5 ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☑ Other: Poly Ethylene
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 100 ml/min Elapsed Time: 40 min Volume Pumped: ~2 gallons
Was well Evacuated? ☑ Yes ☐ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☑ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned Pump

SAMPLING DATA:

METHOD: ☑ Bailer, Size: 1.5 ☐ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Poly ethylene ☐ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☑ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: _____
APPEARANCE: ☐ Clear ☑ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: _____
MS/MSD : ☑ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 9/22/15 Purge Date
9/23/15 Sample Date

1402
17.04

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: TNI Area 3 AI
Client: National Grid
Personnel: BFT SPN
Purge/Sample Depth: 22

Project Number: 146094
Date: 9/22/15
Well ID: MW-35
Sample ID: MW-35

Actual Time	Certified Parameters: pH	Temp (°C)	Cond ( )	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1355	Begin Purge of MW-35								
1411	6.17	24.10	0.586	2.74	886	-26	17.16	125	
	Pumped Clear with Fair Flowrate								
1421	6.20	23.33	0.495	2.82	"0.0"	-16	17.21	100 mL/min	
1424	6.23	22.57	0.487	3.02	"0.0"				
1427	6.24	22.50	0.471	3.05	"0.0"	-18	17.35		
1430	6.24	20.57	0.462	2.92	"0.0"	-12	17.58		
1433	6.29	19.91	0.458	2.80	"0.0"	-13	17.70		
1436	6.29	19.77	0.456	2.93	732	-10	17.77		
1439	6.27	19.79	0.453	2.95	523	-7	17.85		
1442	6.26	19.84	0.453	2.94	861	-6	17.92		
	Increase Rate + Evacuate Well								
1445	6.25	20.11	0.456	2.77	707	-3	17.95		
1500	6.23	17.96	0.485	3.67	673	-13	—	Bailer	well evacuated
	Formation Water								
1613	5.52	16.87	0.453	4.40	369	39	20.33		

Certified Sample Information:
Time of Sample: 9/23/15
Analyst Signature:

Instrument Data:
Manufacturer/Model:
Serial No. Unit:
Serial No. Handheld:
Calibration Date/Time:

Are low-flow parameters subject to field lab certification? ☐ Yes ☐ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-4
Sample I.D.: (if different from well no.)

Project: Troy area 3 RI
Personnel: Swen B. Taylor

Date: 9/22/14 Time: 817
Weather: cloudy Air Temp.: 57

WELL DATA:

Casing Diameter: 6 ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 4 ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 19.53 ft Bottom of Well: 29.96 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☑ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☑ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 300 ml/min Elapsed Time: 39 min Volume Pumped: ~3.25 gallons
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: _____
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☐ No ☐ Yes Name: _____
MS/MSD : ☐ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 9/22/15

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy area 3 RI
Client: Nat Grid
Personnel: Swren B Taylor
Purge/Sample Depth:

Project Number:
Date: 9/22/15
Well ID: MW-4
Sample ID:

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond ( )	DO (mg/L)	Turbidity (NTU)				
820	7.00	14.57	3.06	7.36	40	93	19.53	300 ml/min	
823	6.99	14.53	3.05	7.16	37	96			
826	7.00	14.45	3.06	6.58	27	101			
829	7.01	14.41	3.06	6.01	20	107			
832	6.99	14.39	3.05	5.67	16	109			
835	6.99	14.37	3.06	5.34	15	113			
838	6.99	14.37	3.06	5.01	12	113			
841	6.98	14.35	3.06	4.83	11	113			
844	6.98	14.35	3.07	4.66	11	113			
847	6.99	14.34	3.07	4.29	10	115			
850	7.00	14.35	3.07	4.07	9	114	19.55		
853	7.00	14.38	3.07	3.92	9	113			
856	7.00	14.38	3.07	3.88	9	113			
859	7.00	14.38	3.07	3.89	9	113			
902	Sample								

Certified Sample Information:
Time of Sample: 0902 Analyst Signature:

Instrument Data:
Manufacturer/Model:
Serial No. Unit: Serial No. Handheld:
Calibration Date/Time:

Are low-flow parameters subject to field lab certification? ☐ Yes ☐ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-45
Sample I.D.: (if different from well no.)

Project: BFT SPW NATIONAL GRID TRU AREA 3
Personnel: [illegible]

Date: 9/22/15 Time: 1538
Weather: Clear Air Temp.: 70°

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 20.90 ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 150 ml/min Elapsed Time: 12 min Volume Pumped: ~0.50 gallons
Was well Evacuated? ☑ Yes ☐ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☑ Bailer, Size: 1.7 ☐ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☑ Teflon® ☐ Stainless Steel
Tubing/Rope: ☐ Teflon® ☐ Polyethylene

SAMPLING EQUIPMENT: ☑ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: _____
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: _____
MS/MSD : ☑ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 9/22/15 Purge Data
9/23/15 Sample Date

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Tri-Am 3
Client: NATIONAL GRID
Personnel: BFT SPW
Purge/Sample Depth:

Project Number: 146094
Date: 9/22/15
Well ID: MW-45
Sample ID: MW-45

Actual Time	Certified Parameters: pH	Temp (°C)	Cond ( )	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1538	7.22	21.43	0.832	15.22	646	16	21.51	150	
1541	7.15	20.12	0.941	4.82	571	75	21.80		
1544	7.12	19.57	0.833	3.61	454	78			
1547	7.18	19.44	0.841	3.00	356	415	21.80		
~~1550~~	7.18	19.44	0.841	3.00	356	45	Below Top of Pump		Arc Suction entering Sample
	well Evacuated								
	Formation water								
1626	7.14	16.50	0.918	2.61	771	-80	21.00		
Sample Collected 9/23/15 @ 0930									

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Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-4D
Sample I.D.: (if different from well no.)

Project: Troy Area 3 NE
Personnel: BFT SPW

Date: 9/21/15 Time: 1303
Weather: Cloudy Air Temp.: 65°

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 24.45 ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☑ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 250 ml/min Elapsed Time: 33 min Volume Pumped: ~2.5 gallons
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: _____
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: _____
MS/MSD : ☐ No ☑ Yes Name: MW-4D MS/MSD

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 9/21/15

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy Area 3 RI
Client: National Grid
Personnel: BPT SPW
Purge/Sample Depth:

Project Number: 146074
Date: 9/21/15
Well ID: MW-4D
Sample ID:

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1303	7.23	17.51	1.82	7.54	"0.0"	-141	24.45		
1306	7.14	16.63	1.94	6.47	"0.0"	-157			
1309	7.07	15.82	2.07	5.25	858	-208	24.47		
1312	7.04	15.49	2.11	3.54	743	-218			
1315	7.04	15.44	2.11	3.70	595	-219			
1318	7.02	15.34	2.11	3.52	537	-218	24.48		
1321	6.96	15.06	2.11	3.16	400	-213			
1324	7.00	14.96	2.12	2.88	302	-219			
1327	6.99	14.84	2.12	2.66	215	-222			
1330	6.97	14.76	2.12	2.44	148	-221	24.49		
1333	6.99	14.91	2.13	2.42	107	-224			
1336	6.94	14.88	2.13	2.41	85.0	-221			Sample at 1336 turbidity dropped below 100 NTU - water is "clear" high turbidity likely due to sediment in Horiba
1340	Sample collected								

9/21/15

Certified Sample Information:
Time of Sample: 1340
Analyst Signature:

Instrument Data:
~~Manufacturer/Model:~~
Serial No. Unit:
Serial No. Handheld:
Calibration Date/Time:

Are low-flow parameters subject to field lab certification? ☐ Yes ☐ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-1
Sample I.D.: 11 (if different from well no.)

Project: Troy - Area 3
Personnel: SA + SPW

Date: 2/28/17 Time: 1330
Weather: Clear Air Temp.: 55°

WELL DATA:

Casing Diameter: 6 ☐ Stainless Steel ☐ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 4 ☐ Stainless Steel ☐ Galv. Steel ☐ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 20.06 ft Bottom of Well: 29.37 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☑ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☐ Yes ☑ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☑ No
Is Padlock Functional? ☐ Yes ☑ No ☑ NA Is Inner Casing Intact? ☑ Yes ☐ No

VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: _____ Elapsed Time: _____ Volume Pumped: _____
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☑ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: N/A
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: N/A ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: N/A
MS/MSD : ☑ No ☐ Yes Name: N/A

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 2/28/17

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy - Area 3
Client: National Grid
Personnel: SA + SPW
Purge/Sample Depth: 27.37

Project Number: 146094
Date: 2/28/17
Well ID: MW-1
Sample ID: 4

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1335	7.29	13.4	666	3.51	46.2	20.0	20.06	200	
1338	6.82	12.9	632	2.32	33.6	27.3	20.13		
1341	6.53	12.7	626	1.00	28.7	31.5	20.18		
1344	6.40	12.7	631	0.92	32.6	27.7	20.19		
1347	6.37	12.7	640	0.80	28.9	24.0	20.20		
1350	6.38	12.8	663	0.78	27.3	14.1	20.21		
1353	6.38	12.9	671	0.73	24.1	9.5	20.21		
1356	6.38	12.9	671	0.70	23.4	6.8	20.22		
1359	6.39	12.9	680	0.68	22.4	2.3	20.22		
1402	6.39	12.9	681	0.67	22.3	0.7	20.22		
1405	6.39	12.9	681	0.68	21.1	1.1	20.23		
1408	Sample collected "MW-1"								
				No visible NAPL/Sheen. Slight odor (mothball-like)					

Certified Sample Information:

Time of Sample: 1408

Analyst Signature: [signature]

Instrument Data:

Manufacturer/Model: Pro DSS
Serial No. Unit: - -
Calibration Date/Time: - -
Serial No. Handheld: 15E10911

Are low-flow parameters subject to field lab certification? ☐ Yes ☐ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

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Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-15
Sample I.D.: [illegible] (if different from well no.)

Project: Troy - Area 3
Personnel: SA + SPW

Date: 2/28/17 Time: 0815
Weather: Cloudy Air Temp.: 37

WELL DATA:

Casing Diameter: 4 ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2 ☐ Stainless Steel ☑ Galv. Steel ☐ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 19.97 ft Bottom of Well: 20.07 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No

VOLUME OF WATER: Standing in well: .2 To be purged: .6

PURGE DATA:

METHOD: ☑ Bailer, Size: 3ft (1L) ☐ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☐ Polyethylene ☑ Polypropylene ☐ Other: _____

Pumping Rate: -- Elapsed Time: -- Volume Pumped: .2
Was well Evacuated? ☑ Yes ☐ No Number of Well Volumes Removed: 1
PURGING EQUIPMENT: ☑ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☐ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☐ Stainless Steel
Tubing/Rope: ☐ Teflon® ☐ Polyethylene

SAMPLING EQUIPMENT: ☑ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: N/A
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: N/A ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: N/A
MS/MSD : ☑ No ☐ Yes Name: N/A

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 2/28/17

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Troy - Area 3	Project Number:	146094
Client:	National Grid	Date:	2/28/17
Personnel:	SA + SpW	Well ID:	MW-15
Purge/Sample Depth:	—	Sample ID:	11

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond ( )	DO (mg/L)	Turbidity (NTU)				
	* Well Dry *								

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-15-REP
Sample I.D.: MW-15-REP (if different from well no.)

Project: Troy - Area 3
Personnel: SA + SPW

Date: 2/28/17 Time: 0830
Weather: Cloudy Air Temp.: 37

WELL DATA:

Casing Diameter: 4 ☐ Stainless Steel ☐ Steel ☐ PVC ☐ Teflon® ☐ Other: N/A
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☐ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 20.66 ft Bottom of Well: 25.11 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No

VOLUME OF WATER: Standing in well: 8.7 gal To be purged: 2.1

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☑ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 200 Elapsed Time: 33 min Volume Pumped: ~2.5 gal
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: 3.5
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☑ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☑ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: N/A
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: N/A ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: N/A
MS/MSD : ☑ No ☐ Yes Name: N/A

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 2/28/17

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy - Area 3
Client: National Grid
Personnel: SA + SPW
Purge/Sample Depth: 23.56

Project Number: 146094
Date: 2/28/17
Well ID: ~~MW-04~~ MW-15-REP
Sample ID: 11

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (µS/cm)	DO (mg/L)	Turbidity (NTU)				
0840	7.29	12.3	2274	26.2	112.6	-121.2	20.66	~200	
0843	7.18	13.1	2232	0.97	42.6	-140.3	20.67		
0846	7.18	13.2	2232	0.91	22.6	-143.2	20.68		
0849	7.18	13.1	2233	0.80	21.3	-148.0	20.68		
0852	7.18	13.2	2233	0.79	13.7	-149.3	20.68		
0855	7.18	13.3	2233	0.75	7.4	-150.9	20.68		
0858	7.18	13.4	2237	0.71	5.1	-152.2	20.68		
0901	7.18	13.4	2239	0.68	3.3	-153.8	20.68		
0904	7.18	13.4	2240	0.66	2.8	-154.7	20.68		
0907	7.18	13.4	2241	0.65	2.6	-155.4	20.69		
0910	7.18	13.4	2241	0.65	2.1	-156.3	20.69	↓	
0913	Sample	collected	"MW-	15-REP					
~~0915~~									
				No	visible	sheen,	NAPL,	No odor	

Certified Sample Information:
Time of Sample: 0913
Analyst Signature:

Instrument Data:
Manufacturer/Model: Pro DSS
Serial No. Unit: --
Serial No. Handheld: 15E102911
Calibration Date/Time: --

Are low-flow parameters subject to field lab certification? ☐ Yes ☑ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-1D
Sample I.D.: " (if different from well no.)

Project: Troy - Area 3
Personnel: SA + SPW

Date: 2/28/17 Time: 0925
Weather: Cloudy Air Temp.: 37

WELL DATA:

Casing Diameter: 4 ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2 ☐ Stainless Steel ☑ Galv. Steel ☐ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 21.19 ft Bottom of Well: 31.71 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA | Is Inner Casing Intact? ☑ Yes ☐ No

VOLUME OF WATER: Standing in well: 1.7 To be purged: ~5

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 215 Elapsed Time: 33 Volume Pumped: ~5
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: 3
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☑ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: N/A
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: N/A ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: N/A
MS/MSD : ☑ No ☐ Yes Name: N/A

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 2/28/17

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy - Area 3
Client: National Grid
Personnel: SA + SPW
Purge/Sample Depth: 30.71

Project Number: 146074
Date: 2/24/17
Well ID: MW-10
Sample ID: "

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
0925	7.18	12.7	2234	3.67	207.3	-143.9	21.19	~215	
0928	7.18	12.7	2233	3.46	183.6	-146.3	21.18		
0931	7.19	12.6	2233	3.54	156.2	-147.8	21.16		
0934	7.19	12.6	2234	3.32	138.6	-149.0	21.15		
0937	7.19	12.8	2245	3.01	71.2	-151.6	21.15		
0940	7.19	12.9	2253	2.88	42.9	-153.6	21.14		
0943	7.19	13.2	2260	2.76	29.2	-154.2	21.14		
0946	7.20	13.3	2268	2.62	20.3	-154.8	21.14		
0949	7.20	13.4	2272	2.58	15.0	-155.9	21.14		
0952	7.20	13.4	2274	2.51	13.6	-156.3	21.14		
0955	7.20	13.3	2275	2.52	13.1	-156.7	21.13		
0958	Collected sample "MW-10"								
				No visible NAPL/Sheen. No odor					

Certified Sample Information:
Time of Sample: 0958
Analyst Signature:

Instrument Data:
Manufacturer/Model: ProDSS
Serial No. Unit: ---
Serial No. Handheld: 15E102911
Calibration Date/Time: --

Are low-flow parameters subject to field lab certification? ☐ Yes ☑ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

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Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-25
Sample I.D.: " (if different from well no.)

Project: Troy-Ayers
Personnel: SA + SPW

Date: 3/2/17 Time: 0900
Weather: cloudy Air Temp.: 31°

WELL DATA:

Casing Diameter: 4 ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other:
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 21.31 ft Bottom of Well: 24.96 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No

VOLUME OF WATER: Standing in well: -- To be purged: --

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other:

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other:
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other:

Pumping Rate: 200 Elapsed Time: -- Volume Pumped: --
Was well Evacuated? ☐ Yes ☐ No Number of Well Volumes Removed: --
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☑ Bailer, Size: ____ ☐ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other:

MATERIALS: Pump/Bailer: ☑ Teflon® ☐ Stainless Steel
Tubing/Rope: ☑ Teflon® ☐ Polyethylene

SAMPLING EQUIPMENT: ☑ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: N/A
APPEARANCE: ☐ Clear ☑ Turbid ☐ Color: N/A ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: N/A
MS/MSD : ☑ No ☐ Yes Name: N/A

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 3/2/17

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy - Area 3
Client: National Grid
Personnel: SA + SPW
Purge/Sample Depth:

Project Number: 146049
Date: 3/2/17
Well ID: MW-25
Sample ID: 11

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (µS/cm)	DO (mg/L)	Turbidity (NTU)				
0910	6.99	8.2	430	3.96	59.5	-64.1	24.31		
0913	6.80	8.6	1132	3.64	66.2	-38.4			
0916	6.72	8.7	1295	3.71	62.1	-25.8			
0919	6.69	8.8	1255	3.13	59.6	-13.9			
0922	6.65	8.8	1126	3.07	56.9	-5.7			
0925	Well purged dry. Will revisit to sample.								
0928									
0931									
0934									
0937									
0940									
0943									
1345	Collected Sample ("MW-25")								
					No visible NAPL. No sheen. Mothball-like odor.				

Certified Sample Information:
Time of Sample: 1345
Analyst Signature:

Instrument Data:
Manufacturer/Model: Pro DSS
Serial No. Unit: --
Calibration Date/Time: 3/2/17
Serial No. Handheld: 15E10941

Are low-flow parameters subject to field lab certification? ☐ Yes ☑ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-20
Sample I.D.: " (if different from well no.)

Project: May - Area 3
Personnel: SA + SPW

Date: 3/2/17 Time: 0730
Weather: Snow Air Temp.: 31

WELL DATA:

Casing Diameter: 4 ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 23.09 ft Bottom of Well: 35.90 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No

VOLUME OF WATER: Standing in well: ~8.7 To be purged: - -

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 200 Elapsed Time: 63 Volume Pumped: 3.5 gal
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: 0.42
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: N/A
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: N/A ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: N/A
MS/MSD : ☐ No ☑ Yes Name: MW-20_MS, MW-20_MSD

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 3/2/17

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy - Area 3
Client: National Grid
Personnel: SA + SPW
Purge/Sample Depth: 33.90

Project Number: 146049
Date: 3/2/17
Well ID: ~~MW-2D~~ MW-2D
Sample ID: 11

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (µS/cm)	DO (mg/L)	Turbidity (NTU)				
0740	7.69	8.8	1557	4.50	393	163	23.09	200	
0743	7.28	9.9	1596	1.78	436	137	23.12		
0746	7.16	10.0	1623	1.28	452	21.7	23.14		
0749	7.02	10.1	1668	0.94	447	-4.2	23.14		
0752	7.00	10.3	1672	0.72	324	-4.2	23.15		
0755	6.98	10.5	1688	0.86	243	-4.2	23.15		
0758	6.97	10.5	1692	0.84	183	-23.1	23.16		
0801	6.96	10.5	1696	0.82	118	-51.1	23.16		
0804	6.95	10.5	1704	0.81	87.2	-72.6	23.16		
0807	6.95	10.4	1705	0.80	68.9	-78.2	23.17		
0810	6.95	10.4	1707	0.79	51.3	-86.9	23.17		
0813	6.95	10.3	1709	0.76	37.8	-89.6	23.17		
0816	6.95	10.4	1709	0.75	34.4	-91.1	23.17		
0819	6.95	10.5	1711	0.74	29.4	-95.1	23.17		
0822	6.95	10.6	1713	0.74	28.2	-96.3	23.17		
0825	6.95	10.5	1714	0.74	20.7	-101.7	23.17		
0828	6.95	10.5	1715	0.74	16.9	-103.9	23.17		
0831	6.95	10.5	1715	0.74	17.4	-104.1	23.17		
0834	6.95	10.5	1716	0.74	16.2	-104.3	23.17		
0837	Collected sample ("MW-2D")								
0840	Collected MS ("MW-2D_MS")								
0843	Collected MSD ("MW-2D_MSD")								
			No visible	NAPL. Slight sheen,	Naphtha-like	odor.			

Certified Sample Information:
Time of Sample: 0837
Analyst Signature: [signature]

Instrument Data:
Manufacturer/Model: Pro DSS
Serial No. Unit: --
Serial No. Handheld: 15E 10911
Calibration Date/Time: 3/2/17

Are low-flow parameters subject to field lab certification? ☐ Yes ☑ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-35
Sample I.D.: 11 (if different from well no.)

Project: Troy - Area 3
Personnel: SA + SpW

Date: 3/2/17 Time: 1400
Weather: Clear Air Temp.: 31

WELL DATA:

Casing Diameter: 4 ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other:
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 11.10 ft Bottom of Well: 12.87 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☐ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No

VOLUME OF WATER: Standing in well: ~.3 To be purged: - -

PURGE DATA:

METHOD: ☑ Bailer, Size: 3 ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other:

MATERIALS: Pump/Bailer: ☐ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other:
Tubing/Rope: ☐ Teflon® ☐ Polyethylene ☐ Polypropylene ☐ Other:

Pumping Rate: - - Elapsed Time: - - Volume Pumped: - -
Was well Evacuated? ☑ Yes ☑ No Number of Well Volumes Removed: - -
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned

SAMPLING DATA:

METHOD: ☑ Bailer, Size: 3 ☐ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other:

MATERIALS: Pump/Bailer: ☑ Teflon® ☐ Stainless Steel
Tubing/Rope: ☑ Teflon® ☐ Polyethylene

SAMPLING EQUIPMENT: ☑ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: N/A
APPEARANCE: ☐ Clear ☑ Turbid ☐ Color: N/A ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: N/A
MS/MSD : ☑ No ☐ Yes Name: N/A

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 3/2/17

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy - Area 3
Client: National Grid
Personnel: SA + SPW
Purge/Sample Depth: — —
Project Number: 146049
Date: 3/2/17
Well ID: MW-35
Sample ID: [illegible]

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (µS/cm)	DO (mg/L)	Turbidity (NTU)				
1353	6.60	10.6	607	1.66	139	73.9	11.10		
1420	Collected Sample "MW-35"								
			No visible NAPL. Slight sheen. Mothball-like odor.						

Certified Sample Information:
Time of Sample: 1420
Analyst Signature: [signature]

Instrument Data:
Manufacturer/Model: DSS PRO
Serial No. Unit: — —
Calibration Date/Time: 3/2/17
Serial No. Handheld: 15E10911

Are low-flow parameters subject to field lab certification? ☐ Yes ☐ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-3R
Sample I.D.: " (if different from well no.)

Project: Troy - Area 3
Personnel: SA + SPW

Date: 2/24/17 Time: 1435
Weather: Cloudy Air Temp.: 54°

WELL DATA:

Casing Diameter: 4 ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 22.79 ft Bottom of Well: 57.46 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No

VOLUME OF WATER: Standing in well: 22.6 To be purged: - -

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 200 Elapsed Time: 33 Volume Pumped: 2-5
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: 0.1
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☑ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: N/A
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: N/A ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: N/A
MS/MSD : ☑ No ☐ Yes Name: N/A

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 2/28/17

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Troy - Area 3	Project Number:	146094
Client:	National Grid	Date:	2/28/17
Personnel:	SA + SPW	Well ID:	MW-3R
Purge/Sample Depth:	54.46	Sample ID:	"

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (uS/cm)	DO (mg/L)	Turbidity (NTU)				
1430	10.36	15.6	1221	5.15	79.3	-36.1	22.79	200	
1433	8.67	14.3	1759	1.29	150.3	-163.2	22.85		
1436	8.13	14.2	1839	0.98	121.4	-141	22.87		
1439	7.46	14.1	1991	0.84	94.3	-115	22.90		
1442	7.13	14.1	2014	0.78	72.4	-101	22.92		
1445	6.97	14.1	2109	0.70	59.2	-95.4	22.93		
1448	6.94	14.0	2113	0.71	41.2	-95.6	22.94		
1451	6.92	14.0	2124	0.69	35.8	-95.8	22.94		
1454	6.91	14.0	2126	0.66	32.6	-95.7	22.95		
1457	6.90	14.0	2128	0.64	33.4	-94.9	22.95		
1500	6.90	14.0	2129	0.64	32.3	-95.3	22.95	↓	
1503	Sample collected "MW-3R"								
			No visible	NAPL/Sheen. Slight odor. Slight haze					

Certified Sample Information:

Time of Sample: 1503 Analyst Signature:

Instrument Data:

Manufacturer/Model: Pro DSS

Serial No. Unit: -- Serial No. Handheld: 15E10911

Calibration Date/Time: --

Are low-flow parameters subject to field lab certification? ☐ **Yes** ☑ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-04
Sample I.D.: MW-04 (if different from well no.)

Project: Troy - Area 3
Personnel: SA + SPW

Date: 2/28/17 Time: 7:42
Weather: Cloudy Air Temp.: 37

WELL DATA:

Casing Diameter: 6 ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 4 ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 18.65 ft Bottom of Well: 24.52 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☑ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☑ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No
VOLUME OF WATER: Standing in well: 0.96 To be purged: ~3

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 200 ml/min Elapsed Time: 33 min Volume Pumped: 2.9 gal
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: ~3
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: N/A
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: N/A ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: N/A
MS/MSD : ☑ No ☐ Yes Name: N/A

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 2/28/17

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy - Area 3
Client: National Grid
Personnel: SAT + SPW
Purge/Sample Depth: 23.56

Project Number: 146094
Date: 2/28/17
Well ID: MW-04
Sample ID: "

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
0745	7.77	10.0	3140	7.98	6.2	211.1	18.65	~~200~~	
0748	7.05	12.2	3350	6.49	13.1	209.3	18.67		
0751	7.00	12.2	3354	6.44	13.1	209.0	18.67		
0754	6.98	12.2	3356	6.41	11.3	209.1	18.67		
0757	~~7.00~~	12.2	3358	6.38	9.0	209.2	18.67		
0800	6.95	12.2	3358	6.38	7.6	209.3	18.67		
0803	6.95	12.2	3360	6.39	5.6	209.3	18.67		
0806	6.95	12.2	3360	6.39	3.1	209.1	18.67		
0809	6.94	12.3	3358	6.38	2.9	208.6	18.67		
0812	6.94	12.3	3357	6.38	2.8	207.9	18.67		
0815	6.94	12.3	3359	6.38	2.5	208.1	18.68	↓	
0818	Sample collected			"MW-4"					

Certified Sample Information:
Time of Sample: 0818
Analyst Signature:

Instrument Data:
Manufacturer/Model: Pro DSS
Serial No. Unit: 15E102911
Calibration Date/Time: - -
Serial No. Handheld: 15E102911

Are low-flow parameters subject to field lab certification? ☐ Yes ☑ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: ~~MW-2D~~ MW-4S
Sample I.D.: 11 (if different from well no.)

Project: Troy - Area 3
Personnel: SA + SPW

Date: 3/1/17 Time: ~~1203~~ 1400
Weather: Cloudy Air Temp.: 55

WELL DATA:

Casing Diameter: 4 ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 18.67 ft Bottom of Well: 23.03 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No

VOLUME OF WATER: Standing in well: ~3 To be purged: ---

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 200 Elapsed Time: _____ Volume Pumped: _____
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☑ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: N/A
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: N/A ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: N/A
MS/MSD : ☑ No ☐ Yes Name: N/A

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 3/1/17

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy - Area 3
Client: National Grid
Personnel: SA + SPW
Purge/Sample Depth: 22.03
Project Number: 146049
Date: 3/1/17
Well ID: ~~MW-20~~ MW-4S
Sample ID: "

Actual Time	Certified Parameters: pH	Temp (°C)	Cond (µS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1430	7.02	14.7	1139	3.49	2994	96.3	18.67	200	
1433	6.72	14.2	1094	3.19	1122	96.5	18.70		
1436	6.64	13.6	1075	3.14	123.1	97.1	18.74		
1439	6.62	13.5	1076	3.05	91.2	97.3	18.78		
1442	6.61	13.5	1085	2.89	63.7	97.8	18.80		
1445	6.60	13.5	1092	2.70	41.2	98.1	18.81		
1448	6.59	13.4	1093	2.61	62.7	98.7	18.82		
1451	6.59	13.4	1095	2.54	85.4	99.0	18.82		
1454	6.59	13.4	1095	2.48	32.6	99.8	18.82		
1457	6.59	13.4	1095	2.41	27.2	100.6	18.82		
1500	6.59	13.4	1095	2.36	14.6	101.0	18.82		
1503	6.59	13.4	1095	2.37	15.2	101.3	18.82		
1506	6.59	13.4	1095	2.34	14.6	101.4	18.82		
1509	6.59	13.4	1095	2.35	15.9	101.4	18.82		
1512	Sample collected "MW-20"								
						Slight (Sheen)			
				No visible NAPL, ~~No~~ Sheen. Mothball-like odor.					

Certified Sample Information:
Time of Sample: 1512
Analyst Signature:

Instrument Data:
Manufacturer/Model: ProDSS
Serial No. Unit: --
Serial No. Handheld: 15E10911
Calibration Date/Time: 3/1/17

Are low-flow parameters subject to field lab certification? ☐ Yes ☐ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-4D
Sample I.D.: " (if different from well no.)

Project: Troy - Area 3
Personnel: SA + SPW

Date: 2/28/17 Time: 1230
Weather: Clear Air Temp.: 55°

WELL DATA:

Casing Diameter: 4 ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other:
Intake Diameter: 2 ☐ Stainless Steel ☑ Galv. Steel ☐ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 22.49 ft Bottom of Well: 36.16 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No

VOLUME OF WATER: Standing in well: 7.3 To be purged: - -

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other:

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 260 Elapsed Time: 33 Volume Pumped: 2.5
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: 0.34
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other:

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☑ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: N/A
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: N/A ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: N/A
MS/MSD : ☑ No ☐ Yes Name: N/A

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 2/28/17

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Troy - Area 3	Project Number:	146094
Client:	National Grid	Date:	2/28/17
Personnel:	SA + SPW	Well ID:	MW-4D
Purge/Sample Depth:	83.16	Sample ID:	"

Actual Time	Certified Parameters: pH	Temp (°C)	Cond (µS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1240	7.44	12.8	1927	3.59	231.6	-6.1	22.49	200	
1243	7.13	12.9	2122	2.16	249.9	-41.1	22.51		
1246	7.02	12.9	2203	0.80	262.1	-83.2	22.51		
1249	7.02	12.9	2204	0.78	226.	-84.1	22.51		
1252	7.02	12.9	2204	0.71	192	-89.3	22.51		
1255	7.02	12.9	2205	0.69	145.2	-93.4	22.51		
1258	7.02	12.9	2205	0.68	123.1	-94.3	22.51		
1301	7.02	12.9	2205	0.66	101.3	-96.3	22.51		
1304	7.02	12.9	2205	0.65	85.2	-97.8	22.51		
1307	7.02	12.9	2204	0.64	42.1	-98.4	22.51		
1310	7.02	12.9	2204	0.63	40.3	-99.3	22.51		
1313	7.02	12.9	2204	0.63	38.2	-99.5	22.51		
1316	7.02	12.9	2204	0.63	40.1	-99.7	22.51		
1319	Sample collected "MW-4D"								
				No visible NAPL/sheen. No odor					

Certified Sample Information:

Time of Sample: 1313 Analyst Signature: [signature]

Instrument Data:

Manufacturer/Model: Pro DSS

Serial No. Unit: -- Serial No. Handheld: 15E10911

Calibration Date/Time: --

Are low-flow parameters subject to field lab certification? ☐ Yes ☑ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-55
Sample I.D.: " (if different from well no.)

Project: Troy - Area 3
Personnel: SA + SPW

Date: 3/2/17 Time: 0945
Weather: Snow Air Temp.: 31

WELL DATA:

Casing Diameter: 4 ☑ Stainless Steel ☐ Steel ☐ PVC ☐ Teflon® ☐ Other:
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 19.34 ft Bottom of Well: 25.54 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No

VOLUME OF WATER: Standing in well: Approx 1 To be purged: ~ -

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other:

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other:
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other:

Pumping Rate: 200 Elapsed Time: 33 Volume Pumped: 2
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: 2
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other:

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☑ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: N/A
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: N/A ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: N/A
MS/MSD : ☑ No ☐ Yes Name: N/A

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 3/2/17

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy - Area 3
Client: National Grid
Personnel: SA + SPW
Purge/Sample Depth: 23.54

Project Number: 146049
Date: 3/2/17
Well ID: MW-55
Sample ID: 11

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond. (µS/cm)	DO (mg/L)	Turbidity (NTU)				
0950	6.74	9.7	1045	3.44	79.6	31.1	19.34	200	
0953	6.56	11.5	963	1.09	59.1	-6.0	19.45		
0956	6.54	11.7	974	0.85	28.5	-29.4	19.63		
0959	6.53	11.9	956	6.9	10.2	-41.4	19.84		
1002	6.53	12.1	955	2.39	8.1	-49.7	19.97		
1005	6.53	12.2	955	0.71	6.8	-56.2	20.01		
1008	6.53	12.3	956	0.69	6.7	-60.1	20.08		
1011	6.53	12.3	958	0.67	6.0	-63.2	20.15		
1014	6.53	12.1	959	0.67	6.1	-67.7	20.19		
1017	6.53	12.1	960	0.67	5.2	-69.2	20.21		
1020	6.53	12.0	960	0.66	5.8	-69.1	20.25		
1023	Sample Collected "MW-55"								

Certified Sample Information:

Time of Sample: 1023 Analyst Signature:

Instrument Data:

Manufacturer/Model: DSS Pro
Serial No. Unit: --
Serial No. Handheld: 15E1091
Calibration Date/Time: 3/2/17

Are low-flow parameters subject to field lab certification? ☐ Yes ☑ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell — Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-5
Sample I.D.: " (if different from well no.)

Project: Troy - Area 3
Personnel: SA + SPW

Date: 3/2/17 Time: 1100
Weather: Clear Air Temp.: 31

WELL DATA:

Casing Diameter: 4 ☑ Stainless Steel ☐ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 23.84 ft Bottom of Well: 40.77 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No

VOLUME OF WATER: Standing in well: 2.8 To be purged: — —

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 200 Elapsed Time: ~1 hr Volume Pumped: 3.5
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: 1.25
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☑ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: N/A
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: N/A ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☐ No ☑ Yes Name: Dup-20170302
MS/MSD : ☑ No ☐ Yes Name: N/A

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 3/2/17

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Troy - Area 3	Project Number:	146049
Client:	National Grid	Date:	3/2/17
Personnel:	SA + SPW	Well ID:	MW-5
Purge/Sample Depth:	38.77	Sample ID:	"

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (µS/cm)	DO (mg/L)	Turbidity (NTU)				
1105	6.57	11.5	2168	1.87	141.4	20.6	23.84	200	
1108	6.72	11.2	2222	1.16	316.2	-6.3	23.90		
1111	6.74	11.0	2228	1.03	282	-12.3	23.93		
1114	6.75	10.8	2226	0.99	221	-17.1	23.94		
1117	6.78	10.7	2229	0.88	169	-28.2	23.95		
1120	6.79	10.7	2232	0.81	113.6	-39.7	23.97		
1123	6.79	10.9	2231	0.79	101.8	-42.6	23.97		
1126	6.79	11.0	2230	0.77	93.2	-48.3	23.97		
1129	6.79	11.0	2229	0.75	81.6	-51.4	23.96		
1132	6.80	10.8	2230	0.74	72.1	-56.3	23.96		
1135	6.80	10.6	2231	0.73	63.2	-59.2	23.96		
1138	6.80	10.2	2221	0.71	57.6	-61.7	23.97		
1141	6.80	10.1	2218	0.70	53.7	-63.2	23.97		
1144	6.80	10.0	2218	0.69	48.2	-65.3	23.98		
1147	6.80	10.0	2218	0.68	43.2	-67.4	23.98		
1150	6.80	10.0	2218	0.68	38.2	-67.6	23.98		
1153	6.80	10.0	2218	0.68	37.7	-67.9	23.98		
1156	6.80	10.0	2218	0.68	37.2	-67.3	23.98		
1159	Collected sample ("MW-5")								
	Collected Dup ("Dup-20170302")								
			No visible NAPL, slight sheen, Mothball-like odor.						

Certified Sample Information:
Time of Sample: 1159 Analyst Signature:

Instrument Data:
Manufacturer/Model: DS Pro
Serial No. Unit: -- Serial No. Handheld: 15E10911
Calibration Date/Time: 3/2/17

Are low-flow parameters subject to field lab certification? ☐ Yes ☑ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-65
Sample I.D.: 01 (if different from well no.)

