Steven P. Stucker, C.P.G.
Senior Environmental Engineer

September 9, 2020

Mr. Michael Squire
Remedial Bureau C, 11th Floor
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233-7014

Re: Johnstown (N. Market St.)
Former Manufactured Gas Plant Site (MGP)
Site No. 5-18-020
Semi-Annual Groundwater Monitoring Report (June 2020)

Dear Mr. Squire:

Enclosed is the Semi-Annual Groundwater Monitoring Report January through June 2020 for the Johnstown (N. Market St.) MGP Site located in Johnstown, New York. The report includes the groundwater monitoring results from October 16, 2019.

National Grid acknowledges the NYSDEC Fact sheet dated June 2016 approving the site's environmental remediation construction completion. Long-term OM&M activities will be conducted in accordance with the approved Site Management Plan (SMP) and the site's Environmental Easement.

Please contact me at (315) 428-5652 or Steven.Stucker@NationalGrid.com if you have any questions regarding the report.

Sincerely,

Devin T. Shay Digitally signed by Devin T. Shay for SPS

Steven P. Stucker, C.P.G.
Senior Environmental Engineer

Cc: Carolyn Rooney -National Grid
Nathan Freeman- NYSDOH

Environmental Department, 300 Erie Boulevard West, Syracuse, New York 13202
T: (315) 428-5652 ■ Steven.Stucker@NationalGrid.com ■ www.nationalgrid.com

National Grid

Semi-Annual Groundwater Monitoring Report

National Grid
109 North Market Street
Johnstown, NY 12095

September 2020

Version 1

Semi-Annual Groundwater Monitoring Report

National Grid Johnstown Site
109 North Market Street
Johnstown, NY 12095

Prepared for:
National Grid
300 Erie Boulevard West, C-1
Syracuse, NY 13202

Prepared by:
Groundwater & Environmental Services, Inc.
5 Technology Place, Suite 4
East Syracuse, NY 13057
TEL: 800-220-3069
www.gesonline.com

GES Project:
0603000.120950.221

Date:
September 9, 2020

Devin T. Shay Digitally signed by Devin T. Shay

Devin T. Shay, PG
Program Manager / Principal Hydrogeologist

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Acronyms

bgs	Below ground surface
BTEX	Benzene, Toluene, Ethylbenzene, and Total Xylenes
COCs	Constituents of Concern
cu. ft.	Cubic feet
DO	Dissolved Oxygen
DTB	Depth to Bottom
DTP	Depth to Product
DTW	Depth to Water
DUSR	Data Usability Summary Report
FS	Feasibility Study
GES	Groundwater & Environmental Services, Inc.
IRMs	Interim Remedial Measures
mg/L	Milligrams per Liter
MGP	Manufactured Gas Plant
MNA	Monitored Natural Attenuation
NYSDEC	New York State Department of Environmental Conservation
ORP	Oxidation-Reduction Potential
PAHs	Polycyclic Aromatic Hydrocarbons
PSA	Preliminary Site Assessment
QA/QC	Quality Assurance / Quality Control
RI	Remedial Investigation
ROD	Record of Decision
SMP	Site Management Plan
SU	Standard Units
SVOCs	Semi-Volatile Organic Compounds
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds
µg/L	Micrograms per Liter
WQ	Water Quality

1 Introduction

1.1 Overview

This Semi-Annual Groundwater Monitoring Report (the Report) summarizes the results of the May 2020 groundwater sampling event at the Johnstown, New York (N. Market Street) Former Manufactured Gas Plant (MGP) Site (the Site). This Report was developed as part of the long-term groundwater monitoring program on behalf of National Grid.

National Grid has been addressing the Site environmental conditions under an Order on Consent (Index Number D0-0001-9210), dated April 1999, that was entered into by Niagara Mohawk and the New York State Department of Environmental Conservation (NYSDEC). That Order on Consent was for the investigation and remediation of 21 former MGP sites, including the Johnstown (N. Market Street) Site. It was superseded by a new Order on Consent (Index Number A4-0473-0000), dated November 7, 2003. A NYSDEC-approved Supplemental Remedial Investigation (RI) Work Plan was finalized during November 2007, and a Final Supplemental RI Report was submitted to the NYSDEC, dated December 2008. The RI results report and subsequent Feasibility Study were approved in February 2010.

A Record of Decision (ROD) was issued by the NYSDEC, dated March 2010, in accordance with the requirements of New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York, 6 NYCRR Part 375. Based upon the results of the remedial investigation/feasibility study (RI/FS) for the Site, the interim remedial measures (IRMs) previously completed, and the ROD, the draft Final Engineering Report and Site Management Plan (SMP) were developed and submitted to the NYSDEC in June 2010. The Final Engineering Report, the Final SMP, and the Final Environmental Easement were approved by the NYSDEC in their June 2016 Fact Sheet.

The Final SMP includes:

1. Semi-annual (April & October) site inspection and groundwater level measurements at monitoring wells MW-4, MW-7, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16, RMW-1, and the creek surface gauging station (bridge);
2. Semi-annual groundwater sampling/analysis [Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), Heavy Metals, and Natural Attenuation Parameters] for monitoring wells MW-4, MW-7, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, and MW-16 (RMW-1 will not be sampled); and
3. Semi-annual reporting to NYSDEC.

1.2 Purpose and Objective

The purpose of this Report is to summarize the groundwater sampling activities and results of the latest event, and to compare the results to previous events. As described in the December 2008 Supplemental RI Report and the subsequent ROD, one of the primary goals is to evaluate whether

or not the groundwater constituents of concern (COCs) concentrations have decreased, in addition to continued assessment of the effectiveness of monitored natural attenuation.

2 Background

2.1 Site Description

The Site is located in the City of Johnstown, County of Fulton, New York (**Figure 1** presents the site location map) and is identified as Block 14 and Lot 7 on the Johnstown City Tax Map. The Site is an approximate 0.7-acre area bounded by the Cayadutta Creek to the north, the Colonial Cemetery to the south, Market Street to the east, and a wooded parcel of property to the west (**Figure 2** presents the site plan). The Site is located in a mixed commercial, industrial, and residential area.

Currently, National Grid operates a natural gas regulator station at the Site with equipment contained in fenced enclosures along the Site's southern boundary. The rest of the Site is grass-covered, including the stream bank adjacent to Cayadutta Creek along the northern boundary of the Site. An embankment exists along the north end of the Site that slopes down to the Cayadutta Creek. A chain-link fence exists along the north and west sides of the Site, and a retaining wall runs along the south side of the Site. Access to the Site is from North Market Street to the east.

The Johnstown Hospital is located south of the Site within one mile, and numerous residences exist to the west and east of the Site. The Johnstown Senior High School and Warren Street Elementary School are located within one mile of the Site to the west.

2.2 Site History

The Johnstown MGP Site was incorporated in March 1857 as the Johnstown Gas Light Company. The company operated a small coal gas plant with a 20,000 cubic foot (cu. ft.) holder (Holder #1), that was constructed in 1859 (see Figure 2 for all Holder locations at the former MGP Site). In 1861, the plant was improved with the addition of a coal shed and a covering for the tank holder. In 1886, the Johnstown and Gloversville Gas Light Corporation was formed, and the company purchased the rights to the Lowe water gas process. The United Gas Improvement Company planned the construction of a water gas plant for the Johnstown and Gloversville franchises.

In 1887, the Site consisted of a tool shop, an office, a coal gasometer, a lime house, a purifier room, a retort house, and a coal shed. Between 1887 and 1918, Holder #2 was located in the western-central part of the Site (exact size unknown). In 1892, a steam generator was constructed adjacent to the coal shed for the Lowe water gas process, and Holder #1 was decommissioned in 1896. In 1898, a 72,000 cu. ft. gas holder (Holder #3) was constructed on the Site. Between 1912 and 1918, the small gas holder (Holder #2) in the western-central area of the Site was removed. In 1929, a gas pipeline from an MGP in Troy, New York, reached Johnstown, and local gas production was only performed on a seasonal (winter) basis until local production of gas ceased in 1931. Niagara Hudson Power Company was the owner of the Site in 1930. By 1948, Holder #3 was decommissioned. In 1950, Niagara Hudson Power was consolidated under the

name Niagara Mohawk Power Company. By 1980, all Site buildings were removed. Currently, National Grid operates a natural gas regulator station at the Site.

2.2.1 Site Assessment and Investigations

An investigation of the Site began in 1997 with a Preliminary Site Assessment (PSA), which found that the Site was impacted with MGP wastes. A Supplemental PSA was conducted at the Site in 1998, followed by a RI in January 2000 and subsequent IRMs. The IRMs are discussed separately within this section.

A 2009 Supplemental RI was initiated to collect data to address potential residual MGP-related contaminants remaining in groundwater at the Site and to assess hydrogeologic conditions and groundwater quality on the Site. The results of the Supplemental RI were used to formulate potential remedial alternatives for groundwater and residual soil contamination. The Supplemental RI results were evaluated and presented in the 2010 Feasibility Study Report.

2.2.2 Interim Remedial Measures Completed

Several IRMs were performed to address the residual MGP impacts. In 2002 and 2003, the former holders and associated impacted soil were removed. During this IRM, former Holder #2 and the northern half of former Holder #3 were demolished and removed from the Site. Approximately 13,870 cubic yards of soil were excavated and disposed of off-site at a NYSDEC-approved facility. Permanent steel sheeting was left in place along the northeastern perimeter of the Site to avoid disturbance of the roadway and to provide containment of residual material left at depth.

Between 2005 and 2006, National Grid provided support to the City of Johnstown for subsurface work associated with the replacement of the North Market Street Bridge across Cayadutta Creek. Approximately 1,413 cubic yards of impacted soil were excavated from within the cofferdam area and disposed of off-site at a NYSDEC-approved facility.

In August 2009, the rip-rap area along the bank of Cayadutta Creek that had been restored during the previous IRMs was enhanced to allow for establishment of stream-side vegetation. Post-IRM inspections of the restored Cayadutta Creek bank were conducted in September 2009 and May 2010.

2.3 Environmental Setting

The Johnstown (N. Market Street) Site slopes northward toward Cayadutta Creek with elevations ranging from 652 to 672 feet (ft.) above sea level. Currently, the Site topography gradually slopes from south to north, becoming increasingly steeper adjacent to the Creek, and is generally covered with either vegetation or stone. Surface drainage is primarily to the north into the creek. Access to the Site is from North Market Street to the east, and the Site is currently used to support the natural gas regulator station operations.

2.3.1 Site Geology

The main units of unconsolidated deposits identified at the Site can be characterized in descending order as fill and native glacial deposits to bedrock. The glacial deposits are of lacustrine origin with glacial tills to the top of shale bedrock (Utica Shale). Bedrock was reached beneath the till in two soil borings explored during the 1998 Supplemental PSA. These stratigraphic units are more specifically described below, based on information obtained from the previous investigations and from the soil borings and monitoring well borings conducted during the 2007/ 2008 SRI.

Site geology includes a layer of disturbed soils (primarily fill) overlying glacial deposits. Based upon on-site soils and monitoring well borings, disturbed soils (including fills) varied in thickness up to 13 ft. and are typically composed of sand, gravel, silt, clay, wood, coal, and anthropogenic materials including ash, cinders, clinkers, brick fragments, wire, and wood chips. Wood chips were identified in three borings (SB-09, SB-12, and MW-8) and are often associated with purifier waste.

A thin layer of peat underlies the disturbed soils in the northern portion of the Site, ranging in thickness from 0.5 ft. to 3 ft., and appears to thicken and dip to the north. Except where it is locally covered by sedimentary deposits such as silts, sands, and clays, the peat, where present, appears to have been the historical ground cover prior to development of the Site.

Underlying the peat, where present, the soil consists of lacustrine deposits composed of silts, sands, and clays. The surface of the lacustrine deposits appears to dip and thin out toward the north. A sand and gravel unit (an outwash deposit of stratified drift) underlies the lacustrine deposits across the Site area. This unit contains varying amounts of silt and clay. These deposits overlie a dense, low-permeability glacial till to bedrock (Shale).

2.3.2 Site Hydrogeology

Groundwater depths on-site are typically in the 10- to 20-foot below ground surface (bgs) range, generally in the glacial deposits below the bottom of the fill material. Groundwater flow is consistently northward through the Site area toward Cayadutta Creek, with the steepest gradient from the center of the Site proximal to former gas holders #2 and #3 to the southern Creek bank (about 0.09 ft./ft.). In comparison, the average hydraulic gradient decreases to a value of approximately 0.05 ft./ft. on the east and west sides of the Site away from the former gas holders. The local groundwater flow is consistent with regional groundwater flow direction. The groundwater flow direction and hydraulic gradients calculated during this monitoring period are also generally consistent with historic data obtained prior to the issuance of the ROD.

3 Monitoring Activities

The long-term semi-annual groundwater monitoring program currently consists of the following elements:

- Semi-Annual Site Inspection including the creek bank protection, vegetative cover, monitoring wells, and security fence.
- Semi-Annual Groundwater Well Gauging of the following wells: RW-1, MW-4, MW-7, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15 and MW-16 (Figure 2 presents the well locations). The creek surface water level is also gauged at one location: SG-1.
- Semi-Annual Groundwater Sampling and Analysis of the following: MW-4, MW-7, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15 and MW-16. Note that recovery well RW-1 is not sampled as part of the program but is inspected for the presence of non-aqueous phase liquids (NAPL). Note: Monitoring well MW-11 was not gauged or sampled during the October 2019 sampling round due to concrete/metal and wood debris at this off-site well location.

3.1 Groundwater Gauging and Sampling Procedures

3.1.1 Gauging

Long-term groundwater monitoring includes water level gauging at 8 groundwater monitoring wells and 1 groundwater recovery well using an electronic oil/water interface probe. Depth to bottom of well (DTB), depth to product (DTP), and depth to water (DTW) are to be recorded at each well. Refer to **Table 2** for a summary of the water level measurements from May 2020 as well as previous events. **Appendix A** also presents the field documentation from the May 2020 water gauging event.

No product was present in recovery well RW-1 or the other eight groundwater monitoring wells that were gauged.

A creek surface water level measurement was collected from the Cayadutta Creek Bridge using a water level probe (from the surveyed gauging point at the bridge).

3.1.2 Sampling

Groundwater sampling was performed following low-flow sampling techniques [equivalent to United States Environmental Protection Agency (USEPA) low-flow procedures] using a pressure-driven peristaltic pump. During purging, measurements were collected for the following field parameters: pH, specific conductivity, turbidity, dissolved oxygen (DO), temperature, and oxidation-reduction potential (ORP). A Horiba U-22 was used to collect the field parameter data in a flow-through cell. The monitored field parameters are observed and recorded during low-flow sampling to determine when they have stabilized, and thus when the well has been adequately

purged. Field parameter measurements were recorded at approximately 5-minute intervals. The monitoring wells were purged until stabilization of the field parameters (±0.1 Standard Unit (SU) for pH, ±3% for specific conductivity, ±10 millivolts (mV) for ORP, and ±10% for DO) and turbidity was less than 50 Nephalometric Turbidity Units (NTU). Refer to **Attachment A** for the field data.

After stabilization of the field parameters, eight groundwater samples were collected directly from the dedicated tubing into laboratory-supplied sample containers (pre-preserved as required per the analytical method). Quality Assurance/Quality Control (QA/QC) samples included the collection of one field duplicate sample, one matrix spike (MS) sample, one duplicate matrix spike (DMS) sample, and one trip blank sample (VOCs only). Samples were transported to the laboratory, accompanied by the appropriate chain-of-custody documentation. Analytical results were validated.

3.1.3 Natural Attenuation Parameters

The ORP of groundwater may be used as a general indicator of the dominant attenuation processes and the relative tendency of the biological processes to accept or transfer electrons. ORP is dependent on and influences rates of biodegradation. Lower ORP readings indicate reduced conditions and are indicative of anaerobic biologic degradation processes.

The pH of the groundwater affects the presence and activity of microorganisms in the groundwater. The microorganisms may produce either organic acids or carbon dioxide which, when dissolved in water, forms weak carbonic acid. Microorganisms capable of degrading petroleum hydrocarbons are most active with pH values ranging from 6 to 8 SU.

Groundwater temperature affects the solubility of dissolved gases such as oxygen and carbon dioxide as well as the metabolic activity of microorganisms. Oxygen is less soluble in warm water, and groundwater temperatures below approximately 5 degrees Celsius tend to inhibit biodegradation.

DO is the most thermodynamically favored electron acceptor used by microorganisms during the degradation of both natural and anthropogenic organic carbon. An inverse relationship of high hydrocarbon concentrations and low DO concentrations can be used as a key indicator of biodegradation.

Nitrate, if available, may be used as an electron acceptor for anaerobic biodegradation after the depletion of DO [typically considered less than 0.5 milligrams per liter (mg/L)] and is used to biodegrade petroleum hydrocarbons. Lower nitrate concentrations in groundwater within a plume, with respect to higher concentrations in areas upgradient and outside a plume, may be expected.

Ferrous iron is a metabolic byproduct of hydrocarbon degradation. Reducing conditions in nitrogen- and oxygen-depleted groundwater creates an anaerobic environment that causes the reduction of ferric iron (Fe^{3+}) to ferrous iron (Fe^{2+}). Relatively low ferrous iron concentrations may be present in areas where natural attenuation is occurring if free ferrous iron is re-precipitating as sulfides or carbonates.

Sulfate may be used as an electron acceptor after the depletion or use limitation of DO, nitrate, and ferric iron. Lower sulfate concentrations in groundwater within a plume, with respect to higher concentrations in areas upgradient and outside a plume, may be expected.

The production of methane, termed methanogenesis, occurs only in strongly reducing conditions and generally after oxygen, nitrate, and sulfate have been depleted. The presence of methane in groundwater suggests Benzene, Toluene, Ethylbenzene, Xylene (BTEX) degradation via methanogenesis. Methane is not present in fuels, and therefore its presence at high concentrations relative to areas upgradient and outside a plume is indicative of the biodegradation of petroleum hydrocarbons.

The buffering capacity of groundwater is a function of alkalinity. Typically, alkalinity is primarily due to carbonate alkalinity. The organic acids or carbon dioxide (which produces a weak carbonic acid when dissolved in water) produced by biodegradation solubilize carbonate from the soil. Alkalinity concentrations that are elevated with respect to areas upgradient and outside a plume may be an indication of microbial activity and thus natural attenuation.

Typically, the relationships between BTEX and electron acceptors/metabolic byproduct concentrations (geochemical indicators) indicate potential for biodegradation. The concentrations are dependent on the location (and groundwater conditions) within the plume or outside of the plume limits.

3.2 Groundwater Analytical Results

The groundwater samples were analyzed for BTEX, Polycyclic Aromatic Hydrocarbons (PAHs), lead, total cyanide, and monitored natural attenuation/water quality (MNA/WQ) parameters including alkalinity, chloride, ethane, ethene, ferrous iron, manganese, methane, nitrate, nitrogen, sulfate and sulfide. BTEX, PAHs, and cyanide are constituents commonly associated with former MGP sites. BTEX, PAHs, lead, and cyanide were the primary contaminants detected during previous investigation activities conducted at the Site. The MNA/WQ parameters, as well as field-measured ORP, pH, temperature, and DO, are relevant to establishing whether conditions are favorable for natural attenuation to occur at the Site.

- Refer to Table 3 for the analytical results summary.
- Refer to Appendix A for field data.
- Refer to Appendix B for the data usability summary report (DUSR).