Project: Troy - Area 3
Personnel: SA + SPW

Date: 2/28/17 Time: 1510
Weather: Cloudy Air Temp.: 50

WELL DATA:

Casing Diameter: 4 ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 22.96 ft Bottom of Well: 26.71 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No

VOLUME OF WATER: Standing in well: 0.6 gal To be purged: --

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 190 Elapsed Time: 33 Volume Pumped: 2.3
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☑ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☑ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: N/A
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: N/A ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: N/A
MS/MSD : ☑ No ☐ Yes Name: N/A

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 2/28/17

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy - Area 3
Client: Troy, New York - National Grid
Personnel: SA + SPW
Purge/Sample Depth: 26.71

Project Number: 146049
Date: 2/28/17
Well ID: MW-65
Sample ID: "

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (uS/cm)	DO (mg/L)	Turbidity (NTU)				
1525	7.01	14.3	809	1.82	27.5	-62.1	22.96	190	
1528	6.68	14.1	763	0.97	9.1	-74.2	22.97		
1531	6.62	14.0	758	0.81	7.2	-78.6	22.97		
1534	6.58	14.0	756	0.76	5.6	-81.8	22.97		
1537	6.58	13.9	756	0.75	4.4	-82.6	22.97		
1540	6.57	13.9	756	0.74	3.6	-83.8	22.97		
1543	6.56	14.0	756	0.71	2.9	-84.8	22.97		
1546	6.55	14.0	756	0.69	2.2	-87.2	22.97		
1549	6.55	14.0	756	0.68	2.0	-88.3	22.97		
1552	6.55	14.0	756	0.68	2.0	-88.5	22.97		
1555	6.55	14.0	756	0.67	1.9	-88.6	22.97	↓	
1558	Sample collected "MW-65"								
				No visible NAPL. Slight mothball-like odor. Slight sheen, easily broken up.					

Certified Sample Information:
Time of Sample: 1558
Analyst Signature:

Instrument Data:
Manufacturer/Model: Pro DSS
Serial No. Unit: --
Calibration Date/Time: --
Serial No. Handheld: 15E10911

Are low-flow parameters subject to field lab certification? ☐ **Yes** ☐ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-6D
Sample I.D.: " (if different from well no.)

Project: Troy - Area 3
Personnel: SA + SPW

Date: 3/01/17 Time: 737
Weather: Cloudy Air Temp.: 50°

WELL DATA:

Casing Diameter: 4 ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 23.30 ft Bottom of Well: 37.67 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☐ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No

VOLUME OF WATER: Standing in well: 9.4 To be purged: --

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 200 Elapsed Time: 48 min Volume Pumped: ~ 2.8
Was well Evacuated? ☐ Yes ☐ No Number of Well Volumes Removed: 0.3
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☑ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: N/A
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: N/A ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☐ No ☑ Yes Name: Dup-20170229
MS/MSD : ☑ No ☐ Yes Name: N/A

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 3/01/17

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Troy - Area 3	Project Number:	146049
Client:	National Grid	Date:	3/08/17
Personnel:	SA + SPW	Well ID:	MW-6D
Purge/Sample Depth:	36.67	Sample ID:	"

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond ( )	DO (mg/L)	Turbidity (NTU)				
0745	7.99	14.0	1220	5.40	582	-55.8	23.30	200	
0748	7.12	13.9	1242	3.61	589	-68.1	23.31		
0751	6.66	13.8	1255	0.77	582	-89.3	23.31		
0754	6.64	13.7	1255	0.73	422	-91.9	23.31		
0757	6.62	13.7	1255	0.70	373	-94.7	23.31		
0800	6.62	13.7	1256	0.69	308	-95.3	23.31		
0803	6.62	13.7	1256	0.68	272	-95.9	23.31		
0806	6.62	13.7	1258	6.67	188	-96.2	23.31		
0809	6.61	13.7	1260	0.66	105.5	-97.9	23.31		
0812	6.61	13.7	1262	6.65	78.6	-98.3	23.31		
0815	6.61	13.7	1263	0.64	35.2	-99.2	23.31		
0818	6.61	13.7	1264	0.63	26.8	-100.1	23.31		
0821	6.61	13.7	1264	0.62	17.8	-100.4	23.31		
0824	6.61	13.7	1265	0.61	17.3	-101.1	23.31		
0827	6.61	13.7	1266	0.61	17.0	-101.3	23.31		
0830	6.61	13.7	1266	0.61	17.1	-101.4	23.31		
0833	Sample collected "MW-6D"								
				No visible NAPL. Slight sheen. Mothball-like odor.					

Certified Sample Information:

Time of Sample: 0833 Analyst Signature:

Instrument Data:

Manufacturer/Model: Pro DSS

Serial No. Unit: -- Serial No. Handheld: 15E10911

Calibration Date/Time: 3/08/17

Are low-flow parameters subject to field lab certification? ☐ Yes ☑ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-73
Sample I.D.: " (if different from well no.)

Project: Troy - Area 3
Personnel: SA + SPW

Date: 3/1/17 Time: 0900
Weather: Cloudy Air Temp.: 55

WELL DATA:

Casing Diameter: 4 ☑ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 22.04 ft Bottom of Well: 26.64 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No

VOLUME OF WATER: Standing in well: 0.75 To be purged: ~ -

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 200 Elapsed Time: 33 min Volume Pumped: 2 gal
Was well Evacuated? ☐ Yes ☐ No Number of Well Volumes Removed: 2.6
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☑ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: N/A
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: N/A ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: N/A
MS/MSD : ☑ No ☐ Yes Name: N/A

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 3/1/17

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Troy - Area 3	Project Number:	146049
Client:	National Grid	Date:	3/1/17
Personnel:	SA + SPW	Well ID:	MW-7S
Purge/Sample Depth:	[illegible]	Sample ID:	"

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (uS/cm)	DO (mg/L)	Turbidity (NTU)				
0910	6.92	13.4	1817	5.38	76.8	-82.1	22.04		
0913	6.81	13.4	1890	1.01	10.5	-59.2	22.04		
0916	6.81	13.4	1898	0.87	7.9	-53.6	22.04		
0919	6.84	13.4	1906	0.79	4.2	-87.6	22.04		
0922	6.85	13.4	1907	0.75	3.9	-92.4	22.04		
0925	6.86	13.4	1907	0.73	4.2	-98.6	22.04		
0928	6.86	13.5	1908	0.70	4.0	-101.9	22.04		
0931	6.86	13.5	1908	0.68	4.1	-102.3	22.04		
0934	6.86	13.5	1910	0.69	4.7	-102.8	22.04		
0937	6.86	13.5	1911	0.69	4.3	-103.0	22.04		
0940	6.86	13.6	1911	0.69	4.7	-103.1	22.04		
0943	Sample collected "MW-7S"								
			No visible NAPL. Slight sheen. Mothball-like odor.						

Certified Sample Information:

Time of Sample: 0943 Analyst Signature: [signature]

Instrument Data:

Manufacturer/Model: ProDSS

Serial No. Unit: - - Serial No. Handheld: 15E10911

Calibration Date/Time: 3/1/17

Are low-flow parameters subject to field lab certification? ☐ Yes ☑ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-7D
Sample I.D.: 4 (if different from well no.)

Project: Troy - Area 3
Personnel: SA + SPW

Date: 3/1/17 Time: 0950
Weather: Cloudy Air Temp.: 55

WELL DATA:

Casing Diameter: 4 ☑ Stainless Steel ☐ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 24.73 ft Bottom of Well: 36.45 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No

VOLUME OF WATER: Standing in well: 1.9 To be purged: ~ ~

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 200 Elapsed Time: 33 Volume Pumped: 2.5
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: 1.3x
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☑ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: N/A
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: N/A ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: N/A
MS/MSD : ☐ No ☑ Yes Name: MW-7D_MS ; MW-7D_MSD

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 3/1/17

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Troy - Area 3	Project Number:	146049
Client:	National Grid	Date:	3/1/17
Personnel:	SA + SPW	Well ID:	MW-7D
Purge/Sample Depth:	35.45	Sample ID:	11

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (µS/cm)	DO (mg/L)	Turbidity (NTU)				
1000	6.98	13.3	2216	2.23	33.9	-20.3	24.73	200	
1003	6.90	13.5	2332	0.91	9.1	-56.2	24.75		
1006	6.20	13.5	2342	0.82	8.6	-72.1	24.76		
1009	6.90	13.4	2346	0.75	7.4	-90.2	24.76		
1012	6.91	13.4	2347	0.73	7.9	-93.7	24.76		
1015	6.92	13.6	2349	0.70	8.3	-101.2	24.76		
1018	6.92	13.4	2350	0.67	9.2	-107.0	24.76		
1021	6.92	13.4	23.49	0.64	7.6	-111.2	24.76		
1024	6.92	13.4	2346	0.64	3.6	-115.6	24.76		
1027	6.92	13.4	2346	0.63	3.9	-115.8	24.76		
1030	6.92	13.4	2346	0.64	3.2	-116.1	24.76	↓	
1033	Collected	sample.	("MW-7D")						
1036	Collected	MS	("MW-7D-MS")						
1039	Collected	MSD	("MW-7D-MSD")						
				No visible NAPL. Slight sheen. Mothball-like odor.					

Certified Sample Information:

Time of Sample: 1033 Analyst Signature:

Instrument Data:

Manufacturer/Model: ProDSS

Serial No. Unit: --

Serial No. Handheld: 15E10911

Calibration Date/Time: 3/1/17

Are low-flow parameters subject to field lab certification? ☐ **Yes** ☐ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-8S
Sample I.D.: " (if different from well no.)

Project: Troy a Area 3
Personnel: SA + SPW

Date: 3/1/17 Time: 1115
Weather: Cloudy Air Temp.: 56°

WELL DATA:

Casing Diameter: 4 ☑ Stainless Steel ☐ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 23.39 ft Bottom of Well: 27.67 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No

VOLUME OF WATER: Standing in well: 2.8 To be purged: — —

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 200 Elapsed Time: 39 min Volume Pumped: 2.3 gal
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: .96
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☑ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: N/A
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: N/A ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: N/A
MS/MSD : ☑ No ☐ Yes Name: N/A

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 3/1/17

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy - Area 3
Client: National Grid
Personnel: SA + SPW
Purge/Sample Depth: 26.67

Project Number: 146049
Date: 3/1/17
Well ID: MW-85
Sample ID: "

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond ( )	DO (mg/L)	Turbidity (NTU)				
1125	6.90	13.4	1420	3.14	197.6	50.9	23.39	200	
1128	6.71	13.4	1418	1.74	165	51.3	23.40		
1131	6.63	13.3	1420	1.23	119	48.3	23.40		
1134	6.57	13.3	1422	0.91	76.5	45.4	23.41		
1137	6.56	13.3	1421	0.87	63.7	43.2	23.41		
1140	6.56	13.3	1421	0.82	48.2	40.2	23.41		
1143	6.56	13.2	1420	0.81	33.7	38.6	23.41		
1146	6.56	13.2	1416	0.78	28.1	34.8	23.41		
1149	6.56	13.2	1413	0.76	22.5	32.5	23.42		
1152	6.56	13.1	1410	0.75	16.4	29.8	23.42		
1155	6.56	13.1	1409	0.74	16.5	27.4	23.42		
1158	6.56	13.1	1409	0.74	15.9	26.9	23.42		
1201	6.56	13.1	1409	0.74	15.8	26.8	23.42	↓	
1204	Sample	Collected	"MW-85"						

No visible NAPL. Slight sheen. Mothball-like odor.

Certified Sample Information:
Time of Sample: 1204
Analyst Signature:

Instrument Data:
Manufacturer/Model: ProDSS
Serial No. Unit: --
Calibration Date/Time: 3/1/17
Serial No. Handheld: 15E10911

Are low-flow parameters subject to field lab certification? ☐ Yes ☐ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-8D
Sample I.D.: 11 (if different from well no.)

Project: Troy - Area 3
Personnel: SA + SPW

Date: 3/6/17 Time: 1205
Weather: Cloudy Air Temp.: 56°

WELL DATA:

Casing Diameter: 4 ☑ Stainless Steel ☐ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 24.21 ft Bottom of Well: 35.10 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No

VOLUME OF WATER: Standing in well: ~7 To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 200 Elapsed Time: _____ Volume Pumped: _____
Was well Evacuated? ☐ Yes ☐ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☑ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: N/A
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: N/A ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: N/A
MS/MSD : ☑ No ☐ Yes Name: N/A

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 3/7/17

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Troy - Area 3	Project Number:	146049
Client:	National Grid	Date:	3/1/17
Personnel:	SA + SPW	Well ID:	MW-8D
Purge/Sample Depth:	32.10	Sample ID:	"

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (µS/cm)	DO (mg/L)	Turbidity (NTU)				
1215	6.94	13.6	1448	1.52	72.9	13.6	24.21	200	
1218	6.97	13.4	1489	0.73	198.6	-36.8	24.24		
1221	6.99	13.4	~~1490~~ 1500	0.69	127.9	-54.6	24.26		
1224	7.00	13.5	1509	0.65	63.7	-69.8	24.27		
1224	7.00	13.5	1526	0.61	54.6	-82.7	24.27		
1230	7.00	13.6	1541	0.57	49.9	-94.8	24.28		
1233	7.01	13.6	1539	0.57	34.1	-99.7	24.28		
1236	7.01	13.6	1538	0.57	26.6	-102.6	24.28		
1239	7.01	13.6	1545	0.56	22.1	-109.2	24.29		
1242	7.01	13.6	1546	0.56	19.9	-112.4	24.29		
1245	7.01	13.6	1577	0.56	19.4	-113.7	24.29	↓	
1248	Sample collected "MW-8D"								
				No visible NAPL. Slight sheen. Methanol-like odor.					

Certified Sample Information:

Time of Sample: 1248 Analyst Signature:

Instrument Data:

Manufacturer/Model: YSI ProDSS

Serial No. Unit: --

Serial No. Handheld: 15E10911

Calibration Date/Time: 3/1/17

Are low-flow parameters subject to field lab certification? ☐ Yes ☐ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-9
Sample I.D.: 4 (if different from well no.)

Project: Troy - Area 3
Personnel: SA + SPW

Date: 2/28/17 Time: 1010
Weather: Clear Air Temp.: 39

WELL DATA:

Casing Diameter: 4 ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other:
Intake Diameter: 2 ☐ Stainless Steel ☑ Galv. Steel ☐ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 22.20 ft Bottom of Well: 27.03 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION:
Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No

VOLUME OF WATER: Standing in well: .8 To be purged: 2.4

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other:

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other:
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other:

Pumping Rate: 200 mL/min Elapsed Time: 35 Volume Pumped: 2.5
Was well Evacuated? ☐ Yes ☐ No Number of Well Volumes Removed: 0.3
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other:

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☑ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: N/A
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: N/A ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: N/A
MS/MSD : ☑ No ☐ Yes Name: N/A

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 2/28/17

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy - Area 3
Project Number: 146094
Client: National Grid
Date: 2/28/17
Personnel: SA + SPW
Well ID: MW-9
Purge/Sample Depth: ~~Static~~ 26.0
Sample ID: "

Actual Time	Certified Parameters: pH	Temp (°C)	Cond (µS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1020	7.48	12.0	1472	5.96	354.6	58.4	22.20	200	
1023	6.31	12.4	1632	3.59	185.6	81.2	22.23		
1026	6.23	12.4	1627	3.42	82.4	87.6	22.24		
1029	6.14	12.5	1594	3.36	24.8	90.2	22.25		
1032	6.08	12.5	1583	3.32	5.7	98.2	22.25		
1035	6.06	12.5	1584	3.28	4.0	101.4	22.25		
1038	6.05	12.5	1545	3.33	6.2	105.9	22.26		
1041	6.04	12.5	1548	3.36	13.2	109.2	22.26		
1044	6.03	12.6	1574	3.31	8.2	114.3	22.26		
1047	6.03	12.6	1571	3.30	6.1	115.4	22.26		
1050	6.03	12.6	1570	3.29	4.3	116.0	22.26		
1053	Sample collected "MW-9"								
				No visible NAPL/sheen. No odor.					

Certified Sample Information:

Time of Sample: 1053
Analyst Signature:

Instrument Data:

Manufacturer/Model: Pro DSS
Serial No. Unit: - - -
Serial No. Handheld: 15E102711
Calibration Date/Time: - -

Are low-flow parameters subject to field lab certification? ☐ Yes ☑ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-10
Sample I.D.: " (if different from well no.)

Project: Troy - Area 3
Personnel: SA + SPW

Date: 2/28/17 Time: 1100
Weather: Clear Air Temp.: 47

WELL DATA:

Casing Diameter: 4 ☐ Stainless Steel ☐ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☐ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 19.55 ft Bottom of Well: 26.67 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No

VOLUME OF WATER: Standing in well: 4.6 To be purged: ~ 2

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☑ Teflon® ☐ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 200 Elapsed Time: 33 Volume Pumped: 2.5 gal
Was well Evacuated? ☐ Yes ☐ No Number of Well Volumes Removed: .5
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☑ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: N/A
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: N/A ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: N/A
MS/MSD : ☑ No ☐ Yes Name: N/A

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 2/28/17

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Troy - Area 3	Project Number:	148094
Client:	National Grid	Date:	2/28/17
Personnel:	SA + SPW	Well ID:	MW-10
Purge/Sample Depth:	25.67	Sample ID:	4

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (us/cm)	DO (mg/L)	Turbidity (NTU)				
1110	6.64	12.6	983	2.58	537	-19.5	19.55	200	
1113	6.71	12.8	966	1.12	361	-58.8	19.56		
1116	6.74	12.8	955	0.94	291	-70.3	19.56		
1119	6.76	12.9	948	0.81	169	-77.2	19.56		
1122	6.77	12.7	946	0.74	92.4	-83.2	19.56		
1125	6.77	12.9	947	0.72	86.1	-85.8	19.57		
1128	6.78	12.9	949	0.70	52.5	-88.7	19.57		
1131	6.79	13.0	950	0.68	44.5	-90.1	19.57		
1134	6.79	13.0	950	0.65	32.4	-93.5	19.57		
1137	6.79	13.0	954	0.64	22.4	-94.8	19.57		
1140	6.79	13.0	955	0.63	16.3	-96.3	19.57		
1143	Sample collected "MW-10"								
				No visible NAPL/sheen. No odor					

Certified Sample Information:

Time of Sample: 1143 Analyst Signature: [signature]

Instrument Data:

Manufacturer/Model: Pro DSS

Serial No. Unit: -- Serial No. Handheld: 15E102911

Calibration Date/Time: --

Are low-flow parameters subject to field lab certification? ☐ Yes ☑ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-4
Sample I.D.: MW-4-170626 (If different from well no.)

Project: Troy Area 3
Personnel: REH / AST

Date: 6/26/17 Time: 1402
Weather: overcast Air Temp.: 72°

WELL DATA:

Casing Diameter: 8" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 4" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 18.98 ft Bottom of Well: 24.6 ft
DATUM: ☐ Top of Protective Casing ☐ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☐ Yes ☒ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☐ Yes ☒ No
Is Padlock Functional? ☐ Yes ☒ No ☐ NA Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: (Pump/Bailer): ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: _____
(Tubing/Rope): ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 250 mL/min Elapsed Time: 30 min Volume Pumped: 2.5 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☒ Prepared Off-Site ☐ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: (Pump/Bailer): ☐ Teflon® ☒ Stainless Steel
(Tubing/Rope): ~~☐ Teflon®~~ ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☒ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: _____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ☐ Yes Name: _____
MS/MSD : ☒ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Hazelton Date: 6/26/17

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Tour Area 3
Client: National Grid
Personnel: REHAJT
Purge/Sample Depth:

Project Number: 146094
Date: 6/26/17
Well ID: MW-4
Sample ID: MW-4-170626

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1402	6.71	15.65	1.78	13.15	1.2	139	19.0	250	
1405	6.79	14.53	1.79	7.00	0.0	145	19.0		
1408	6.90	13.74	1.76	6.08	0.0	148	19.0		
1411	6.95	13.20	1.75	5.08	0.0	152	19.0		
1414	6.98	13.25	1.75	5.60	0.0	153	19.0		
1417	7.00	13.14	1.75	5.02	0.0	154	19.0		
1420	7.01	13.11	1.75	4.91	0.4	154	19.0		
1423	7.02	13.01	1.75	4.45	0.4	155	19.0		
1426	7.02	12.99	1.75	5.20	0.7	155	19.0		
1429	7.03	12.91	1.76	4.33	0.7	156	19.0		
1432	7.03	12.89	1.75	4.77	0.7	156	19.0		
1435	Collect MW-4-170626								

AJ
6/26/17

Certified Sample Information:
Time of Sample: 1435
Analyst Signature: Rachel Hojnacki

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: NMTAY1HW
Serial No. Handheld: VORKJ7UF
Calibration Date/Time: 6/22/17

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-1S-REP
Sample I.D.: MW-1S-REP-20170626 (if different from well no.)

Project: Troy Area 3
Personnel: REH/AST

Date: 6/26/17 Time: 1503
Weather: sunny Air Temp.: 72°

WELL DATA:

Casing Diameter: 4" ☒ Stainless Steel ☐ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 24 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No ☐ NA Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ____ To be purged: ____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 300 mL/min Elapsed Time: 30 min Volume Pumped: ≈3 gal
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☒ Prepared Off-Site ☐ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☒ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ☐ Yes Name: ____
MS/MSD : ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Ottaviani Date: 6/26/17

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy Area 3
Client: National Grid
Personnel: RFH / AJT
Purge/Sample Depth: ≈ 23'

Project Number: 146094
Date: 6/26/17
Well ID: MW-1S-REP
Sample ID: MW-1S-REP-20170626

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1503	6.91	16.70	1.09	2.13	91.7	-104	21	300	
1506	6.95	14.54	1.10	0.12	75.8	-111	21		
1509	7.05	13.90	1.10	0.00	38.0	-114	21.02		
1512	7.06	13.88	1.10	0.00	30.9	-115	21.02		
1515	7.08	13.75	1.10	0.00	20.2	-115	21.03		
1518	7.10	13.60	1.11	0.00	15.2	-115	21.03		
1521	7.11	13.70	1.11	0.00	9.8	-115	21.03		
1524	7.12	13.45	1.11	0.00	6.8	-115	21.03		
1527	7.12	13.37	1.12	0.00	8.2	-116	21.03		
1530	7.13	13.32	1.12	0.00	7.9	-116	21.03		
1533	7.12	13.28	1.12	0.00	6.9	-116	21.03		
1536	Collect Sample MW-1S-REP-20170626								

AJT 6/26/17

Certified Sample Information:
Time of Sample: 1536
Analyst Signature: Rachel Hojnacki

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: NMTAY1HW
Serial No. Handheld: VORKJ7UF
Calibration Date/Time: 6/22/17

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-1D
Sample I.D.: MW-1D-20170627 (If different from well no.)

Project: Troy Area 3
Personnel: RE-H / AST

Date: 6/27/17 Time: 0849
Weather: overcast Air Temp.: 60°

WELL DATA:

Casing Diameter: 4" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 21.5 ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No ☐ NA Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 300 mL/min Elapsed Time: 45 min Volume Pumped: 3.25G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: _____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ☐ Yes Name: _____
MS/MSD : ☒ No ~~☐ Yes~~ Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Alexander Date: 6/27/17

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy Area 3
Client: National Grid
Personnel: REH / AST
Purge/Sample Depth:

Project Number: 146094
Date: 6/27/17
Well ID: MW-1D
Sample ID: MW-1D-20170627

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
0849	7.31	14.19	1.08	6.08	554	-119	21.5	300	
0852	7.18	13.33	1.09	3.21	653	-115	21.5		
0855	7.24	13.10	1.09	2.79	386	-108	21.5		
0858	7.26	13.03	1.08	3.11	258	-103	21.5		
0901	7.27	13.03	1.08	3.19	212	-101	21.48		
0904	7.27	13.06	1.08	3.24	182	-100	21.45		
0907	7.30	13.07	1.07	4.15	157	-97	21.45		
0910	7.30	13.01	1.07	3.56	130	-99	21.45		
0913	7.30	13.04	1.07	3.36	119	-98	21.44		
0916	7.30	13.04	1.07	3.38	111	-99	21.44		
0919	7.31	13.06	1.06	3.22	103	-98	21.45		
0922	7.31	13.08	1.06	3.22	99.1	-98	21.45		
0925	7.32	13.11	1.06	3.30	93.3	-97	21.48		
0928	7.32	13.07	1.06	3.15	81.4	-98	21.48		
0931	Sample collected MW-1D-20170627								

Certified Sample Information:
Time of Sample: 0931
Analyst Signature: Rachel Hoinacki

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: NMTAY1HW
Serial No. Handheld: VORKJ7VF
Calibration Date/Time: 6/22/17

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-9
Sample I.D.: MW-9-20170627 (If different from well no.)

Project: Troy Area 3
Personnel: REH/AST

Date: 6/27/17 Time: 0957
Weather: overcast Air Temp.: 60°

WELL DATA:

Casing Diameter: 4" ☒ Stainless Steel ☐ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 23.45 ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No ☐ NA Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: (Pump)/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: _____
(Tubing)/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 300 mL/min Elapsed Time: 30 min Volume Pumped: 3 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: (Pump)/Bailer: ☐ Teflon® ☒ Stainless Steel
(Tubing)/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: _____
APPEARANCE: ☐ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ☐ Yes Name: _____
MS/MSD : ☐ No ☒ Yes Name: MW-9-20170627

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Hojnacki Date: 6/27/17

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy Area 3
Client: National Grid
Personnel: REH / AJT
Purge/Sample Depth:

Project Number: 146094
Date: 6/27/17
Well ID: MW-9
Sample ID: MW-9-20170627

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
0957	7.14	15.08	1.26	10.38	149	20	23.6	300	
1000	6.55	13.27	1.32	4.05	139	76	23.6		
1003	6.39	12.79	1.32	2.76	108	100	23.6		
1006	6.32	12.58	1.36	2.11	85.2	124	23.6		
1009	6.29	12.59	1.40	1.91	75.5	136	23.6		
1012	6.27	12.69	1.46	1.69	162	152	23.63		
1015	6.27	12.66	1.48	1.67	89.4	160	23.65		
1018	6.26	12.66	1.50	1.53	57.7	175	23.65		
1021	6.25	12.64	1.51	1.45	53.1	183	23.65		
1024	6.25	12.67	1.51	1.36	54.3	191	23.65		
1027	6.25	12.70	1.51	1.33	42.1	197	23.65		
1030	Collect sample MW-9-20170627								

Certified Sample Information:
Time of Sample: 1030
Analyst Signature:

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: NMTAYJHW
Serial No. Handheld: VORKJ7UF
Calibration Date/Time: 6/22/17

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-4D
Sample I.D.: MW-4D-20170627 (if different from well no.)

Project: Troy Area 3
Personnel: REH/AST

Date: 6/27/17 Time: 1108
Weather: overcast Air Temp.: 65°

WELL DATA:

Casing Diameter: 4" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 23.25 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No ☐ NA Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ____ To be purged: ____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 250 mL/min Elapsed Time: 30 min Volume Pumped: 2.5
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☐ No ☒ Yes Name: DUP-20170627
MS/MSD : ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Heinen Date: 6/27/17

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy Area 3
Client: National Grid
Personnel: REH/AST
Purge/Sample Depth:

Project Number: 146094
Date: 6/27/17
Well ID: MW-4D
Sample ID: MW-4D-20170627

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1108	6.80	17.33	1.29	10.51	275	29	23.3	250	
1111	6.93	15.81	1.53	4.34	196	-50	23.3		
1114	7.02	15.49	1.56	2.81	120	-67	23.3		
1117	7.08	15.36	1.56	2.65	79.6	-72	23.3		
1120	7.11	15.29	1.55	2.74	55.6	-75	23.3		
1123	7.13	15.11	1.55	2.78	40.4	-75	23.3		
1126	7.15	15.13	1.55	2.76	36.1	-75	23.3		
1129	7.17	14.92	1.54	2.75	32.1	-74	23.3		
1132	7.18	14.86	1.53	2.85	25.3	-73	23.3		
1135	7.19	15.12	1.52	2.90	23.8	-73	23.3		
1138	7.19	15.12	1.53	2.89	22.5	-72	23.3		
1141	Sample collected MW-4D-20170627								

Certified Sample Information:
Time of Sample: 1141
Analyst Signature: Rachel Hagerty

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: NMTAY1HW
Serial No. Handheld: VORKS7UF
Calibration Date/Time: 6/22/17

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-10
Sample I.D.: MW-10-20170627 (if different from well no.)

Project: Troy Area 3
Personnel: REH/AJT

Date: 6/27/17 Time: 1207
Weather: overcast Air Temp.: 65°

WELL DATA:

Casing Diameter: 4" ☒ Stainless Steel ☐ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 19.6 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No ☐ NA Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 325 mL/min Elapsed Time: 30 min Volume Pumped: 3.25
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: _____
APPEARANCE: ☐ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ☐ Yes Name: _____
MS/MSD : ☒ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Hojnacki Date: 6/27/17

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy Area 3
Client: National Grid
Personnel: REH/AJT
Purge/Sample Depth:

Project Number: 146094
Date: 6/27/17
Well ID: MW-10
Sample ID: MW-10-20170627

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (ms/cm)	DO (mg/L)	Turbidity (NTU)				
1207	6.95	14.07	0.541	3.79	OVER 1000	-19	19.65	325	
1210	6.81	13.27	0.538	1.84	785	-4	19.66		
1213	6.76	12.98	0.539	1.01	427	5	19.67		
1216	6.74	12.81	0.538	0.51	222	8	19.70		
1219	6.74	12.74	0.537	0.05	228	3	19.71		
1222	6.73	12.73	0.537	0.0	249	0	19.71		
1225	6.85	12.76	0.532	0.58	168	-6	19.70		
1228	6.77	12.65	0.532	0.0	151	-5	19.70		
1231	6.73	12.52	0.530	0.0	156	-2	19.70		
1234	6.73	12.52	0.528	0.0	137	-4	19.70		
1237	6.73	12.51	0.527	0.0	113	-4	19.70		
1240	Sample MW-10-20170627 collected								

Certified Sample Information:
Time of Sample: 1240
Analyst Signature: Rachel Hornbeck

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: NMTAC1HW
Serial No. Handheld: VORKSTUF
Calibration Date/Time: 6/22/17

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-1
Sample I.D.: MW-1-20170627 (If different from well no.)

Project: Troy Area 3
Personnel: REH/AJT

Date: 6/27/17 Time: 1414
Weather: Sunny Air Temp.: 67°

WELL DATA:

Casing Diameter: 8" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 4" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 21.6 ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☐ Yes ☒ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☒ No ☐ NA Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: (Pump)/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: _____
(Tubing)/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 200 mL/min Elapsed Time: 30 min Volume Pumped: 2 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: (Pump)/Bailer: ☐ Teflon® ☒ Stainless Steel
(Tubing)/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: _____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ☐ Yes Name: _____
MS/MSD : ☒ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 6/27/17

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy Area 3
Client: National Grid
Personnel: REH/AST
Purge/Sample Depth:

Project Number: 146094
Date: 6/27/17
Well ID: MW-1
Sample ID: MW-1-20170627

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1414	6.84	16.08	0.269	2.66	49.0	97	21.75	200	
1417	6.42	15.06	0.269	1.32	50.4	107	21.76		
1420	6.36	14.71	0.265	1.05	49.2	113	21.78		
1423	6.34	14.69	0.266	1.34	47.7	110	21.78		
1426	6.36	14.58	0.267	1.78	44.9	103	21.8		
1429	6.36	14.54	0.269	2.24	45.1	91	21.8		
1432	6.38	14.54	0.271	2.44	43.6	84	21.8		
1435	6.40	14.55	0.273	2.68	42.9	78	21.8		
1438	6.41	14.55	0.275	2.97	42.4	71	21.8		
1441	6.41	14.54	0.277	3.11	40.9	67	21.8		
1444	6.42	14.49	0.279	3.21	37.8	60	21.8		
1447	Sample collected MW-1-20170627								

Certified Sample Information:
Time of Sample: 1447
Analyst Signature:

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: NMTAYIHW
Serial No. Handheld: VORKJTUF
Calibration Date/Time: 6/22/17

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-7S
Sample I.D.: MW-7S-20170627 (if different from well no.)

Project: Troy Area 3
Personnel: REH / JST

Date: 6/27/17 Time: 1514
Weather: overcast Air Temp.: 67°

WELL DATA:

Casing Diameter: 4" ☒ Stainless Steel ☐ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 22.69 ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No ☐ NA Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 200 mL/min Elapsed Time: 30 min Volume Pumped: 2 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: _____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ☐ Yes Name: _____
MS/MSD : ☒ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Hirsch Date: 6/27/17

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy Area 3
Client: National Grid
Personnel: BEH / AJT
Purge/Sample Depth:

Project Number: 146094
Date: 6/27/17
Well ID: MW-7S
Sample ID: MW-7S-20170627

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1514	6.67	17.27	0.745	5.70	143	-20	22.7	200	
1517	6.83	15.22	0.798	0.75	76.7	-76	22.71		
1520	6.92	14.62	0.822	0.0	31.1	-91	22.71		
1523	6.95	14.32	0.835	0.0	22.0	-97	22.72		
1526	6.96	14.20	0.838	0.0	20.1	-98	22.72		
1529	6.97	14.20	0.840	0.0	18.1	-100	22.71		
1532	6.98	14.11	0.846	0.0	19.5	-103	22.7		
1535	6.99	14.02	0.852	0.0	73.5	-104	22.7		tubing slipped down
1538	7.00	13.92	0.854	0.0	48.3	-105	22.7		
1541	7.01	14.11	0.853	0.0	73.0	-106	22.7		
1544	7.01	14.11	0.854	0.0	46.3	-107	22.7		
1548	sample collected MW-7S-20170627								

Certified Sample Information:
Time of Sample: 1548
Analyst Signature: Rachel Hojnacki

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: NMTAY1HW
Serial No. Handheld: VORKJTUF
Calibration Date/Time: 6/22/17

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-7D
Sample I.D.: MW-7D-20170628 (if different from well no.)

Project: Troy Area 3
Personnel: REH / AJT

Date: 6/28/17 Time: 0859
Weather: Sunny Air Temp.: 64°

WELL DATA:

Casing Diameter: 4" ☒ Stainless Steel ☐ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 25.77 ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☐ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No ☐ NA Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: (Pump)/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: _____
(Tubing)/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 200 mL/min Elapsed Time: 30 min Volume Pumped: 2 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: (Pump)/Bailer: ☐ Teflon® ☒ Stainless Steel
(Tubing)/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: _____
APPEARANCE: ☐ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ☐ Yes Name: _____
MS/MSD : ☒ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Hayweth Date: 6/28/17

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Troy Area 3	Project Number:	146094
Client:	National Grid	Date:	6/28/17
Personnel:	REH / AJT	Well ID:	MW-7D
Purge/Sample Depth:		Sample ID:	MW-7D-20170628

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
0859	7.10	15.18	0.892	5.70	600	-13	25.8	200	
0902	7.03	14.13	0.933	2.42	402	-76	25.8		
0905	7.04	13.76	0.939	1.54	195	-90	25.8		
0908	7.06	13.63	0.939	1.59	142	-93	25.8		
0911	7.07	13.59	0.940	1.72	120	-93	25.8		
0914	7.09	13.59	0.940	1.81	110	-92	25.8		
0917	7.08	13.59	0.938	1.91	98.3	-92	25.78		
0920	7.09	13.59	0.938	1.99	91.2	-91	25.78		
0923	7.10	13.55	0.938	2.01	98.7	-91	25.78		
0926	7.10	13.54	0.937	2.09	92.8	-91	25.78		
0929	7.10	13.55	0.937	2.13	77.6	-90	25.78		
0932	Sample collected MW-7D-20170628								

Certified Sample Information:
Time of Sample: 0932 Analyst Signature: Rachel Hojnacki

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: NMTAY1HW Serial No. Handheld: YORKJTUF
Calibration Date/Time: 6/22/17

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-6S
Sample I.D.: MW-6S-20170628 (if different from well no.)

Project: Troy Area 3
Personnel: REH/AJT

Date: 6/28/17 Time: 1006
Weather: Sunny Air Temp.: 68°

WELL DATA:

Casing Diameter: 4" ☒ Stainless Steel ☐ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 24.5 ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No ☐ NA Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 200 mL/min Elapsed Time: 30 min Volume Pumped: 2 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: _____
APPEARANCE: ☐ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ☐ Yes Name: _____
MS/MSD : ☒ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 6/28/17

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy Area 3
Client: National Grid
Personnel: REH/AJT
Purge/Sample Depth:

Project Number: 146094
Date: 6/28/17
Well ID: MW-6S
Sample ID: MW-6S-20170628

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1006	7.22	16.66	0.310	2.86	668	-42	24.5	200	
1009	6.71	15.52	0.297	1.39	404	-27	24.5		
1012	6.55	14.56	0.270	1.00	154	-5	24.5		
1015	6.53	14.44	0.262	1.00	90.1	3	24.5		
1018	6.51	14.23	0.260	0.97	56.6	4	24.5		
1021	6.50	14.22	0.261	0.99	41.6	-1	24.5		
1024	6.50	14.21	0.262	0.99	39.5	-3	24.5		
1027	6.49	14.27	0.264	0.97	34.0	-7	24.5		
1030	6.50	14.21	0.268	0.77	30.7	-14	24.5		
1033	6.50	14.18	0.269	0.76	29.0	-17	24.5		
1036	6.49	14.19	0.270	0.64	26.1	-19	24.5		
1039	collect sample			MW-6S-20170628					

Certified Sample Information:
Time of Sample: 1039
Analyst Signature:

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: NMTAY1HW
Serial No. Handheld: WORKSTUF
Calibration Date/Time: 6/22/17

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-6D
Sample I.D.: MW-6D-20170628 (if different from well no.)