Groundwater analytical results were compared with levels specified in the NYSDEC Division of Water Final Amendment to Water Quality Standards Regulations, effective February 16, 2008 [hereafter referred to as NYSDEC WQ Values]. For groundwater, Class GA values were applied. Class GA waters are defined as fresh groundwater, found in the saturated zone of unconsolidated deposits and consolidated rock or bedrock, which are used as a source of potable water supply.

3.2.1 Site Related Parameters

BTEX - Groundwater samples collected on May 20, 2020, from monitoring wells MW-13, MW-15, and MW-16 contained concentrations of some or all individual BTEX constituents above their respective NYSDEC WQ Values [1 microgram per liter (µg/L) for benzene and 5 µg/L for other BTEX constituents]. The highest concentrations were observed in the groundwater samples collected from monitoring well MW-13, which typically has the highest total BTEX concentrations. Monitoring well MW-13 is located between former gas holders #2 and #3.

PAHs – PAHs above NYSDEC WQ Values were detected in samples collected on May 20, 2020, from monitoring wells MW-12, MW-13, MW-14, and MW-15. Naphthalene (MW-13) has typically been detected at the highest concentration of any PAH.

Cyanide - Concentrations of cyanide were below the NYSDEC WQ Value (0.2 mg/L) in all groundwater samples May 20, 2020, with the exception of monitoring well MW-15.

3.2.2 Monitored Natural Attenuation Parameters

Site-specific levels of the MNA/WQ parameters (geochemical indicators) were compared to known screening values to identify whether the site-specific values are within the ranges known to be suitable for biodegradation. The May 2020 MNA/WQ analytical results for the individual monitoring wells are summarized in **Table 3**. **Figure 4** presents the groundwater data for the key MNA data parameters at their respective locations to assist with the MNA evaluation. Indications of biodegradation of petroleum-related MGP constituents within the plume include low levels of DO, nitrate and sulfate, with generally higher levels of manganese, ferrous iron and methane.

Indicator concentrations detected at monitoring wells identified within source and downgradient areas of the Site were compared to levels detected at upgradient and side gradient monitoring wells exhibiting little or no MGP-related contamination. Generally, indicator concentration levels at a distance from the center of the plume are expected to be significantly lower than levels within the plume. A summary of the MNA/WQ results and associated field indicator parameters are provided below:

- DO and ORP values demonstrate depleted levels of DO and a transformation to more anaerobic or reducing conditions at the former source and downgradient areas relative to side gradient and upgradient areas of the Site. These values suggest that biodegradation of MGP petroleum-related compounds at the source and at downgradient areas are occurring, consuming the available oxygen which produces decreased DO levels.
- The range of ORP levels observed at the source and downgradient area monitoring wells generally indicates reduced aquifer conditions which could be suitable for denitrification, ferric iron reduction, sulfate reduction, and methanogenesis.
- Nitrate concentrations are generally depleted at the former source and downgradient areas of the Site relative to upgradient (MW-4) and side gradient (MW-12) areas, indicating denitrification may be a noteworthy biodegradation process occurring at this time at the source and downgradient areas.

- Ferrous iron concentrations at the former source and downgradient area monitoring wells (MW-7, MW-10, MW-15) exhibit higher levels relative to side gradient and upgradient monitoring wells (MW-4, MW-12). The presence of these metabolic by-products downgradient of the source area suggest biodegradation of MGP petroleum-related compounds may be occurring.
- Sulfate concentrations at the former source and downgradient areas are not depleted relative to upgradient and side gradient areas. This observation indicates sulfate reduction is not likely to be a significant biodegradation process at this time at the source and downgradient areas.
- Based on the presence of methane, low DO concentrations, and the reduced ORP levels, methanogenesis is likely an important factor for biodegradation capacity in the source and downgradient areas of the Site.

3.2.3 Natural Attenuation Trending

Previous groundwater sampling data collected since October 2012 (the dataset) were utilized to develop and evaluate the contaminant plume and concentration trends of specific constituents at the Site. Plume size and concentration data are indicative of biodegradation capacity (natural attenuation) at the Site and whether the capacity has reached a limit of effectiveness. In order to determine and evaluate natural attenuation effectiveness, statistical testing was utilized for groundwater data collected from monitoring wells at the Site. The Mann-Kendall test was performed on the dataset to identify potential trends in groundwater concentrations of site contaminants. The Mann-Kendall test is a nonparametric evaluation used to identify a trend in a series, even if there is a seasonal component in the series. The three possible hypotheses are that there is a negative, null, or positive trend. The resultant statistical trend analysis for individual monitoring wells suggests (with 80% and 90% confidence) that total BTEX compounds and the naphthalene plume lifecycle demonstrate either no trend or a decreasing trend throughout the monitoring period. It is worth noting that a failure to reject the null hypothesis (i.e. “no trend”) does not prove that there is no trend; it merely means that the available data is not sufficient to conclude there is a trend. In cases where no trend was determined, a comparison of the dataset to the historical highs and lows was performed to determine if the plume is stable; in every case, this evaluation concluded the plume is stable. The table below depicts general concentration trend analysis results (decreasing, no trend or increasing) at 80% confidence levels for each well and associated constituents during the monitoring period. No trend is indicative of plume stability at well locations with contaminant detections throughout the monitoring period.

Table 1 – Contaminant Trend Analysis

Well ID	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene
MW-4	Stable	Stable	Stable	Stable	Decreasing
MW-7	Stable	Stable	Stable	Stable	Decreasing
MW-10	Stable	Stable	Stable	Stable	Decreasing
MW-11	Not sampled	Not sampled	Not sampled	Not sampled	Not sampled
MW-12	Stable	Stable	Stable	Stable	Decreasing
MW-13	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing
MW-14	Stable	No Trend	Stable	Stable	Stable
MW-15	Decreasing	No Trend	Stable	Stable	No Trend
MW-16	Stable	No Trend	Stable	No Trend	Increasing

Isoconcentration contour maps were developed for total BTEX (**Figure 5**) and naphthalene (**Figure 6**) contamination. The figures present locations of the groundwater monitoring wells and plume contours for total BTEX (as compared to the benzene WQ value of 1 µg/L) and naphthalene exceeding the NYSDEC WQ values. Evaluation of the isoconcentration figures suggests that the contaminant plumes were relatively stable to decreasing (smaller footprint with time) within the Site boundary. BTEX constituent plume trends (concentrations above the benzene WQ value of 1 µg/L) have consistently included monitoring wells MW-13, MW-15, and MW-16. The naphthalene plume (concentrations above the WQ) has decreased to include only monitoring wells MW-13, MW-15, and MW-16.

4 Conclusions and Recommendations

4.1 Conclusions

4.1.1 Groundwater Levels

The groundwater elevation data indicates groundwater within the Site flows from the south to the north, toward Cayadutta Creek. The groundwater flow direction has been consistent during previous gauging events and with data obtained prior to the ROD. **Figure 3** is a groundwater monitoring map verifying groundwater flow direction.

4.1.2 Site-Related Constituents

The highest concentrations of BTEX constituents and PAH compounds are at wells MW-13, MW-15, and MW-16. Site institutional controls continue to be effective and will continue to be monitored semi-annually.

There are minimal concentrations of lead in groundwater samples; however, Total Cyanide has been detected consistently in most wells.

4.1.3 Natural Attenuation

Plume stability at the Site is an indication that biodegradation capacity likely has not reached its limit of effectiveness. The use of statistical testing has identified the plume trends based on the constituent concentrations were typically either stable or decreasing.

4.2 Recommendations

Based on the results of the May 2020 groundwater sampling and monitoring event and results from previous events, it is recommended to continue the long-term semi-annual site inspection and groundwater monitoring program. The next event will occur in October 2020.

5 References

Borden, Robert C., et. al., "Geochemical Indicators of Intrinsic Bioremediation". Groundwater, Volume 33, Number 2, March/April 1995.

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Niagara Mohawk Power Corporation. "Preliminary Historical Profile of the Johnstown (Market Street) MGP Site. Johnstown, New York". Niagara Mohawk Power Corporation, June 1993.

Niagara Mohawk Power Corporation. "Interim Remedial Measure (IRM) Summary Report for the Johnstown (N. Market Street) Site. Johnstown, Fulton County, New York. Site No. 5-18-020:. Tetra Tech FW, June 2007.

Niagara Mohawk Power Corporation. "IRM Summary Report for the Johnstown (N. Market Street) Site. Bridge Replacement Environmental Support Activities". Tetra Tech FW, October 2007.

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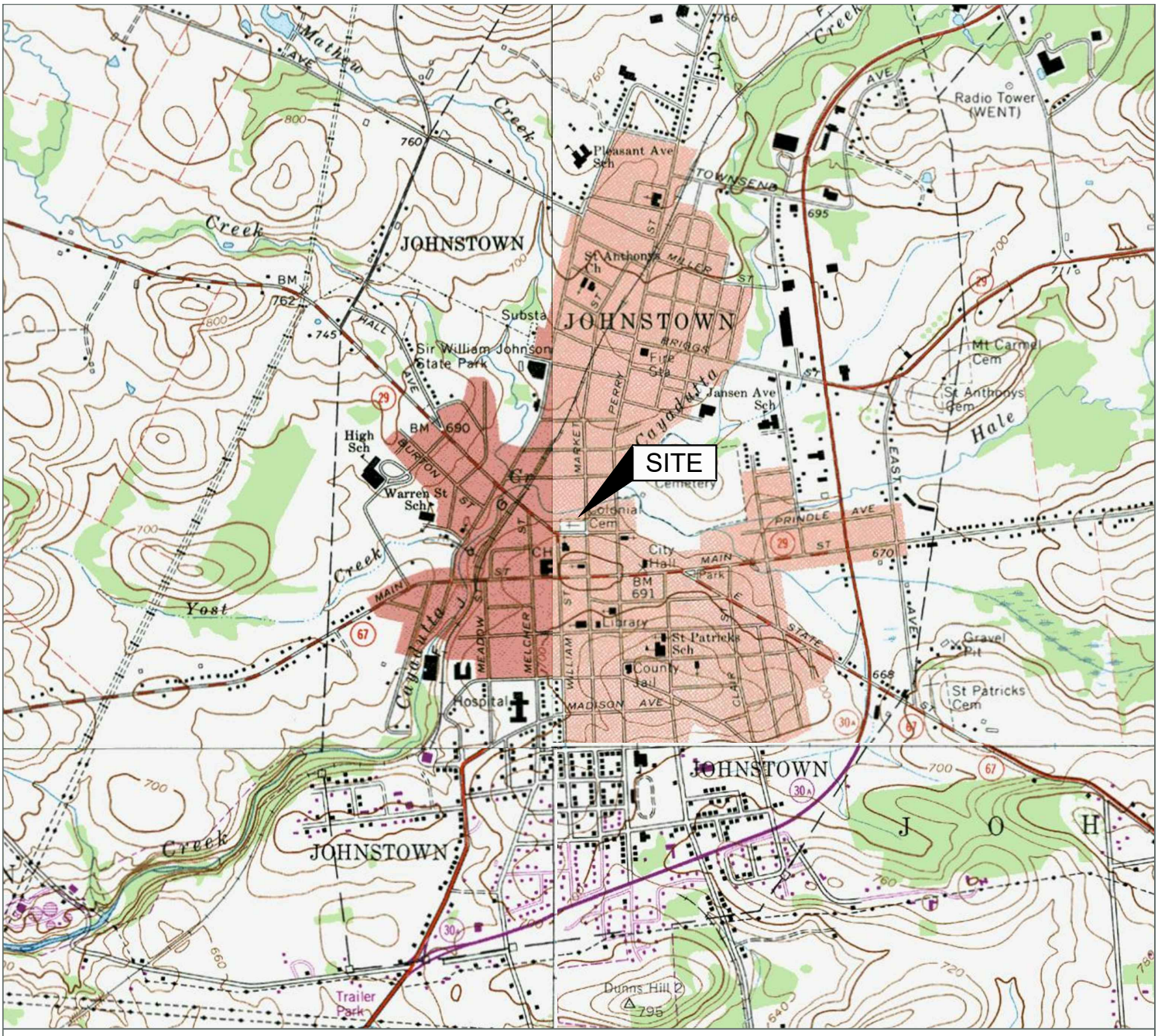
Figures



Source:
USGS 7.5 Minute Series
Topographic Quadrangle, 1970
Gloversville, New York
Contour Interval = 20'

Site Location Map

National Grid
Former MGP Site
105 N Market Street
Johnstown, New York

Drawn
W.G.S.
Designed

Approved

Date
11/15/19
Figure

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Scale In Feet
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Groundwater & Environmental Services, Inc.

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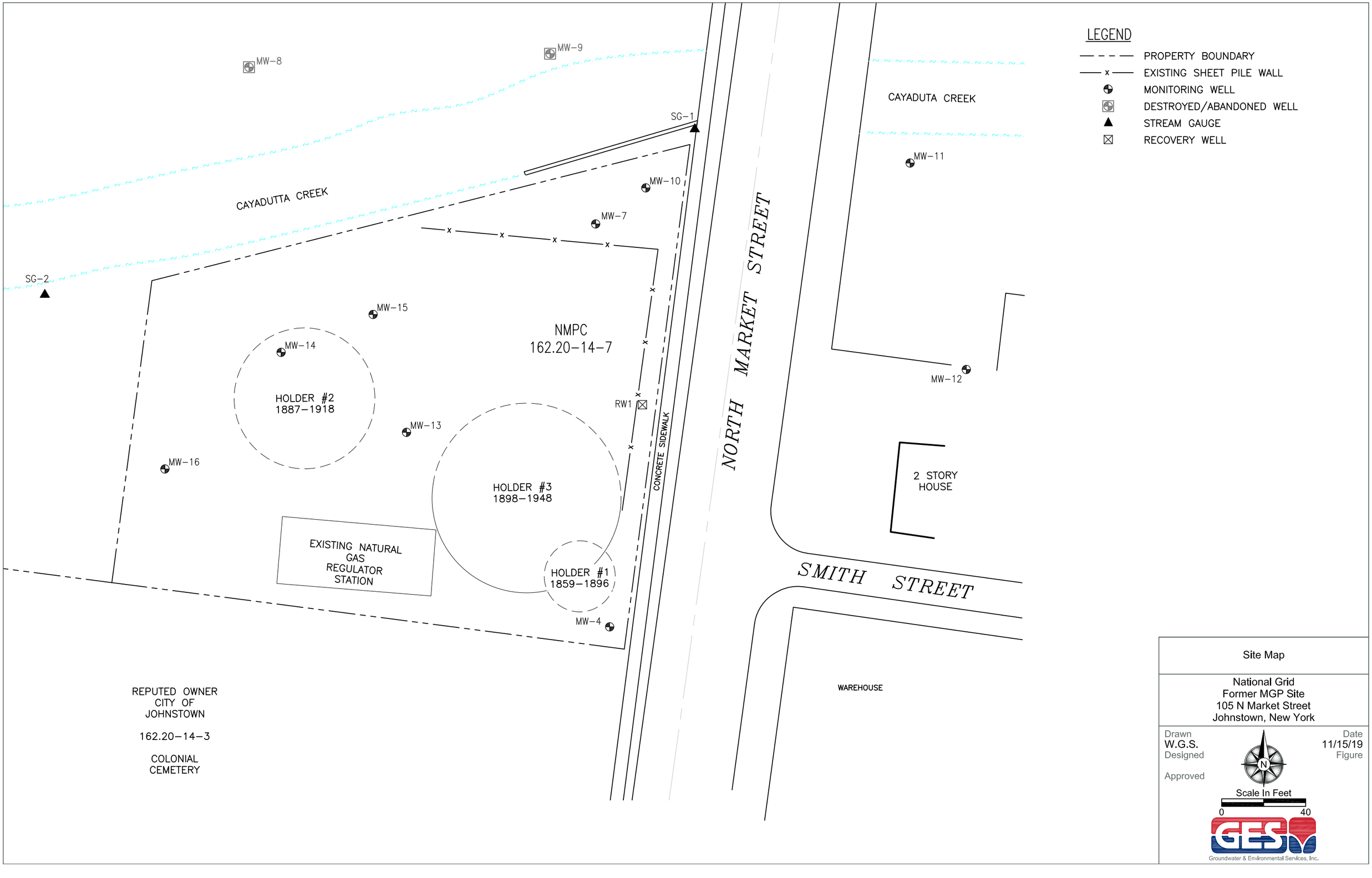

Site Map

National Grid
Former MGP Site
105 N Market Street
Johnstown, New York

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W.G.S.
Designed

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Date
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Figure

Scale In Feet
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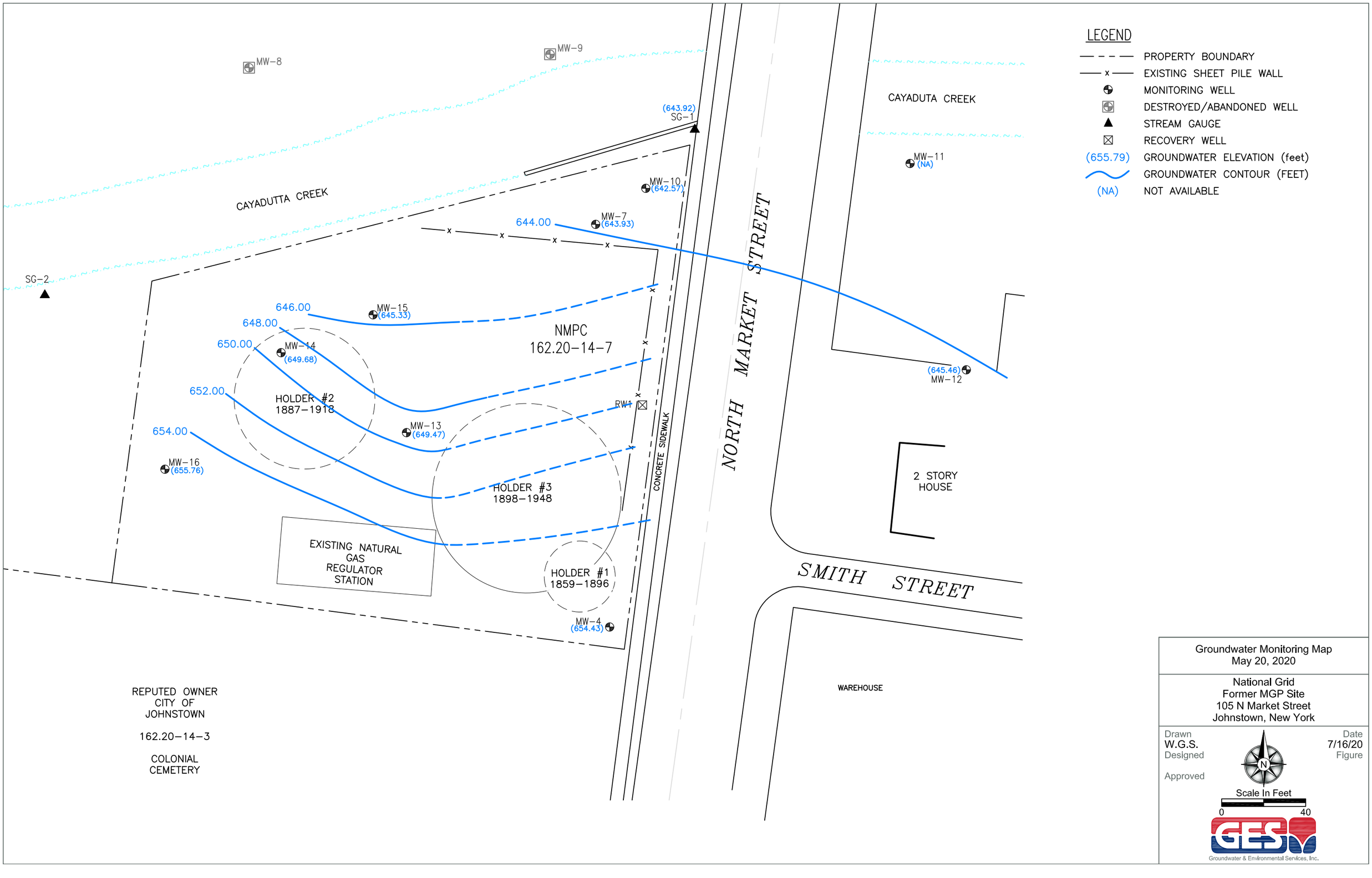