Project: Troy Area 3
Personnel: REH / AJT

Date: 6/28/17 Time: 1100
Weather: Sunny Air Temp.: 70°

WELL DATA:

Casing Diameter: 4" ☐ Stainless Steel ☐ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☐ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 24.84 ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No ☐ NA Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 200 mL/min Elapsed Time: 30 min Volume Pumped: 2 L
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: _____
APPEARANCE: ☐ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ☐ Yes Name: _____
MS/MSD : ☒ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Hoy Date: _____

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1807

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Troy Area 3	Project Number:	146094
Client:	National Grid	Date:	6/28/17
Personnel:	REH AJT	Well ID:	MW-6D
Purge/Sample Depth:		Sample ID:	MW-6D-20170628

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1100	6.53	16.97	0.578	2.80	994	-24	24.84	200	
1103	6.58	16.25	0.616	0.82	784	-44	24.84		
1106	6.64	15.67	0.628	0.45	441	-53	24.84		
1109	6.97	15.60	0.628	0.84	287	-56	24.84		
1112	6.75	15.45	0.628	2.36	261	-56	24.84		
1115	6.72	15.04	0.629	1.88	197	-54	24.84		
1118	6.73	14.96	0.626	1.79	157	-53	24.84		
1121	6.74	15.00	0.625	1.98	157	-53	24.84		
1124	6.73	15.09	0.625	2.07	113	-52	24.84		
1127	6.74	14.96	0.627	1.99	96.7	-52	24.84		
1130	6.74	14.95	0.626	2.05	81.9	-52	24.84		
1133	Sample collected			MW-6D-20170628					

Certified Sample Information:
Time of Sample: 1133 Analyst Signature: Rachel Ghinachi

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: NMTAY1HW Serial No. Handheld: YORKJTVF
Calibration Date/Time: 6/22/17

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-3R
Sample I.D.: MW-3R-20170628 (if different from well no.)

Project: Troy Area 3
Personnel: REH / AJT

Date: 6/28/17 Time: 1328
Weather: Sunny Air Temp.: 73

WELL DATA:

Casing Diameter: 4" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 23.9 ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No ☐ NA Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 200 mL/min Elapsed Time: 30 min Volume Pumped: 2G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: _____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ☐ Yes Name: _____
MS/MSD : ☒ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Hojnacki Date: 6/28/17

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy Area 3
Client: National Grid
Personnel: REH / AJT
Purge/Sample Depth:

Project Number: 146094
Date: 6/28/17
Well ID: MW-3R
Sample ID: MW-3R-20170628

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1328	8.48	16.63	0.559	9.65	153	-24	24	290	
1331	8.47	16.97	0.745	4.43	176	-118	24.01		
1334	7.37	16.05	0.897	0.84	151	-93	24.03		
1337	7.04	15.69	0.937	0.0	101	-86	24.03		
1340	7.05	15.60	0.947	0.0	87.8	-86	24.05		
1343	7.03	15.57	0.956	0.0	74.1	-86	24.05		
1346	7.02	15.43	0.960	0.0	70.5	-86	24.07		
1349	7.01	15.53	0.961	0.0	61.0	-87	24.08		
1352	7.01	15.60	0.964	0.0	59.5	-87	24.08		
1355	6.99	15.62	0.967	0.0	56.1	-88	24.08		
1358	6.99	15.71	0.969	0.0	55.1	-88	24.08		
1401	Sample collected MW-3R-20170628								

Certified Sample Information:
Time of Sample: 1401
Analyst Signature: Rachel Hojnacki

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: NMTAY1HW
Serial No. Handheld: V0R1KJTUF
Calibration Date/Time: 6/22/17

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-20
Sample I.D.: MW-20-20170628 (if different from well no.)

Project: Troy Area 3
Personnel: REH / AJT

Date: 6/28/17 Time: 1428
Weather: Sunny Air Temp.: 73°

WELL DATA:

Casing Diameter: 4" ☐ Stainless Steel ☐ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☐ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 24.96 ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No ☐ NA Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 250mL/min Elapsed Time: 42 min Volume Pumped: ~3G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: _____
APPEARANCE: ☐ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ☐ Yes Name: _____
MS/MSD : ☒ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Hayes Date: 6/28/17

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy Area 3
Client: National Grid
Personnel: REH / AJT
Purge/Sample Depth:
Project Number: 146094
Date: 6/28/17
Well ID: MW-2D
Sample ID: MW-2D-20170628

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1428	7.28	19.93	0.888	3.61	236	-12	24.55	250	
1431	7.26	17.49	0.892	1.86	222	-6	24.60		
1434	7.27	16.51	0.890	1.69	247	-26	24.65		
1437	7.26	16.17	0.889	1.98	257	-59	24.65		
1440	7.26	16.08	0.889	2.17	280	-76	24.65		
1443	7.21	15.49	0.875	2.03	274	-79	24.65		
1446	7.19	15.58	0.8	2.83	252	-81	24.65		
1449	7.15	15.66	0.861	3.40	247	-83	24.65		
1452	7.20	14.86	0.874	3.44	227	-84	24.65		
1455	7.21	14.86	0.876	2.83	208	-84	24.65		
1458	7.20	14.88	0.875	2.81	202	-85	24.65		
1501	7.20	14.94	0.877	2.87	197	-84	24.65		
1504	7.19	14.86	0.875	2.82	175	-84	24.65		
1507	7.18	14.85	0.877	2.86	169	-83	24.65		
1510	7.19	14.86	0.876	2.94	149	-84	24.65		
1513	Sample collected MW-2D-20170628								

Certified Sample Information:
Time of Sample: 1513
Analyst Signature:

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: NMTAY1HW
Serial No. Handheld: YORKSTUF
Calibration Date/Time: 6/22/17

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-25
Sample I.D.: MW-25-20170628 (if different from well no.)

Project: Troy Area 3
Personnel: RSH/AJT

Date: 6/28/17 Time: 1528
Weather: Sunny Air Temp.: 73°

WELL DATA:

Casing Diameter: 4" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 21.75 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☐ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ____ To be purged: ____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: ____ Elapsed Time: ____ Volume Pumped: ____
Was well Evacuated? ☒ Yes ☐ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☐ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ☐ Yes Name: ____
MS/MSD : ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Hazelton Date: 6/28/17

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy Area 3
Client: National Grid
Personnel: REH / AST
Purge/Sample Depth:

Project Number: 146094
Date: 6/28/17
Well ID: MW-2S
Sample ID: MW-2S-20170628

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond ( )	DO (mg/L)	Turbidity (NTU)				
1528	7.10	18.10	0.691	4.11	125	-39	22		
1531	7.00	16.62	0.662	1.66	153	-20	22.31		
1534	6.93	15.91	0.665	0.42	144	-13	22.56		
1537	6.91	17.91	0.665	0.11	154	-13	22.87		
1540	6.89	17.25	0.679	0.24	109	-12	23.18		
1543	6.86	16.86	0.692	0.32	83.1	-10	23.42		lowered pump
1546	6.93	15.61	0.665	0.10	58.2	-10	23.65		
1549	6.98	17.07	0.644	0.0	51.6	-6	23.70		well almost evacuated
1552									sample with bailer
1555									after finishing
1558									excavation w/
1601									bailer

Certified Sample Information:
Time of Sample: 6/29/17 @ 0830
Analyst Signature: Rachel Kosiecki

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: NMTAS1HW
Serial No. Handheld: YORKSTUF
Calibration Date/Time: 6/22/17

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-8S
Sample I.D.: MW-8S-20170629 (If different from well no.)

Project: Troy Area 3
Personnel: REH / AST

Date: 6/29/17 Time: 0903
Weather: overcast Air Temp.: 46°

WELL DATA:

Casing Diameter: 4" ☐ Stainless Steel ☐ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☐ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 25.1 ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No ☐ NA Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: (Pump)/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: _____
(Tubing)/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 200 mL/min Elapsed Time: 30 min Volume Pumped: 2 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: (Pump)/Bailer: ☐ Teflon® ☒ Stainless Steel
(Tubing)/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: _____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ☐ Yes Name: _____
MS/MSD : ☒ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Hojnacki Date: 6/29/17

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Trox Area 3
Client: National Grid
Personnel: REH / AJT
Purge/Sample Depth:

Project Number: 146094
Date: 6/29/17
Well ID: MW-8S
Sample ID: MW-8S-20170629

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
0903	7.01	16.34	0.708	3.76	60.7	-30	25.10	200	
0906	6.88	14.38	0.721	1.25	27.7	-69	25.11		
0909	6.93	13.77	0.724	0.27	18.4	-83	25.12		
0912	6.95	13.65	0.726	0.17	15.3	-87	25.12		
0915	6.96	13.61	0.729	0.0	13.4	-90	25.12		
0918	6.96	13.58	0.731	0.0	12.0	-90	25.12		
0921	6.97	13.61	0.732	0.0	12.3	-89	25.12		
0924	6.97	13.58	0.733	0.0	11.9	-89	25.12		
0927	6.97	13.55	0.734	0.0	11.6	-89	25.12		
0930	6.97	13.52	0.736	0.0	10.9	-89	25.12		
0933	6.97	13.54	0.736	0.0	10.9	-88	25.12		
0936	Sample collected MW-8S-20170629								

Certified Sample Information:
Time of Sample: 0936
Analyst Signature: Rachel Hojnacki

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: NMTAY1HW
Serial No. Handheld: YORKJTUF
Calibration Date/Time: 6/22/17

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-8D
Sample I.D.: MW-8D-20170629 (if different from well no.)

Project: TROY Area 3
Personnel: RSH / AST

Date: 6/29/17 Time: 0946
Weather: Overcast Air Temp.: 66°

WELL DATA:

Casing Diameter: 4" ☒ Stainless Steel ☐ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 25.13 ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No ☐ NA Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 200 mL/min Elapsed Time: 30 min Volume Pumped: 2 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: _____
APPEARANCE: ☐ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ☐ Yes Name: _____
MS/MSD : ☒ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 6/29/17

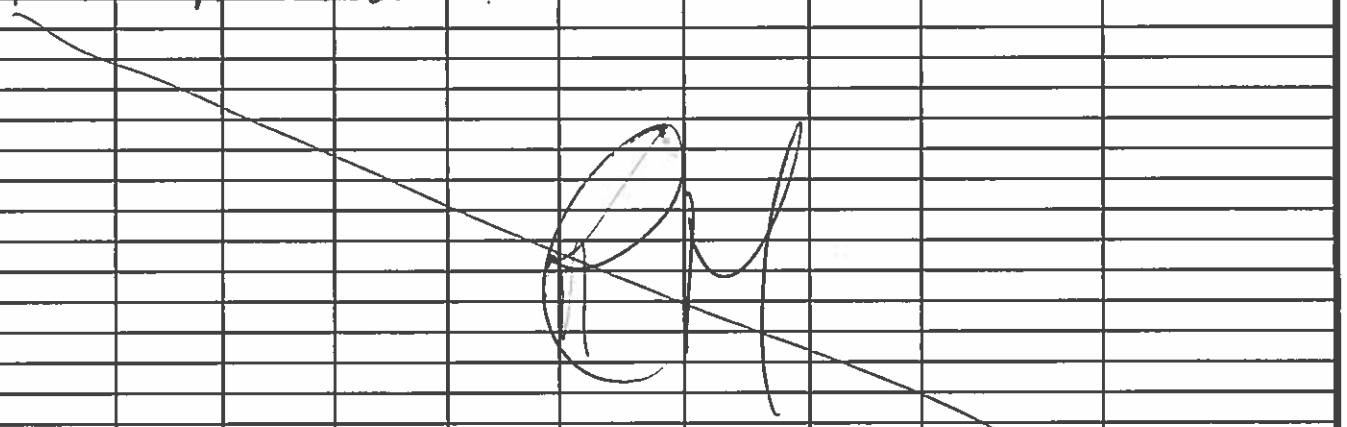
Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy Area 3
Client: National Grid
Personnel: RE+I / AST
Purge/Sample Depth:

Project Number: 146094
Date: 6/29/17
Well ID: MW-8D
Sample ID: MW-8D-20170629

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
0946	7.15	15.35	0.716	3.62	6.00	-76	25.2	2.00	
0949	7.05	14.25	0.746	0.54	350	-98	25.2		
0952	7.06	14.06	0.751	0.0	255	-104	25.17		
0955	7.07	14.03	0.755	0.0	190	-109	25.17		
0958	7.09	13.91	0.759	0.0	112	-115	25.17		
1001	7.10	13.91	0.761	0.0	81.3	-117	25.15		
1004	7.10	13.88	0.762	0.0	66.4	-119	25.15		
1007	7.11	13.89	0.763	0.0	57.0	-121	25.15		
1010	7.11	13.84	0.764	0.0	49.5	-122	25.15		
1013	7.11	13.90	0.764	0.0	40.8	-123	25.15		
1016	7.12	13.86	0.765	0.0	38.5	-124	25.15		
1019	Sample collected MW-8D-20170629								



Certified Sample Information:
Time of Sample: ~~0947~~ 1019
Analyst Signature:

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: NMTAY1HW
Serial No. Handheld: VORKJTUF
Calibration Date/Time: 6/22/17

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-45
Sample I.D.: MW-45-20170629 (If different from well no.)

Project: Troy Area 3
Personnel: REH / AST

Date: 6/29/17 Time: 1049
Weather: overcast Air Temp.: 70°

WELL DATA:

Casing Diameter: 4" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 19 ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No ☐ NA Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 250 mL/min Elapsed Time: 30 min Volume Pumped: 2.5 G
Was well Evacuated? ☐ Yes ☐ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: _____
APPEARANCE: ☐ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ☐ Yes Name: _____
MS/MSD : ☒ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Hatch Date: 6/29/17

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Trox Area 3
Client: National Grid
Personnel: REH / AJT
Purge/Sample Depth:

Project Number: 146094
Date: 6/29/17
Well ID: MW-45
Sample ID: MW-45-20170629

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1049	7.06	16.95	0.413	5.01	over 1000	[redacted]35	19.1	250	
1052	6.97	14.81	0.416	5.48	over 1000	[redacted]	19.16		
1055	6.89	13.95	0.403	6.60	over 1000	[redacted]29	19.2		cleaned chamber
1058									
1101	6.98	13.66	0.396	7.08	865	35	19.28		
1104	6.94	13.57	0.397	6.69	433	41	19.3		
1107	6.91	13.53	0.395	6.03	322	43	19.35		
1110	6.88	13.49	0.392	6.31	240	46	19.38		
1113	6.35	13.49	0.391	6.11	198	47	19.42		
1116	6.90	14.61	0.362	6.30	170	41	19.45		
1119	6.83	13.63	0.376	5.97	146	45	19.45		
1122	sample collected MW-45-20170629								

Certified Sample Information:
Time of Sample: 1122
Analyst Signature: Rachel Kosiacki

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: NMTAY1HW
Serial No. Handheld: YORKSTUF
Calibration Date/Time: 6/22/17

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-55
Sample I.D.: MW-55-20170629 (if different from well no.)

Project: Trox Area 3
Personnel: REH / AST

Date: 6/29/17 Time: _____
Weather: Overcast Air Temp.: 70°

WELL DATA:

Casing Diameter: 4" ☒ Stainless Steel ☐ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 20.4 ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No ☐ NA Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 275 mL/min Elapsed Time: 30 min Volume Pumped: 2.75
Was well Evacuated? ☐ Yes ☐ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: _____
APPEARANCE: ☐ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ☐ Yes Name: _____
MS/MSD : ☒ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Ashcraft Date: 6/29/17

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy Area 3
Client: National Grid
Personnel: REH / AJT
Purge/Sample Depth:

Project Number: 146094
Date: 6/29/17
Well ID: MW-55
Sample ID: MW-55-20170629

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1145	6.68	16.50	0.678	8.32	30.7	-24	20.6	275	
1148	6.69	14.70	0.626	0.13	24.1	-57	20.75		
1151	6.63	14.16	0.518	0.0	18.6	-63	20.89		
1154	6.59	13.88	0.486	0.0	15.8	-68	21		
1157	6.58	13.78	0.475	0.0	14.8	-73	21.13		
1200	6.58	13.74	0.473	0.0	14.8	-73	21.25		
1203	6.58	13.75	0.474	0.0	14.3	-75	21.33		
1206	6.58	13.77	0.475	0.0	15.5	-77	21.4		
1209	6.58	13.81	0.477	0.0	15.7	-78	21.46		
1212	6.57	13.86	0.479	0.0	15.9	-79	21.51		
1215	6.57	13.88	0.480	0.0	16.1	-80	21.54		
1218	Sample collected MW-55-20170629								

Certified Sample Information:
Time of Sample:

Analyst Signature: Rachel Hojnacki

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: NMTAY1HW
Serial No. Handheld: VORKSJTUF
Calibration Date/Time: 6/22/17

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-5
Sample I.D.: MW-5-20170629 (if different from well no.)

Project: Troy Area 3
Personnel: REM/AJT

Date: 6/29/17 Time: 1410
Weather: overcast Air Temp.: 76°

WELL DATA:

Casing Diameter: 4" ☒ Stainless Steel ☐ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 25.05 ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No ☐ NA Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 200 mL/min Elapsed Time: 70 min Volume Pumped: 2G
Was well Evacuated? ☐ Yes ☐ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: _____
APPEARANCE: ☐ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ☐ Yes Name: _____
MS/MSD : ☒ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Hojnacki Date: 6/29/17

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Troy Area 3
Client: National Grid
Personnel: RFH AST
Purge/Sample Depth:

Project Number: 146094
Date: 6/29/17
Well ID: MW-5
Sample ID: MW-5-20170629

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1410	6.72	18.88	1.70	11.33	70.7	-11	25.1	200	
1413	6.88	17.30	1.74	2.18	86.4	-67	25.1		
1416	7.00	16.76	1.73	2.08	106	-80	25.1		
1419	7.05	16.20	1.72	2.70	114	-81	25.1		
1422	7.07	16.15	1.71	3.16	113	-79	25.1		
1425	7.08	16.13	1.70	3.31	105	-76	25.1		
1428	7.10	16.10	1.70	3.45	107	-78	25.1		
1431	7.11	16.05	1.70	3.58	102	-77	25.1		
1434	7.10	15.98	1.70	3.66	101	-75	25.1		
1437	7.10	15.98	1.70	3.69	102	-74	25.1		
1440	7.10	16.10	1.70	3.63	96.0	-74	25.1		
1443	Collect Sample MW-5-20170629								

Certified Sample Information:
Time of Sample: 1443
Analyst Signature: Rachel Hoffmann

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: NMTAY1HW
Serial No. Handheld: YORKJTUF
Calibration Date/Time: 6/22/17

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Appendix I: Laboratory Data Packages (DVD)

Appendix J: Data Usability Summary Reports

Data Validation Services

120 Cobble Creek Road P.O. Box 208
North Creek, NY 12853

Phone 518-251-4429
harry@frontiernet.net

February 8, 2016

Brian Taylor
Brown and Caldwell
12 S Swan St
Albany, NY 12210

RE: National Grid, Troy, NY MGP Site—Area 3
Data **U**sability **S**ummary **R**eport (DUSR)

TAL SDG Nos. 480-79685-1, 480-79685-1, 480-79814-1, 480-79940-1, 480-80049-1, 480-80121-1, 480-80194-1, 480-80305-1, 480-80306-1, 480-80416-1, 480-80417-1, 480-80498-1, 480-80580-1, 480-80643-1, 480-80752-1, 480-80817-1, 480-80919-1, 480-80993-1, 480-81064-1, 480-81163-1, 480-82105-1, 480-87716-1, and 480-87801-1

Dear Mr. Taylor:

Review has been completed for the analytical data packages noted above, generated by TestAmerica Laboratories, that pertain to samples collected between 05/05/16 and 09/23/15 at the National Grid Troy, NY Area 3 site. Seventy three soil samples, five field duplicates, sixteen aqueous samples, and two aqueous field duplicates were processed for TCL volatiles, TCL semi-volatiles, TCLpesticides, TCL PCBs, TAL metals, and total cyanide. Twenty four soil samples and two field duplicates were processed for TCL semivolatiles, TCLpesticides, TCL PCBs, TAL metals, and total cyanide. Sample matrix spikes, field blanks, and trip blanks were also processed. The analytical methods utilized are those of the USEPA SW846.

The data packages submitted contain full deliverables for validation, but this DUSR is generated from review of the summary form information, with full validation review of sample raw data, and limited review of associated QC raw data. The reported summary forms have been reviewed for application of validation qualifiers, using guidance from the USEPA Region 2 validation SOPs, the USEPA CLP National Functional Guidelines for (In)Organic Data Review, the specific laboratory methodologies, and professional judgment. The following items were reviewed:

* Laboratory Narrative Discussion
* Custody Documentation
* Holding Times
* Surrogate and Internal Standard Recoveries
* Matrix Spike Recoveries/Duplicate Correlations
* Field Duplicate Correlations
* Preparation/Calibration/Trip Blanks

* Laboratory Control Samples (LCSs)
* Instrumental Tunes
* Calibration/Low Level Standards
* ICP Serial Dilution
* Instrument IDLs
* Sample Result Verification

The data review includes evaluation of the specific items noted in The NYS DER-10 Appendix B section 2.0 (c). The items listed above that show deficiencies are discussed within the text of this narrative. The laboratory QC forms illustrating the excursions can be found within the laboratory data packages.

In summary, analyses were conducted in compliance with the required analytical protocols. Most sample results are usable either as reported or with qualification/edit. However, the sampes generally exhibit significant target concentrations and non-target interferences, and the following concerns are noted:

- Results for phenol in three soil samples and a field duplicate are rejected due to laboratory processing
- The result for total cyanide in one soil sample is rejected due to an apparent matrix effect
- Most of the soil semivolatile and pesticide analyses were processed at significant dilution due to the matrices of the samples. Although many of the affected semivolatile sample fractions show detections in the dilutions, the affected pesticide fractions do not. The proportionally elevated reporting limits that resulted from the dilutions may prohibit detection of the target analytes at the desired quality objective concentrations. Certain of the metal elements were also processed at dilution due to matrix interferences
- The majority of the pesticide detections have been discounted as either matrix interferences or external contamination

The sample identification summaries are attached to this text. Also included with the report are validation qualifier definitions and client results tables that are manually annotated to reflect the qualifications recommended within this report.

The following text discusses quality issues of concern.

Chain-of-Custody/Sample Receipt

The trip blank of 06/11/15 was not entered onto the custody form. This was not noted on the sample login form or case narrative.

Blind Duplicate Evaluations

The blind field duplicates were collected at locations SB-7-0-1, SS-5-0-2, SB-7-21-22.6, SS-11-0-2, SB-9-11-11.7, MW-3S-11-13, TP-1-8-9, MW-2D-20150611, and MW-1. The correlations are within validation guidelines, with the following exceptions, results for which are qualified as estimated in the indicated parent sample and its duplicate:

- calcium, copper, lead, nickel, and vanadium in SS-5-0-2
- calcium in SS-11-0-2

- toluene, xylene, 2-methylnaphthalene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, fluorene, fluoranthene, naphthalene, phenanthrene, pyrene, arsenic, iron, manganese, and vanadium in SB-7-0-1
- detected semivolatile analytes, aluminum, beryllium, calcium, manganese, nickel, potassium, and mercury in SB-9-11-11.7
- toluene, xylenes, chromium, iron, manganese, and vanadium in MW-3S-11-13

Of specific note are calcium in SS-5-0-2 (8920 ppm in the parent sample and 59,100 ppm in the duplicate) and detected semivolatiles in SB-9-11-11.7 (up to almost an order of magnitude higher in the duplicate), which show significant variances.

TCL Volatile Analyses by EPA 8260C

Due to matrix interferences, the samples listed below exhibited outlying surrogate and internal standards that resulted in qualification of all analytes as estimated in value. The direction of bias cannot be readily determined: SB-1-1-2, SB-4-9-10.5, SB-4-15-15.6, SB-7-17-18.3, SB-8-5-6.3, SB-1-11-12.3, SB-9-35-36.2, TP-1-8-9, TP-1B-9-10, TP-5-7-7.5, and DUP-052715

The samples listed below exhibited outlying recovery for internal standard d4-1,4-dichlorobenzene that resulted in qualification of the seven associated analytes as estimated in value. The direction of bias cannot be readily determined: SB-6-25-25.5, SB-4-39-40.3, SB-3-29-29.7, SB-9-7-8.3, B-9-23-24.3, MW-1S-16-18

The detection of bromodichloromethane in SB-2-0-1has been edited to non-detection, sometimes at elevated reporting limits, due to very poor mass spectral quality.

Due to presence in the associated method or field blanks, the following detections are considered external contamination, and have been edited to reflect non-detection.

- methylene chloride in SB-6-2-3 and MW-2S-19-19.8
- chlorobenzene in SB-4-3-4 and SB-1-1-2
- acetone in samples reported in soil borings collected up through 5/18/15
- 1,2,4-trichorobenzene in all sample reported in SDG 480-80305
- benzene and toluene in samples reported in SDG 480-80643

Results for analytes reported with the laboratory "E" flag are to be derived from the dilution analyses of the samples, thus reflecting responses within the established linear ranges of the instruments.

The following results have been qualified as estimated in value due to low recoveries in the associated LCSs:

- 1,2-dichlorobenzene and 1,3-dichlorobenzene (65% to 70%) in samples reported in SDGs 480-79685 and 480-80416
- all analytes in FB-20150512

Almost all of the target analytes produced outlying matrix spike recoveries in SB-9-35-36.2. This sample also exhibited outlying surrogate and internal standard responses, and the results are qualified as estimated in value.

SB-4-3-4 produced outlying recoveries in both of the matrix spikes for all except fifteen of the analytes. The results for the compounds exhibiting outliers in both spikes have been qualified as estimated in value.

SB-4-27-28.7 produced outlying recoveries in both of the matrix spikes for all except twelve of the analytes. The results for the compounds exhibiting outliers in both spikes have been qualified as estimated in value.

The following additional matrix spikes show outliers that resulted in qualification of the listed compounds in the parent sample as estimated:

Parent Sample	Analyte	Outlying % Recoveries	Outlying %RPD
TP-4-7.5-8	1,2,4-trichlorobenzene	58,56	
	1,2- dichloroethane	75,64	
	bromoform	58,62	
	cis-1,3-dichloropropene	79,78	
	1,2-dibromoethane	73,73	
MW-3S-20150612	benzene	10,13	

The matrix spikes of MW-1-20150611 and MW-4D show acceptable recoveries and correlations. The matrix spikes of MW-2S-19-19.8 were processed at twofold dilution, and no qualification is made for the outlying accuracy and precision values.

Calibration standards showed acceptable responses, with the following exceptions, results for which are qualified as estimated in the indicated associated samples:

- 1,2,4-trichlorobenzene (21%D and 22%D) in SB-5-7-8.6, SB-5-21-21.6, and SB-2-13-14.5, and SB-2-7-7.9
- dibromochloromethane, 1,1,2,2,-tetrachloroethane, 1,3-dichlorobenzene, and 1,4-dichlorobenzene (21%D to 22%D) in SB-7-17-18.3 and SB-3-25-25.4
- 1,1,2,2-tetrachloroethane, 1,3-trichlorobenzene, 1,4-trichlorobenzene, and dibromochloromethane (21%D to 22%D) in SB-8-5-6.3, SB-8-25-26.6, SB-1-5-5.7, SB-1-17-18.2, and SB-1-27-27.8
- dichlorodifluoromethane (42%D) in all samples reported in SDG 480-80643

Some of the samples were processed only at dilution due to target analyte concentrations. This results in proportionally elevated reporting limits.

TCL Semivolatiles by EPA 8270D

Due to a recovery of only 6% in the associated LCS, the results for phenol in TP-1-8-9, TP-1B-9-10, TP-4-7.5-8, and DUP-052715 are rejected and not usable.

The following results are edited to reflect non-detection due to very poor mass spectral quality and identification:

- benzo(g,hi)perylene in SB-4-3-4
- n-nitrosodiphenylamine, atrazine, 2,4-dinitrotoluene, 2,6-dinitrotoluene, and 4,6-dinitro-2-methylphenol in SB-2-19-19.3

- 4-methyphenol in FB-20150520
- 2,4-dimethylhenol in MW-4D-20150610
- 2,4-dinitrophenol in MW-1-20150611
- butylbenzylphthalate in MW-2D-20150611

The detection of carbazole in MW-2S-19-19.8 is qualified as tentative in identification and estimated in value.

Due to presence in the associated field or method blanks, the following detections are considered external contamination, and have been edited to reflect non-detection:

- di-n-butylphthalate in the samples reported in SDGs 480-80416 and 480-80643
- 4-methylphenol in the soils reported in SDGs 480-80752 and 480-80817
- benzaldehyde and di-n-butylphthalate in aqueous samples reported in SDG 480-82105
- benzaldehyde and bis(2-ethylhexyl)phthalate in samples reported in 480-87716 and 480-87801
- diethylphthalate in the samples reported in SDG 480-87801

Results for analytes reported with the laboratory "E" flag are to be derived from the dilution analyses of the samples, thus reflecting responses within the established linear ranges of the instruments.

The result for pentachlorophenol in DUP-20150611 is qualified as estimated due to low recovery (36%) in the associated LCS.

Only twelve analytes were evaluated in the matrix spikes and LCSs. The analytical protocol requires that all target analytes be evaluated. Only the compounds for which acceptance ranges are available underwent the validation evaluation.

The matrix spikes of SB-4-27-28.7, SB-9-35-36.2, TP-4-7.5-8, MW-3S-20150612, and MW-4D show acceptable recoveries and correlations for the twelve reported evaluated spiked analytes. The matrix spikes of SB-4-3-4, SS-5-0-6, SS-11-0-6, and MW-2S-19-19.8 could not be evaluated due to the dilution at which the analyses were performed.

bis(2-Ethylhexyl)phthalate recovered at only 44% and 50% in the matrix spikes of MW-1-20150611, and that result is qualified as estimated in the parent sample.

Calibration standards showed acceptable responses, with the following exceptions, results for which are qualified as estimated in the indicated associated samples:

- pentachlorophenol (24%D) in sample FB-20150520, MW-4S-19-19.6, MW-3D-33.5-34, and all samples reported in SDG 480-80643
- phenol(21%D) in SB-3-25-25.4 and SB-3-29-29.7
- benzaldehyde and pentachlorophenol (22%D to 68 %D) in MW-1S-16-18 and MW-1D-28-29
- benzaldehyde, 4,6-dinitro-2-methylphenol, pentachlorophenol, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, and benzo(g.h.i)perylene (23%D to 52%D) in DUP-20150611
- bis(2-chloroisopropyl)ether (25%D) in samples MW-4D-20150610, MW-1-20150611, MW-2D-20150611
- benzaldehyde and bis(2-chloroisopropyl)ether (21%D to 55 %D) in MW-1D-20150612, MW-2S-20150612, MW-3S-20150612, MW-4-20150612, MW-4S-20150612, and FB-20150612

TCL Pesticides and TCL Aroclor PCBs by EPA method 8081B and 8082A

Results for analytes exhibiting elevated dual column quantitative correlations are qualified to reflect the uncertainty in identification and/or quantitation. The values have been either qualified as estimated, qualified as tentative in identification and estimated in value, or edited to reflect non-detection, depending on the degree of variance. Consequently, most of the pesticide detections are edited to non-detection, as suspected matrix interference responses.

Due to presence in the associated method or field blanks, the following detections are considered external contamination, and have been edited to reflect non-detection:

- a-BHC, heptachlor epoxide, and 4,4'-DDT, in soil borings collected up to 05/13/15
- endosulfan sulfate and methoxychlor in the surface soils reported in SDG 480-80306
- a-BHC in soil borings reported in SDG 480-80416, 480-80498, and 480-80580
- a-BHC and 4,4'-DDT in soils reported in SDG 480-80752
- a-BHC and d-BHC in the soil samples reported in SDG 480-81065
- endrin aldehyde detections flagged as "B" in the aqueous samples reported in SDG 480-82105
- 4,4'-DDT and endrin ketone in the samples reported in SDGs 480-87716 and 480-87801

The surrogate standard DCB produced low recoveries (60% and 57%) in the PCB analysis of MW-2S-19-19.8, and the Aroclor results for that sample are qualified as estimated in value.

Results for g-BHC in the soil samples reported in 480-81065 are qualified as estimated, with a low bias, due to low recovery (54%) in the associated LCS.

The Aroclor 1016 and 1260 matrix spikes of SB-5-3-4, SB-4-27-28.7, SS-8-0-6, SS-11-0-6, SB-9-35-36.2, MW-2S-19-19.8, TP-4-7.5-8, MW-1-20150611, MW-1D-20150612, and MW-4D, and the pesticide matrix spikes of SB-4-27-28.7, SB-9-35-36.2, TP-4-7.5-8, MW-1-20150611, MW-4-20150612, and MW-4D show recoveries and duplicate correlations that are within validation action limits. The pesticide matrix spikes of SB-4-3-4, SB-8-0-1, SS-5-0-6, SS-11-0-6, and MW-2S-19-19.8 could not be evaluated due to the dilution at which the analyses were performed.

Holding times were met, and blanks show no contamination. Most pesticide soil samples were analyzed at significant dilution (usually without any interferences evident in the chromatograms), and surrogate recovery evaluations on those samples are not possible.

The responses for the calibration standards are within validation action levels.

Some of the QC summary forms 10A that summarize pesticide detection dual column quantitation correlations are not complete.

TCL Metals Analyses by EPA 6010C, 7470, and 7471

Due to presence in the associated field blanks, the detections of sodium in the soil borings collected up through 05/19/15 , and of zinc in the samples reported in SDG 480-80752 and 480-87716, are considered external contamination, and have been edited to reflect non-detection.

Due to presence in the associated method blanks, the following detections are considered external contamination, and have been edited to reflect non-detection:

- selenium in the soil borings reported in SDG 480-80498
- sodium in the samples reported in SDG 480-81163
- sodium and cadmium in the soil samples reported in SDG 480-80752
- manganese that are flagged as "JB" in the aqueous samples reported in SDG 480-82105

Matrix spike/laboratory duplicate evaluations listed below show recoveries and/or correlations that are outside the validation guidelines, the results for which have been qualified as estimated in value in the indicated parent samples:

Parent Sample	Element	Outlying % Recoveries	Outlying %RPD
SB-4-3-4	Aluminum	320,432	
	Antimony	61,65	
	Barium	126,181	
	Calcium	26,12	
	Potassium	140,179	
SB-4-27-28.7	Antimony	32,39	
	Barium	183,357	
	calcium	543, 496	
	magnesium	154,220	
	potassium	224,275	
SS-5-0-6	aluminum	338,305	
	antimony	50,42	
	arsenic	72,62	
	chromium	10,-13	
	copper	28,-116	42
	magnesium	-59,-131	
	potassium	145,132	
	selenium	73,63	
	nickel		61
	calcium		38
	zinc		80
SS-1-0-6	antimony	43,49	
	lead	55	
	potassium	153,168	
	zinc	41,72	
SS-11-0-6	aluminum	456,392	
	antimony	59,55	
	barium	212,188	
	calcium	137,447	48
	magnesium	149, 159	
	potassium	211,205	
	mercury	77,71	

Parent Sample	Element	Outlying % Recoveries	Outlying %RPD
SB-1-5-5.7	aluminum	50,67	
	antimony	13,20	44
	arsenic	53,67	
	cadmium	67,72	
	magnesium	68,71	
	selenium	62,69	
	silver	48,55	
	sodium	70,71	
	thallium	63,60	
SB-9-35-36.2	aluminum	369,320	
	antimony	57,54	
	barium	165,155	
	potassium	219,180	
	calcium		36
	lead		197
TP-4-7.5-8	aluminum	247,287	
	antimony	46,54	
	calcium	168,126	
	chromium	63,70	
	silver	39,51	
	lead	188	37
TP-5-7-7.5	aluminum	202,260	
	antimony	65,53	
	calcium	135,218	
	zinc	0.3,-17	
	chromium	165	43
	magnesium	157	40
	vanadium	244	44
TP-3-4-5	antimony	32,21	48
	barium	12,-29	
	beryllium	65,68	
	cadmium	71,67	
	chromium	-160,-164	
	magnesium	73,66	
	selenium	59,58	
	silver	50,58	
	sodium	62,67	
MW-1-20150611	sodium	190,148	
MW-25-19-19.8	aluminum	170,274	35
	antimony	58,57	
	calcium	32, -1	

Parent Sample	Element	Outlying % Recoveries	Outlying %RPD
MW-25-19-19.8 cont'd	vanadium	14,18	
	iron		42
	manganese		72
MW-4D	aluminum	240,139	42
	barium	137,152	
	calcium		53
	iron	242,135	35
	magnesium	195,309	
	manganese	303,270	
	sodium		80
	zinc	128	

The matrix spikes of mercury in SB-9-1-2 and SB-8-25-26.6 show recoveries and duplicate correlations that are within validation action limits.