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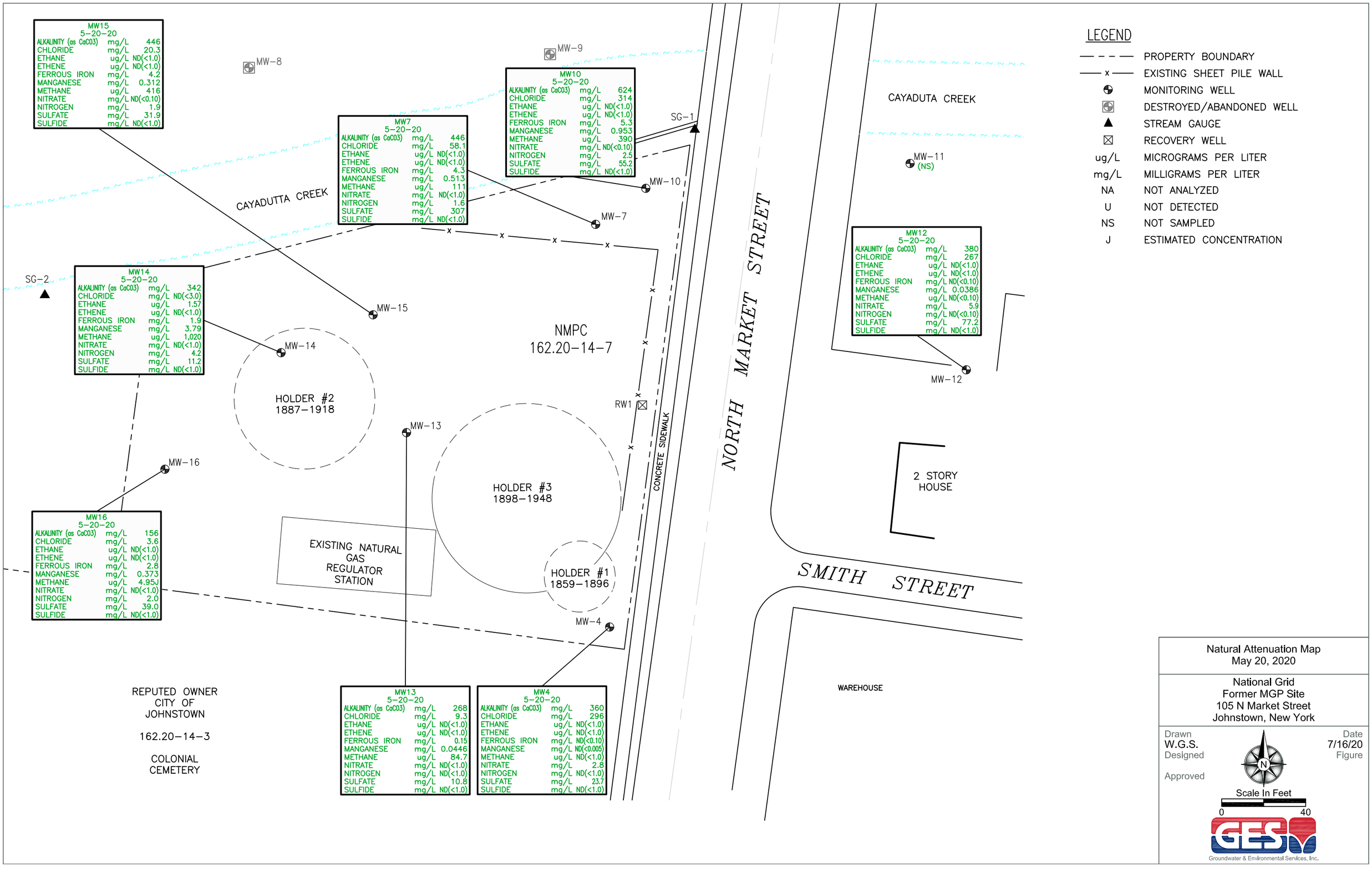
Groundwater Monitoring Map
May 20, 2020

National Grid
Former MGP Site
105 N Market Street
Johnstown, New York

Drawn W.G.S.
Designed
Approved
Date 7/16/20
Figure

Scale In Feet
0 40

Groundwater & Environmental Services, Inc.


MW15
5-20-20
ALKALINITY (as CaCO3) mg/L 446
CHLORIDE mg/L 20.3
ETHANE ug/L ND(<1.0)
ETHENE ug/L ND(<1.0)
FERROUS IRON mg/L 4.2
MANGANESE mg/L 0.312
METHANE ug/L 416
NITRATE mg/L ND(<0.10)
NITROGEN mg/L 1.9
SULFATE mg/L 31.9
SULFIDE mg/L ND(<1.0)
MW-8
MW-9
MW10
5-20-20
ALKALINITY (as CaCO3) mg/L 624
CHLORIDE mg/L 314
ETHANE ug/L ND(<1.0)
ETHENE ug/L ND(<1.0)
FERROUS IRON mg/L 5.3
MANGANESE mg/L 0.953
METHANE ug/L 390
NITRATE mg/L ND(<0.10)
NITROGEN mg/L 2.5
SULFATE mg/L 55.2
SULFIDE mg/L ND(<1.0)
SG-1
MW7
5-20-20
ALKALINITY (as CaCO3) mg/L 446
CHLORIDE mg/L 58.1
ETHANE ug/L ND(<1.0)
ETHENE ug/L ND(<1.0)
FERROUS IRON mg/L 4.3
MANGANESE mg/L 0.513
METHANE ug/L 111
NITRATE mg/L ND(<1.0)
NITROGEN mg/L 1.6
SULFATE mg/L 307
SULFIDE mg/L ND(<1.0)
CAYADUTTA CREEK
MW-10
MW-7
MW-11
(NS)
CAYADUTA CREEK
MW12
5-20-20
ALKALINITY (as CaCO3) mg/L 380
CHLORIDE mg/L 267
ETHANE ug/L ND(<1.0)
ETHENE ug/L ND(<1.0)
FERROUS IRON mg/L ND(<0.10)
MANGANESE mg/L 0.0386
METHANE ug/L ND(<0.10)
NITRATE mg/L 5.9
NITROGEN mg/L ND(<0.10)
SULFATE mg/L 77.2
SULFIDE mg/L ND(<1.0)
MW-12
SG-2
MW14
5-20-20
ALKALINITY (as CaCO3) mg/L 342
CHLORIDE mg/L ND(<3.0)
ETHANE ug/L 1.57
ETHENE ug/L ND(<1.0)
FERROUS IRON mg/L 1.9
MANGANESE mg/L 3.79
METHANE ug/L 1,020
NITRATE mg/L ND(<1.0)
NITROGEN mg/L 4.2
SULFATE mg/L 11.2
SULFIDE mg/L ND(<1.0)
MW-15
MW-14
NMPC
162.20-14-7
RW1
NORTH MARKET STREET
CONCRETE SIDEWALK
HOLDER #2
1887-1918
MW-13
HOLDER #3
1898-1948
MW-16
EXISTING NATURAL
GAS
REGULATOR
STATION
HOLDER #1
1859-1896
MW-4
2 STORY
HOUSE
SMITH STREET
WAREHOUSE
MW16
5-20-20
ALKALINITY (as CaCO3) mg/L 156
CHLORIDE mg/L 3.6
ETHANE ug/L ND(<1.0)
ETHENE ug/L ND(<1.0)
FERROUS IRON mg/L 2.8
MANGANESE mg/L 0.373
METHANE ug/L 4.95J
NITRATE mg/L ND(<1.0)
NITROGEN mg/L 2.0
SULFATE mg/L 39.0
SULFIDE mg/L ND(<1.0)
REPUTED OWNER
CITY OF
JOHNSTOWN
162.20-14-3
COLONIAL
CEMETERY
MW13
5-20-20
ALKALINITY (as CaCO3) mg/L 268
CHLORIDE mg/L 9.3
ETHANE ug/L ND(<1.0)
ETHENE ug/L ND(<1.0)
FERROUS IRON mg/L 0.15
MANGANESE mg/L 0.0446
METHANE ug/L 84.7
NITRATE mg/L ND(<1.0)
NITROGEN mg/L ND(<1.0)
SULFATE mg/L 10.8
SULFIDE mg/L ND(<1.0)
MW4
5-20-20
ALKALINITY (as CaCO3) mg/L 360
CHLORIDE mg/L 296
ETHANE ug/L ND(<1.0)
ETHENE ug/L ND(<1.0)
FERROUS IRON mg/L ND(<0.10)
MANGANESE mg/L ND(<0.005)
METHANE ug/L ND(<1.0)
NITRATE mg/L 2.8
NITROGEN mg/L ND(<1.0)
SULFATE mg/L 23.7
SULFIDE mg/L ND(<1.0)
LEGEND
PROPERTY BOUNDARY
EXISTING SHEET PILE WALL
MONITORING WELL
DESTROYED/ABANDONED WELL
STREAM GAUGE
RECOVERY WELL
ug/L MICROGRAMS PER LITER
mg/L MILLIGRAMS PER LITER
NA NOT ANALYZED
U NOT DETECTED
NS NOT SAMPLED
J ESTIMATED CONCENTRATION
Natural Attenuation Map
May 20, 2020
National Grid
Former MGP Site
105 N Market Street
Johnstown, New York
Drawn
W.G.S.
Designed
Approved
Date
7/16/20
Figure
N
Scale In Feet
0
40
Groundwater & Environmental Services, Inc.
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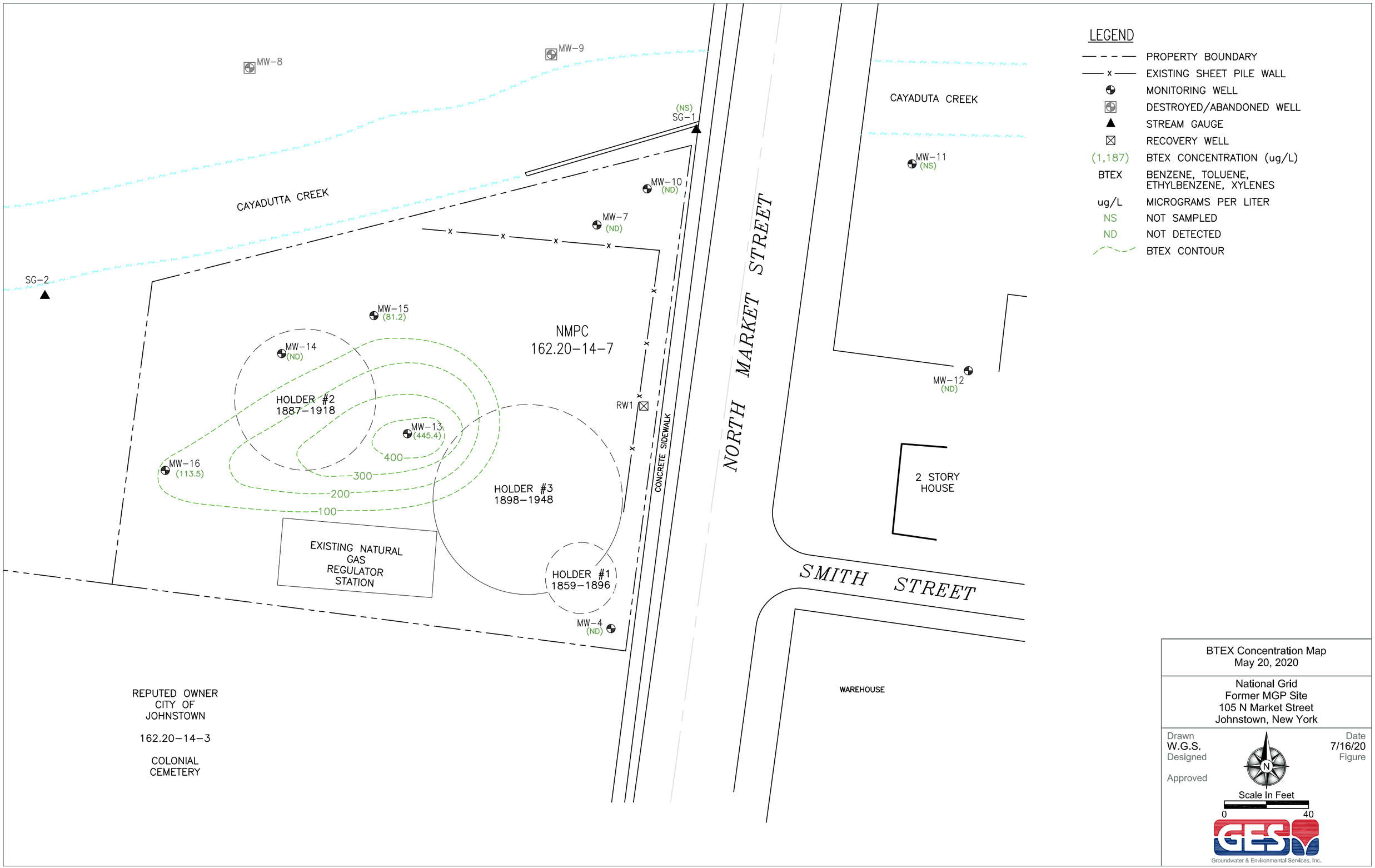

BTEX Concentration Map
May 20, 2020

National Grid
Former MGP Site
105 N Market Street
Johnstown, New York

Drawn W.G.S.
Designed
Approved
Date 7/16/20
Figure

N

Scale In Feet
0 40

GES
Groundwater & Environmental Services, Inc.

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Naphthalene Concentration Map
May 20, 2020

National Grid
Former MGP Site
105 N Market Street
Johnstown, New York

Drawn
W.G.S.
Designed

Approved

Date
7/16/20
Figure

Scale In Feet
0 40

Groundwater & Environmental Services, Inc.

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Tables

Table 2

Groundwater Level Measurements

Well ID	ELEVATION REFERENCE POINT	6/30/2010		9/29/2010		1/5/2011		4/8/2011		6/16/2011		10/13/2011		12/15/2011	
		Depth to Water (ft TOC)	GW Elevation (ft AMSL)	Depth to Water (ft TOC)	GW Elevation (ft AMSL)	Depth to Water (ft TOC)	GW Elevation (ft AMSL)	Depth to Water (ft TOC)	GW Elevation (ft AMSL)	Depth to Water (ft TOC)	GW Elevation (ft AMSL)	Depth to Water (ft TOC)	GW Elevation (ft AMSL)	Depth to Water (ft TOC)	GW Elevation (ft AMSL)
MW-4	676.54	23.10	653.44	23.41	653.13	22.95	653.59	22.50	654.04	22.04	654.50	21.41	655.13	22.78	653.76
MW-7	659.08	14.25	644.83	13.18	645.90	13.88	645.20	12.87	646.21	13.80	645.28	13.15	645.93	15.45	643.63
MW-10	657.59	14.80	642.79	14.60	642.99	14.75	642.84	14.09	643.50	14.77	642.82	14.11	643.48	14.22	643.37
MW-11	657.29	NM	NM	13.57	643.72	13.59	643.70	12.51	644.78	13.38	643.91	12.95	644.34	12.76	644.53
MW-12	660.08	NM	NM	NM	NM	15.06	645.02	NM	NM	NM	NM	13.61	646.47	14.54	645.54
MW-13	664.89	14.65	650.24	15.22	649.67	14.95	649.94	11.18	653.71	13.99	650.90	11.91	652.98	14.31	650.58
MW-14	663.91	13.50	650.41	14.46	649.45	14.28	649.63	12.86	651.05	13.65	650.26	13.26	650.65	13.65	650.26
MW-15	661.85	16.90	644.95	17.24	644.61	17.68	644.17	15.07	646.78	16.63	645.22	15.95	645.90	16.38	645.47
MW-16	665.57	9.70	655.87	10.19	655.38	12.33	653.24	11.00	654.57	10.50	655.07	9.79	655.78	9.91	655.66
RW-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GAUGE1	659.97	15.07	644.90	20.20	639.77	16.30	643.67	15.75	644.22	16.75	643.22	16.05	643.92	15.62	644.35

ft AMSL = Feet above mean sea level
ft TOC = Feet from top of inner casing
GW = Groundwater
NM = Not measured

Table 2

Groundwater Level Measurements

Well ID	ELEVATION REFERENCE POINT	3/15/2012		10/9/2012		4/18/2013		10/7/2013		4/9/2014		10/13/2014		4/16/2015	
		Depth to Water (ft TOC)	GW Elevation (ft AMSL)	Depth to Water (ft TOC)	GW Elevation (ft AMSL)	Depth to Water (ft TOC)	GW Elevation (ft AMSL)	Depth to Water (ft TOC)	GW Elevation (ft AMSL)	Depth to Water (ft TOC)	GW Elevation (ft AMSL)	Depth to Water (ft TOC)	GW Elevation (ft AMSL)	Depth to Water (ft TOC)	GW Elevation (ft AMSL)
MW-4	676.54	22.81	653.73	NM	NM	23.97	652.57	23.12	653.42	23.28	653.26	23.28	653.26	22.91	653.63
MW-7	659.08	13.55	645.53	14.17	644.91	13.53	645.55	14.36	644.72	13.71	645.37	14.61	644.47	13.23	645.85
MW-10	657.59	14.18	643.41	15.05	642.54	14.27	643.32	14.44	643.15	14.13	643.46	14.98	642.61	14.15	643.44
MW-11	657.29	12.73	644.56	13.95	643.34	13.01	644.28	13.16	644.13	12.68	644.61	13.71	643.58	12.62	644.67
MW-12	660.08	14.26	645.82	16.36	643.72	14.06	646.02	14.99	645.09	14.41	645.67	15.65	644.43	14.25	645.83
MW-13	664.89	14.98	649.91	16.12	648.77	14.18	650.71	15.08	649.81	14.84	650.05	15.53	649.36	11.34	653.55
MW-14	663.91	15.49	648.42	16.98	646.93	13.14	650.77	14.74	649.17	15.70	648.21	15.02	648.89	13.06	650.85
MW-15	661.85	16.41	645.44	17.85	644.00	16.26	645.59	17.21	644.64	16.67	645.18	17.55	644.30	15.31	646.54
MW-16	665.57	11.56	654.01	10.51	655.06	9.98	655.59	9.85	655.72	9.45	656.12	10.24	655.33	10.48	655.09
RW-1	-	-	-	17.98	-	16.21	-	15.95	-	12.32	-	17.31	-	16.84	-
GAUGE1	659.97	15.69	644.28	NM	NM	19.10	640.87	18.85	641.12	18.85	641.12	20.01	639.96	18.91	641.06

ft AMSL = Feet above mean sea level
ft TOC = Feet from top of inner casing
GW = Groundwater
NM = Not measured