The ICP serial dilution evaluations for SB-4-3-4, MW-1-20150611, and SB-4-27-28.7 show acceptable correlations. The following ICP serial dilution evaluations show outlying correlations, and the results for the listed elements have been qualified as estimated in the indicated parent samples:

Parent Sample	Element	%Difference
SB-4-27-28.7	aluminum	25
	barium	26
	beryllium	25
	calcium	51
	chromium	27
	copper	25
	iron	30
	magnesium	32
	manganese	28
	potassium	26
	vanadium	32
	zinc	42
SS-5-0-6	calcium	15
	chromium	20
	copper	15
	iron	18
	magnesium	18
	manganese	23
	sodium	24
	zinc	25
SS-1-0-6	iron	15
	magnesium	17

Parent Sample	Element	%Difference
SS-1-0-6 cont'd	manganese	16
	zinc	17
SS-11-0-6	zinc	16
SB-1-5-5.7	aluminum	30
	barium	37
	calcium	37
	chromium	38
	cobalt	16
	iron	37
	magnesium	46
	manganese	36
	nickel	16
	vanadium	44
	zinc	42
SB-9-35-36.2	barium	17
	chromium	22
	magnesium	18
	potassium	21
	vanadium	18
	zinc	26
TP-4-7.5-8	aluminum	18
	barium	20
	calcium	20
	chromium	18
	iron	20
	magnesium	20
	manganese	21
	vanadium	18
	zinc	19
TP-3-4-5	aluminum	37
	barium	35
	calcium	42
	chromium	36
	iron	42
	magnesium	45
	manganese	55
	vanadium	43
	zinc	43
TP-5-7-7.5	calcium	17
	magnesium	16
	vanadium	22
	zinc	19

Parent Sample	Element	%Difference
MW-25-19-19.8	aluminum	22
	barium	28
	calcium	26
	iron	24
	lead	15
	magnesium	31
	manganese	22
	vanadium	26
	zinc	21

Low level and calibration standards show acceptable responses.

Total Cyanide Analyses by EPA 9021

Review was conducted for method compliance, holding times, transcription, calculations, standard and blank acceptability, accuracy and precision, etc., as applicable to each procedure. All were found acceptable for the validated samples, unless noted specifically within this text.

Total cyanide recovered at only 5% and 7% in the matrix spikes of MW-2S-19-19.8, and the result for that analyte in the parent sample has therefore been rejected, and is not usable.

The matrix spike and/or laboratory duplicates of SB-4-3-4,DUP-20150505, SB-6-31-31.5, SB-5-13-14.9, SB-4-27-28.7, SS-5-0-6, SS-9-0-2, SS-1-0-2, SB-7-5-5.7, SB-3-7-8.7, SB-3-13-14, SS-11-0-6, DUP-051415, SB-1-5-5.7, SB-9-35-36.2, MW-3D-33.5-34, MW-1-20150611, and MW-4D show recoveries and correlations that are within action guidelines, with the exception of those in SB-6-31-31.5 (208%), SB-3-7-8.7 (44%), SS-11-0-6 (59%; 61%RPD), DUP-051415 (51%), SB-9-35-36.2 (46% and 73%; 45%RPD), MW-3D-33.5-34 (30%), and MW-4D (77% and 82%). Results for the total cyanide in the samples showing outlying recoveries have been qualified as estimated.

Please do not hesitate to contact me if you have comments or questions regarding this report.

Very truly yours,

Judy Harry

Att: Validation Qualified Definitions
Sample Identifications
Qualified Client EDDs

VALIDATION DATA QUALIFIER DEFINITIONS

U	The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.
J	The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
J-	The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.
J+	The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased high.
UJ	The analyte was analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.
NJ	The detection is tentative in identification and estimated in value. Although there is presumptive evidence of the analyte, the result should be used with caution as a potential false positive and/or elevated quantitative value.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control limits. The analyte may or may not be present.
EMPC	The results do not meet all criteria for a confirmed identification. The quantitative value represents the Estimated Maximum Possible Concentration of the analyte in the sample.

CLIENT and LABORATORY SAMPLE IDs

SAMPLE SUMMARY

Client: Brown and Caldwell

Job Number: 480-79685-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-79685-1	SB-6-2-3	Solid	05/05/2015 0950	05/06/2015 0115
480-79685-2	SB-3-3-4	Solid	05/05/2015 1150	05/06/2015 0115
480-79685-3	SB-7-0-1	Solid	05/05/2015 1440	05/06/2015 0115
480-79685-4	DUP-20150505	Solid	05/05/2015 0000	05/06/2015 0115

SAMPLE SUMMARY

Client: Brown and Caldwell

Job Number: 480-79814-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-79814-1	SB-5-3-4	Solid	05/06/2015 0950	05/07/2015 0205
480-79814-2	SB-9-1-2	Solid	05/06/2015 1435	05/07/2015 0205

SAMPLE SUMMARY

Client: Brown and Caldwell

Job Number: 480-79940-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-79940-1	SB-2-0-1	Solid	05/07/2015 0825	05/08/2015 0250
480-79940-2	SB-4-3-4	Solid	05/07/2015 1210	05/08/2015 0250
480-79940-2MS	SB-4-3-4	Solid	05/07/2015 1210	05/08/2015 0250
480-79940-2MSD	SB-4-3-4	Solid	05/07/2015 1210	05/08/2015 0250
480-79940-3	SB-1-1-2	Solid	05/07/2015 1500	05/08/2015 0250

SAMPLE SUMMARY

Client: Brown and Caldwell

Job Number: 480-80049-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-80049-1	SB-8-0-1	Solid	05/08/2015 0805	05/09/2015 0220
480-80049-2	SB-6-5-5.8	Solid	05/08/2015 0915	05/09/2015 0220
480-80049-3	SB-6-15-15.5	Solid	05/08/2015 1010	05/09/2015 0220
480-80049-4	SB-6-19.5-20	Solid	05/08/2015 1040	05/09/2015 0220
480-80049-5	SB-6-9.5-10	Solid	05/08/2015 0940	05/09/2015 0220
480-80049-6	SB-6-25-25.5	Solid	05/08/2015 1110	05/09/2015 0220

SAMPLE SUMMARY

Client: Brown and Caldwell

Job Number: 480-80121-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-80121-1	SB-6-31-31.5	Solid	05/11/2015 1535	05/12/2015 0130

SAMPLE SUMMARY

Client: Brown and Caldwell

Job Number: 480-80194-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-80194-1	FB-20150512	Water	05/12/2015 0800	05/13/2015 0200
480-80194-2	SB-5-7-8.6	Solid	05/12/2015 0905	05/13/2015 0200
480-80194-3	SB-5-13-14.9	Solid	05/12/2015 0925	05/13/2015 0200
480-80194-4	SB-5-21-21.6	Solid	05/12/2015 1000	05/13/2015 0200
480-80194-5	SB-5-25-26.3	Solid	05/12/2015 1025	05/13/2015 0200
480-80194-6	SB-5-31-32.5	Solid	05/12/2015 1055	05/13/2015 0200
480-80194-7	SB-2-7-7.9	Solid	05/12/2015 1430	05/13/2015 0200
480-80194-8	SB-2-13-14.5	Solid	05/12/2015 1500	05/13/2015 0200

SAMPLE SUMMARY

Client: Brown and Caldwell

Job Number: 480-80305-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-80305-1	SB-2-19-19.3	Solid	05/13/2015 0805	05/14/2015 0220
480-80305-2	SB-2-25-25.8	Solid	05/13/2015 0820	05/14/2015 0220
480-80305-3	SB-2-31-32	Solid	05/13/2015 0850	05/14/2015 0220
480-80305-4	SB-4-9-10.5	Solid	05/13/2015 1120	05/14/2015 0220
480-80305-5	SB-4-15-15.6	Solid	05/13/2015 1145	05/14/2015 0220
480-80305-6	SB-4-21-22.1	Solid	05/13/2015 1205	05/14/2015 0220
480-80305-7	SB-4-27-28.7	Solid	05/13/2015 1245	05/14/2015 0220
480-80305-7MS	SB-4-27-28.7	Solid	05/13/2015 1245	05/14/2015 0220
480-80305-7MSD	SB-4-27-28.7	Solid	05/13/2015 1245	05/14/2015 0220
480-80305-8	SB-4-35-36.9	Solid	05/13/2015 1335	05/14/2015 0220
480-80305-9	SB-4-39-40.3	Solid	05/13/2015 1405	05/14/2015 0220

SAMPLE SUMMARY

Client: Brown and Caldwell

Job Number: 480-80306-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-80306-1	SS-6-0-2	Solid	05/13/2015 1015	05/14/2015 0220
480-80306-2	SS-6-0-6	Solid	05/13/2015 1020	05/14/2015 0220
480-80306-3	SS-5-0-2	Solid	05/13/2015 1040	05/14/2015 0220
480-80306-4	DUP-051315	Solid	05/13/2015 0000	05/14/2015 0220
480-80306-5	SS-5-0-6	Solid	05/13/2015 1050	05/14/2015 0220
480-80306-5MS	SS-5-0-6	Solid	05/13/2015 1050	05/14/2015 0220
480-80306-5MSD	SS-5-0-6	Solid	05/13/2015 1050	05/14/2015 0220
480-80306-6	SS-3-0-2	Solid	05/13/2015 1118	05/14/2015 0220
480-80306-7	SS-3-0-6	Solid	05/13/2015 1125	05/14/2015 0220
480-80306-8	SS-4-0-2	Solid	05/13/2015 1140	05/14/2015 0220
480-80306-9	SS-4-0-6	Solid	05/13/2015 1148	05/14/2015 0220
480-80306-10	SS-7-0-2	Solid	05/13/2015 1238	05/14/2015 0220
480-80306-11	SS-7-0-6	Solid	05/13/2015 1242	05/14/2015 0220
480-80306-12	FB-051315	Water	05/13/2015 1215	05/14/2015 0220
480-80306-13	SS-8-0-2	Solid	05/13/2015 1258	05/14/2015 0220
480-80306-14	SS-8-0-6	Solid	05/13/2015 1302	05/14/2015 0220
480-80306-15	SS-10-0-6	Solid	05/13/2015 1328	05/14/2015 0220
480-80306-16	SS-9-0-2	Solid	05/13/2015 1432	05/14/2015 0220
480-80306-17	SS-9-0-6	Solid	05/13/2015 1436	05/14/2015 0220
480-80306-18	SS-10-0-2	Solid	05/13/2015 1318	05/14/2015 0220
480-80306-19	SS-1-0-2	Solid	05/13/2015 1540	05/14/2015 0220
480-80306-20	SS-1-0-6	Solid	05/13/2015 1545	05/14/2015 0220

SAMPLE SUMMARY

Client: Brown and Caldwell

Job Number: 480-80416-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-80416-1	FB-20150514	Water	05/14/2015 0730	05/15/2015 0140
480-80416-2	SB-7-5-5.7	Solid	05/14/2015 0805	05/15/2015 0140
480-80416-3	SB-7-11-12.1	Solid	05/14/2015 0815	05/15/2015 0140
480-80416-4	SB-7-17-18.3	Solid	05/14/2015 0845	05/15/2015 0140
480-80416-5	SB-7-21-22.6	Solid	05/14/2015 0910	05/15/2015 0140
480-80416-6	SB-7-25-26.6	Solid	05/14/2015 0930	05/15/2015 0140
480-80416-7	SB-7-31-32.1	Solid	05/14/2015 0945	05/15/2015 0140
480-80416-8	DUP-20150514	Solid	05/14/2015 0000	05/15/2015 0140
480-80416-9	SB-3-7-8.7	Solid	05/14/2015 1345	05/15/2015 0140
480-80416-10	SB-3-13-14	Solid	05/14/2015 1400	05/15/2015 0140
480-80416-11	SB-3-21-22.3	Solid	05/14/2015 1425	05/15/2015 0140
480-80416-12	SB-3-25-25.4	Solid	05/14/2015 1450	05/15/2015 0140
480-80416-13	SB-3-29-29.7	Solid	05/14/2015 1535	05/15/2015 0140

SAMPLE SUMMARY

Client: Brown and Caldwell

Job Number: 480-80417-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-80417-1	SS-12-0-2	Solid	05/14/2015 0900	05/15/2015 0140
480-80417-2	SS-12-0-6	Solid	05/14/2015 0910	05/15/2015 0140
480-80417-3	SS-11-0-2	Solid	05/14/2015 0920	05/15/2015 0140
480-80417-4	DUP-051415	Solid	05/14/2015 0000	05/15/2015 0140
480-80417-5	SS-11-0-6	Solid	05/14/2015 0930	05/15/2015 0140
480-80417-5MS	SS-11-0-6	Solid	05/14/2015 0930	05/15/2015 0140
480-80417-5MSD	SS-11-0-6	Solid	05/14/2015 0930	05/15/2015 0140
480-80417-6	SS-2-0-2	Solid	05/14/2015 1005	05/15/2015 0140
480-80417-7	SS-2-0-6	Solid	05/14/2015 1010	05/15/2015 0140
480-80417-8	FB-051415	Water	05/14/2015 0940	05/15/2015 0140

SAMPLE SUMMARY

Client: Brown and Caldwell

Job Number: 480-80498-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-80498-1	SB-8-5-6.3	Solid	05/15/2015 0810	05/16/2015 0230
480-80498-2	SB-8-11-12	Solid	05/15/2015 0840	05/16/2015 0230
480-80498-3	SB-8-17-18.3	Solid	05/15/2015 0910	05/16/2015 0230
480-80498-4	SB-8-21-22.2	Solid	05/15/2015 0920	05/16/2015 0230
480-80498-5	SB-8-25-26.6	Solid	05/15/2015 0940	05/16/2015 0230

SAMPLE SUMMARY

Client: Brown and Caldwell

Job Number: 480-80580-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-80580-1	FB 20150518	Water	05/18/2015 1300	05/19/2015 0205
480-80580-2	SB-1-5-5.7	Solid	05/18/2015 1340	05/19/2015 0205
480-80580-3	SB-1-11-12.3	Solid	05/18/2015 1355	05/19/2015 0205
480-80580-4	SB-1-17-18.2	Solid	05/18/2015 1415	05/19/2015 0205
480-80580-5	SB-1-23-24.3	Solid	05/18/2015 1440	05/19/2015 0205
480-80580-6	SB-1-27-27.8	Solid	05/18/2015 1500	05/19/2015 0205

SAMPLE SUMMARY

Client: Brown and Caldwell

Job Number: 480-80643-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-80643-1	SB-9-7-8.3	Solid	05/19/2015 0800	05/20/2015 0230
480-80643-2	SB-9-11-11.7	Solid	05/19/2015 0815	05/20/2015 0230
480-80643-3	SB-9-17-18.8	Solid	05/19/2015 0830	05/20/2015 0230
480-80643-4	SB-9-23-24.3	Solid	05/19/2015 0915	05/20/2015 0230
480-80643-5	SB-9-29-29.6	Solid	05/19/2015 0930	05/20/2015 0230
480-80643-6	SB-9-35-36.2	Solid	05/19/2015 1005	05/20/2015 0230
480-80643-6MS	SB-9-35-36.2	Solid	05/19/2015 1005	05/20/2015 0230
480-80643-6MSD	SB-9-35-36.2	Solid	05/19/2015 1005	05/20/2015 0230
480-80643-7	DUP-20150519	Solid	05/19/2015 0000	05/20/2015 0230
480-80643-8	MW-4D-29-29.8	Solid	05/19/2015 1530	05/20/2015 0230

SAMPLE SUMMARY

Client: Brown and Caldwell

Job Number: 480-80752-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-80752-1	MW-4S-19-19.6	Solid	05/20/2015 0820	05/21/2015 0200
480-80752-2	FB-20150520	Water	05/20/2015 1010	05/21/2015 0200
480-80752-3	MW-3D-33.5-34	Solid	05/20/2015 1430	05/21/2015 0200

SAMPLE SUMMARY

Client: Brown and Caldwell

Job Number: 480-80817-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-80817-1	MW-3S-11-13	Solid	05/21/2015 0840	05/22/2015 0245
480-80817-2	MW-2D-7-8.8	Solid	05/21/2015 1510	05/22/2015 0245
480-80817-3	DUP-20150521	Solid	05/21/2015 0000	05/22/2015 0245
480-80817-4	MW-2D-31-32.1	Solid	05/21/2015 1520	05/22/2015 0245

SAMPLE SUMMARY

Client: Brown and Caldwell

Job Number: 480-80919-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-80919-1	MW-2S-19-19.8	Solid	05/22/2015 0800	05/23/2015 0245
480-80919-1MS	MW-2S-19-19.8	Solid	05/22/2015 0800	05/23/2015 0245
480-80919-1MSD	MW-2S-19-19.8	Solid	05/22/2015 0800	05/23/2015 0245

SAMPLE SUMMARY

Client: Brown and Caldwell

Job Number: 480-80993-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-80993-1	MW-1D-28-29	Solid	05/26/2015 1437	05/27/2015 0915

SAMPLE SUMMARY

Client: Brown and Caldwell

Job Number: 480-81064-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-81064-1	MW-1S-16-18	Solid	05/27/2015 0850	05/28/2015 0230

SAMPLE SUMMARY

Client: Brown and Caldwell

Job Number: 480-81065-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-81065-1	TP-4-7.5-8	Solid	05/27/2015 1420	05/28/2015 0230
480-81065-1MS	TP-4-7.5-8	Solid	05/27/2015 1420	05/28/2015 0230
480-81065-1MSD	TP-4-7.5-8	Solid	05/27/2015 1420	05/28/2015 0230
480-81065-2	TP-1-8-9	Solid	05/27/2015 1515	05/28/2015 0230
480-81065-3	TP-1B-9-10	Solid	05/27/2015 1605	05/28/2015 0230
480-81065-4	FB-052715	Water	05/27/2015 1030	05/28/2015 0230
480-81065-5	DUP-052715	Solid	05/27/2015 0000	05/28/2015 0230

SAMPLE SUMMARY

Client: Brown and Caldwell

Job Number: 480-81163-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-81163-1	TP-2-4-5	Solid	05/28/2015 0805	05/29/2015 0235
480-81163-2	TP-3-4-5	Solid	05/28/2015 0910	05/29/2015 0235
480-81163-3	TP-5-7-7.5	Solid	05/28/2015 1000	05/29/2015 0235

SAMPLE SUMMARY

Client: Brown and Caldwell

Job Number: 480-82105-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-82105-1	MW-4D-20150610	Water	06/10/2015 1439	06/12/2015 0200
480-82105-2	MW-1-20150611	Water	06/11/2015 1219	06/12/2015 0200
480-82105-2MS	MW-1-20150611	Water	06/11/2015 1219	06/12/2015 0200
480-82105-2MSD	MW-1-20150611	Water	06/11/2015 1219	06/12/2015 0200
480-82105-3	MW-2D-20150611	Water	06/11/2015 1456	06/12/2015 0200
480-82105-4	DUP-20150611	Water	06/11/2015 0000	06/12/2015 0200
480-82105-5	TRIP BLANK	Water	06/11/2015 0000	06/12/2015 0200
480-82186-1	MW-1D-20150612	Water	06/12/2015 0843	06/13/2015 0255
480-82186-2	MW-2S-20150612	Water	06/12/2015 0815	06/13/2015 0255
480-82186-3	MW-3S-20150612	Water	06/12/2015 0915	06/13/2015 0255
480-82186-4	MW-4-20150612	Water	06/12/2015 0943	06/13/2015 0255
480-82186-5	MW-4S-20150612	Water	06/12/2015 1000	06/13/2015 0255
480-82186-6	FB-20150612	Water	06/12/2015 1010	06/13/2015 0255
480-82186-7	TB	Water	06/12/2015 0000	06/13/2015 0255

SAMPLE SUMMARY

Client: Brown and Caldwell

Job Number: 480-87716-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-87716-1	MW-4D	Water	09/21/2015 1340	09/23/2015 0145
480-87716-1MS	MW-4D	Water	09/21/2015 1340	09/23/2015 0145
480-87716-1MSD	MW-4D	Water	09/21/2015 1340	09/23/2015 0145
480-87716-2	MW-1	Water	09/21/2015 1512	09/23/2015 0145
480-87716-3	FB-092115	Water	09/21/2015 1620	09/23/2015 0145
480-87716-4	DUP-092115	Water	09/21/2015 0000	09/23/2015 0145
480-87716-5	MW-4	Water	09/21/2015 0902	09/23/2015 0145
480-87716-6	MW-1D	Water	09/22/2015 1012	09/23/2015 0145
480-87716-7	TRIP BLANK	Water	09/22/2015 0000	09/23/2015 0145

SAMPLE SUMMARY

Client: Brown and Caldwell

Job Number: 480-87801-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-87801-1	MW-2D	Water	09/23/2015 0815	09/24/2015 0200
480-87801-2	MW-2S	Water	09/23/2015 0750	09/24/2015 0200
480-87801-3	MW-3S	Water	09/23/2015 1000	09/24/2015 0200
480-87801-4	MW-4S	Water	09/23/2015 0930	09/24/2015 0200
480-87801-5	TRIP BLANK	Water	09/23/2015 0000	09/24/2015 0200

MCGI

USEPA Data Validation

Organic & Inorganic

Data Validation Report

Troy, NY

(Water St. Site) - Area 3

Lab SDG's No. 4801126991-SPW, 4801128071-SPW, 4801128941-GJC, 4801129451-GJC, 4801129971-GJC, 4801130661-GJC, 4801132311-GJC, 4801133611-GJC, 4801134611-GJC, 4801140211-GJC & 4801141301-GJC

MCGI Project No. BC031701-6991

Prepared for:

Brown & Caldwell

2 Park Way, Suite 2A
Upper Saddle River, NJ 07458

Prepared by:

"MCGI"

Meridian Consultant Group, Inc.

Environmental Services & Data Validation

1997 Annapolis Exchange Pkwy, Suite 300
Annapolis, MD 21401
Phone:(301)803-9207 Fax:(410)972-4701
www.meridiancgi.com

May 2017

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GLOSSARY OF ACRONYMS & TERMS

GLOSSARY OF ACRONYMS & TERMS

One or more of the following acronyms and terms may have been used in the descriptive process of the **Organic** Data Validation.

Acronyms:

BFB	Bromofluorobenzene (volatile instrument performance check)
BNA	Base/Neutral/Acid
CCCs	Calibration Check Compounds
CF	Calibration Factor
CLP	Contract Laboratory Program
COC	Chain of Custody
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
CSF	Complete SDG File
%D	Percent Difference
DCB	Decachlorobiphenyl (Pesticide/PCB/ surrogate compound)
DFTPP	Decafluorotriphenylphosphine (semivolatile instrument performance check)
DSF	Data Summary Form
ECD	Electron-Capture Detector
EICP	Extended Ion Current Profile
EPA	United States Environmental Protection Agency
GC	Gas Chromatography
GC/EC	Gas Chromatography/Electron Capture
GC/MS	Gas Chromatography/Mass Spectra
GPC	Gel Permeation Chromatography (Clean Up)
ICAL	Initial Calibration
IS	Internal Standard
LCS	Laboratory Control Sample
LCL	Lower Control Limit
MCL	Maximum Contamination Level
MDL	Method Detection Limit
MS/MSD	Matrix Spike/Matrix Spike Duplicate
m/z	The ratio of mass (m) to charge (z) of ions measured by GC/MS
OADS	Organic Analysis Data Sheet (Form 1)
ORDA	Organic Regional Data Assessment
PCB	Poly Chlorinated Biphenyl
PEM	Performance Evaluation Mixture

QA/QC	Quality Assurance/Quality Control
QAPjP	Quality Assurance Project Plan
QC	Quality Control
%R	Percent Recovery of spiked amount
RF	Response Factor
RIC	Reconstructed Ion Chromatogram
RPD	Relative Percent Difference
RRF	Relative Response Factor
RSD	Relative Standard Deviation
RT	Retention Time
RTW	Retention Time Window
SDG	Sample Delivery Group
SMC	System Monitoring Compound
SOP	Standard Operation Procedures
SOW	Statement of Work
SPCCs	System Performance Check Compounds
SSL	Samples Shipping Log
SVOA	Semivolatile Organic Analyte
TCL	Target Compound List
TCX	Tetrachloro-m-Xylene (Pesticide/PCB surrogate compound)
TIC	Tentatively Identified Compound
TPH	Total Petroleum Hydrocarbons
UCL	Upper Control Limit
VOA	Volatile Organic Analyte
VTSR	Validated Time of Sample Receipt

Terms:

Associated Samples

Any sample related to a particular QC analysis.

Case A finite, usually predetermined number of samples collected over a given time period for a particular site. A Case consists of one or more Sample Delivery Group(s).

Contractual Holding Time

The time from VTSR (validated time of sample receipt) to laboratory extraction and /or analysis.

Data Validation Qualifier (DVQ)

This refers to the column on the data summary form in which EPA Region III and other qualifiers have been placed by the data validator.

Data Validation Result (DVR)

This refers to the column on the data summary form used to report results that have been modified by the data validator. A result in the DVR column that is qualified "U" indicates a modification of the reporting limit.

Field Blank Field blanks are intended to identify contaminants that may have been introduced in the field. Examples are rinsate blank (RB), field blanks (FB) and trip blank (TB).

Field Duplicate

A duplicate sample generated in the field; not in the laboratory.

Initial Calibration (ICAL)

The establishment of a calibration curve with the appropriate number of standards and concentration ranges. The calibration curve plots absorbances and/or emissions versus concentration of the standards. .

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Introduction of a known concentration of a compound into a sample to provide information about the effect of sample matrix on the extraction and/or measurement methodology.

Performance Evaluation Mixture

A standard used to verify that the ICAL sequence is stable throughout the GC or GC/MS analyses.

Sample Delivery Group (SDG)

Defined by one of the following, whichever occurs first:
- case of sample
- each twenty field samples in a case or
- each 14-day calendar period during which field samples in a case are received, beginning with the receipt of the first sample in the SDG.

Technical Holding Time

The time from sample collection to laboratory extraction and /or analysis

GLOSSARY OF ACRONYMS & TERMS

One or more of the following acronyms and terms may have been used in the descriptive process of the **Inorganic** Data Validation.

Acronyms:

AA	Atomic Absorption
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CF	Calibration Factor
CLP	Contract Laboratory Program
COC	Chain of Custody
CRDL	Contract Required Detection Limit
CSF	Complete SDG File
CV	Cold Vapor
%D	Percent Difference
EPA	United States Environmental Protection Agency
ICAL	Initial Calibration
ICB	Initial Calibration Blank
ICP	Inductively Coupled Plasma
ICS	Interference Check Sample
ICV	Initial Calibration Verification
IDL	Instrument Detection Limit
LCS	Laboratory Control Sample
LCL	Lower Control Limit
MCL	Maximum Contamination Level
MDC	Minimum Detectable Concentration
MDL	Method Detection Limit
MS/MSD	Matrix Spike/Matrix Spike Duplicate
MSA	Method of Standard Addition
PB	Preparation Blank
PCB	Poly Chlorinated Biphenyl
QA/QC	Quality Assurance/Quality Control
QAPjP	Quality Assurance Project Plan
QC	Quality Control

%R	Percent Recovery of spiked amount
RPD	Relative Percent Difference
RRF	Relative Response Factor
RSD	Relative Standard Deviation
SDG	Sample Delivery Group
SOP	Standard Operation Procedures
SOW	Statement of Work
SSL	Samples Shipping Log
TAL	Target Analyte List
UCL	Upper Control Limit
VTSR	Validated Time of Sample Receipt

Terms:

Associated Samples

Any sample related to a particular QC analysis. For Example:
- For ICV, all samples run under the same calibration curve.
- For duplicate RPD, all SDG samples digested/distilled of the same matrix.

Case A finite, usually predetermined number of samples collected over a given time period for a particular site. A Case consists of one or more Sample Delivery Group(s).

Continuing Calibration Blank (CCB)

A deionized water sample run every ten (10) samples designed to detect any carryover contamination.

Continuing Calibration Verification (CCV)

A deionized water sample run every ten (10) samples designed to detect any carryover contamination.

Contract Compliance Screening (CCS)

A process in which the SMO inspects the data for contractual compliance and provides EMSL-LV laboratories and the Regions with their findings.

Contractual Holding Time

The time from VTSR (validated time of sample receipt) to laboratory extraction and /or analysis.

Data Validation Qualifier (DVQ)

This refers to the column on the data summary form in which EPA Region III and other qualifiers have been placed by the data validator.

Data Validation Result (DVR)

This refers to the column on the data summary form used to report results that have been modified by the data validator. A result in the DVR column that is qualified "U" indicates a modification of the reporting limit.

Field Blank Field blanks are intended to identify contaminants that may have been introduced in the field. Examples are rinsate blank (RB), field blanks (FB) and trip blank (TB).

Field Duplicate

A duplicate sample generated in the field; not in the laboratory.

Initial Calibration (ICAL)

The establishment of a calibration curve with the appropriate number of standards and concentration ranges. The calibration curve plots absorbancies and/or emissions versus concentration of the standards.

.

Initial Calibration Blank (ICB)

First blank run after the calibration curve .

Initial Calibration Verification (ICV)

First standard run after the calibration curve .

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Introduction of a known concentration of a compound into a sample to provide information about the effect of sample matrix on the extraction and/or measurement methodology.

Post Digestion Spike

The addition of known amount of standard after digestion. (Also identified as analytical spike, or spike, for furnace analyses.)

Preparation Blank (PB)

Blank taken through the digestion process to detect internal laboratory contamination.

Sample Delivery Group (SDG)

Defined by one of the following, whichever occurs first:
- case of sample
- each twenty field samples in a case or
- each 14-day calendar period during which field samples in a case are received, beginning with the receipt of the first sample in the SDG.

Serial Dilution

A sample run at a specific dilution to determine whether any significant chemical or physical interferences exist due to sample matrix effect, for ICP only.

Technical Holding Time

The time from sample collection to laboratory extraction and /or analysis.

COMMUNICATION RECORDS

N/A

GLOSSARY OF DATA VALIDATION QUALIFIERS

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATED TO IDENTIFICATION:

(Confidence concerning presence or absence of compounds)

U	=	Not detected above the level of the associated value. The associated value is either the approximate sample quantitation or detection limit.
NO CODE	=	Confirmed identification
U1	=	Not detected substantially above the level reported in laboratory or field blanks.
R	=	Unusable results. Analyte may or may not be present in the sample.
N	=	Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION:

(Can be used for both positive results and sample quantitation limits)

J	=	Analyte present. Reported value may not be accurate or precise (estimated value).
J+	=	Analyte present. Reported value may be biased high. Result is estimated high.
J-	=	Analyte present. Reported value may be biased low. Result is estimated low.
UJ	=	Not detected. Quantitation limit may be inaccurate or imprecise (Estimated).
UJ-	=	Not detected. Quantitation limit is probably higher.

OTHER CODES:

NJ	=	Qualitative identification questionable. Presumptively present at approximate quantity.
Q	=	No analytical result.
X	=	Data not Validated.

DATA VALIDATION REPORT NARRATIVE

MCGI

Meridian Consultant Group, Inc.
Environmental Services & Data Validation
1997 Annapolis Exchange Pkwy., Suite 300
Annapolis, MD 21401

(301)803-9207 Phone
(4 10)972-4701 Fax
www.meridiancgi.com

DATE: July 21, 2017

SUBJECT: USEPA Organic & Inorganic Data Validation Report
Volatile, Semivolatile, Pesticides & Cyanide (CN)
Lab SDG's No. 4801126991-SPW, 4801128071-SPW, 4801128941-GJC, 4801129451-GJC, 4801129971-GJC, 4801130661-GJC, 4801132311-GJC, 4801133611-GJC, 4801134611-GJC, 4801140211-GJC & 4801141301-GJC
Site: Troy, NY (Water St. Site) - Area 3
MCGI Project No. BC031701-6991

FROM: Sherif N. Mina
Meridian Consultant Group, Inc.

TO: Mr. Brian F. Taylor
Brown and Caldwell

OVERVIEW

This report consists of eleven (11) Sample Delivery Groups (SDGs) for a total of ninety (90) aqueous samples submitted to TestAmerica Laboratories, Amherst, NY, for Volatile, Semivolatile, Pesticides & Cyanide (CN) analyses according to SW-846 Methods 8260, 8270D, 8081B & 9012B, respectively. Details about each SDG are listed in separate sections below. The samples were analyzed in accordance with the Chain-of-Custody (COC).

The analytical results were validated according to the pertinent parts of U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review & USEPA National Functional Guidelines for Inorganic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses.

Deviation from USEPA NFG: The "U" qualifier recommended by USEPA NFG for blank contamination was replaced by the "U1" qualifier to clearly indicate blank contamination on the EDDs.

GENERAL NOTES

- ***Electronic Data Deliverable (EDD):*** Several rows in the electronic data deliverable (EDD) are marked with an "X" and hidden from the EDDs by the validator. These rows may include quality control samples such as Method Blanks, Laboratory Control Samples, Matrix Spikes, or Matrix Spike Duplicates which are not validated. Additionally, some field sample results may not be used since only one (1) result for each compound is reported after validation. The following list indicates some instances in which an "X" may be placed in the DVQ column:
  1. The compounds in an analysis that have exceeded the instrument calibration range.
  2. All compounds in a diluted analysis that were within the calibration range in the initial analysis.
  3. All compounds in either the initial analysis or re-analysis of a sample, depending on which analysis is not reported on the EDD.

  Although QC samples and some field samples results may not be used, all data were reviewed and considered in the overall assessment.

- ***Data Validation Qualifier (DVQ)*:**This refers to the column on the data summary form in which EPA and other qualifiers have been placed by the data validator.

- ***Data Validation Result (DVR):***This refers to the column on the data summary form used to report results that have been modified by the data validator. A result in the DVR column that is qualified "U" indicates a modification of the reporting limit. Results in the DVR column supersede those reported by the laboratory.

- ***Tentatively Identified Compounds (TICs):*** The TICs, if applicable, were reviewed during data validation.

- ***Compound Quantitation:*** Positive results for compounds which are below the CRQL were qualified as estimated "J" on the EDD.

1-SDG: 4801126991-SPW

This SDG consisted of thirteen (13) soil samples submitted to TestAmerica Laboratories, Amherst, NY, for Volatile, Semivolatile, Pesticides & Cyanide (CN) analyses according to SW-846 Methods 8260, 8270D, 8081B & 9012B, respectively. One (1) soil field duplicate pair was identified in this SDG. The samples were analyzed in accordance with the Chain-of-Custody (COC), see Sample Identification Summary.

Sample Identification Summary

SAMPLE INFORMATION				Analysis			
Field ID	**Lab ID**	**SDG**	**Matrix**	**V**	**S**	**P**	**C**
MW-1S-REP-22.5-23	480-112699-01	4801126691-SPW	Soil	x	x	x	x
SB-14-5-6.6	480-112699-02		Soil	x	x	x	x
SB-14-9-10.3	480-112699-03		Soil	x	x	x	x
SB-14-15-16.8	480-112699-04		Soil	x	x	x	x
SB-14-19-20.6	480-112699-05		Soil	x	x	x	x
SB-14-23-24	480-112699-06		Soil	x	x	x	x
SB-14-29-30.4	480-112699-07		Soil	x	x	x	x
DUP-012517	480-112699-08		Soil	x	x	x	x
SB-10-5-6.2	480-112699-09		Soil	x	x	x	x
SB-10-9-10.0	480-112699-10		Soil	x	x	x	x
SB-10-15-16	480-112699-11		Soil	x	x	x	x
SB-10-19-20.7	480-112699-12		Soil	x	x	x	x
SB-10-25-26.8	480-112699-13		Soil	x	x	x	x

V=Volatile, S=Semivolatile, P=Pesticides, C=CN

Duplicates: DUP012517/SB-14-15-16.8

- ***Field Duplicates:*** For the associated soil samples, an RPD of 30% was used as the QC limit for results >5x the CRQL; and for results <5x the CRQL, the difference between the two values must be less than the CRQL. Results < the CRQL have "NA", not applicable, placed in the RPD field.

Compound	SB-14-15-16.8	DUP012517	RPD	Qualifier
Volatile				
Acetone	4.0 J	3.3 J	NA	
Semivolatile				
Acenaphthylene	180 J	160 J	NA	
Anthracene	360 J	410 J	NA	
Benzo(a)anthracene	1700	1600	6	
Benzo(a)pyrene	1300	1200	8	
Benzo(b)fluoranthene	2400	1600	40	
Benzo(g,h,i)perylene	650 J	610 J	NA	
Benzo(k)fluoranthene	ND	810 J	NA	
Chrysene	1600	1600	0	
Dibenz(a,h)anthracene	ND	170 J	NA	

Fluoranthene	2200	2100	5	
Fluorene	110 J	ND	NA	
Indeno(1,2,3-c,d)pyrene	610 J	570 J	NA	
Naphthalene	160	ND	NA	
Phenanthrene	1000	1300	26	
Pyrene	2000	2000	0	
Pesticides				
	ND	ND	NA	
CN	ND	ND	NA	

ND=None Detected NA=Not Applicable

ORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. All instruments and method sensitivities were according to the specified analytical methods, except as noted in the Major Problem section. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

	Parameters	V			S			P		
		q	t	a	q	t	a	q	t	a
*	Data Completeness		13	0		13	0		13	0
*	Holding Time		13	0		13	0		13	0
*	Instrument Performance (BFB/DFTPP)		13	0		13	0		13	0
	Calibrations	x	13	9		13	0		13	0
	Laboratory and Field Blanks analyses	x	13	13		13	0		13	0
	Surrogate Recoveries	x	13	2		13	0	x	13	4
*	Matrix Spike/Matrix Spike Duplicate		13	0		13	0		13	0
*	Laboratory Control Sample(LCS)		13	0		13	0		13	0
*	Laboratory and/or Field Duplicates		13	0		13	0		13	0
	Internal Standards	x	13	3		13	0		13	0
*	Compound Identification		13	0		13	0		13	0
*	Compound Quantitation		13	0		13	0		13	0
*	Sample Preservation		13	0		13	0		13	0

* All Criteria were met for that Parameter, V=Volatile, S=Semivolatile, P=Pesticides

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR PROBLEMS

- None noted.