Table 2

Groundwater Level Measurements

Well ID	ELEVATION REFERENCE POINT	10/13/2015		4/6/2016		10/25/2016		4/26/2017		10/11/2017		4/26/2018		10/17/2018	
		Depth to Water (ft TOC)	GW Elevation (ft AMSL)	Depth to Water (ft TOC)	GW Elevation (ft AMSL)	Depth to Water (ft TOC)	GW Elevation (ft AMSL)	Depth to Water (ft TOC)	GW Elevation (ft AMSL)	Depth to Water (ft TOC)	GW Elevation (ft AMSL)	Depth to Water (ft TOC)	GW Elevation (ft AMSL)	Depth to Water (ft TOC)	GW Elevation (ft AMSL)
MW-4	676.54	23.48	653.06	23.51	653.03	24.03	652.51	21.09	652.19	24.35	652.19	22.48	654.06	23.20	653.34
MW-7	659.08	14.61	644.47	14.19	644.89	15.00	644.08	13.62	645.46	14.83	644.25	12.85	646.23	14.40	644.68
MW-10	657.59	14.95	642.64	14.77	624.82	15.18	642.41	14.37	643.22	15.02	642.57	13.05	644.54	14.60	642.99
MW-11	657.29	-	-	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-
MW-12	660.08	15.62	644.46	14.95	645.13	15.82	644.26	13.55	646.53	15.62	644.46	14.00	646.08	15.10	644.98
MW-13	664.89	14.98	649.91	15.95	648.94	16.32	648.57	13.27	651.62	15.80	649.09	12.98	651.91	14.15	650.74
MW-14	663.91	13.63	650.28	16.81	647.1	16.8	647.11	13.71	650.20	15.88	648.03	13.71	650.20	13.88	650.03
MW-15	661.85	17.23	644.62	17.355	644.3	17.9	643.95	16.05	645.80	17.86	643.99	15.71	646.14	16.70	645.15
MW-16	665.57	9.61	655.96	10.79	654.78	11.11	654.46	9.02	656.55	10.43	655.14	9.52	656.05	9.88	655.69
RW-1	-	13.21	-	13.03	NRP	12.88	NRP	10.6	NRP	17.40	NRP	12.35	NRP	12.38	NRP
GAUGE1	659.97	19.91	640.06	19.76	640.21	18.40	641.57	15.70	644.27	15.46	644.51	14.55	645.42	15.70	644.27

ft AMSL = Feet above mean sea level
ft TOC = Feet from top of inner casing
GW = Groundwater
NM = Not measured

Table 2

Groundwater Level Measurements

Well ID	ELEVATION REFERENCE POINT	4/18/2019		10/16/2019		5/20/2020	
		Depth to Water (ft TOC)	GW Elevation (ft AMSL)	Depth to Water (ft TOC)	GW Elevation (ft AMSL)	Depth to Water (ft TOC)	GW Elevation (ft AMSL)
MW-4	676.54	22.60	653.94	23.47	653.07	22.11	654.43
MW-7	659.08	13.85	645.23	14.73	644.35	15.15	643.93
MW-10	657.59	14.50	643.09	15.02	642.57	15.02	642.57
MW-11	657.29	NM	-	NM	-	NM	-
MW-12	660.08	14.40	645.68	15.54	644.54	14.62	645.46
MW-13	664.89	13.07	651.82	14.74	650.15	15.42	649.47
MW-14	663.91	13.80	650.11	13.8	650.11	14.23	649.68
MW-15	661.85	15.60	646.25	17.05	644.80	16.52	645.33
MW-16	665.57	10.39	655.18	9.78	655.79	9.81	655.76
RW-1	-	15.22	NRP	13.00	NRP	11.40	NRP
GAUGE1	659.97	15.50	644.47	16.28	643.69	16.05	643.92

ft AMSL = Feet above mean sea level
ft TOC = Feet from top of inner casing
GW = Groundwater
NM = Not measured

Table 3

Groundwater Analytical Data
MW-4

CONSTITUENT	UNITS	NYSDEC AWQS Values	09/29/10	01/04/11	04/06/11	06/14/11	10/11/11	12/13/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/20/14	04/16/15	10/14/15	04/06/16	10/25/16	04/26/17	10/11/17	04/26/18	10/16/18	04/18/19	10/16/19	05/20/20
BTEX Compounds																									
Benzene	µg/L	1	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
Ethylbenzene	µg/L	5	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
m/p-Xylene	µg/L	5	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)
o-Xylene	µg/L	5	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
Toluene	µg/L	5	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
PAHs																									
Acenaphthene	µg/L	20	ND (<0.19)	ND (<0.19)	ND (<0.47)	ND (<0.48)	ND (<0.47)	ND (<0.48)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.52)	ND (<0.52)	ND (<0.10)	ND (<0.096)	ND (<0.10)	ND (<0.099)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Acenaphthylene	µg/L	NC	ND (<0.19)	ND (<0.19)	ND (<0.47)	ND (<0.48)	ND (<0.47)	ND (<0.48)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.52)	ND (<0.52)	ND (<0.10)	ND (<0.096)	ND (<0.10)	ND (<0.099)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Anthracene	µg/L	50	ND (<0.19)	ND (<0.19)	ND (<0.47)	ND (<0.48)	ND (<0.47)	ND (<0.48)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.52)	ND (<0.52)	ND (<0.10)	ND (<0.096)	ND (<0.10)	ND (<0.099)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Benzo(a)anthracene	µg/L	0.002	ND (<0.19)	ND (<0.19)	ND (<0.47)	ND (<0.48)	ND (<0.47)	ND (<0.48)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.52)	ND (<0.52)	ND (<0.10)	ND (<0.096)	ND (<0.10)	ND (<0.099)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Benzo(a)pyrene	µg/L	0.000	ND (<0.19)	ND (<0.19)	ND (<0.47)	ND (<0.48)	ND (<0.47)	ND (<0.48)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.52)	ND (<0.52)	ND (<0.10)	ND (<0.096)	ND (<0.10)	ND (<0.099)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Benzo(b)fluoranthene	µg/L	0.002	ND (<0.19)	ND (<0.19)	ND (<0.47)	ND (<0.48)	ND (<0.47)	**0.26J**	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.52)	ND (<0.52)	ND (<0.10)	ND (<0.096)	ND (<0.10)	ND (<0.099)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Benzo(g,h,i)perylene	µg/L	NC	ND (<0.19)	ND (<0.19)	ND (<0.47)	ND (<0.48)	ND (<0.47)	0.19J	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.52)	ND (<0.52)	ND (<0.10)	ND (<0.096)	ND (<0.10)	ND (<0.099)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Benzo(k)fluoranthene	µg/L	0.002	ND (<0.19)	ND (<0.19)	ND (<0.47)	ND (<0.48)	ND (<0.47)	ND (<0.48)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.52)	ND (<0.52)		ND (<0.096)	ND (<0.10)	ND (<0.099)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Chrysene	µg/L	0.002	ND (<0.19)	ND (<0.19)	ND (<0.47)	ND (<0.48)	ND (<0.47)	ND (<0.48)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.52)	ND (<0.52)	ND (<0.10)	ND (<0.096)	ND (<0.10)	ND (<0.099)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Dibenzo(a,h)anthracene	µg/L	NC	ND (<0.19)	ND (<0.19)	ND (<0.47)	ND (<0.48)	ND (<0.47)	ND (<0.48)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.52)	ND (<0.52)	ND (<0.10)	ND (<0.096)	ND (<0.10)	ND (<0.099)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Fluoranthene	µg/L	50	ND (<0.19)	ND (<0.19)	ND (<0.47)	ND (<0.48)	ND (<0.47)	ND (<0.48)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.52)	ND (<0.52)	ND (<0.10)	ND (<0.096)	ND (<0.10)	ND (<0.099)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Fluorene	µg/L	50	ND (<0.19)	ND (<0.19)	ND (<0.47)	ND (<0.48)	ND (<0.47)	ND (<0.48)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.52)	ND (<0.52)	ND (<0.10)	ND (<0.096)	ND (<0.10)	ND (<0.099)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Indeno(1,2,3-cd)pyrene	µg/L	0.002	ND (<0.19)	ND (<0.19)	ND (<0.47)	ND (<0.48)	ND (<0.47)	ND (<0.48)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.52)	ND (<0.52)	ND (<0.10)	ND (<0.096)	ND (<0.10)	ND (<0.099)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Naphthalene	µg/L	10	0.27	ND (<0.19)	ND (<0.47)	ND (<0.48)	ND (<0.47)	ND (<0.48)	ND (<0.49)	ND (<0.49)	ND (<0.49)	3.2	3.2	2.2	2.2	2.2	ND (<0.51)	0.29	ND (<0.096)	ND (<0.10)	ND (<0.099)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Phenanthrene	µg/L	50	ND (<0.19)	ND (<0.19)	ND (<0.47)	ND (<0.48)	ND (<0.47)	0.048J	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.52)	ND (<0.52)	ND (<0.10)	ND (<0.096)	ND (<0.10)	ND (<0.099)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Pyrene	µg/L	50	ND (<0.19)	ND (<0.19)	ND (<0.47)	ND (<0.48)	ND (<0.47)	0.10J	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.52)	ND (<0.52)	ND (<0.10)	ND (<0.096)	ND (<0.10)	ND (<0.099)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Cyanide and Lead																									
Lead	µg/L	25	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<3.0)	ND (<3.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<10)	ND (<10)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)
Cyanide	mg/L	0.2	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.010)	ND (<0.010)	ND (<0.010)	ND (<0.010)	ND (<0.010)	ND (<0.010)	ND (<0.010)	ND (<0.010)	ND (<0.010)	ND (<0.010)	ND (<0.010)	ND (<0.010)	ND (<0.010)	ND (<0.010)	ND (<0.010)	ND (<0.010)	ND (<0.010)	ND (<0.010)