MINOR PROBLEMS

Volatile:

- ***Calibrations:*** The continuing calibration associated with batch 480-341683 failed the %D precision criteria of 20% for Chloromethane and Vinyl chloride. No positive results were detected in the associated samples. Quantitation limits for these compounds in the associated samples, SB-14-9-10.3 (480-112699-3), SB-14-15-16.8 (480-112699-4),SB-14-29-30.4 (480-112699-7), SB-10-15-16 (480-112699-11) and SB-10-25-26.8 (480-112699-13), were qualified "UJ".

The continuing calibration associated with batch 480-341857 failed the %D precision criteria of 20% for Chloromethane and Vinyl chloride. No positive results were detected in the associated samples. Quantitation limits for these compounds in the associated samples, DUP-012517 (480-112699-8), SB-10-5-6.2 (480-112699-9), SB-10-9-10.0 (480-112699-10) and SB-10-19-20.7 (480-112699-12), were qualified "UJ".

- ***Internal Standards (IS):*** The analyses of samples lab ID# 480-112699-3 & -8 displayed an area count less than 50% (but greater than 20%) of the associated continuing calibration for IS3 (1,4-Dichlorobenzene-d4). The laboratory indicated in the case narrative that the samples were re-analyzed with similar results. However, only the reanalyses of both samples were provided in the data package. Positive results & quantitation limits for compounds associated with IS3 (listed below) were qualified "J+" & "UJ", respectively, in both samples, unless superseded by the "J" qualifier as a result of the "J-" due to low surrogate recovery.

  The analysis of sample lab ID# 480-112699-10 displayed area counts less than 50% (but greater than 20%) of the associated continuing calibration for IS2 & IS3 (Chlorobenzene-d5 & 1,4-Dichlorobenzene-d4). The laboratory indicated in the case narrative that the sample was re-analyzed with similar results. However, only the reanalysis of this sample was provided in the data package. Positive results & quantitation limits for compounds associated with IS2 & IS3 (listed below) were qualified "J+" & "UJ", respectively, in this sample, unless superseded by the "J" qualifier as a result of the "J-" due to low surrogate recovery.

  Compounds associated with IS2: 1,1,2-Trichloroethane, 2-Hexanone, 4-Methyl-2-pentanone, Bromoform, Chlorobenzene, Dibromochloromethane, Ethylbenzene, 1,2-Dibromomethane, Styrene, Tetrachloroethene, Toluene , trans-1,3-Dichloropropene, o-Xylene, m,p-Xylene, Toluene-d8 (Surrogate) & 4-Bromofluorobenzene (Surrogate).

  Compounds associated with IS3: 1,2-Dichlorobenzene, 1,1,2,2-Tetrachloroethane, 1,2,4-Trichlorobenzene, 1,2-Dibromo-3-Chloropropane, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Isopropylbenzene.

- ***Surrogate Recovery:*** The analysis of sample lab ID# 480-112699-3 displayed low recovery for surrogate Bromofluorobenzene (BFB). The laboratory indicated in the case narrative that the sample was re-analyzed with similar results. However, only the reanalysis of the sample was provided in the data package. Positive results & quantitation limits for compounds associated with surrogate BFB (listed below) were qualified "J-" & "UJ", respectively, in this sample, unless superseded by the "J" qualifier as a result of the "J+" due to IS area.

  The analysis of sample lab ID# 480-112699-10 displayed low surrogate recoveries for surrogates Toluene-d8 (TOL) & Bromofluorobenzene (BFB). The laboratory indicated in the case narrative that the sample was re-analyzed with similar results. However, only the reanalysis of this sample was provided in the data package. Positive results & quantitation limits for compounds associated with surrogates TOL & BFB (listed below) were qualified "J-" & "UJ", respectively, in this sample, unless superseded by the "J" qualifier as a result of the "J+" due to IS area.

Compounds associated with surrogate Toluene-d8: Trichloroethene, Toluene, Tetrachloroethene, Ethylbenzene, o-Xylene, m,p-Xylene, Styrene & Isopropylbenzene.

Compounds associated with surrogate Bromofluorobenzene: Benzene, Chlorobenzene, 1,2-Dichlorobenzene, 1,2,4-Trichlorobenzene, 1,2-Dibromo-3-Chloropropane, 1,3-Dichlorobenzene & 1,4-Dichlorobenzene.

Semivolatile:

- None noted.

Pesticides:

- ***Surrogate Recovery:*** Samples 480-112699-3, -4, -6, -7, -11, -12 & -13 displayed high recovery for surrogate Decachlorobiphenyl (DCB) on one column. The "J+" qualifier for positive results was superseded by the "J" qualifier due to low concentrations below the quantitation limits.

NOTES

- ***Blank Contaminants:*** The maximum concentration of all compounds found in the analyses of the trip, field or laboratory method blanks are listed in the following table. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.

Analytical Fraction	**Compound**	Maximum Concentration	Units	Blank Type	Associated Samples
Volatile	Acetone*	11.1	ug/Kg	Method	All
Semivolatile	None				
Pesticides	None				

*Common lab contaminant

Volatile:

- ***Matrix spike/Matrix Spike Duplicate (MS/MSD):*** LCS's were performed in lieu of MS/MSD's. No action was taken.

Semivolatile:

- ***Matrix spike/Matrix Spike Duplicate (MS/MSD):*** LCS's were performed in lieu of MS/MSD's. No action was taken.

Pesticides:

- ***Matrix spike/Matrix Spike Duplicate (MS/MSD):*** The MS/MSD of sample Lab ID# 480-112699-2 displayed an RPD outside the QC limit for beta-BHC. No positive result was detected for this compound in the parent sample. No data were qualified.

  In addition, the surrogates in the MS/MSD were diluted out due to sample dilution, resulting in recoveries outside the QC limits. No action was taken.

- ***Surrogate Recovery:*** The surrogates in samples 480-112699-2, -8, -9 & -10 were diluted out due to sample dilution, resulting in recoveries outside the QC limits. No action was taken.

INORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Inorganic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

Parameters		C		
		q	t	a
*	Data Completeness		13	0
*	Holding Time		13	0
*	Calibration Verification		13	0
*	Laboratory and Field Blanks analyses		13	0
*	Matrix Spike recoveries (MS)		13	0
*	Laboratory and Field Duplicates		13	0
*	Laboratory Control Sample(LCS)		13	0
*	Analyte Identification		13	0
*	Analyte Quantitation		13	0
*	Sample Preservation		13	0
* All Criteria were met for that Parameter, C=CN				

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR ISSUES

- None noted.

MINOR ISSUES

- ***Laboratory and Field Blanks analyses:*** Analytes detected in the laboratory and/or equipment blanks, that affect sample results, with concentration above the instrument detection limit (IDL) are listed below. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.
-

Analyte	Blank Type

CB = Container Blank
PB = Preparation Blank
ICB = Initial Calibration Blank

CCB = Continuing Calibration Blank
FB = Field Blank
EB = Equipment Blank

NOTES

- None noted.

2-SDG: 4801128071-SPW

This SDG consisted of ten (10) soil and two (2) aqueous samples submitted to TestAmerica Laboratories, Amherst, NY, for Volatile, Semivolatile, Pesticides & Cyanide (CN) analyses according to SW-846 Methods 8260, 8270D, 8081B & 9012B, respectively. One (1) trip & one (1) field blanks were identified in this SDG. No field duplicate pairs were identified in this sample set. The samples were analyzed in accordance with the Chain-of-Custody (COC), see Sample Identification Summary.

Sample Identification Summary

SAMPLE INFORMATION				Analysis			
Field ID	**Lab ID**	**SDG**	**Matrix**	**V**	**S**	**P**	**C**
SB-10-31-32.4	480-112807-01	4801128071-SPW	Soil	x	x	x	x
SB-15-4-5	480-112807-02		Soil	x	x	x	x
FB-012617	480-112807-03		Aqueous	x	x	x	x
TRIP BLANK-20170126	480-112807-04		Aqueous	x			
MW-5-27.7-29.3	480-112807-05		Soil	x	x	x	x
SB-15-9-10.2	480-112807-06		Soil	x	x	x	x
SB-15-15-17	480-112807-07		Soil	x	x	x	x
SB-15-21-22.8	480-112807-08		Soil	x	x	x	x
SB-15-27-28.3	480-112807-09		Soil	x	x	x	x
SB-13-5-6.6	480-112807-10		Soil	x	x	x	x
SB-13-9-10.3	480-112807-11		Soil	x	x	x	x
SB-13-17-18.2	480-112807-12		Soil	x	x	x	x

V=Volatile, S=Semivolatile, P=Pesticides, C=CN

Duplicates: N/A

ORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. All instruments and method sensitivities were according to the specified analytical methods, except as noted in the Major Problem section. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

	Parameters	V			S			P		
		q	t	a	q	t	a	q	t	a
*	Data Completeness		12	0		11	0		11	0
	Holding Time	x	12	1		11	0		11	0
*	Instrument Performance (BFB/DFTPP)		12	0		11	0		11	0
	Calibrations	x	12	9	x	11	10		11	0
	Laboratory and Field Blanks analyses	x	12	10		11	0		11	0
	Surrogate Recoveries	x	12	4		11	0		11	0
	Matrix Spike/Matrix Spike Duplicate	x	12	1	x	11	1	x	11	1
	Laboratory Control Sample(LCS)	x	12	1		11	0		11	0
*	Laboratory and/or Field Duplicates		12	0		11	0		11	0
	Internal Standards	x	12	4		11	0		11	0
*	Compound Identification		12	0		11	0		11	0
*	Compound Quantitation		12	0		11	0		11	0
*	Sample Preservation		12	0		11	0		11	0

* All Criteria were met for that Parameter, V=Volatile, S=Semivolatile, P=Pesticides

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR PROBLEMS

- None noted.

MINOR PROBLEMS

Volatile:

- ***Holding Time:*** Sample SB-10-31-32.4 (480-112807-1) was received by the laboratory one (1) day outside the preparation holding time. Positive results & quantitation limits for all compounds in this sample were qualified "J" & "UJ", respectively.

- ***Calibrations:*** The continuing calibration associated with batch 480-341857 failed the %D precision criteria of 20% for Chloromethane and Vinyl chloride. No positive results were

detected in the associated samples. Quantitation limits for these compounds in the associated samples, SB-10-31-32.4 (480-112807-1), SB-15-4-5 (480-112807-2) and SB-15-9-10.2 (480-112807-6) , were qualified "UJ".

The continuing calibration associated with batch 480-342003 failed the %D precision criteria of 20% for 2-Butanone (MEK). No positive results were detected in the associated samples. Quantitation limits for this compound in the associated samples, SB-15-15-17 (480-112807-7), SB-15-21-22.8 (480-112807-8), SB-13-5-6.6 (480-112807-10) and SB-13-17-18.2 (480-112807-12), were qualified "UJ".

The continuing calibration associated with batch 480-342198 failed the %D precision criteria of 20% for Methylene Chlooride. The "J+" qualifier for the positive result was superseded by the "U1" qualifier, due to blank contamination in the affected sample SB-15-27-28.3 (480-112807-9).

The continuing calibration associated with batch 480-342359 failed the %D precision criteria of 20% for Cyclohexane and Methylcyclohexane. No positive results were detected in the associated sample. Quantitation limits for these compounds in the associated sample, MW-5-27.7-29.3 (480-112807-5), were qualified "UJ".

- ***Internal Standards (IS):*** The analysis of sample lab ID# 480-112807-12 displayed an area count less than 50% (but greater than 20%) of the associated continuing calibration for IS3 (1,4-Dichlorobenzene-d4). The laboratory indicated in the case narrative that the sample was re-analyzed with similar results. However, no data for the reanalyses were provided in the data package. Positive results & quantitation limits for compounds associated with IS3 (listed below) were qualified "J+" & "UJ", respectively, in both samples, unless superseded by the "J" qualifier as a result of the "J-" due to low surrogate recovery.

  The analysis of sample lab ID# 480-112807-1, -7 & -10 displayed area counts less than 50% (but greater than 20%) of the associated continuing calibration for IS2 & IS3 (Chlorobenzene-d5 & 1,4-Dichlorobenzene-d4). The laboratory indicated in the case narrative that the sample was re-analyzed with similar results. However, no data for the reanalysis of this sample were provided in the data package. Positive results & quantitation limits for compounds associated with IS2 & IS3 (listed below) were qualified "J+" & "UJ", respectively, in this sample, unless superseded by the "J" qualifier as a result of the "J-" due to low surrogate recovery.

  Compounds associated with IS2: 1,1,2-Trichloroethane, 2-Hexanone, 4-Methyl-2-pentanone, Bromoform, Chlorobenzene, Dibromochloromethane, Ethylbenzene, 1,2-Dibromomethane, Styrene, Tetrachloroethene, Toluene , trans-1,3-Dichloropropene, o-Xylene, m,p-Xylene, Toluene-d8 (Surrogate) & 4-Bromofluorobenzene (Surrogate).

  Compounds associated with IS3: 1,2-Dichlorobenzene, 1,1,2,2-Tetrachloroethane, 1,2,4-Trichlorobenzene, 1,2-Dibromo-3-Chloropropane, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Isopropylbenzene.

- ***Surrogate Recovery:*** The analyses of samples lab ID# 480-112807-7, -9, -10 & 12 displayed low recoveries for surrogate Bromofluorobenzene (BFB). The laboratory indicated in the case narrative that the samples were re-analyzed with similar results. However, no data for the reanalyses of the samples were provided in the data package. Positive results & quantitation limits for compounds associated with surrogate BFB (listed below) were qualified "J-" & "UJ", respectively, in these samples, unless superseded by the "J" qualifier as a result of the "J+" due to IS area.

  The analysis of sample lab ID# 480-112807-10 displayed high surrogate recovery for surrogate Toluene-d8 (TOL). The laboratory indicated in the case narrative that the sample was re-analyzed with similar results. However, no data for the reanalysis of this sample were provided in the data package. Positive results for compounds associated with surrogate TOL were qualified "J+" in this sample, unless superseded by the "J" qualifier.

  Compounds associated with surrogate Toluene-d8: Trichloroethene, Toluene, Tetrachloroethene, Ethylbenzene, o-Xylene, m,p-Xylene, Styrene & Isopropylbenzene.

  Compounds associated with surrogate Bromofluorobenzene: Benzene, Chlorobenzene, 1,2-Dichlorobenzene, 1,2,4-Trichlorobenzene, 1,2-Dibromo-3-Chloropropane, 1,3-Dichlorobenzene & 1,4-Dichlorobenzene.

- ***Laboratory Control Sample (LCS):*** the associated soil LCS displayed high recovery for Methylene Chloride. The "J+" qualifier for positive results for this compound was superseded by the "U1" qualifier due to blank contamination.

- ***Matrix spike/Matrix Spike Duplicate (MS/MSD):*** The soil MS/MSD of sample 480-112907-2 displayed low recoveries & RPDs outside the QC limits for several compounds (see Form III in the data package for the affected compounds). No positive results were detected for the affected sample in the parent sample. Quantitation limits, in the parent sample, were qualified "UJ" for the affected compounds.

<u>*Semivolatile:*</u>

- ***Calibrations:*** The initial calibration associated with batch 338260 failed the %RSD precision criteria of 30% for Benzaldehyde. No positive results were detected in the associated samples. Quantitation limits for these compounds in the associated samples, 480-112807-1, -2, -5, -6, -7, -8, -9, -10, 11 & 12, were qualified "UJ".

- ***Matrix spike/Matrix Spike Duplicate (MS/MSD):*** The soil MS/MSD of sample 480-112807-2 displayed RPDs outside the QC limits for several compounds (see Form III in the data package for the affected compounds), and high spike recovery for Phenanthrene in the MSD. Positive results for compounds with RPDs outside the QC limits, in the parent sample, were qualified "J". The "J+" qualifier for Phenanthrene was superseded by "J" qualifier.

Pesticides:

- ***Matrix spike/Matrix Spike Duplicate (MS/MSD):*** The MS/MSD of sample Lab ID# 480-112807-2 displayed low recoveries for 4,4'-DDD, Dieldrin & Methoxychlor. No positive result were detected for these compounds in the parent sample. Quantitation limits for these compounds in the parent samples were qualified "UJ".

NOTES

- ***Blank Contaminants:*** The maximum concentration of all compounds found in the analyses of the trip, field or laboratory method blanks are listed in the following table. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.

Analytical Fraction	**Compound**	Maximum Concentration	Units	Blank Type	Associated Samples
Volatile	Acetone*	11.4	ug/Kg	Method	All
	Methylene Chloride*	89.0	ug/Kg	Method,Field & Trip	All
Semivolatile	di-n-Butylphthalate*	0.653	ug/L	Method, Field	All
Pesticides	None				

*Common lab contaminant

Volatile:

- ***Surrogate Recovery:*** The analyses of samples lab ID# 480-112807-1, -7 & -12 displayed high recoveries for surrogate Toluene-d8 (TOL). The laboratory indicated in the case narrative that the samples were re-analyzed with similar results. However, no data for the reanalysis of the sample was provided in the data package. No positive results were detected for compounds associated with surrogate TOL. No data were qualified.

- ***Laboratory Control Sample (LCS):*** The associated soil LCS displayed high recovery for Dichlorodifluoromethane. No positive results were detected for this compound in the associated samples. No data were qualified.

- ***Sample Analysis:*** Sample SB-13-9-10.3 (480-112807-11) was analyzed using medium level soil analysis and diluted due to the abundance of non-target analytes. Reporting limits were elevated.

  Sample MW-5-27.7-29.3 (480-112807-5) was analyzed using medium level soil analysis and diluted to bring the concentration of target analytes within the calibration range. Reporting limits were elevated.

Semivolatile:

- ***Calibrations:*** One or more continuing calibration associated failed the %D precision criteria of 20% for surrogate compound 2,4,6-Tribromophenol. No data were affected, no action was taken.

- ***Sample Analysis:*** Samples SB-15-4-5 (480-112807-2), SB-15-4-5 (480-112807-2[MS]), SB-15-4-5 (480-112807-2[MSD]),)MW-5-27.7-29.3 (480-112807-5, SB-15-27-28.3 (480-112807-9), SB-13-5-6.6 (480-112807-10) and SB-13-9-10.3 (480-112807-11) were diluted due to high concentration, color and/or viscosity. Reporting limits (RLs) were elevated.

- ***Surrogate Recovery:*** The surrogate recoveries were diluted out due to sample dilution for samples SB-15-4-5 (480-112807-2), SB-15-4-5 (480-112807-2[MS]), SB-15-4-5 (480-112807-2[MSD]), MW-5-27.7-29.3 (480-112807-5 DL), SB-15-27-28.3 (480-112807-9), SB-13-5-6.6 (480-112807-10) and SB-13-9-10.3 (480-112807-11 & 11 DL). No action was taken.

Pesticides:

- ***Sample Analysis:*** Samples SB-15-4-5 (480-112807-2), MW-5-27.7-29.3 (480-112807-5), SB-15-27-28.3 (480-112807-9), SB-13-5-6.6 (480-112807-10) and SB-13-9-10.3 (480-112807-11) were diluted due to color and/or viscosity. Reporting limits (RLs) were elevated.

- ***Surrogate Recovery:*** The surrogates in samples 480-112807-2 & MS/MSD, -10, and -11 were diluted out due to sample dilution, resulting in recoveries outside the QC limits. No action was taken.

INORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Data Review, dated October 2004; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance Project Plan (QAPP), dated February 2016, and in the analytical methods used for the analyses. All instruments and method sensitivities were according to the specified analytical methods. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

Parameters		C		
		q	t	a
*	Data Completeness		11	0
*	Holding Time		11	0
*	Calibration Verification		11	0
*	Laboratory and Field Blanks analyses		11	0
	Matrix Spike recoveries (MS)	x	11	2
*	Laboratory and Field Duplicates		11	0
*	Laboratory Control Sample(LCS)		11	0
*	Analyte Identification		11	0
*	Analyte Quantitation		11	0
*	Sample Preservation		11	0
* All Criteria were met for that Parameter, C=CN				

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR ISSUES

- None noted.

MINOR ISSUES

- ***Laboratory and Field Blanks analyses:*** Analytes detected in the laboratory and/or equipment blanks, that affect sample results, with concentration above the instrument detection limit (IDL) are listed below. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.

Analyte	Blank Type

CB = Container Blank
PB = Preparation Blank

ICB = Initial Calibration Blank
CCB = Continuing Calibration Blank
FB = Field Blank
EB = Equipment Blank

- ***Matrix spike/Matrix Spike Duplicate (MS/MSD):*** The soil MS of sample 480-112807-2 displayed low recovery for CN. Quantitation limit was qualified "UJ" in this sample.

  The soil MS of sample 480-112807-12 displayed low recovery for CN. The "J-" qualifier for the positive result was superseded by the "J" qualifier in this sample.

NOTES

- None noted.

3-SDG: 4801128941-GJC

This SDG consisted of seventeen (17) soil & two (2) aqueous samples submitted to TestAmerica Laboratories, Amherst, NY, for Volatile, Semivolatile, Pesticides & Cyanide (CN) analyses according to SW-846 Methods 8260, 8270D, 8081B & 9012B, respectively. One (1) trip & one field blanks, and one (1) soils field duplicate pair were identified in this SDG. The samples were analyzed in accordance with the Chain-of-Custody (COC), see Sample Identification Summary.

Sample Identification Summary

SAMPLE INFORMATION				Analysis			
Field ID	**Lab ID**	**SDG**	**Matrix**	**V**	**S**	**P**	**C**
SB-13-23-24.2	480-112894-01	4801128941-GJC	Soil	x	x	x	x
SB-13-29-30.2	480-112894-02		Soil	x	x	x	x
SB-13-35-35.5	480-112894-03		Soil	x	x	x	x
DUP-013017	480-112894-04		Soil	x	x	x	x
FB-013017	480-112894-05		Aqueous	x	x	x	x
SB-16-9-10.1	480-112894-06		Soil	x	x	x	x
SB-16-15-16.7	480-112894-07		Soil	x	x	x	x
SB-16-5-6.7	480-112894-08		Soil	x	x	x	x
SB-16-19-21	480-112894-09		Soil	x	x	x	x
SB-16-25-27	480-112894-10		Soil	x	x	x	x
TRIP BLANK-20170130	480-112894-11		Aqueous	x			
SB-12-7-8	480-112894-12		Soil	x	x	x	x
SB-12-13-14.8	480-112894-13		Soil	x	x	x	x
SB-12-19-20	480-112894-14		Soil	x	x	x	x
SB-12-25-26.1	480-112894-15		Soil	x	x	x	x
SB-12-33-34.1	480-112894-16		Soil	x	x	x	x
SB-12-37-38.2	480-112894-17		Soil	x	x	x	x
SB-11-7-8.1	480-112894-18		Soil	x	x	x	x
SB-11-11-11.8	480-112894-19		Soil	x	x	x	x

V=Volatile, S=Semivolatile, P=Pesticides, C=CN

Duplicates: DUP-013017/SB-13-35-35.5

- ***Field Duplicates:*** For the associated soil samples, an RPD of 30% was used as the QC limit for results >5x the CRQL; and for results <5x the CRQL, the difference between the two values must be less than the CRQL. Results < the CRQL have "NA", not applicable, placed in the RPD field.

Compound	**SB-13-35-35.5**	**DUP-013017**	**RPD**	**Qualifier**
Volatile				
2-Butanone	ND	2.9 J	NA	
Semivolatile				
Acenaphthene	250 J	330 J	NA	
Anthracene	430 J	520 J	NA	
Benzo(a)anthracene	1200	1200	0	

Benzo(a)pyrene	1000	1000	0	
Benzo(b)fluoranthene	1200	1300	8	
Benzo(g,h,i)perylene	560 J	530 J	NA	
Benzo(k)fluoranthene	500 J	430 J	NA	
bis(2-Ethylhexyl)phthalate	340 J	ND	NA	
Chrysene	1100	1100	0	
Fluoranthene	1900	2000	5	
Fluorene	130 J	200 J	NA	
Indeno(1,2,3-c,d)pyrene	490 J	500 J	NA	
Naphthalene	170 J	320 J	NA	
Phenanthrene	920 J	1100	18	
Pyrene	1900	1900	0	
Pesticides				
4,4'-DDT	0.61 J	0.75 J	NA	
CN	ND	ND	NA	

ND=None Detected NA=Not Applicable

ORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. All instruments and method sensitivities were according to the specified analytical methods, except as noted in the Major Problem section. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

	Parameters	V			S			P		
		q	t	a	q	t	a	q	t	a
*	Data Completeness		19	0		18	0		18	0
*	Holding Time		19	0		18	0		18	0
*	Instrument Performance (BFB/DFTPP)		19	0		18	0		18	0
	Calibrations	x	19	11	x	18	18		18	0
	Laboratory and Field Blanks analyses	x	19	13	x	18	3		18	0
	Surrogate Recoveries	x	19	5		18	0		18	0
	Matrix Spike/Matrix Spike Duplicate	x	19	1		18	0		18	0
*	Laboratory Control Sample(LCS)		19	0		18	0		18	0
*	Laboratory and/or Field Duplicates		19	0		18	0		18	0
	Internal Standards	x	19	6		18	0		18	0
*	Compound Identification		19	0		18	0		18	0
	Compound Quantitation		19	0		18	0	x	18	11
*	Sample Preservation		19	0		18	0		18	0

* All Criteria were met for that Parameter, V=Volatile, S=Semivolatile, P=Pesticides

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR PROBLEMS

- None noted.

MINOR PROBLEMS

Volatile:

- ***Calibrations:*** The continuing calibrations associated with batch 480-342198, 480-342393 & 480-342921 failed the %D precision criteria of 20% for Methylene Chloride. Positive results & quantitation limits for this compound in the associated samples, SB-13-29-30.2 (480-112894-2), SB-13-35-35.5 (480-112894-3) and DUP-013017 (480-112894-4), SB-16-15-16.7 (480-112894-7), SB-16-5-6.7 (480-112894-8), SB-16-19-21 (480-112894-9), SB-16-25-27 (480-112894-10), SB-12-7-8 (480-112894-12), SB-12-37-38.2 (480-112894-17), SB-11-7-8.1 (480-112894-18) and SB-16-9-10.1 (480-112894-6), were qualified "J+" & "UJ", respectively; however, the "J+" qualifier was superseded b y the "U1" qualifier.

The continuing calibration associated with batch 480-342921 failed the %D precision criteria of 20% for Methylene Chloride. Positive results & quantitation limits for this compound in the associated samples, SB-13-23-24.2 (480-112894-1), FB-013017 (480-112894-5), TRIP BLANK (480-112894-11), SB-12-19-20 (480-112894-14), SB-12-25-26.1 (480-112894-15), SB-12-33-34.1 (480-112894-16) and SB-11-11-11.8 (480-112894-19), were qualified "J+" & "UJ", respectively; however, the "J+" qualifier was superseded b y the "J" qualifier.

- ***Internal Standards (IS):*** The analyses of samples lab ID# 480-112894-12, -17 & -18 displayed an area count less than 50% (but greater than 20%) of the associated continuing calibration for IS3 (1,4-Dichlorobenzene-d4). The laboratory indicated in the case narrative that the samples were re-analyzed with similar results. However, only the reanalyses of both samples were provided in the data package. Positive results & quantitation limits for compounds associated with IS3 (listed below) were qualified "J+" & "UJ", respectively, in both samples, unless superseded by the "J" qualifier as a result of the "J-" due to low surrogate recovery.

  The analysis of samples lab ID# 480-112894-7, -8 & -9 displayed area counts less than 50% (but greater than 20%) of the associated continuing calibration for IS2 & IS3 (Chlorobenzene-d5 & 1,4-Dichlorobenzene-d4). The laboratory indicated in the case narrative that the sample was re-analyzed with similar results. However, only the reanalysis of these samples were provided in the data package. Positive results & quantitation limits for compounds associated with IS2 & IS3 (listed below) were qualified "J+" & "UJ", respectively, in this sample, unless superseded by the "J" qualifier as a result of the "J-" due to low surrogate recovery.

  Compounds associated with IS2: 1,1,2-Trichloroethane, 2-Hexanone, 4-Methyl-2-pentanone, Bromoform, Chlorobenzene, Dibromochloromethane, Ethylbenzene, 1,2-Dibromomethane, Styrene, Tetrachloroethene, Toluene , trans-1,3-Dichloropropene, o-Xylene, m,p-Xylene, Toluene-d8 (Surrogate) & 4-Bromofluorobenzene (Surrogate).

  Compounds associated with IS3: 1,2-Dichlorobenzene, 1,1,2,2-Tetrachloroethane, 1,2,4-Trichlorobenzene, 1,2-Dibromo-3-Chloropropane, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Isopropylbenzene.

- ***Surrogate Recovery:*** The analysis of samples lab ID# 480-112894–7, -8 & -12 displayed low recovery for surrogate Bromofluorobenzene (BFB). The laboratory indicated in the case narrative that the sample was re-analyzed with similar results. However, only the reanalysis of the sample was provided in the data package. Positive results & quantitation limits for compounds associated with surrogate BFB (listed below) were qualified "J-" & "UJ", respectively, in these samples, unless superseded by the "J" qualifier as a result of the "J+" due to IS area.

  The analysis of samples lab ID# 480-112894-7, -8, -12 & -18 displayed high surrogate recovery for surrogate Toluene-d8 (TOL). The laboratory indicated in the case narrative that the sample was re-analyzed with similar results. However, only the reanalysis of this sample was provided in the data package. Positive results for compounds associated with surrogate

TOL (listed below) were qualified "J+" in these samples.

The analysis of sample lab ID# 480-112894-9 displayed high surrogate recovery for surrogate Toluene-d8 (TOL) and low recoveries for all other surrogates.. The laboratory indicated in the case narrative that the sample was re-analyzed with similar results. However, only the reanalysis of this sample was provided in the data package. Positive results for compounds associated with surrogate TOL (listed below) were qualified "J+"; and positive results & quantitation limits for all other compounds were qualified "J-" & "UJ", respectively, in these samples, unless superseded by the "J" qualifier as a result of the "J+" due to IS area.

Compounds associated with surrogate Toluene-d8: Trichloroethene, Toluene, Tetrachloroethene, Ethylbenzene, o-Xylene, m,p-Xylene, Styrene & Isopropylbenzene.

Compounds associated with surrogate Bromofluorobenzene: Benzene, Chlorobenzene, 1,2-Dichlorobenzene, 1,2,4-Trichlorobenzene, 1,2-Dibromo-3-Chloropropane, 1,3-Dichlorobenzene & 1,4-Dichlorobenzene.

- ***Matrix spike/Matrix Spike Duplicate (MS/MSD):*** The soil MS/MSD of sample 480-112894-09 displayed recoveries & RPDs outside the QC limits for almost all compounds (see Form III in the data package for the affected compounds). Positive results & quantitation limits, in the parent sample, were qualified "J" & "UJ", respectively, for all compounds, unless the "J" qualifier was superseded by the "U1" qualifier.

<u>*Semivolatile:*</u>

- ***Calibrations:*** The continuing calibration associated with batch 480-342368 failed the %D precision criteria of 20% for Pentachlorophenol. No Positive result was detected for this compound in the associated sample, FB-013017 (480-112894-5). Quantitation limit for this compound in this sample was qualified "UJ".

  The continuing calibration associated with batch 480-342931 failed the %D precision criteria of 20% for 2-Methylphenol. No Positive result was detected for this compound in the associated samples, SB-13-23-24.2 (480-112894-1), SB-13-29-30.2 (480-112894-2), SB-13-35-35.5 (480-112894-3), DUP-013017 (480-112894-4), SB-16-9-10.1 (480-112894-6), SB-16-15-16.7 (480-112894-7), SB-16-5-6.7 (480-112894-8), SB-16-19-21 (480-112894-9), SB-16-25-27 (480-112894-10), SB-12-7-8 (480-112894-12), SB-12-13-14.8 (480-112894-13), SB-12-19-20 (480-112894-14), SB-12-25-26.1 (480-112894-15), SB-12-33-34.1 (480-112894-16), SB-12-37-38.2 (480-112894-17), SB-11-7-8.1 (480-112894-18) and SB-11-11-11.8 (480-112894-19). Quantitation limit for this compound in these samples was qualified "UJ".

<u>*Pesticides:*</u>

- ***Sample Cleanup:*** Sample SB-16-5-6.7 (480-112894-8) displayed sulfer presence despite the cleanup procedures. Positive results & quantitation limits were qualified "J" & "UJ", respectively.

- ***Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD):*** The LCS displayed high recovery for 4,4'-DDT, Endosulfan Sulfate, Endrin Aldehyde & Endrin Ketone. Positive results for these compounds in all samples were qualified "J+", unless superseded by the "J" qualifier.

NOTES

- ***Blank Contaminants:*** The maximum concentration of all compounds found in the analyses of the trip, field or laboratory method blanks are listed in the following table. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.

Analytical Fraction	**Compound**	Maximum Concentration	Units	Blank Type	Associated Samples
Volatile	Acetone*	41.6	ug/Kg	Method	All
	Methylene Chloride*	3.43	ug/Kg	Method	All
	Carbon Disulfide	0.22	ug/L	Field	All
Semivolatile	Di-n-butylphthalate*	0.486	ug/L	Method, Field	All
	Butyl benzyl phthalate*	58.0	ug/Kg	Method	All
Pesticides	None				

*Common lab contaminant

Volatile:

- ***Sample Analysis:*** Samples SB-12-13-14.8 (480-112894-13), SB-12-25-26.1 (480-112894-15), SB-12-33-34.1 (480-112894-16) and SB-11-11-11.8 (480-112894-19) displayed results above the calibration range for several compounds. The samples were analyzed as medium level to bring these compounds within the calibration range.

  The laboratory analyzed samples SB-13-23-24.2 (480-112894-1) and SB-12-19-20 (480-112894-14), as medium level due to abundance of target analytes.

- ***Internal Standards (IS):*** The analysis of samples lab ID# 480-112894-9MS/MSD displayed area counts less than 50% (but greater than 20%) of the associated continuing calibration for IS2 and/or IS3 (Chlorobenzene-d5 and/or 1,4-Dichlorobenzene-d4), same as the parent sample, indicating possible matrix interference. No action was taken.

- ***Surrogate Recovery:*** The analysis of samples lab ID# 480-112894-9MS/MSD displayed low recovery for surrogate Bromofluorobenzene (BFB) and/or high recovery for surrogate Toluene-d8 (TOL)), same as the parent sample, indicating possible matrix interference. No action was taken.

Semivolatile:

- ***Sample Analysis:*** Samples SB-13-23-24.2 (480-112894-1), SB-13-29-30.2 (480-112894-2), SB-13-35-35.5 (480-112894-3), DUP-013017 (480-112894-4), SB-16-9-10.1 (480-112894-6), SB-16-15-16.7 (480-112894-7), SB-16-5-6.7 (480-112894-8), SB-16-19-21 (480-112894-9), SB-16-19-21-MS (480-112894-9[MS]), SB-16-19-21-MSD (480-112894-9[MSD]), SB-16-25-27 (480-112894-10), SB-12-7-8 (480-112894-12), SB-12-13-14.8 (480-112894-13), SB-12-25-26.1 (480-112894-15), SB-11-11-11.8 (480-112894-19), SB-12-33-34.1 (480-112894-16) and SB-11-7-8.1 (480-112894-18) were diluted due to high concentration, color and/or viscosity. Reporting limits (RLs) were elevated.

- ***Surrogate Recovery:*** The surrogates in samples SB-12-13-14.8 (480-112894-13), SB-12-25-26.1 (480-112894-15), SB-12-33-34.1 (480-112894-16), SB-11-7-8.1 (480-112894-18) and SB-11-11-11.8 (480-112894-19) were diluted out due to sample dilution, resulting in recoveries outside the QC limits. No action was taken.

- ***Matrix spike/Matrix Spike Duplicate (MS/MSD):*** The soil MS/MSD of sample 480-112894-09 displayed an RPD outside the QC limits for 4,6-Dinitro-2-methylphenol. No positive result was detected for this compound in the parent sample. No action was taken.

- ***Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD):*** The LCS/LCSD displayed high concentration above the calibration range for 3,3'Dichlorobenzidine due to an increase in the spiking concentration. No action was taken.

Pesticides:

- ***Sample Analysis:*** Samples SB-13-23-24.2 (480-112894-1), SB-16-5-6.7 (480-112894-8), SB-12-7-8 (480-112894-12), SB-12-13-14.8 (480-112894-13), SB-12-33-34.1 (480-112894-16) and SB-11-7-8.1 (480-112894-18) and SB-11-11-11.8 (480-112894-19) were diluted due to high concentration and/or sample matrix. Reporting limits (RLs) were elevated.

- ***Surrogate Recovery:*** The surrogates in samples SB-12-7-8 (480-112894-12), SB-12-13-14.8 (480-112894-13), SB-12-33-34.1 (480-112894-16), SB-11-7-8.1 (480-112894-18) and SB-11-11-11.8 (480-112894-19) were diluted out due to sample dilution, resulting in recoveries outside the QC limits. No action was taken.

INORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Inorganic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

Parameters		C		
		q	t	a
*	Data Completeness		18	0
*	Holding Time		18	0
*	Calibration Verification		18	0
*	Laboratory and Field Blanks analyses		18	0
	Matrix Spike recoveries (MS)	x	18	18
*	Laboratory and Field Duplicates		18	0
*	Laboratory Control Sample(LCS)		18	0
*	Analyte Identification		18	0
*	Analyte Quantitation		18	0
*	Sample Preservation		18	0
* All Criteria were met for that Parameter, C=CN				

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR ISSUES

- None noted.

MINOR ISSUES

- ***Laboratory and Field Blanks analyses:*** Analytes detected in the laboratory and/or equipment blanks, that affect sample results, with concentration above the instrument detection limit (IDL) are listed below. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.
-

Analyte	Blank Type

CB = Container Blank
PB = Preparation Blank
ICB = Initial Calibration Blank

CCB = Continuing Calibration Blank
FB = Field Blank
EB = Equipment Blank

- ***Matrix spike/Matrix Spike Duplicate (MS/MSD):*** The MS/MSD's of samples 480-112894-09 & -16 displayed low recoveries for Cyanide. Positive results & quantitation limits, in all samples, were qualified "J-" & "UJ", respectively, for all compounds, unless the "J-" qualifier was superseded by the "J" qualifier.

NOTES

- None noted.

4-SDG: 4801129451-GJC

This SDG consisted of five (5) soil samples submitted to TestAmerica Laboratories, Amherst, NY, for Volatile, Semivolatile, Pesticides & Cyanide (CN) analyses according to SW-846 Methods 8260, 8270D, 8081B & 9012B, respectively. No field duplicate pairs were identified in this SDG. The samples were analyzed in accordance with the Chain-of-Custody (COC), see Sample Identification Summary.

Sample Identification Summary

SAMPLE INFORMATION				Analysis			
Field ID	**Lab ID**	**SDG**	**Matrix**	**V**	**S**	**P**	**C**
SB-11-17-18.4	480-112945-01	4801129451-GJC	Soil	x	x	x	x
SB-11-23-24.2	480-112945-02		Soil	x	x	x	x
SB-11-31-32.2	480-112945-03		Soil	x	x	x	x
SB-11-37-37.4	480-112945-04		Soil	x	x	x	x
MW-8D-29-30.5	480-112945-05		Soil	x	x	x	x

V=Volatile, S=Semivolatile, P=Pesticides, C=CN

Duplicates: NA

ORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. All instruments and method sensitivities were according to the specified analytical methods, except as noted in the Major Problem section. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

	Parameters	V			S			P		
		q	t	a	q	t	a	q	t	a
*	Data Completeness		5	0		5	0		5	0
*	Holding Time		5	0		5	0		5	0
*	Instrument Performance (BFB/DFTPP)		5	0		5	0		5	0
	Calibrations	x	5	5		5	0		5	0
	Laboratory and Field Blanks analyses	x	5	5		5	0		5	0
	Surrogate Recoveries		5	0	x	5	1		5	0
*	Matrix Spike/Matrix Spike Duplicate		5	0		5	0		5	0
*	Laboratory Control Sample(LCS)		5	0		5	0		5	0
*	Laboratory and/or Field Duplicates		5	0		5	0		5	0
*	Internal Standards		5	0		5	0		5	0
*	Compound Identification		5	0		5	0		5	0
*	Compound Quantitation		5	0		5	0		5	0
*	Sample Preservation		5	0		5	0		5	0

* All Criteria were met for that Parameter, V=Volatile, S=Semivolatile, P=Pesticides

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR PROBLEMS

- None noted.

MINOR PROBLEMS

Volatile:

- ***Calibrations:*** The continuing calibration associated with batch 480-342916 failed the %D precision criteria of 20% for Trichlorofluoromethane. No positive results were detected in the associated samples, SB-11-17-18.4 (480-112945-1), SB-11-23-24.2 (480-112945-2) and SB-11-37-37.4 (480-112945-4). Quantitation limits for this compound in the associated samples, were qualified "UJ".

Semivolatile:

- ***Surrogate Recovery:*** Sample SB-11-31-32.2 (480-112945-3) displayed high surrogate

recoveries for two (2) base/neutral surrogates (2-Fluorobiphenyl & p-Terphenyl-d14) and one (1) acid surrogate (2,4,6-Tribromophenol). Positive results in this sample maybe biased high and were qualified "J+", unless superseded by the "J" qualifier.

Pesticides:

- None noted.

NOTES

- ***Blank Contaminants:*** The maximum concentration of all compounds found in the analyses of the trip, field or laboratory method blanks are listed in the following table. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.

Analytical Fraction	**Compound**	Maximum Concentration	Units	Blank Type	Associated Samples
Volatile	Methylene Chloride*	77.8	ug/Kg	Method	All
Semivolatile	None				
Pesticides	Methoxychlor	2.50	ug/Kg	Method	All

*Common lab contaminant

Volatile:

- ***Sample Analysis:*** All samples were analyzed as medium level either to bring some compounds within the calibration range or due to the nature of the sample matrix.

Semivolatile:

- ***Sample Analysis:*** Samples SB-11-17-18.4 (480-112945-1), SB-11-23-24.2 (480-112945-2) and SB-11-31-32.2 (480-112945-3) were diluted due to high concentration or abundance of target compounds. Reporting limits (RLs) were elevated.

- ***Surrogate Recovery:*** The surrogates in samples SB-11-17-18.4 (480-112945-1) and SB-11-23-24.2 (480-112945-2) and SB-11-31-32.2 (480-112945-3) were diluted out due to sample dilution, resulting in recoveries outside the QC limits. No action was taken.

- ***Laboratory Control Sample (LCS):*** The LCS displayed high concentration above the calibration range for Atrazine due to an increase in the spiking concentration. No action was taken.

The LCS displayed high recovery for Diethyl phthalate. No positive results were detected in the associated samples. No data were qualified.

Pesticides:

- ***Sample Analysis:*** Samples SB-11-17-18.4 (480-112945-1) and SB-11-23-24.2 (480-112945-2) were diluted due to sample matrix. Reporting limits (RLs) were elevated.

- ***Surrogate Recovery:*** The surrogates in samples SB-11-17-18.4 (480-112945-1) and SB-11-23-24.2 (480-112945-2) were diluted out due to sample dilution, resulting in recoveries outside the QC limits. No action was taken.

  Sample MW-8D-29-30.5 (480-112945-5) displayed high surrogate recovery for Decachlorobiphenyl (DCB) on one column. No positive results were detected in this sample. No data were qualified.

INORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Inorganic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

Parameters		C		
		q	t	a
*	Data Completeness		5	0
*	Holding Time		5	0
*	Calibration Verification		5	0
*	Laboratory and Field Blanks analyses		5	0
*	Matrix Spike recoveries (MS)		5	0
*	Laboratory and Field Duplicates		5	0
*	Laboratory Control Sample(LCS)		5	0
*	Analyte Identification		5	0
*	Analyte Quantitation		5	0
*	Sample Preservation		5	0
* All Criteria were met for that Parameter, C=CN				

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR ISSUES

- None noted.

MINOR ISSUES

- ***Laboratory and Field Blanks analyses:*** Analytes detected in the laboratory and/or equipment blanks, that affect sample results, with concentration above the instrument detection limit (IDL) are listed below. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.
-

Analyte	Blank Type

CB = Container Blank
PB = Preparation Blank
ICB = Initial Calibration Blank

CCB = Continuing Calibration Blank
FB = Field Blank
EB = Equipment Blank

NOTES

- None noted.

5-SDG: 4801129971-GJC

This SDG consisted of two (2) soil samples submitted to TestAmerica Laboratories, Amherst, NY, for Volatile, Semivolatile, Pesticides & Cyanide (CN) analyses according to SW-846 Methods 8260, 8270D, 8081B & 9012B, respectively. No field duplicate pairs were identified in this SDG. The samples were analyzed in accordance with the Chain-of-Custody (COC), see Sample Identification Summary.

Sample Identification Summary

SAMPLE INFORMATION				Analysis			
Field ID	**Lab ID**	**SDG**	**Matrix**	**V**	**S**	**P**	**C**
MW-8S-23-23.7	480-112997-01	4801129971-GJC	Soil	x	x	x	x
MW-6D-31-31.9	480-112997-05		Soil	x	x	x	x

V=Volatile, S=Semivolatile, P=Pesticides, C=CN

Duplicates: NA

ORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. All instruments and method sensitivities were according to the specified analytical methods, except as noted in the Major Problem section. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

	Parameters	V			S			P		
		q	t	a	q	t	a	q	t	a
*	Data Completeness		2	0		2	0		2	0
*	Holding Time		2	0		2	0		2	0
*	Instrument Performance (BFB/DFTPP)		2	0		2	0		2	0
*	Calibrations		2	0		2	0		2	0
	Laboratory and Field Blanks analyses	x	2	2		2	0		2	0
	Surrogate Recoveries		2	0	x	2	1		2	0
*	Matrix Spike/Matrix Spike Duplicate		2	0		2	0		2	0
*	Laboratory Control Sample(LCS)		2	0		2	0		2	0
*	Laboratory and/or Field Duplicates		2	0		2	0		2	0
*	Internal Standards		2	0		2	0		2	0
*	Compound Identification		2	0		2	0		2	0
*	Compound Quantitation		2	0		2	0		2	0
*	Sample Preservation		2	0		2	0		2	0

* All Criteria were met for that Parameter, V=Volatile, S=Semivolatile, P=Pesticides

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR PROBLEMS

- None noted.

MINOR PROBLEMS

Volatile:

- None noted.

Semivolatile:

- ***Surrogate Recovery:*** Sample MW-6D-31-31.9(480-112997-2) displayed high surrogate recoveries for all three (3) base/neutral surrogates (Nitrobenzene-d5, 2-Fluorobiphenyl & p-Terphenyl-d14). Positive results for base/neutral in this sample maybe biased high and were qualified "J+", unless superseded by the "J" qualifier.

Pesticides:

- None noted.

NOTES

- ***Blank Contaminants:*** The maximum concentration of all compounds found in the analyses of the trip, field or laboratory method blanks are listed in the following table. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.

Analytical Fraction	**Compound**	Maximum Concentration	Units	Blank Type	Associated Samples
Volatile	Methylene Chloride*	77.8	ug/Kg	Method	All
Semivolatile	None				
Pesticides	Methoxychlor	2.50	ug/Kg	Method	All

*Common lab contaminant

Volatile:

- ***Sample Analysis:*** Samples MW-8S-23-23.7 (480-112997-1) and MW-6D-31-31.9(480-112997-2) were analyzed as medium level due to the nature of the sample matrix.

Semivolatile:

- ***Laboratory Control Sample (LCS):*** The LCS displayed high concentration above the calibration range for Atrazine due to an increase in the spiking concentration. No action was taken.

  The LCS displayed high recovery for Diethyl phthalate. No positive results were detected in the associated samples. No data were qualified.

Pesticides:

- ***Surrogate Recovery:*** Samples MW-8S-23-23.7 (480-112997-1) and MW-6D-31-31.9(480-112997-2) displayed high surrogate recovery for Decachlorobiphenyl (DCB) on one column. No positive results were detected in these samples, except for 4'4'-DDT at a low concentration (0.82J ug/Kg) below the quantitation limit in sample MW-6D-31-31.9(480-112997-2). No action was taken.

INORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Inorganic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

Parameters		C		
		q	t	a
*	Data Completeness		2	0
*	Holding Time		2	0
*	Calibration Verification		2	0
*	Laboratory and Field Blanks analyses		2	0
*	Matrix Spike recoveries (MS)		2	0
*	Laboratory and Field Duplicates		2	0
*	Laboratory Control Sample(LCS)		2	0
*	Analyte Identification		2	0
*	Analyte Quantitation		2	0
*	Sample Preservation		2	0
* All Criteria were met for that Parameter, C=CN				

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR ISSUES

- None noted.

MINOR ISSUES

- ***Laboratory and Field Blanks analyses:*** Analytes detected in the laboratory and/or equipment blanks, that affect sample results, with concentration above the instrument detection limit (IDL) are listed below. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.
-

Analyte	Blank Type

CB = Container Blank
PB = Preparation Blank
ICB = Initial Calibration Blank

CCB = Continuing Calibration Blank
FB = Field Blank
EB = Equipment Blank

NOTES

- None noted.

6-SDG: 4801130661-GJC

This SDG consisted of one (1) soil sample submitted to TestAmerica Laboratories, Amherst, NY, for Volatile, Semivolatile, Pesticides & Cyanide (CN) analyses according to SW-846 Methods 8260, 8270D, 8081B & 9012B, respectively. No field duplicate pairs were identified in this SDG. The samples were analyzed in accordance with the Chain-of-Custody (COC), see Sample Identification Summary.

Sample Identification Summary

SAMPLE INFORMATION				Analysis			
Field ID	**Lab ID**	**SDG**	**Matrix**	**V**	**S**	**P**	**C**
MW-6S-22-23.5	480-113066-01	4801130661-GJC	Soil	x	x	x	x

V=Volatile, S=Semivolatile, P=Pesticides, C=CN

Duplicates: NA

ORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. All instruments and method sensitivities were according to the specified analytical methods, except as noted in the Major Problem section. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

	Parameters	V			S			P		
		q	t	a	q	t	a	q	t	a
*	Data Completeness		1	0		1	0		1	0
*	Holding Time		1	0		1	0		1	0
*	Instrument Performance (BFB/DFTPP)		1	0		1	0		1	0
*	Calibrations		1	0		1	0		1	0
	Laboratory and Field Blanks analyses	x	1	1		1	0		1	0
*	Surrogate Recoveries		1	0		1	0		1	0
*	Matrix Spike/Matrix Spike Duplicate		1	0		1	0		1	0
*	Laboratory Control Sample(LCS)		1	0		1	0		1	0
*	Laboratory and/or Field Duplicates		1	0		1	0		1	0
*	Internal Standards		1	0		1	0		1	0
*	Compound Identification		1	0		1	0		1	0
*	Compound Quantitation		1	0		1	0		1	0
*	Sample Preservation		1	0		1	0		1	0

* All Criteria were met for that Parameter, V=Volatile, S=Semivolatile, P=Pesticides

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR PROBLEMS

- None noted.

MINOR PROBLEMS

Volatile:

- None noted.

Semivolatile:

- None noted.

Pesticides:

- None noted.

NOTES

- ***Blank Contaminants:*** The maximum concentration of all compounds found in the analyses of the trip, field or laboratory method blanks are listed in the following table. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.

Analytical Fraction	**Compound**	Maximum Concentration	Units	Blank Type	Associated Samples
Volatile	Methylene Chloride*	77.8	ug/Kg	Method	All
Semivolatile	None				
Pesticides	Methoxychlor	2.50	ug/Kg	Method	All

*Common lab contaminant

Volatile:

- ***Sample Analysis:*** Sample MW-6S-22-23.5 (480-113066-1) was analyzed as medium level due to the nature of the sample matrix.

Semivolatile:

- ***Surrogate Recovery:*** Sample MW-6S-22-23.5 (480-113066-1) displayed slightly high surrogate recovery for one (1) base/neutral surrogate (2-Fluorobiphenyl). It is the validator's professional judgement not to qualify base/neutral compounds in this sample. No data were qualified.

- ***Laboratory Control Sample (LCS):*** The LCS displayed high concentration above the calibration range for Atrazine due to an increase in the spiking concentration. No action was taken.

  The LCS displayed high recovery for Diethyl phthalate. No positive results were detected in the associated samples. No data were qualified.

Pesticides:

- ***Surrogate Recovery:*** Sample MW-6S-22-23.5 (480-113066-1) displayed high surrogate recoveries for Decachlorobiphenyl (DCB) on both column. No positive results were detected in this sample. No data were qualified.

INORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Inorganic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

Parameters		C		
		q	t	a
*	Data Completeness		1	0
*	Holding Time		1	0
*	Calibration Verification		1	0
*	Laboratory and Field Blanks analyses		1	0
*	Matrix Spike recoveries (MS)		1	0
*	Laboratory and Field Duplicates		1	0
*	Laboratory Control Sample(LCS)		1	0
*	Analyte Identification		1	0
*	Analyte Quantitation		1	0
*	Sample Preservation		1	0
* All Criteria were met for that Parameter, C=CN				

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR ISSUES

- None noted.

MINOR ISSUES

- ***Laboratory and Field Blanks analyses:*** Analytes detected in the laboratory and/or equipment blanks, that affect sample results, with concentration above the instrument detection limit (IDL) are listed below. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.
-

Analyte	Blank Type

CB = Container Blank
PB = Preparation Blank
ICB = Initial Calibration Blank

CCB = Continuing Calibration Blank
FB = Field Blank
EB = Equipment Blank

NOTES

- None noted.

7-SDG: 4801132311-GJC

This SDG consisted of six (6) soil samples submitted to TestAmerica Laboratories, Amherst, NY, for Volatile, Semivolatile, Pesticides & Cyanide (CN) analyses according to SW-846 Methods 8260, 8270D, 8081B & 9012B, respectively. No field duplicate pairs were identified in this SDG. The samples were analyzed in accordance with the Chain-of-Custody (COC), see Sample Identification Summary.

Sample Identification Summary

SAMPLE INFORMATION				Analysis			
Field ID	**Lab ID**	**SDG**	**Matrix**	**V**	**S**	**P**	**C**
MW-9-21-22.2	480-113231-01	4801132311-GJC	Soil	x	x	x	x
MW-10-19-20.5	480-113231-02		Soil	x	x	x	x
TP-6-4	480-113231-03		Soil	x	x	x	x
TP-6-8.5	480-113231-04		Soil	x	x	x	x
TP-7-3.5	480-113231-05		Soil	x	x	x	x
TP-7-8.5	480-113231-06		Soil	x	x	x	x

V=Volatile, S=Semivolatile, P=Pesticides, C=CN

Duplicates: NA

ORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. All instruments and method sensitivities were according to the specified analytical methods, except as noted in the Major Problem section. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

	Parameters	V			S			P		
		q	t	a	q	t	a	q	t	a
*	Data Completeness		6	0		6	0		6	0
*	Holding Time		6	0		6	0		6	0
*	Instrument Performance (BFB/DFTPP)		6	0		6	0		6	0
	Calibrations	x	6	5	x	6	6		6	0
*	Laboratory and Field Blanks analyses		6	0		6	0		6	0
	Surrogate Recoveries		6	0		6	0	x	6	1
	Matrix Spike/Matrix Spike Duplicate	x	6	1	x	6	1	x	6	1
	Laboratory Control Sample(LCS)	x	6	5		6	0		6	0
*	Laboratory and/or Field Duplicates		6	0		6	0		6	0
*	Internal Standards		6	0		6	0		6	0
*	Compound Identification		6	0		6	0		6	0
*	Compound Quantitation		6	0		6	0		6	0
*	Sample Preservation		6	0		6	0		6	0

* All Criteria were met for that Parameter, V=Volatile, S=Semivolatile, P=Pesticides

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR PROBLEMS

- None noted.

MINOR PROBLEMS

Volatile:

- ***Calibrations:*** The continuing calibration associated with batch 480-343291 failed the %D precision criteria of 20% for Methylene Chloride. Positive results & quantitation limits for this compound in the associated samples, MW-10-19-20.5 (480-113231-2), TP-7-3.5 (480-113231-5) and TP-7-8.5 (480-113231-6), were qualified "J+" & "UJ", respectively, unless the "J+" qualifier was superseded by the "U1" qualifier.

  The continuing calibration associated with batch 480-343482 failed the %D precision criteria of 20% for Chloromethane. No positive results were detected in the associated sample MW-9-21-22.2 (480-113231-1). Quantitation limit for this compound in the associated sample

was qualified "UJ.

The continuing calibration associated with batch 480-343748 failed the %D precision criteria of 20% for Methylene Chloride & Trichlorofluoromethane. Positive results & quantitation limits for these compounds in the associated sample, TP-6-8.5 (480-113231-4), were qualified "J+" & "UJ", respectively, unless the "J+" qualifier was superseded by the "U1" qualifier.

- ***Matrix spike/Matrix Spike Duplicate (MS/MSD):*** The soil MS/MSD of sample TP-6-4 (480-113231-3) displayed recoveries & RPDs outside the QC limits for almost all compounds (see Form III in the data package for the affected compounds). Positive results & quantitation limits, in the parent sample, were qualified "J" & "UJ", respectively, for all compounds, unless the "J" qualifier was superseded by the "U1" qualifier.

- ***Laboratory Control Sample (LCS):*** The LCS displayed high recovery for Methylene Chloride due to laboratory contamination. However, the "J+" qualifier for this compound in all associated samples was superseded by the "U1" qualifier.

Semivolatile:

- ***Calibrations:*** The continuing calibration associated with batch 480-343647 failed the %D precision criteria of 20% for 2-Methylphenol and Pentachlorophenol. No positive results were detected for these compounds in the associated samples MW-9-21-22.2 (480-113231-1), MW-10-19-20.5 (480-113231-2), TP-6-4 (480-113231-3), TP-6-8.5 (480-113231-4), TP-7-3.5 (480-113231-5) and TP-7-8.5 (480-113231-6). Quantitation limits for these compounds in the associated samples were qualified "UJ".

- ***Matrix spike/Matrix Spike Duplicate (MS/MSD):*** The soil MS/MSD of sample TP-6-4 (480-113231-3) displayed RPDs outside the QC limits for several compounds (see Form III in the data package for the affected compounds). Positive results in the parent sample, were qualified "J".

Pesticides:

- ***Surrogate Recovery:*** Sample TP-6-8.5 (480-113231-4) displayed high surrogate recoveries for Decachlorobiphenyl (DCB) on both columns. The "J+" qualifier for positive results was superseded by the "J" qualifier.

- ***Matrix spike/Matrix Spike Duplicate (MS/MSD):*** The soil MS of sample TP-6-4 (480-113231-3) displayed low recovery for 4,4'-DDt. The "J-" qualifier for positive result in the parent sample was superseded by the "J" qualifier.

NOTES

- ***Blank Contaminants:*** The maximum concentration of all compounds found in the analyses of the trip, field or laboratory method blanks are listed in the following table. Associated

samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.

Analytical Fraction	**Compound**	Maximum Concentration	Units	Blank Type	Associated Samples
Volatile	Methylene Chloride*	77.8	ug/Kg	Method	All
Semivolatile	None				
Pesticides	Methoxychlor	2.50	ug/Kg	Method	All

*Common lab contaminant

Volatile:

- ***Sample Analysis:*** Samples MW-9-21-22.2 (480-113231-1) and TP-6-4 (480-113231-3) were analyzed as medium level to sample matrix or abundance of target compounds. Reporting limits (RLs) were elevated.

Semivolatile:

- ***Sample Analysis:*** All samples were diluted due to sample matrix. Reporting limits (RLs) were elevated.

- ***Surrogate Recovery:*** The surrogates in sample TP-6-4 (480-113231-3) and its MS/MSD were diluted out due to sample dilution, resulting in recoveries outside the QC limits. No action was taken.

Pesticides:

- ***Sample Analysis:*** Samples TP-6-4 (480-113231-3) and its MS/MSD, TP-6-8.5 (480-113231-4), TP-7-3.5 (480-113231-5) and TP-7-8.5 (480-113231-6) were diluted due to sample matrix. Reporting limits (RLs) were elevated.

- ***Surrogate Recovery:*** The surrogates in samples TP-6-4 (480-113231-3) and its MS/MSD, TP-7-3.5 (480-113231-5) and TP-7-8.5 (480-113231-6) were diluted out due to sample dilution, resulting in recoveries outside the QC limits. No action was taken.

INORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Inorganic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

Parameters		C		
		q	t	a
*	Data Completeness		6	0
*	Holding Time		6	0
*	Calibration Verification		6	0
*	Laboratory and Field Blanks analyses		6	0
	Matrix Spike recoveries (MS)	x	6	1
*	Laboratory and Field Duplicates		6	0
*	Laboratory Control Sample(LCS)		6	0
*	Analyte Identification		6	0
*	Analyte Quantitation		6	0
*	Sample Preservation		6	0
* All Criteria were met for that Parameter, C=CN				

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR ISSUES

- None noted.

MINOR ISSUES

- ***Laboratory and Field Blanks analyses:*** Analytes detected in the laboratory and/or equipment blanks, that affect sample results, with concentration above the instrument detection limit (IDL) are listed below. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.
-

Analyte	Blank Type

CB = Container Blank
PB = Preparation Blank
ICB = Initial Calibration Blank

CCB = Continuing Calibration Blank
FB = Field Blank
EB = Equipment Blank

- ***Matrix spike/Matrix Spike Duplicate (MS/MSD):*** The soil MS of sample TP-6-4 (480-113231-3) displayed low recovery for CN. Quantitation limit in the parent sample was qualified "UJ".

NOTES

- None noted.

8-SDG: 4801133611-GJC

This SDG consisted of four (4) soil & one (1) aqueous samples submitted to TestAmerica Laboratories, Amherst, NY, for Volatile, Semivolatile, Pesticides & Cyanide (CN) analyses according to SW-846 Methods 8260, 8270D, 8081B & 9012B, respectively. One (1) trip & one (1) field blanks; and one (1) soil field duplicate pair were identified in this sample set. The samples were analyzed in accordance with the Chain-of-Custody (COC), see Sample Identification Summary.

Sample Identification Summary

SAMPLE INFORMATION				Analysis			
Field ID	**Lab ID**	**SDG**	**Matrix**	**V**	**S**	**P**	**C**
MW-7D-29-30.2	480-113361-01	4801133611-GJC	Soil	x	x	x	x
MW-7S-20-21.4	480-113361-02		Soil	x	x	x	x
FB-021017	480-113361-03		Soil	x	x	x	x
DUP-020917	480-113361-04		Soil	x	x	x	x
TRIP BLANK-20170211	480-113361-05		Soil	x	x	x	x

V=Volatile, S=Semivolatile, P=Pesticides, C=CN

Duplicates: MW-7D-29-30.2/DUP-021017

- ***Field Duplicates:*** For the associated soil samples, an RPD of 30% was used as the QC limit for results >5x the CRQL; and for results <5x the CRQL, the difference between the two values must be less than the CRQL. Results < the CRQL have "NA", not applicable, placed in the RPD field.

Compound	**MW-7D-29-30.2**	**DUP-021017**	**RPD**	**Qualifier**
Volatile				
1,1,2,2-Tetrachloroethane	ND	90	NA	J, UJ
1,2-Dibromo-3-chloropropane (DBCP)	ND	41 J	NA	
Benzene	ND	19 J	NA	
Isopropylbenzene (Cumene)	ND	11 J	NA	
Styrene	25 J	28 J	11	
Toluene	23 J	33 J	36	
Xylenes, total	ND	64	NA	
Semivolatile				
2-Methylnaphthalene	ND	110 J	NA	
Acenaphthene	ND	160 J	NA	
Benzo(a)anthracene	ND	47 J	NA	
Benzo(a)pyrene	ND	38 J	NA	
Benzo(b)fluoranthene	ND	40 J	NA	
Benzo(g,h,i)perylene	ND	21 J	NA	
Chrysene	ND	50 J	NA	
Fluoranthene	ND	85 J	NA	
Naphthalene	ND	150 J	NA	
Phenanthrene	ND	110 J	NA	
Pyrene	ND	160 J	NA	

Pesticides				
	ND	ND	NA	
CN	ND	ND	NA	

ND=None Detected NA=Not Applicable

ORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. All instruments and method sensitivities were according to the specified analytical methods, except as noted in the Major Problem section. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

	Parameters	V			S			P		
		q	t	a	q	t	a	q	t	a
*	Data Completeness		5	0		4	0		4	0
*	Holding Time		5	0		4	0		4	0
*	Instrument Performance (BFB/DFTPP)		5	0		4	0		4	0
	Calibrations	x	5	5	x	4	4		4	0
	Laboratory and Field Blanks analyses	x	5	3		4	0		4	0
*	Surrogate Recoveries		5	0		4	0		4	0
*	Matrix Spike/Matrix Spike Duplicate		5	0		4	0		4	0
	Laboratory Control Sample(LCS)	x	5	3		4	0		4	0
	Laboratory and/or Field Duplicates	x	5	2		4	0		4	0
*	Internal Standards		5	0		4	0		4	0
*	Compound Identification		5	0		4	0		4	0
*	Compound Quantitation		5	0		4	0		4	0
*	Sample Preservation		5	0		4	0		4	0

* All Criteria were met for that Parameter, V=Volatile, S=Semivolatile, P=Pesticides

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR PROBLEMS

- None noted.

MINOR PROBLEMS

Volatile:

- ***Calibrations:*** The continuing calibration associated with batch 480-343589 failed the %D precision criteria of 20% for Chloromethane, Carbon tetrachloride, 1,1,2-Trichloro-1,2,2-trifluoroethane. No positive results were detected in the associated aqueous samples, FB-021017 (480-113361-3) and TRIP BLANK (480-113361-5). Quantitation limits for this compound in the associated samples, were qualified "UJ".

  The continuing calibration associated with batch 480-343754 failed the %D precision criteria of 20% for Methylene Chloride. Positive results & quantitation limits for this compound in the associated samples, MW-7D-29-30.2 (480-113361-1), MW-7S-20-21.4 (480-113361-2)

and DUP-020917 (480-113361-4), were qualified "J+" & "UJ", respectively, unless the "J+" qualifier was superseded by the "U1" qualifier.

- ***Laboratory Control Sample (LCS):*** The soil LCS displayed high recovery for Methylene Chloride due to laboratory contamination. However, the "J+" qualifier for this compound in all associated soil samples was superseded by the "U1" qualifier.

Semivolatile:

- ***Calibrations:*** The continuing calibration associated with batch 480-344148 failed the %D precision criteria of 20% for 4-Nitroaniline & Hexachlorobenzene. No positive results were detected in the associated aqueous sample, FB-021017 (480-113361-3). Quantitation limits for these compounds, in the associated sample, were qualified "UJ".

  The continuing calibration associated with batch 480-343754 failed the %D precision criteria of 20% for 2-Methylphenol and Pentachlorophenol. No positive results were detected for these compounds in the associated soil samples, MW-7D-29-30.2 (480-113361-1), MW-7S-20-21.4 (480-113361-2) and DUP-020917 (480-113361-4). Quantitation limits for these compounds, in the associated samples, were qualified "UJ".

Pesticides:

- None noted.

NOTES

- ***Blank Contaminants:*** The maximum concentration of all compounds found in the analyses of the trip, field or laboratory method blanks are listed in the following table. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.

Analytical Fraction	**Compound**	Maximum Concentration	Units	Blank Type	Associated Samples
Volatile	Methylene Chloride*	716	ug/Kg	Method	All
Semivolatile	None				
Pesticides	None				

*Common lab contaminant

Volatile:

- ***Sample Analysis:*** Samples MW-7D-29-30.2 (480-113361-1), MW-7S-20-21.4 (480-113361-

2) and DUP-020917 (480-113361-4) were analyzed as medium level either to bring some compounds within the calibration range or due to the nature of the sample matrix.

Semivolatile:

- ***Calibrations:*** The continuing calibration associated with batch 480-343862, associated with aqueous sample FB-021017 (480-113361-3), failed the %D precision criteria of 20% for surrogate 2,4,6-Tribromophenol (Surr). No action was taken.

- ***Sample Analysis:*** Samples MW-7D-29-30.2 (480-113361-1) and MW-7S-20-21.4 (480-113361-2) were diluted due to the nature of the sample matrix. Reporting limits (RLs) were elevated.

- ***Laboratory Control Sample (LCS):*** The LCS displayed high concentration above the calibration range for 3,3'-Dichlorobenzidine & Atrazine due to an increase in the spiking concentration. No action was taken.

  The aqueous LCS displayed high recoveries for 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 3,3'-Dichlorobenzidine, 4-Chlorophenyl phenyl ether, 4-Nitroaniline, Atrazine, Benzo(a)anthracene, Dimethyl phthalate and Hexachlorobenzene. No positive results were detected in the associated sample FB-021017 (480-113361-3). No data were qualified.

Pesticides:

- None noted.

INORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Inorganic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

Parameters		C		
		q	t	a
*	Data Completeness		4	0
*	Holding Time		4	0
*	Calibration Verification		4	0
*	Laboratory and Field Blanks analyses		4	0
*	Matrix Spike recoveries (MS)		4	0
*	Laboratory and Field Duplicates		4	0
*	Laboratory Control Sample(LCS)		4	0
*	Analyte Identification		4	0
*	Analyte Quantitation		4	0
*	Sample Preservation		4	0
* All Criteria were met for that Parameter, C=CN				

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR ISSUES

- None noted.

MINOR ISSUES

- ***Laboratory and Field Blanks analyses:*** Analytes detected in the laboratory and/or equipment blanks, that affect sample results, with concentration above the instrument detection limit (IDL) are listed below. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.
-

Analyte	Blank Type

CB = Container Blank
PB = Preparation Blank
ICB = Initial Calibration Blank

CCB = Continuing Calibration Blank
FB = Field Blank
EB = Equipment Blank

NOTES

- None noted.

9-SDG: 4801134611-GJC

This SDG consisted of one (1) soil sample submitted to TestAmerica Laboratories, Amherst, NY, for Volatile, Semivolatile, Pesticides & Cyanide (CN) analyses according to SW-846 Methods 8260, 8270D, 8081B & 9012B, respectively. No field duplicate pairs were identified in this SDG. The samples were analyzed in accordance with the Chain-of-Custody (COC), see Sample Identification Summary.

Sample Identification Summary

SAMPLE INFORMATION				Analysis			
Field ID	**Lab ID**	**SDG**	**Matrix**	**V**	**S**	**P**	**C**
MW-5S-19-20.3	480-113461-01	4801134611-GJC	Soil	x	x	x	x

V=Volatile, S=Semivolatile, P=Pesticides, C=CN

Duplicates: NA

ORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. All instruments and method sensitivities were according to the specified analytical methods, except as noted in the Major Problem section. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

	Parameters	V			S			P		
		q	t	a	q	t	a	q	t	a
*	Data Completeness		1	0		1	0		1	0
*	Holding Time		1	0		1	0		1	0
*	Instrument Performance (BFB/DFTPP)		1	0		1	0		1	0
	Calibrations		1	0	x	1	1		1	0
*	Laboratory and Field Blanks analyses		1	0		1	0		1	0
*	Surrogate Recoveries		1	0		1	0		1	0
*	Matrix Spike/Matrix Spike Duplicate		1	0		1	0		1	0
*	Laboratory Control Sample(LCS)		1	0		1	0		1	0
*	Laboratory and/or Field Duplicates		1	0		1	0		1	0
*	Internal Standards		1	0		1	0		1	0
*	Compound Identification		1	0		1	0		1	0
*	Compound Quantitation		1	0		1	0		1	0
*	Sample Preservation		1	0		1	0		1	0

* All Criteria were met for that Parameter, V=Volatile, S=Semivolatile, P=Pesticides

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR PROBLEMS

- None noted.

MINOR PROBLEMS

Volatile:

- None noted.

Semivolatile:

- ***Calibrations:*** The continuing calibration associated with batch 480-343754 failed the %D precision criteria of 20% for 2-Methylphenol and Pentachlorophenol. No positive results were detected for these compounds in the associated soil sample, MW-5S-19-20.3 (480-113461-1) . Quantitation limits for these compounds, in the associated sample, were qualified "UJ".

Pesticides:

- None noted.

NOTES

- ***Blank Contaminants:*** The maximum concentration of all compounds found in the analyses of the trip, field or laboratory method blanks are listed in the following table. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.

Analytical Fraction	**Compound**	Maximum Concentration	Units	Blank Type	Associated Samples
Volatile	None				
Semivolatile	None				
Pesticides	None				

*Common lab contaminant

Volatile:

- ***Sample Analysis:*** Sample MW-5S-19-20.3 (480-113461-1) was analyzed as medium level and diluted to bring target compounds within the calibration range.

Semivolatile:

- ***Sample Analysis:*** Sample MW-5S-19-20.3 (480-113461-1) was diluted to bring target compounds within the calibration range.

- ***Laboratory Control Sample (LCS):*** The LCS displayed high concentration above the calibration range for Atrazine due to an increase in the spiking concentration. No action was taken.

Pesticides:

- ***Sample Analysis:*** Sample MW-5S-19-20.3 (480-113461-1) was analyzed as medium level and diluted to sample matrix nature.

- ***Surrogate Recovery:*** The surrogates in sample MW-5S-19-20.3 (480-113461-1) were diluted out due to sample dilution, resulting in recoveries outside the QC limits. No action was taken.

INORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Inorganic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

Parameters		C		
		q	t	a
*	Data Completeness		1	0
*	Holding Time		1	0
*	Calibration Verification		1	0
*	Laboratory and Field Blanks analyses		1	0
*	Matrix Spike recoveries (MS)		1	0
*	Laboratory and Field Duplicates		1	0
*	Laboratory Control Sample(LCS)		1	0
*	Analyte Identification		1	0
*	Analyte Quantitation		1	0
*	Sample Preservation		1	0
* All Criteria were met for that Parameter, C=CN				

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR ISSUES

- None noted.

MINOR ISSUES

- ***Laboratory and Field Blanks analyses:*** Analytes detected in the laboratory and/or equipment blanks, that affect sample results, with concentration above the instrument detection limit (IDL) are listed below. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.
-

Analyte	Blank Type

CB = Container Blank
PB = Preparation Blank
ICB = Initial Calibration Blank

CCB = Continuing Calibration Blank
FB = Field Blank
EB = Equipment Blank

NOTES

- None noted.

10-SDG: 4801140211-GJC

This SDG consisted of ten (10) aqueous samples submitted to TestAmerica Laboratories, Amherst, NY, for Volatile, Semivolatile, Pesticides & Cyanide (CN) analyses according to SW-846 Methods 8260, 8270D, 8081B & 9012B, respectively. One (1) trip blank was identified in this SDG. No field duplicate pairs were identified in this sample set. The samples were analyzed in accordance with the Chain-of-Custody (COC), see Sample Identification Summary.

Sample Identification Summary

SAMPLE INFORMATION				Analysis			
Field ID	**Lab ID**	**SDG**	**Matrix**	**V**	**S**	**P**	**C**
MW-4-20170228	480-114021-01	4801140211-GJC	Aqueous	x	x	x	x
MW-1S-REP-20170228	480-114021-02		Aqueous	x	x	x	x
MW-1D-20170228	480-114021-03		Aqueous	x	x	x	x
MW-9-20170228	480-114021-04		Aqueous	x	x	x	x
MW-10-20170228	480-114021-05		Aqueous	x	x	x	x
MW-4D-20170228	480-114021-06		Aqueous	x	x	x	x
MW-1-20170228	480-114021-07		Aqueous	x	x	x	x
MW-3R-20170228	480-114021-08		Aqueous	x	x	x	x
MW-6S-20170228	480-114021-09		Aqueous	x	x	x	x
TRIP BLANK_20170228	480-114021-10		Aqueous	x			

V=Volatile, S=Semivolatile, P=Pesticides, C=CN

Duplicates: N/A

ORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. All instruments and method sensitivities were according to the specified analytical methods, except as noted in the Major Problem section. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

	Parameters	V			S			P		
		q	t	a	q	t	a	q	t	a
*	Data Completeness		10	0		9	0		9	0
*	Holding Time		10	0		9	0		9	0
*	Instrument Performance (BFB/DFTPP)		10	0		9	0		9	0
	Calibrations		10	0	x	9	9		9	0
*	Laboratory and Field Blanks analyses		10	0		9	0		9	0
*	Surrogate Recoveries		10	0		9	0		9	0
*	Matrix Spike/Matrix Spike Duplicate		10	0		9	0		9	0
*	Laboratory Control Sample(LCS)		10	0		9	0		9	0
*	Laboratory and/or Field Duplicates		10	0		9	0		9	0
*	Internal Standards		10	0		9	0		9	0
*	Compound Identification		10	0		9	0		9	0
*	Compound Quantitation		10	0		9	0		9	0
*	Sample Preservation		10	0		9	0		9	0

* All Criteria were met for that Parameter, V=Volatile, S=Semivolatile, P=Pesticides

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR PROBLEMS

- None noted.

MINOR PROBLEMS

Volatile:

- None noted.

Semivolatile:

- ***Calibrations:*** The continuing calibration associated with batch 480-345928 failed the %D precision criteria of 20% for 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 4-Chlorophenyl

phenyl ether, 4-Nitrophenol, Atrazine, Diethyl phthalate, Dimethyl phthalate, Hexachlorobutadiene, bis (2-chloroisopropyl) ether and Hexachlorocyclopentadiene. Positive results & quantitation limits for theses compounds in the associated samples, MW-4 (480-114021-1), MW-1S-REP (480-114021-2), MW-1D (480-114021-3), MW-9 (480-114021-4), MW-10 (480-114021-5), MW-4D (480-114021-6), MW-1 (480-114021-7), MW-3R (480-114021-8) and MW-6S (480-114021-9), were qualified "J+" & "UJ", respectively, in these samples, unless superseded by the "J" qualifier.

Pesticides:

- None noted.

NOTES

- ***Blank Contaminants:*** The maximum concentration of all compounds found in the analyses of the trip, field or laboratory method blanks are listed in the following table. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.

Analytical Fraction	**Compound**	Maximum Concentration	Units	Blank Type	Associated Samples
Volatile	None				
Semivolatile	None				
Pesticides	None				

*Common lab contaminant

Volatile:

- None noted.

Semivolatile:

- ***Calibrations:*** The continuing calibration associated with batch 480-345928, associated with all samples, failed the %D precision criteria of 20% for surrogate 2,4,6-Tribromophenol. No action was taken.

- ***Sample Analysis:*** Samples MW-7D-29-30.2 (480-113361-1) and MW-7S-20-21.4 (480-113361-2) were diluted due to the nature of the sample matrix. Reporting limits (RLs) were elevated.

- ***Laboratory Control Sample (LCS):*** The LCS displayed high concentration above the calibration range for 3,3'-Dichlorobenzidine & Atrazine due to an increase in the spiking

concentration. No action was taken.

- ***Surrogate Recovery:*** The analyses of samples MW-1S-REP (480-114021-2), MW-1D (480-114021-3), MW-1 (480-114021-7) and MW-6S (480-114021-9) displayed high recoveries for acid surrogate 2,4,6-Tribromophenol, which could be attributed to this surrogate failing the %D precision criteria in the continuing calibration, as stated above. No positive results for any acid compounds were detected in these sample. No data were qualified.

Pesticides:

- None noted.

INORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Data Review, dated October 2004; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance Project Plan (QAPP), dated February 2016, and in the analytical methods used for the analyses. All instruments and method sensitivities were according to the specified analytical methods. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

Parameters		C		
		q	t	a
*	Data Completeness		9	0
*	Holding Time		9	0
*	Calibration Verification		9	0
*	Laboratory and Field Blanks analyses		9	0
*	Matrix Spike recoveries (MS)		9	0
*	Laboratory and Field Duplicates		9	0
*	Laboratory Control Sample(LCS)		9	0
*	Analyte Identification		9	0
*	Analyte Quantitation		9	0
*	Sample Preservation		9	0
* All Criteria were met for that Parameter, C=CN				

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR ISSUES

- None noted.

MINOR ISSUES

- ***Laboratory and Field Blanks analyses:*** Analytes detected in the laboratory and/or equipment blanks, that affect sample results, with concentration above the instrument detection limit (IDL) are listed below. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.

Analyte	Blank Type

CB = Container Blank
PB = Preparation Blank

ICB = Initial Calibration Blank
CCB = Continuing Calibration Blank
FB = Field Blank
EB = Equipment Blank

NOTES

- None noted.

11-SDG: 4801141301-GJC

This SDG consisted of sixteen (16) aqueous samples submitted to TestAmerica Laboratories, Amherst, NY, for Volatile, Semivolatile, Pesticides & Cyanide (CN) analyses according to SW-846 Methods 8260, 8270D, 8081B & 9012B, respectively. One (1) trip & two (2) field blanks; and two (2) aqueous field duplicate pairs were identified in this sample set. The samples were analyzed in accordance with the Chain-of-Custody (COC), see Sample Identification Summary.

Sample Identification Summary

SAMPLE INFORMATION				Analysis			
Field ID	**Lab ID**	**SDG**	**Matrix**	**V**	**S**	**P**	**C**
MW-6D-20170301	480-114130-01	4801141301-GJC	Aqueous	x	x	x	x
MW-7S-20170301	480-114130-02		Aqueous	x	x	x	x
MW-7D-20170301	480-114130-03		Aqueous	x	x	x	x
MW-8S-20170301	480-114130-04		Aqueous	x	x	x	x
MW-8D-20170301	480-114130-05		Aqueous	x	x	x	x
MW-4S-20170301	480-114130-06		Aqueous	x	x	x	x
FB_20170301	480-114130-07		Aqueous	x	x	x	x
DUP_20170301	480-114130-08		Aqueous	x	x	x	x
TB_20170301	480-114130-09		Aqueous	x			
MW-2D-20170302	480-114130-10		Aqueous	x	x	x	x
MW-2S-20170302	480-114130-11		Aqueous	x	x	x	x
MW-5S-20170302	480-114130-12		Aqueous	x	x	x	x
MW-5-20170302	480-114130-13		Aqueous	x	x	x	x
MW-3S-20170302	480-114130-14		Aqueous	x	x	x	x
FB_20170302	480-114130-15		Aqueous	x	x	x	x
DUP_20170302	480-114130-16		Aqueous	x	x	x	x

V=Volatile, S=Semivolatile, P=Pesticides, C=CN

Duplicates: MW-6D-20170301/DUP-20170301
MW-5-20170302/DUP-20100302

- ***Field Duplicates:*** For the associated aqueous samples, an RPD of 20% was used as the QC limit for results >5x the CRQL; and for results <5x the CRQL, the difference between the two values must be less than the CRQL. Results < the CRQL have "NA", not applicable, placed in the RPD field.

Compound	MW-6D-20170301	DUP-20170301	RPD	Qualifier
Volatile				
Acetone	3.5 J	4.3 J	NA	
Isopropylbenzene (Cumene)	3.1	3.1	0	
Xylene, total	1.2 J	1.2 J	NA	
Semivolatile				
Acenaphthene	3.5 J	2.8 J	NA	
Acetophenone	0.61 J	0.55 J	NA	
Fluoranthene	0.47 J	0.40 J	NA	
Fluorene	2.3 J	ND	NA	

Naphthalene	2.1 J	1.4 J	NA	
Pesticides				
beta Endosulfan (Endosulfan II)	ND	0.13 J	NA	
BHC, alpha	0.079 J	0.10 J 0.028 J	NA	
BHC, gamma (Lindane)	ND	0.11 J	NA	
CN	ND	ND	NA	
	MW-5-20170302	**DUP-20170302**		
Volatile				
Acetone	6.0	ND	NA	
Benzene	61	60	2	
Isopropylbenzene (Cumene)	5.9	5.9	0	
Methylene chloride	1.5	1.7	NA	
Toluene	6.2	6.5	5	
Xylenes, total	19	18	5	
Semivolatile				
2,4-Dimethylphenol	1.4 J	1.3 J	NA	
2-Methylnaphthalene	5.0 J	4.2 J	NA	
4-Methylphenol	1.3 J	1.2 J	NA	
Acetophenone	0.92 J	0.88 J	NA	
Anthracene	0.99 J	0.92 J	NA	
Benzo(b)fluoranthene	0.52 J	ND	NA	
Carbazole	0.85 J	0.65 J	NA	
Dibenzofuran	1.5 J	1.1 J	NA	
Fluoranthene	1.3 J	1.2 J	NA	
Fluorene	2.1 J	1.8 J	NA	
Naphthalene	130	120	8	
Phenanthrene	3.1 J	2.8 J	NA	
Phenol	3.1 J	2.5 J	NA	
Pyrene	0.70 J	0.59 J	NA	
Pesticides				
BHC, alpha	ND	0.028 J	NA	
CN	ND	ND	NA	

ND=None Detected NA=Not Applicable

ORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. All instruments and method sensitivities were according to the specified analytical methods, except as noted in the Major Problem section. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

	Parameters	V			S			P		
		q	t	a	q	t	a	q	t	a
*	Data Completeness		16	0		15	0		15	0
*	Holding Time		16	0		15	0		15	0
*	Instrument Performance (BFB/DFTPP)		16	0		15	0		15	0
	Calibrations	x	16	16	x	15	15	x	15	1
*	Laboratory and Field Blanks analyses		16	0		15	0		15	0
*	Surrogate Recoveries		16	0		15	0		15	0
*	Matrix Spike/Matrix Spike Duplicate		16	0		15	0		15	0
*	Laboratory Control Sample(LCS)		16	0		15	0		15	0
*	Laboratory and/or Field Duplicates		16	0		15	0		15	0
*	Internal Standards		16	0		15	0		15	0
*	Compound Identification		16	0		15	0		15	0
*	Compound Quantitation		16	0		15	0		15	0
*	Sample Preservation		16	0		15	0		15	0

* All Criteria were met for that Parameter, V=Volatile, S=Semivolatile, P=Pesticides

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR PROBLEMS

- None noted.

MINOR PROBLEMS

Volatile:

- ***Calibrations:*** The continuing calibration associated with batch 480-346764 failed the %D precision criteria of 20% for Chloromethane. No positive results were detected in associated samples, all samples. Quantitation limits for this compounds in the associated samples, MW-6D (480-114130-1), MW-7S (480-114130-2), MW-7D (480-114130-3), MW-8S (480-114130-4), MW-8D (480-114130-5), MW-4S (480-114130-6), FB_20170301 (480-114130-7), DUP_20170301 (480-114130-8), TB_20170301 (480-114130-9), MW-2D (480-114130-10), MW-2S (480-114130-11), MW-5S (480-114130-12), MW-5 (480-114130-13), MW-3S (480-114130-14), FB_20170302 (480-114130-15) and DUP_20170302 (480-114130-16), were qualified "UJ".

Semivolatile:

- ***Calibrations:*** The continuing calibration associated with batch 480-346253 failed the %D precision criteria of 20% for Hexachlorocyclopentadiene. No positive results were detected in the associated samples, MW-6D (480-114130-1), MW-7S (480-114130-2), MW-7D (480-114130-3), MW-8S (480-114130-4), MW-8D (480-114130-5), MW-4S (480-114130-6), FB_20170301 (480-114130-7), DUP_20170301 (480-114130-8), MW-2D (480-114130-10), MW-2S (480-114130-11), MW-5S (480-114130-12), MW-5 (480-114130-13), MW-3S (480-114130-14), FB_20170302 (480-114130-15) and DUP_20170302 (480-114130-16). Quantitation limits for this compound in all samples were qualified "UJ".

Pesticides:

- ***Calibrations:*** The continuing calibration associated with batch 480-346623/2 failed the %D precision criteria for Endrin. No positive results were detected in the associated sample DUP_20170302 (480-114130-16). Quantitation limits for this compound in this sample was qualified "UJ".

NOTES

- ***Blank Contaminants:*** The maximum concentration of all compounds found in the analyses of the trip, field or laboratory method blanks are listed in the following table. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.

Analytical Fraction	**Compound**	Maximum Concentration	Units	Blank Type	Associated Samples
Volatile	None				
Semivolatile	Di-n-Butylphthalate *	0.73	ug/L	Method, Field	All Samples
Pesticides	None				

*Common lab contaminant

Volatile:

- ***Sample Analysis:*** Samples MW-5S (480-114130-12), MW-5 (480-114130-13), MW-3S (480-114130-14) and DUP_20170302 (480-114130-16) were diluted to bring the concentration of target analytes within the calibration range: Elevated reporting limits (RLs) were provided.

Semivolatile:

- ***Calibrations:*** The continuing calibration associated with batch 480-346253 failed the %D precision criteria of 20% for for 2,4-Dinitrophenol, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 4-Chlorophenyl phenyl ether and Hexachlorocyclopentadiene. No positive results were reported from the associated samples, MW-5S (480-114130-12), MW-5 (480-114130-13) and DUP_20170302 (480-114130-16). No data were qualified.

- ***Sample Analysis:*** Samples MW-8S (480-114130-4), MW-2S (480-114130-11), MW-5S (480-114130-12), MW-5 (480-114130-13), MW-3S (480-114130-14) and DUP_20170302 (480-114130-16) were diluted due to the nature of the sample matrix or to bring compounds concentration within the calibration range. Reporting limits (RLs) were elevated.

- ***Laboratory Control Sample (LCS):*** The LCS displayed high concentration above the calibration range for 3,3'-Dichlorobenzidine due to an increase in the spiking concentration. No action was taken.

- ***Surrogate Recovery:*** Samples MW-2S (480-114130-11), MW-5S (480-114130-12), and MW-3S (480-114130-14) had their surrogates diluted out due to sample dilution. No action was taken.

- ***Matrix spike/Matrix Spike Duplicate (MS/MSD):*** The MS/MSDs of samples Lab ID# 480-114130-3 & -10 displayed RPDs outside the QC limits for several compounds (see Form III in the data package for the affected compounds). No positive results for these compounds were detected in the parent samples. No data were qualified.

Pesticides:

- ***Sample Analysis:*** Samples MW-6D (480-114130-1), DUP_20170301 (480-114130-8), MW-5S (480-114130-12), MW-5 (480-114130-13) and DUP_20170302 (480-114130-16) were diluted due to the nature of the sample matrix. Reporting limits (RLs) were elevated.

- ***Surrogate Recovery:*** Sample MW-6D (480-114130-1) displayed high surrogate recovery for Tetrachloro-m-xylen (TCX) on one column. No positive results were detected in these sample, except for alpha-BHC at a low concentration (0.079 ug/L) below the quantitation limit. No action was taken.

- ***Matrix spike/Matrix Spike Duplicate (MS/MSD):*** The MS/MSDs of samples Lab ID# 480-114130-3 & -10 displayed RPDs outside the QC limits for Endosulfan Sulfate. No positive results for this compound were detected in the parent samples. No data were qualified.

INORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Data Review, dated October 2004; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance Project Plan (QAPP), dated February 2016, and in the analytical methods used for the analyses. All instruments and method sensitivities were according to the specified analytical methods. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

Parameters		C		
		q	t	a
*	Data Completeness		15	0
*	Holding Time		15	0
*	Calibration Verification		15	0
	Laboratory and Field Blanks analyses	x	15	14
	Matrix Spike recoveries (MS)	x	15	2
*	Laboratory and Field Duplicates		15	0
*	Laboratory Control Sample(LCS)		15	0
*	Analyte Identification		15	0
*	Analyte Quantitation		15	0
*	Sample Preservation		15	0
* All Criteria were met for that Parameter, C=CN				

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR ISSUES

- None noted.

MINOR ISSUES

- ***Laboratory and Field Blanks analyses:*** Analytes detected in the laboratory and/or equipment blanks, that affect sample results, with concentration above the instrument detection limit (IDL) are listed below. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.

Analyte	Blank Type
CN	PB, FB

CB = Container Blank
PB = Preparation Blank

ICB = Initial Calibration Blank
CCB = Continuing Calibration Blank
FB = Field Blank
EB = Equipment Blank

Since the CN blank contamination affected all samples, and some of the samples have a significant high concentration that would be affected by this blank contamination, the issue was discussed with the project manager. Based on the discussion and the historical evaluation of these samples/locations, it is the validator's professional judgement not to qualify the positive results as "U1", but as estimated high "J+". Further specific evaluation/investigation, by the project manager, for each sample location is recommended if needed

.

- ***Matrix spike/Matrix Spike Duplicate (MS/MSD):*** The MS/MSDs of samples Lab ID# 480-114130-3 & -10 displayed recoveries outside the QC limits for Cyanide. The "J+" qualifier for positive results was superseded by the "U1" qualifier.

NOTES

- ***Holding Time:*** Cyanide was detected in the initial analysis of the field blank FB_20170301 (480-114130-7). The sample was reanalyzed outside the holding time with no detects. However, results were reported from the initial analysis.

REPORT CONTENT STATEMENT

All data for this project were reviewed in accordance with the pertinent parts of the U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review & USEPA National Functional Guidelines for Inorganic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. The text of the report addresses only those problems affecting data usability.

ATTACHMENTS

l) Glossary of Data Qualifiers
2) Electronic Data Deliverable (EDD). These include:
   (a) All results for target compounds with qualifier codes where applicable.
   (b) All unusable detection limits (qualified "R"), where applicable.
3) Electronic Data Package (.pdf file) as Support Documentation

DCN: BC031701-6991

Respectfully Submitted,

Sherif N. Mina Date: July 21, 2017
Sherif N. Mina

QA/Review: SM

CONTENTS

- GLOSSARY OF ACRONYMS & TERMS
- COMMUNICATION RECORDS
- GLOSSARY OF DATA VALIDATION QUALIFIERS
- REASON CODES
- DATA VALIDATION REPORT NARRATIVE
- ELECTRONIC DATA DELIVERABLE (EDD) with applicable qualifiers, Refer to the EDD Excel file.
- SUPPORT DOCUMENTATION, Refer to the electronic Data Package PDF file.

GLOSSARY OF ACRONYMS & TERMS

GLOSSARY OF ACRONYMS & TERMS

One or more of the following acronyms and terms may have been used in the descriptive process of the **Organic** Data Validation.

Acronyms:

BFB	Bromofluorobenzene (volatile instrument performance check)
BNA	Base/Neutral/Acid
CCCs	Calibration Check Compounds
CF	Calibration Factor
CLP	Contract Laboratory Program
COC	Chain of Custody
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
CSF	Complete SDG File
%D	Percent Difference
DCB	Decachlorobiphenyl (Pesticide/PCB/ surrogate compound)
DFTPP	Decafluorotriphenylphosphine (semivolatile instrument performance check)
DSF	Data Summary Form
ECD	Electron-Capture Detector
EICP	Extended Ion Current Profile
EPA	United States Environmental Protection Agency
GC	Gas Chromatography
GC/EC	Gas Chromatography/Electron Capture
GC/MS	Gas Chromatography/Mass Spectra
GPC	Gel Permeation Chromatography (Clean Up)
ICAL	Initial Calibration
IS	Internal Standard
LCS	Laboratory Control Sample
LCL	Lower Control Limit
MCL	Maximum Contamination Level
MDL	Method Detection Limit
MS/MSD	Matrix Spike/Matrix Spike Duplicate
m/z	The ratio of mass (m) to charge (z) of ions measured by GC/MS
OADS	Organic Analysis Data Sheet (Form 1)
ORDA	Organic Regional Data Assessment
PCB	Poly Chlorinated Biphenyl
PEM	Performance Evaluation Mixture

QA/QC	Quality Assurance/Quality Control
QAPjP	Quality Assurance Project Plan
QC	Quality Control
%R	Percent Recovery of spiked amount
RF	Response Factor
RIC	Reconstructed Ion Chromatogram
RPD	Relative Percent Difference
RRF	Relative Response Factor
RSD	Relative Standard Deviation
RT	Retention Time
RTW	Retention Time Window
SDG	Sample Delivery Group
SMC	System Monitoring Compound
SOP	Standard Operation Procedures
SOW	Statement of Work
SPCCs	System Performance Check Compounds
SSL	Samples Shipping Log
SVOA	Semivolatile Organic Analyte
TCL	Target Compound List
TCX	Tetrachloro-m-Xylene (Pesticide/PCB surrogate compound)
TIC	Tentatively Identified Compound
TPH	Total Petroleum Hydrocarbons
UCL	Upper Control Limit
VOA	Volatile Organic Analyte
VTSR	Validated Time of Sample Receipt

Terms:

Associated Samples

Any sample related to a particular QC analysis.

Case A finite, usually predetermined number of samples collected over a given time period for a particular site. A Case consists of one or more Sample Delivery Group(s).

Contractual Holding Time

The time from VTSR (validated time of sample receipt) to laboratory extraction and /or analysis.

Data Validation Qualifier (DVQ)

This refers to the column on the data summary form in which EPA Region III and other qualifiers have been placed by the data validator.

Data Validation Result (DVR)

This refers to the column on the data summary form used to report results that have been modified by the data validator. A result in the DVR column that is qualified "U" indicates a modification of the reporting limit.

Field Blank Field blanks are intended to identify contaminants that may have been introduced in the field. Examples are rinsate blank (RB), field blanks (FB) and trip blank (TB).

Field Duplicate

A duplicate sample generated in the field; not in the laboratory.

Initial Calibration (ICAL)

The establishment of a calibration curve with the appropriate number of standards and concentration ranges. The calibration curve plots absorbances and/or emissions versus concentration of the standards. .

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Introduction of a known concentration of a compound into a sample to provide information about the effect of sample matrix on the extraction and/or measurement methodology.

Performance Evaluation Mixture

A standard used to verify that the ICAL sequence is stable throughout the GC or GC/MS analyses.

Sample Delivery Group (SDG)

Defined by one of the following, whichever occurs first:
- case of sample
- each twenty field samples in a case or
- each 14-day calendar period during which field samples in a case are received, beginning with the receipt of the first sample in the SDG.

Technical Holding Time

The time from sample collection to laboratory extraction and /or analysis

GLOSSARY OF ACRONYMS & TERMS

One or more of the following acronyms and terms may have been used in the descriptive process of the **Inorganic** Data Validation.

Acronyms:

AA	Atomic Absorption
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CF	Calibration Factor
CLP	Contract Laboratory Program
COC	Chain of Custody
CRDL	Contract Required Detection Limit
CSF	Complete SDG File
CV	Cold Vapor
%D	Percent Difference
EPA	United States Environmental Protection Agency
ICAL	Initial Calibration
ICB	Initial Calibration Blank
ICP	Inductively Coupled Plasma
ICS	Interference Check Sample
ICV	Initial Calibration Verification
IDL	Instrument Detection Limit
LCS	Laboratory Control Sample
LCL	Lower Control Limit
MCL	Maximum Contamination Level
MDC	Minimum Detectable Concentration
MDL	Method Detection Limit
MS/MSD	Matrix Spike/Matrix Spike Duplicate
MSA	Method of Standard Addition
PB	Preparation Blank
PCB	Poly Chlorinated Biphenyl
QA/QC	Quality Assurance/Quality Control
QAPjP	Quality Assurance Project Plan
QC	Quality Control

%R	Percent Recovery of spiked amount
RPD	Relative Percent Difference
RRF	Relative Response Factor
RSD	Relative Standard Deviation
SDG	Sample Delivery Group
SOP	Standard Operation Procedures
SOW	Statement of Work
SSL	Samples Shipping Log
TAL	Target Analyte List
UCL	Upper Control Limit
VTSR	Validated Time of Sample Receipt

Terms:

Associated Samples

Any sample related to a particular QC analysis. For Example:
- For ICV, all samples run under the same calibration curve.
- For duplicate RPD, all SDG samples digested/distilled of the same matrix.

Case A finite, usually predetermined number of samples collected over a given time period for a particular site. A Case consists of one or more Sample Delivery Group(s).

Continuing Calibration Blank (CCB)

A deionized water sample run every ten (10) samples designed to detect any carryover contamination.

Continuing Calibration Verification (CCV)

A deionized water sample run every ten (10) samples designed to detect any carryover contamination.

Contract Compliance Screening (CCS)

A process in which the SMO inspects the data for contractual compliance and provides EMSL-LV laboratories and the Regions with their findings.

Contractual Holding Time

The time from VTSR (validated time of sample receipt) to laboratory extraction and /or analysis.

Data Validation Qualifier (DVQ)

This refers to the column on the data summary form in which EPA Region III and other qualifiers have been placed by the data validator.

Data Validation Result (DVR)

This refers to the column on the data summary form used to report results that have been modified by the data validator. A result in the DVR column that is qualified "U" indicates a modification of the reporting limit.

Field Blank Field blanks are intended to identify contaminants that may have been introduced in the field. Examples are rinsate blank (RB), field blanks (FB) and trip blank (TB).

Field Duplicate

A duplicate sample generated in the field; not in the laboratory.

Initial Calibration (ICAL)

The establishment of a calibration curve with the appropriate number of standards and concentration ranges. The calibration curve plots absorbancies and/or emissions versus concentration of the standards.

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Initial Calibration Blank (ICB)

First blank run after the calibration curve .

Initial Calibration Verification (ICV)

First standard run after the calibration curve .

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Introduction of a known concentration of a compound into a sample to provide information about the effect of sample matrix on the extraction and/or measurement methodology.

Post Digestion Spike

The addition of known amount of standard after digestion. (Also identified as analytical spike, or spike, for furnace analyses.)

Preparation Blank (PB)

Blank taken through the digestion process to detect internal laboratory contamination.

Sample Delivery Group (SDG)

Defined by one of the following, whichever occurs first:
- case of sample
- each twenty field samples in a case or
- each 14-day calendar period during which field samples in a case are received, beginning with the receipt of the first sample in the SDG.

Serial Dilution

A sample run at a specific dilution to determine whether any significant chemical or physical interferences exist due to sample matrix effect, for ICP only.

Technical Holding Time

The time from sample collection to laboratory extraction and /or analysis.

COMMUNICATION RECORDS

N/A

GLOSSARY OF DATA VALIDATION QUALIFIERS

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATED TO IDENTIFICATION:

(Confidence concerning presence or absence of compounds)

U	=	Not detected above the level of the associated value. The associated value is either the approximate sample quantitation or detection limit.
NO CODE	=	Confirmed identification
U1	=	Not detected substantially above the level reported in laboratory or field blanks.
R	=	Unusable results. Analyte may or may not be present in the sample.
N	=	Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION:

(Can be used for both positive results and sample quantitation limits)

J	=	Analyte present. Reported value may not be accurate or precise (estimated value).
J+	=	Analyte present. Reported value may be biased high. Result is estimated high.
J-	=	Analyte present. Reported value may be biased low. Result is estimated low.
UJ	=	Not detected. Quantitation limit may be inaccurate or imprecise (Estimated).
UJ-	=	Not detected. Quantitation limit is probably higher.

OTHER CODES:

NJ	=	Qualitative identification questionable. Presumptively present at approximate quantity.
Q	=	No analytical result.
X	=	Data not Validated.

DATA VALIDATION REPORT NARRATIVE

MCGI

Meridian Consultant Group, Inc.
Environmental Services & Data Validation
1997 Annapolis Exchange Pkwy., Suite 300
Annapolis, MD 21401

(301)803-9207 Phone
(4 10)972-4701 Fax
www.meridiancgi.com

DATE: October 29, 2017

SUBJECT: USEPA Organic & Inorganic Data Validation Report
Volatile, Semivolatile, Pesticides & Cyanide (CN)
Lab SDG's No. 4801202381 & 4801205361
Site: Troy, NY (Water St. Site) - Area 3
MCGI Project No. BC031702-2381

FROM: Sherif N. Mina
Meridian Consultant Group, Inc.

TO: Mr. Brian F. Taylor
Brown and Caldwell

OVERVIEW

This report consists of two (2) Sample Delivery Groups (SDGs) for a total of twenty-three (23) aqueous samples submitted to TestAmerica Laboratories, Amherst, NY, for Volatile, Semivolatile, Pesticides & Cyanide (CN) analyses according to SW-846 Methods 8260, 8270D, 8081B & 9012B, respectively. Details about each SDG are listed in separate sections below. The samples were analyzed in accordance with the Chain-of-Custody (COC).

The analytical results were validated according to the pertinent parts of U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review & USEPA National Functional Guidelines for Inorganic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses.

Deviation from USEPA NFG: The "U" qualifier recommended by USEPA NFG for blank contamination was replaced by the "U1" qualifier to clearly indicate blank contamination on the EDDs.

GENERAL NOTES

- ***Electronic Data Deliverable (EDD):*** Several rows in the electronic data deliverable (EDD) are marked with an "X" and hidden from the EDDs by the validator. These rows may include quality control samples such as Method Blanks, Laboratory Control Samples, Matrix Spikes, or Matrix Spike Duplicates which are not validated. Additionally, some field sample results may not be used since only one (1) result for each compound is reported after validation. The following list indicates some instances in which an "X" may be placed in the DVQ column:
  1. The compounds in an analysis that have exceeded the instrument calibration range.
  2. All compounds in a diluted analysis that were within the calibration range in the initial analysis.
  3. All compounds in either the initial analysis or re-analysis of a sample, depending on which analysis is not reported on the EDD.

  Although QC samples and some field samples results may not be used, all data were reviewed and considered in the overall assessment.

- ***Data Validation Qualifier (DVQ)*:**This refers to the column on the data summary form in which EPA and other qualifiers have been placed by the data validator.

- ***Data Validation Result (DVR):***This refers to the column on the data summary form used to report results that have been modified by the data validator. A result in the DVR column that is qualified "U" indicates a modification of the reporting limit. Results in the DVR column supersede those reported by the laboratory.

- ***Tentatively Identified Compounds (TICs):*** The TICs, if applicable, were reviewed during data validation.

- ***Compound Quantitation:*** Positive results for compounds which are below the CRQL were qualified as estimated "J" on the EDD.

1-SDG: 4801202381

This SDG consisted of ten (10) aqueous samples submitted to TestAmerica Laboratories, Amherst, NY, for Volatile, Semivolatile, Pesticides & Cyanide (CN) analyses according to SW-846 Methods 8260, 8270D, 8081B & 9012B, respectively. One (1) trip blank and one (1) aqueous field duplicate pair were identified in this SDG. The samples were analyzed in accordance with the Chain-of-Custody (COC), see Sample Identification Summary.

Sample Identification Summary

SAMPLE INFORMATION				Analysis			
Field ID	**Lab ID**	**SDG**	**Matrix**	**V**	**S**	**P**	**C**
MW-4	480-120238-01	4801202381	Aqueous	x	x	x	x
MW-1S-REP	480-120238-02		Aqueous	x	x	x	x
MW-1D	480-120238-03		Aqueous	x	x	x	x
MW-9	480-120238-04		Aqueous	x	x	x	x
MW-4D	480-120238-05		Aqueous	x	x	x	x
DUP-20170627	480-120238-06		Aqueous	x	x	x	x
MW-10	480-120238-07		Aqueous	x	x	x	x
MW-1	480-120238-08		Aqueous	x	x	x	x
MW-7S	480-120238-09		Aqueous	x	x	x	x
TRIP BLANK	480-120238-10		Aqueous	x			

V=Volatile, S=Semivolatile, P=Pesticides, C=CN

Duplicates: DUP-20170627/MW-4D

- ***Field Duplicates:*** For the associated soil samples, an RPD of 30% was used as the QC limit for results >5x the CRQL; and for results <5x the CRQL, the difference between the two values must be less than the CRQL. Results < the CRQL have "NA", not applicable, placed in the RPD field.

Compound	DUP-20170327	MW-4D	RPD	Qualifier
Volatile				
	ND	ND	NA	
Semivolatile				
	ND	ND	NA	
Pesticides				
	ND	ND	NA	
CN	0.025	0.026	1	

ND=None Detected NA=Not Applicable

ORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. All instruments and method sensitivities were according to the specified analytical methods, except as noted in the Major Problem section. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

	Parameters	V			S			P		
		q	t	a	q	t	a	q	t	a
*	Data Completeness		10	0		9	0		9	0
*	Holding Time		10	0		9	0		9	0
*	Instrument Performance (BFB/DFTPP)		10	0		9	0		9	0
	Calibrations		10	0	x	9	9		9	0
	Laboratory and Field Blanks analyses	x	10	2		9	0		9	0
	Surrogate Recoveries		10	0		9	0	x	9	1
*	Matrix Spike/Matrix Spike Duplicate		10	0		9	0		9	0
*	Laboratory Control Sample(LCS)		10	0		9	0		9	0
*	Laboratory and/or Field Duplicates		10	0		9	0		9	0
*	Internal Standards		10	0		9	0		9	0
*	Compound Identification		10	0		9	0		9	0
*	Compound Quantitation		10	0		9	0		9	0
*	Sample Preservation		10	0		9	0		9	0

* All Criteria were met for that Parameter, V=Volatile, S=Semivolatile, P=Pesticides

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR PROBLEMS

- None noted.

MINOR PROBLEMS

Volatile:

- None noted.

Semivolatile:

- ***Calibrations:*** The continuing calibration, on 06/01/2017 @ 10:36, failed the %D precision criteria of 20% for Phenol, bis(2-Chloroisopropyl)ether, N-Nitroso-di-n-propylamine, Hexachlorobutadiene, 3-Nitroaniline, 4-Nitrophenol & Atrazine. All samples are associated

with this calibration. No positive results were detected in the associated samples for these compounds. Quantitation limits for these compounds in the associated samples were qualified "UJ".

Pesticides:

- ***Surrogate Recovery:*** Samples 480-120238-9 displayed high recovery for surrogate Decachlorobiphenyl (DCB) on one column. The "J+" qualifier for the positive result in this sample was superseded by the "J" qualifier due to low concentrations below the quantitation limits.

NOTES

- ***Blank Contaminants:*** The maximum concentration of all compounds found in the analyses of the trip, field or laboratory method blanks are listed in the following table. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.

Analytical Fraction	**Compound**	Maximum Concentration	Units	Blank Type	Associated Samples
Volatile	Acetone*	3.6	ug/l	Trip	All
Semivolatile	None				
Pesticides	None				

*Common lab contaminant

Volatile:

- None noted.

Semivolatile:

- None noted.

Pesticides:

- ***Surrogate Recovery:*** Sample 480-120238-3 displayed high recovery for surrogate DCB on one column. No positive results were detected in this sample. No data were qualified.

- ***Matrix spike/Matrix Spike Duplicate (MS/MSD):*** The MS/MSD of sample Lab ID# 480-120238-04 displayed high recoveries for several compounds. No positive results for these compounds were detected in the parent sample. No data were qualified.

- ***Laboratory Control Sample (LCS):*** The LCS displayed high recoveries for several compounds. No positive results for these compounds were detected in the associated samples. No data were qualified.

INORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Inorganic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

Parameters		C		
		q	t	a
*	Data Completeness		9	0
*	Holding Time		9	0
*	Calibration Verification		9	0
*	Laboratory and Field Blanks analyses		9	0
	Matrix Spike recoveries (MS)	x	9	1
*	Laboratory and Field Duplicates		9	0
*	Laboratory Control Sample(LCS)		9	0
*	Analyte Identification		9	0
*	Analyte Quantitation		9	0
*	Sample Preservation		9	0
* All Criteria were met for that Parameter, C=CN				

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR ISSUES

- None noted.

MINOR ISSUES

- ***Laboratory and Field Blanks analyses:*** Analytes detected in the laboratory and/or equipment blanks, that affect sample results, with concentration above the instrument detection limit (IDL) are listed below. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.
-

Analyte	Blank Type

CB = Container Blank
PB = Preparation Blank
ICB = Initial Calibration Blank

CCB = Continuing Calibration Blank
FB = Field Blank
EB = Equipment Blank

- ***Matrix spike/Matrix Spike Duplicate (MS/MSD):*** The MS of sample Lab ID# 480-120238-09 displayed low recovery for CN. However, the MS/MSD of sample Lab ID# 480-120238-04 displayed both recoveries within the QC limits. Therefore, only positive results in sample Lab ID# 480-120238-09 was qualified "J-".

NOTES

- None noted.

2-SDG: 4801205361

This SDG consisted of thirteen (13) aqueous samples submitted to TestAmerica Laboratories, Amherst, NY, for Volatile, Semivolatile, Pesticides & Cyanide (CN) analyses according to SW-846 Methods 8260, 8270D, 8081B & 9012B, respectively. One (1) trip & one (1) field blanks were identified in this SDG. No field duplicate pairs were identified in this sample set. The samples were analyzed in accordance with the Chain-of-Custody (COC), see Sample Identification Summary.

Sample Identification Summary

SAMPLE INFORMATION				Analysis			
Field ID	**Lab ID**	**SDG**	**Matrix**	**V**	**S**	**P**	**C**
MW-7D	480-120536-01	4801205361	Aqueous	x	x	x	x
MW-6S	480-120536-02		Aqueous	x	x	x	x
MW-6D	480-120536-03		Aqueous	x	x	x	x
MW-3R	480-120536-04		Aqueous	x	x	x	x
MW-2D	480-120536-05		Aqueous	x	x	x	x
MW-2S	480-120536-06		Aqueous	x	x	x	x
FB	480-120536-07		Aqueous	x	x	x	x
MW-8S	480-120536-08		Aqueous	x	x	x	x
MW-8D	480-120536-09		Aqueous	x	x	x	x
MW-4S	480-120536-10		Aqueous	x	x	x	x
MW-5S	480-120536-11		Aqueous	x	x	x	x
MW-5	480-120536-12		Aqueous	x	x	x	x
TRIP BLANK	480-120536-13		Aqueous	x			

V=Volatile, S=Semivolatile, P=Pesticides, C=CN

Duplicates: N/A

ORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. All instruments and method sensitivities were according to the specified analytical methods, except as noted in the Major Problem section. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

	Parameters	V			S			P		
		q	t	a	q	t	a	q	t	a
*	Data Completeness		13	0		12	0		12	0
*	Holding Time		13	0		12	0		12	0
*	Instrument Performance (BFB/DFTPP)		13	0		12	0		12	0
	Calibrations	x	13	13		12	0		12	0
*	Laboratory and Field Blanks analyses		13	0		12	0		12	0
	Surrogate Recoveries		13	0		12	0	x	12	2
*	Matrix Spike/Matrix Spike Duplicate		13	0		12	0		12	0
	Laboratory Control Sample(LCS)		13	0		12	0	x	12	1
*	Laboratory and/or Field Duplicates		13	0		12	0		12	0
*	Internal Standards		13	0		12	0		12	0
*	Compound Identification		13	0		12	0		12	0
*	Compound Quantitation		13	0		12	0		12	0
*	Sample Preservation		13	0		12	0		12	0

* All Criteria were met for that Parameter, V=Volatile, S=Semivolatile, P=Pesticides

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR PROBLEMS

- None noted.

MINOR PROBLEMS

Volatile:

- ***Calibrations:*** The continuing calibration, on 07/08/2017 @ 11:04, failed the %D precision criteria of 20% for 4-Methyl-2-pentanone (MIBK). Samples 480-120536-1 thru -5 are associated with this calibration. No positive results were detected in the associated samples. Quantitation limits for this compound in the associated samples were qualified "UJ".

  The continuing calibration, on 07/12/2017 @ 21:16, failed the %D precision criteria of 20% for Dichlorofluoromethane, 1,1-Dichloroethene, Carbon Disulfide, Methylene Chloride, trans-1,2-Dichloroethene. Sample 480-120536-12 is associated with this calibration. No

positive results were detected in the associated samples. Quantitation limits for these compounds in the associated samples were qualified "UJ".

The continuing calibration, on 07/11/2017 @ 08:56, failed the %D precision criteria of 20% for Trichlorofluoromethane. Samples 480-120536-6 thru -11 & -13 are associated with this calibration. No positive results were detected in the associated samples. Quantitation limits for this compound in the associated samples were qualified "UJ".

Semivolatile:

- None noted.

Pesticides:

- ***Surrogate Recovery:*** Samples 480-120536-2 & -3 displayed high recovery for surrogate Decachlorobiphenyl (DCB) on one column. The "J+" qualifier for the positive results in these samples was superseded by the "J" qualifier due to low concentrations below the quantitation limits.

- ***Laboratory Control Sample (LCS):*** The LCS displayed high recovery for 4,4'-DDT. The "J+" qualifier for the positive results in the associated samples was superseded by the "J" qualifier due to low concentrations below the quantitation limits.

NOTES

- ***Blank Contaminants:*** The maximum concentration of all compounds found in the analyses of the trip, field or laboratory method blanks are listed in the following table. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.

Analytical Fraction	**Compound**	Maximum Concentration	Units	Blank Type	Associated Samples
Volatile	None				
Semivolatile	None				
Pesticides	None				

*Common lab contaminant

Volatile:

- ***Matrix spike/Matrix Spike Duplicate (MS/MSD):*** LCS's were performed in lieu of MS/MSD's. No action was taken.

Semivolatile:

- ***Sample Analysis:*** Sample MW-5S (480-120536-11)was diluted out to bring concentrations within the calibration range.

Pesticides:

- ***Surrogate Recovery:*** Sample 480-120536-5 displayed high recovery for surrogate DCB on one column. No positive results were detected in this sample. No data were qualified.

INORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Data Review, dated October 2004; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance Project Plan (QAPP), dated February 2016, and in the analytical methods used for the analyses. All instruments and method sensitivities were according to the specified analytical methods. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

Parameters		C		
		q	t	a
*	Data Completeness		12	0
*	Holding Time		12	0
*	Calibration Verification		12	0
	Laboratory and Field Blanks analyses	x	12	9
*	Matrix Spike recoveries (MS)		12	0
*	Laboratory and Field Duplicates		12	0
*	Laboratory Control Sample(LCS)		12	0
*	Analyte Identification		12	0
*	Analyte Quantitation		12	0
*	Sample Preservation		12	0
* All Criteria were met for that Parameter, C=CN				

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR ISSUES

- None noted.

MINOR ISSUES

- ***Laboratory and Field Blanks analyses:*** Analytes detected in the laboratory and/or equipment blanks, that affect sample results, with concentration above the instrument detection limit (IDL) are listed below. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.

Analyte	Blank Type
CN	FB

CB = Container Blank
PB = Preparation Blank

ICB = Initial Calibration Blank
CCB = Continuing Calibration Blank
FB = Field Blank
EB = Equipment Blank

NOTES

- None noted.

REPORT CONTENT STATEMENT

All data for this project were reviewed in accordance with the pertinent parts of the U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review & USEPA National Functional Guidelines for Inorganic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. The text of the report addresses only those problems affecting data usability.

ATTACHMENTS

l) Glossary of Data Qualifiers
2) Electronic Data Deliverable (EDD). These include:
   (a) All results for target compounds with qualifier codes where applicable.
   (b) All unusable detection limits (qualified "R"), where applicable.
3) Electronic Data Package (.pdf file) as Support Documentation

DCN: BC031702-2381

Respectfully Submitted,

Sherif N. Mina Date: October 29, 2017
Sherif N. Mina

QA/Review: SM

Appendix K: NYSDEC Electronic Data Deliverable (CD-ROM)

Appendix L: Evaluation of Potential Impacts to River from Site Constituents in Groundwater

Appendix L

Evaluation of Potential Impact to River from Site Constituents in Groundwater
Troy (Water St.) Site – Area 3, Troy, New York

The conceptual model for groundwater flow and groundwater quality, as presented in Sections 3.2.3 and 3.7 of the RI Report, indicates that overburden groundwater with MGP-related impacts generally flows from east to west across the Site towards and discharges to the Hudson River (see Figure L1 for depiction of overburden groundwater flow). Based on groundwater quality data, an analysis was conducted to assess the potential for discharge of site-related constituents in groundwater to impact water quality in the Hudson River.

The evaluation was conducted by estimating the rate at which a mass of site-related constituents dissolved in groundwater may be contributing to the surface water in the Hudson River, i.e., the mass flux of constituents from groundwater to surface water. This approach is consistent with that described in "Groundwater Remediation Strategies Tool" (American Petroleum Institute Publication 4730, December 2003). The equation for calculating the mass flux of a constituent is:

$$mf = \Sigma\, C_i q_i A_i$$

Where: mf = total mass flux from the source (µg/sec)

C_i = concentration of the constituent (µg/mL=µg/cm^3)

q_i = specific discharge through the flow area (cm/sec),

where: $q_i = Ki$, with K= hydraulic conductivity (cm/sec) and i=hydraulic gradient (cm/cm)

A_i = flow area perpendicular to flow (cm^2),

where: $A_i = (L)(b)$, with L=width of constituent plume perpendicular to flow and b=saturated thickness of zone

In applying this evaluation to the Site, an estimate of mass flux of a constituent (in µg/sec) was calculated for groundwater in the overburden to the Hudson River. The mass flux for the overburden groundwater was calculated across a cross sectional flow area positioned at the downgradient side of the Site, aligned perpendicular to groundwater flow. The vertical dimension of the flow area is equal to the saturated thickness (b) of the zone. The horizontal dimension of the flow area, L, is equal to the width of the constituent plume.

The concentration of site constituents in the Hudson River resulting from groundwater discharge was estimated using the following equation:

$$C_R = mf_{OB}/D_R$$

Where: C_R = Concentration of constituent in the river (µg/L)

mf_{OB} = mass flux to the river from the overburden groundwater (µg/s)

D_R = Hudson River volumetric flow (L/s)

To address some of the uncertainties in this evaluation, conservative assumptions were made in the above-described calculations which result in river water concentration estimates that are biased high. These assumptions are as follows:

- The isoconcentration contours used to estimate constituent concentrations in groundwater (Figure L2) were developed using the maximum concentrations measured on samples from each well during the RI, regardless of the sampling event in which they were measured. As noted in the report, the maximum concentrations detected at most locations were during the initial round of sampling; data from subsequent rounds indicate lower concentrations than used in this evaluation.
- The estimated horizontal hydraulic conductivity (K_h) value used in the mass flux calculation is representative of the greater of the two results obtained from in-situ hydraulic conductivity testing conducted at wells located closest to where the constituent plume approaches the river (MW-8S and MW-8D).
- The river volumetric flow value used to calculate estimated in river concentrations (2,750 ft^3/s or 77,871 L/s) was derived using a 7Q10 flow (the lowest 7-day average flow that occurs, on average, once every 10 years) for the period April 1, 2007 through March 31, 2017 using data from a USGS river gauging station proximal the Site (USGS 01358000, Hudson River at Green Island, NY). Thus, it was assumed for this estimate that the flow rate in the river is equal to that during periods of very low flow, and the lower the assumed river flow, the greater the estimated concentration in the river water. For comparison, the mean river flow rate for at the same river gauging location using data from 1946 to 2018 is 10,610 ft^3/s (300,442 L/s). Table L1 provides the data used to determine the 7Q10 flow in the Hudson River and Attachment L1 presents the data plotted on log probability paper, and the resultant 7Q10 flow value.

To screen for potential impacts to the river, the estimated concentrations in the river were compared to the New York State Ambient Water Quality Standards and Guidance Values (NYSDEC, June 1998 with Addenda dated April 2000 and June 2004). Concentrations of benzene in the Hudson River were estimated using the above described method. Benzene is considered as a conservative representative of a group of volatile organic compounds (VOCs) referred to as the BTEX compounds (benzene, toluene, ethylbenzene, and xylenes) that typically are found at MGP sites. Benzene was evaluated, because of the BTEX compounds, it was detected at the highest concentrations and the highest frequency in groundwater at the Site, and it has lower water quality standards/guidance values than the other BTEX compounds. Further, it is the only one of the MGP-related constituents that has been detected at concentrations greater than the Class GA criteria at well locations on the downgradient side of the Site, adjacent to the river. Listed in the table below are standards and guidance values for benzene that are applicable to the various classes of fresh water per the New York State Ambient Water Quality Standards and Guidance Values (NYSDEC, June 1998 with Addenda dated April 2000 and June 2004). The portion of the Hudson River proximal to the Site is classified as a Class C water body per 6 NYCRR Part 897.

Fresh Surface Water Standards and Guidance Values

Substance	Water Class (per 6NYCRR Part 701)	Standard (µg/l)	Guidance Value (µg/l)	Protection for:
Benzene	A, A-S, AA, AA-S	1	--	Drinking water source
	A, A-S, AA, AA-S, B, C, D	10	--	Human fish consumption
	A, A-S, AA, AA-S, B, C	--	210	Fish propagation
	A, A-S, AA, AA-S, B, C, D	--	760	Fish survival

Attachment L2 contains the calculations and result for this constituent. The estimated concentration of benzene in the Hudson River proximal to the Site is 0.000026 µg/L.

This conservatively-estimated concentration (i.e., biased high) is several orders of magnitude below the surface water standards and guidance values listed above, including the lowest standard applicable to Class C surface waters, which as stated above are applicable to the portion of the Hudson River proximal to the Site (i.e., 10 µg/L). Also, the estimated concentration is below the detection limit for benzene analysis in water. Thus, based on the understanding of subsurface conditions at the Site, site-related constituents in overburden groundwater that are discharging to the river are not expected to impact surface water quality in the Hudson River.

Tables

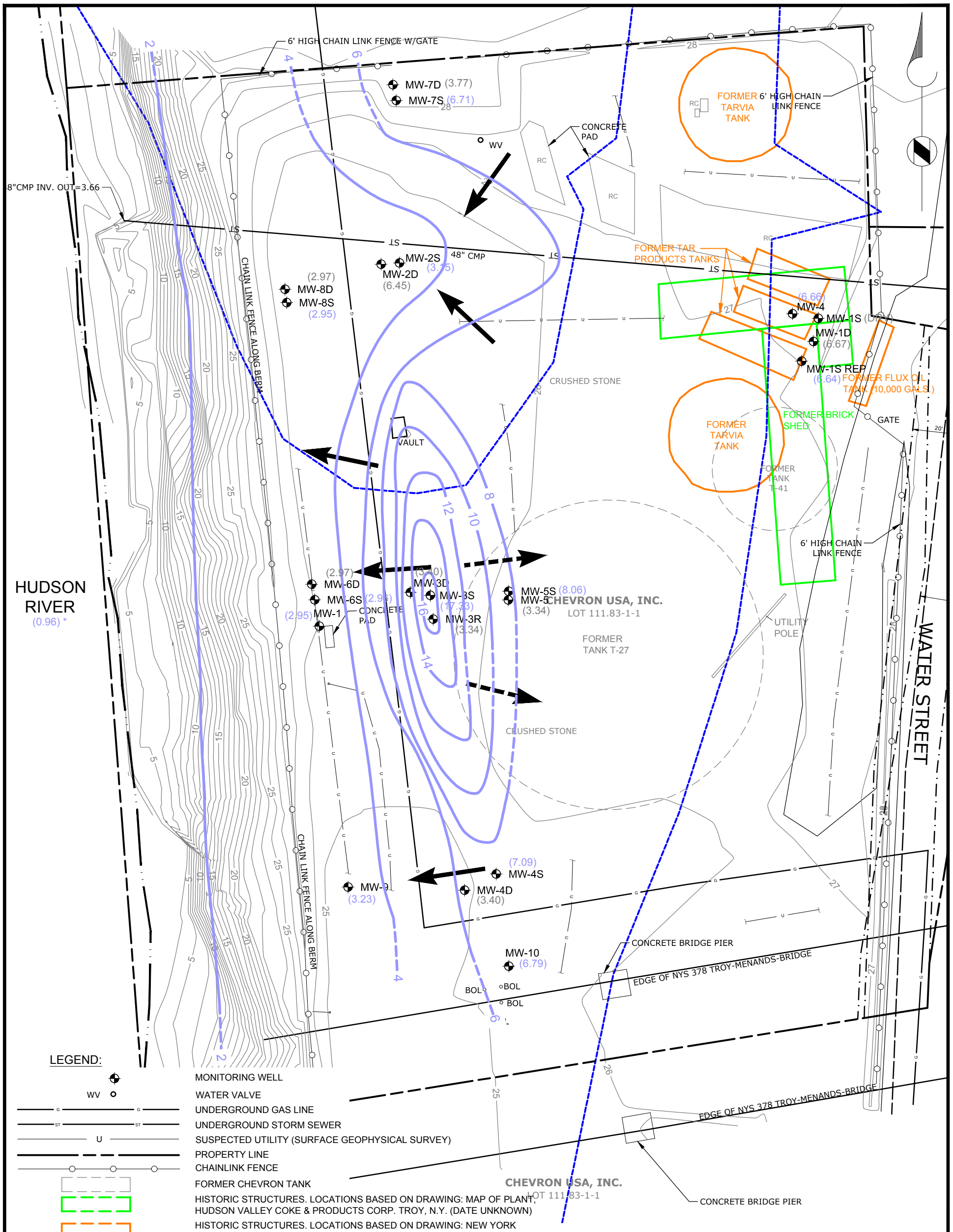
TABLE L1
SUMMARY OF DATA USED TO CALCULATE 7Q10 FLOW IN HUDSON RIVER
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

Year[(1)]	Low Flow (ft^3/s)	Rank	Probability
2009	5158.6	1	0.091
2011	5132.9	2	0.182
2008	4941.4	3	0.273
2013	4750.0	4	0.364
2010	4612.9	5	0.455
2014	3895.7	6	0.545
2012	3790.0	7	0.636
2007	3267.1	8	0.727
2015	3132.9	9	0.818
2016	2241.1	10	0.909

Notes:
(1) - 7Q10 flow (ft^3/s) calculated using data from a USGS river gauging station (USGS 01358000 HUDSON RIVER AT GREEN ISLAND NY), for period 4/1/2007 through 3/31/2017.

ft^3/s - cubic feet per second

Figures



LEGEND:

- MONITORING WELL
- WV — WATER VALVE
- G — UNDERGROUND GAS LINE
- ST — UNDERGROUND STORM SEWER
- U — SUSPECTED UTILITY (SURFACE GEOPHYSICAL SURVEY)
- PROPERTY LINE
- CHAINLINK FENCE
- FORMER CHEVRON TANK
- HISTORIC STRUCTURES. LOCATIONS BASED ON DRAWING: MAP OF PLANT, HUDSON VALLEY COKE & PRODUCTS CORP. TROY, N.Y. (DATE UNKNOWN)
- HISTORIC STRUCTURES. LOCATIONS BASED ON DRAWING: NEW YORK POWER & LIGHT, HUDSON VALLEY FUEL PLANT, TROY, N.Y. (1946)
- FORMER POSITION OF SHORELINE AND CHANNEL/INLET. LOCATIONS ARE APPROXIMATE, BASED ON 1855 BARTON'S MAP
- HUDSON RIVER SHORELINE (ESTIMATED BASED ON 2017 ORTHOIMAGERY)
- 20 — GROUND SURFACE ELEVATION CONTOUR (FT. NGVD). CONTOUR INTERVAL = 1 FT.
- 2 — WATER TABLE ELEVATION CONTOUR (FT. NGVD), DASHED WHERE INFERRED
- (3.27) — WATER TABLE OR SURFACE WATER ELEVATION (FT. NGVD)
- (3.52) — GROUNDWATER ELEVATION (FT. NGVD) FOR WELLS SCREENED BELOW WATER TABLE (DEEPER OVERBURDEN WELLS AND BEDROCK WELL)
- GENERALIZED DIRECTION OF GROUNDWATER FLOW. DASHED WHERE INFERRED
- * — VALUE POSTED REPRESENTS WATER ELEVATION FROM USGS RIVER GAUGING STATION (USGS 01359139 HUDSON RIVER AT ALBANY, NY) LOCATED APPROXIMATELY 4.5 MILES SOUTH OF THE SITE. RIVER LEVEL ADJACENT TO SITE WAS ABOVE MEASURING POINT FOR SG-1 AT TIME OF SITE-WIDE WATER LEVEL MEASUREMENTS.

SOURCE:

1. BASE MAP DEVELOPED ON DRAWINGS PREPARED BY NAEVA GEOPHYSICS, INC. (APRIL 28, 2015) AND C.T. MALE ASSOCIATES, P.C. (JUNE 15, 2015, UPDATED FEBRUARY 21, 2017).
2. VERTICAL DATUM SHOWN HEREON IS NGVD 29.

0 30 60

SCALE IN FEET

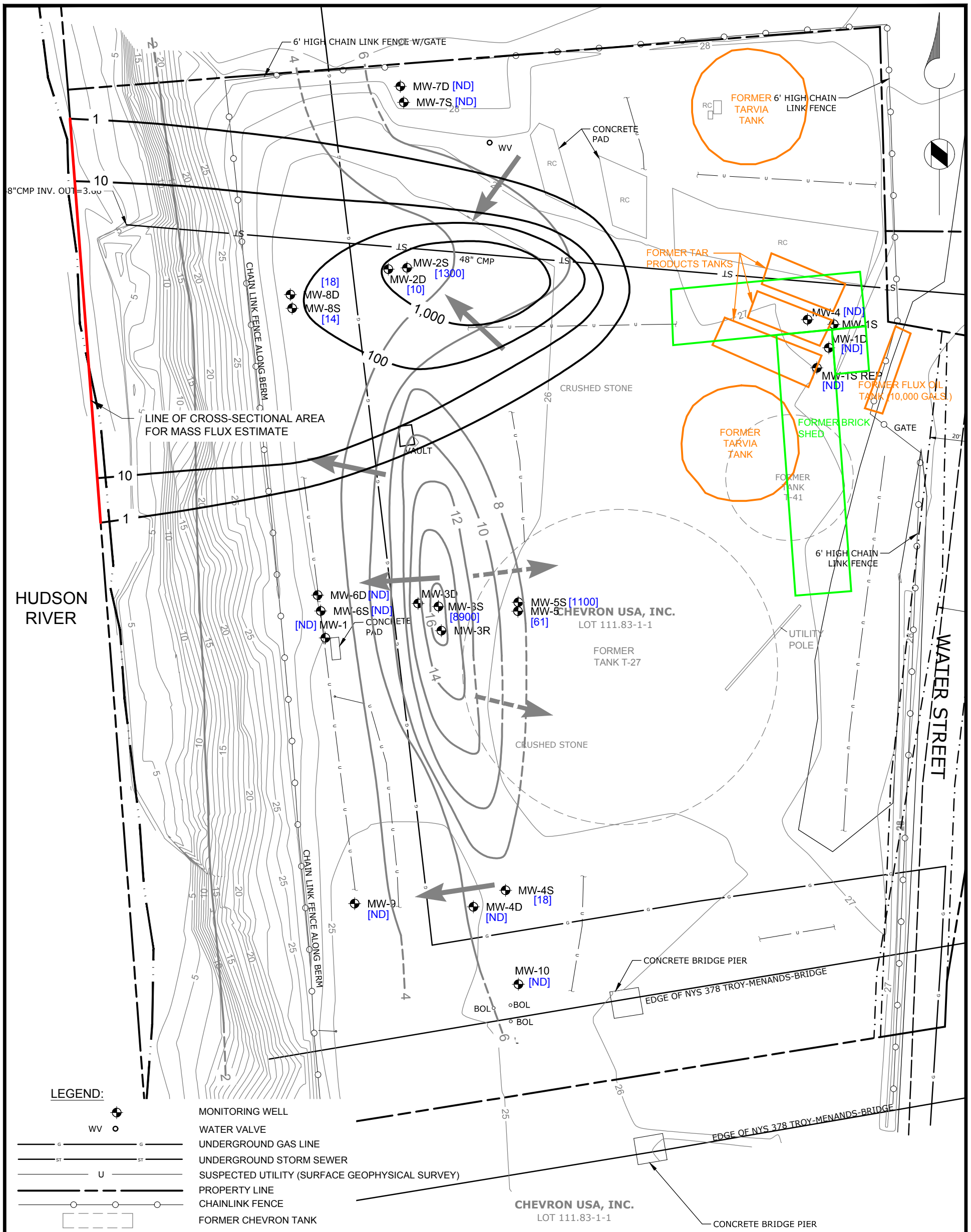
FIGURE L1
WATER TABLE CONTOUR MAP
AUGUST 1, 2018

TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

DATE	PROJECT NUMBER
09/18	152169

BROWN AND CALDWELL ASSOCIATES
UPPER SADDLE RIVER, NEW JERSEY

P:\National_Grid\Nimo_Troy_Area_3\146094_Troy_Area3_RI_CAD\2-SHEETS\C-CIVIL\146094-FIG-12(Aug2018).dwg



LEGEND:

- MONITORING WELL
- WV — WATER VALVE
- UNDERGROUND GAS LINE
- UNDERGROUND STORM SEWER
- U — SUSPECTED UTILITY (SURFACE GEOPHYSICAL SURVEY)
- PROPERTY LINE
- CHAINLINK FENCE
- FORMER CHEVRON TANK
- HISTORIC STRUCTURES. LOCATIONS BASED ON DRAWING: MAP OF PLANT, HUDSON VALLEY COKE & PRODUCTS CORP. TROY, N.Y. (DATE UNKNOWN)
- HISTORIC STRUCTURES. LOCATIONS BASED ON DRAWING: NEW YORK POWER & LIGHT, HUDSON VALLEY FUEL PLANT, TROY, N.Y. (1946)
- HUDSON RIVER SHORELINE (ESTIMATED BASED ON 2017 ORTHOIMAGERY)
- 20 — GROUND SURFACE ELEVATION CONTOUR (FT. NGVD). CONTOUR INTERVAL = 1 FT.
- 2 — WATER TABLE ELEVATION CONTOUR (FT. NGVD), DASHED WHERE INFERRED (AUGUST 1, 2018)
- [18] — HIGHEST BENZENE CONCENTRATION IN GROUNDWATER (µg/L)
- 2 — ISOCONCENTRATION CONTOUR, LOGARITHMIC CONTOUR INTERVAL (µg/L)
- GENERALIZED DIRECTION OF GROUNDWATER FLOW. DASHED WHERE INFERRED
- * — VALUE POSTED REPRESENTS WATER ELEVATION FROM USGS RIVER GAUGING STATION (USGS 01359139 HUDSON RIVER AT ALBANY, NY) LOCATED APPROXIMATELY 4.5 MILES SOUTH OF THE SITE. RIVER LEVEL ADJACENT TO SITE WAS ABOVE MEASURING POINT FOR SG-1 AT TIME OF SITE-WIDE WATER LEVEL MEASUREMENTS.

0 30 60
SCALE IN FEET

SOURCE:
1. BASE MAP DEVELOPED ON DRAWINGS PREPARED BY NAEVA GEOPHYSICS, INC. (APRIL 28, 2015) AND C.T. MALE ASSOCIATES, P.C. (JUNE 15, 2015, UPDATED FEBRUARY 21, 2017).
2. VERTICAL DATUM SHOWN HEREON IS NGVD 29.

FIGURE L2
MAXIMUM BENZENE CONCENTRATION IN GROUNDWATER

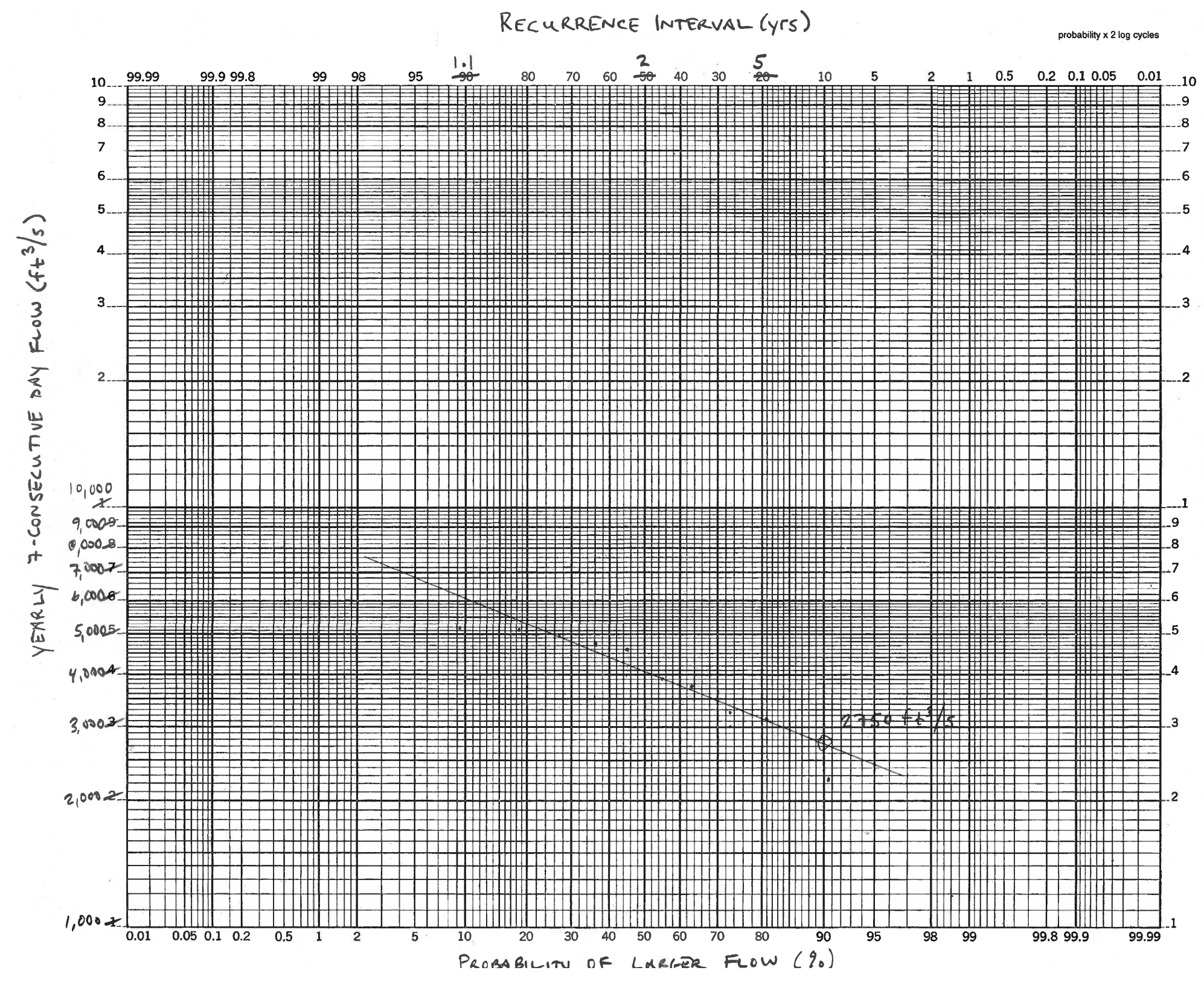
TROY (WATER ST.) SITE - AREA 3
TROY, NEW YORK

DATE 09/18
PROJECT NUMBER 152169

BROWN AND CALDWELL ASSOCIATES
UPPER SADDLE RIVER, NEW JERSEY

P:\National_Grid\Nimo_Troy_Area_3\146094_Troy_Area3_RI_CAD\2-SHEETS\C-CIVIL\146094-FIG-L2.dwg

Attachments


RECURRENCE INTERVAL (yrs)
probability x 2 log cycles
1.1
2
5
99.99 99.9 99.8 99 98 95 90 80 70 60 50 40 30 20 10 5 2 1 0.5 0.2 0.1 0.05 0.01
10 9 8 7 6 5 4 3 2 1
YEARLY 7-CONSECUTIVE DAY FLOW (ft³/s)
10,000 9,000 8,000 7,000 6,000 5,000 4,000 3,000 2,000 1,000
1750 ft³/s
0.01 0.05 0.1 0.2 0.5 1 2 5 10 20 30 40 50 60 70 80 90 95 98 99 99.8 99.9 99.99
PROBABILITY OF LARGER FLOW (%)

Mass Flux Calculation

Enter site data in yellow highlighted cells

Benzene (RI Maximum) **Figure No.**

$mf = kiA * C$

Where:

mf = mass flux, µg/s

k = hydraulic conductivity, cm/s

I = hydraulic gradient, dimensionless

A = cross-sectional area, $cm^{2\,(L\,*\,b)}$

C = (µg/L)/1000=µg/cm^3

Overburden Groundwater Flux

1-10 Contour

k =	5.3E-03	hydraulic conductivity, cm/s			Highest estimated k (based on RI slug tests) from wells MW-8S and MW-8D	**Interval**	**Geomean**		**Length**	**Thickness**
i =	0.032	hydraulic gradient, dimensionless			Measured in vicinity of selected contours	1				
C=	3.16227766	µg/L =	0.003162278	µg/cm^3	Geometric mean concentration between selected contours	10	3.16		34	9.27
L =	34	ft =	1036.32	cm	Length of segment between selected contours [C]	18	13.42		94	9.27
b =	9.27	ft =	282.5496	cm	Saturated thickness	1000	134.16			
						10000	3162.28			
mf =	1.6E-01	µg/s	5.0E+00	g/yr	0.011 lbs/yr	100000	31622.78			

10-100 Contour

k =	5.3E-03	hydraulic conductivity, cm/s			Highest estimated k (based on RI slug tests) from wells MW-8S and MW-8D
i =	0.032	hydraulic gradient, dimensionless			Measured in vicinity of selected contours
C=	13.42	µg/L =	0.013416408	µg/cm^3	Geometric mean concentration between selected contours
L =	94	ft =	2865.12	cm	Length of segment between selected contours [C]
b =	9.27	ft =	282.5496	cm	Saturated thickness
mf =	1.8E+00	µg/s	5.8E+01	g/yr	0.13 lbs/yr

100-1000 Contour

k =	5.3E-03	hydraulic conductivity, cm/s			Highest estimated k (based on RI slug tests) from wells MW-8S and MW-8D
i =	0.032	hydraulic gradient, dimensionless			Measured in vicinity of selected contours
C=	134.16	µg/L =	0.134164079	µg/cm^3	Geometric mean concentration between selected contours
L =	0	ft =	0	cm	Length of segment between selected contours [C]
b =	0	ft =	0	cm	Saturated thickness
mf =	0.0E+00	µg/s	0.0E+00	g/yr	0.00 lbs/yr

1000-5000 Contour

k =	5.3E-03	hydraulic conductivity, cm/s			Highest estimated k (based on RI slug tests) from wells MW-8S and MW-8D
i =	0.032	hydraulic gradient, dimensionless			Measured in vicinity of selected contours
C=	3162.28	µg/L =	3.16227766	µg/cm^3	Geometric mean concentration between selected contours
L =	0	ft =	0	cm	Length of segment between selected contours [C]
b =	0	ft =	0	cm	Saturated thickness
mf =	0.0E+00	µg/s	0.0E+00	g/yr	0.0 lbs/yr

10000-100000 Contour

k =	5.3E-03	hydraulic conductivity, cm/s			Highest estimated k (based on RI slug tests) from wells MW-8S and MW-8D
i =	0.032	hydraulic gradient, dimensionless			Measured in vicinity of selected contours
C=	31622.78	µg/L =	31.6227766	µg/cm^3	Geometric mean concentration between selected contours
L =	0	ft =	0	cm	Length of segment between selected contours [C]
b =	0	ft =	0	cm	Saturated thickness
mf =	0.0E+00	µg/s	0.0E+00	g/yr	0.00 lbs/yr
mf_{ob} =	2	µg/s	63	g/yr	0.14 lbs/yr

River Concentration

$$C_R = \frac{mf_{ob}}{D_R}$$

Where:

D_R = Hudson River flow, L/s — 2750 — 7Q10 flow (ft^3/s) calculated using data from a USGS river gauging station (USGS 01358000 HUDSON RIVER AT GREEN ISLAND NY), for period 4/1/2007 through 3/31/2017.

mf_{ob} = Overburden groundwater flux — See above

D_R = 2750 ft^3/s = 77871.3 L/s

C_R = 0.000026 µg/L