AWQS	= Ambient Water Quality Standards
B	= Present in Associated Blank Sample
BTEX	= Benzene, Ethylbenzene, Toluene and Xylene
D	= Diluted Sample
E	= Result exceeded calibration range
F1	= MS and/or MSD Recovery outside acceptance limits.
F2	= MS/MSD RPD above control limits.
J	= Estimated Concentration Value
mg/L	= Milligrams per Liter
NC	= No Criteria
ND (<#)	= Not detected above laboratory reporting limit (indicated by #)
NS	= Not Sampled
NYSDEC	= New York State Department of Environmental Conservation
PAHs	= Polycyclic Aromatic Hydrocarbons
R	= Rejected
µg/L	= Micrograms per Liter
Bolded	= values indicated exceedance of the NYSDEC AWQS

Table 3

Groundwater Analytical Data
MW-4

CONSTITUENT	UNITS	09/29/10	01/04/11	04/06/11	06/14/11	10/11/11	12/13/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/15/14	04/16/15	10/14/15	04/06/16	10/25/16	04/26/17	10/11/17	04/26/18	10/16/18	04/18/19	10/16/19	05/20/20
MNA/WQ Parameters																								
Alkalinity (as CaCO3)	mg/L	385	420	R	R	405J	431J	R	405	354	442	398	400	384	412	394	414	392	418	424	424	452	410	360
Chloride	mg/L	354	269	265	385 B	288J	R	228	222	275	411	304	329	295	365	304	421	377	ND (<300)	233	306	360	260	296
Ethane	µg/L	ND (<1.0)	ND (<1.0)	ND (<1.5)	ND (<1.5)	ND (<1.5)	ND (<1.5)	ND (<1.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<0.025)	ND (<0.025)	ND (<0.030)	0.037J	ND (<0.16)	ND (<1.0)	0.036 J	ND (<1.00)
Ethene	µg/L	ND (<1.0)	ND (<1.0)	ND (<1.5)	ND (<1.5)	ND (<1.5)	ND (<1.5)	ND (<1.5)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<0.035)	ND (<0.035)	ND (<0.10)	ND (<0.10)	ND (<0.032)	ND (<1.0)	ND (<1.0)	ND (<1.00)
Ferrous Iron	mg/L	ND (<0.1)	ND (<0.1)	R	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	0.013	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	0.14	0.11	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)
Manganese	mg/L	NA	ND (<10)	0.64J	0.45J	ND (<3.0)	3.4	ND (<3.0)	0.0087	ND (<3.0)	ND (<3.0)	ND (<3.0)	ND (<3.0)	ND (<3.0)	0.019	0.0031	0.0053	ND (<0.005)	ND (<0.005)	ND (<0.005)	0.0065	ND (<0.005)	0.0318	ND (<0.005)
Methane	µg/L	ND (<2.0)	ND (<2.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<4.0)	ND (<4.0)	ND (<4.0)	ND (<4.0)	ND (<4.0)	ND (<4.0)	ND (<4.0)	ND (<4.0)	0.32J	0.47J	0.27J	0.29J	ND (<0.30)	ND (<2.5)	ND (<2.5)	ND (<1.00)
Nitrate	mg/L	NA	2.5	2.7	2.9	2.4	3	3.1	2.2	2.4	3.5	3.6	2.7	2.9	2.9	3.4	3.2	2.2	3.2	0.69	2.1	3.9	2.7	2.8
Nitrogen	mg/L	0.22	0.25	ND (<0.2)	ND (<0.2)	R	ND (<0.2)	ND (<0.2)	0.25	0.31	0.31	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<0.2)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
Sulfate	mg/L	NA	49.2	56.7	74.2 B	R	R	56 B	62.2	64.7	74.7	70.7	50.8	60	60	73.9	60.8	23.0	56.7	50.0	ND (<50.0)	35.8	42.1	23.7
Sulfide	mg/L	NA	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)

B = Present in Associated Blank Sample
D = Diluted Sample
J = Estimated Concentration
mg/L = Milligrams per Liter
MNA = Monitored Natural Attenuation
NA = Not Analyzed
ND (<#) = Not detected above laboratory reporting limit (indicated by #)
NS = Not Sampled
R = Rejected
µg/L = Micrograms per Liter
WQ = Water Quality

Table 3

Groundwater Analytical Data
MW-7

CONSTITUENT	UNITS	NYSDEC AWQS Values	09/29/10	01/04/11	04/06/11	06/14/11	10/11/11	12/13/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/20/14	04/16/15	10/14/15	04/06/16	10/26/16	04/26/17	10/11/17	04/26/18	10/16/18	04/18/19	10/16/19	05/20/20
BTEX Compounds																									
Benzene	µg/L	1	ND (<1.0)	ND (<1.0)	ND (<1.0)	0.72J	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	**1.3**	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
Ethylbenzene	µg/L	5	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
m/p-Xylene	µg/L	5	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)
o-Xylene	µg/L	5	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
Toluene	µg/L	5	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	1.3	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
PAHs																									
Acenaphthene	µg/L	20	0.075J	ND (<0.19)	ND (<0.50)	ND (<0.48)	ND (<0.48)	0.55	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.46)	ND (<0.46)	ND (<0.49)	ND (<0.49)	0.10	ND (<0.097)	ND (<0.097)	ND (<0.098)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Acenaphthylene	µg/L	NC	0.15J	0.11J	ND (<0.50)	ND (<0.48)	ND (<0.48)	0.20J	0.13J	0.13J	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.46)	ND (<0.46)	ND (<0.49)	ND (<0.49)	0.20	ND (<0.097)	ND (<0.097)	ND (<0.098)	ND (<0.11)	ND (<0.11)	0.10	ND (<0.10)
Anthracene	µg/L	50	ND (<0.19)	ND (<0.19)	ND (<0.50)	ND (<0.48)	ND (<0.48)	ND (<0.47)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.46)	ND (<0.46)	ND (<0.49)	ND (<0.49)	ND (<0.10)	ND (<0.097)	ND (<0.097)	ND (<0.098)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Benzo(a)anthracene	µg/L	0.002	ND (<0.19)	ND (<0.19)	ND (<0.50)	ND (<0.48)	ND (<0.48)	ND (<0.47)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.46)	ND (<0.46)	ND (<0.49)	ND (<0.49)	ND (<0.10)	ND (<0.097)	ND (<0.097)	ND (<0.098)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Benzo(a)pyrene	µg/L	0.000	ND (<0.19)	ND (<0.19)	ND (<0.50)	ND (<0.48)	ND (<0.48)	ND (<0.47)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.46)	ND (<0.46)	ND (<0.49)	ND (<0.49)	ND (<0.10)	ND (<0.097)	ND (<0.097)	ND (<0.098)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Benzo(b)fluoranthene	µg/L	0.002	ND (<0.19)	ND (<0.19)	ND (<0.50)	ND (<0.48)	ND (<0.48)	**0.15J**	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.46)	ND (<0.46)	ND (<0.49)	ND (<0.49)	ND (<0.10)	ND (<0.097)	ND (<0.097)	ND (<0.098)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Benzo(g,h,i)perylene	µg/L	NC	ND (<0.19)	ND (<0.19)	ND (<0.50)	ND (<0.48)	ND (<0.48)	ND (<0.47)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.46)	ND (<0.46)	ND (<0.49)	ND (<0.49)	ND (<0.10)	ND (<0.097)	ND (<0.097)	ND (<0.098)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Benzo(k)fluoranthene	µg/L	0.002	ND (<0.19)	ND (<0.19)	ND (<0.50)	ND (<0.48)	ND (<0.48)	ND (<0.47)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.46)	ND (<0.46)	ND (<0.49)	ND (<0.49)		ND (<0.097)	ND (<0.097)	ND (<0.098)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Chrysene	µg/L	0.002	ND (<0.19)	ND (<0.19)	ND (<0.50)	ND (<0.48)	ND (<0.48)	ND (<0.47)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.46)	ND (<0.46)	ND (<0.49)	ND (<0.49)	ND (<0.10)	ND (<0.097)	ND (<0.097)	ND (<0.098)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Dibenzo(a,h)anthracene	µg/L	NC	ND (<0.19)	ND (<0.19)	ND (<0.50)	ND (<0.48)	ND (<0.48)	ND (<0.47)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.46)	ND (<0.46)	ND (<0.49)	ND (<0.49)	ND (<0.10)	ND (<0.097)	ND (<0.097)	ND (<0.098)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Fluoranthene	µg/L	50	ND (<0.19)	ND (<0.19)	ND (<0.50)	ND (<0.48)	ND (<0.48)	ND (<0.47)	0.078J	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.46)	ND (<0.46)	ND (<0.49)	ND (<0.49)	ND (<0.10)	ND (<0.097)	ND (<0.097)	ND (<0.098)	ND (<0.11)	ND (<0.11)	0.16	ND (<0.10)
Fluorene	µg/L	50	ND (<0.19)	0.057J	ND (<0.50)	ND (<0.48)	ND (<0.48)	0.11J	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.46)	ND (<0.46)	ND (<0.49)	ND (<0.49)	ND (<0.10)	ND (<0.097)	ND (<0.097)	ND (<0.098)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Indeno(1,2,3-cd)pyrene	µg/L	0.002	ND (<0.19)	ND (<0.19)	ND (<0.50)	ND (<0.48)	ND (<0.48)	ND (<0.47)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.46)	ND (<0.46)	ND (<0.49)	ND (<0.49)	ND (<0.10)	ND (<0.097)	ND (<0.097)	ND (<0.098)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Naphthalene	µg/L	10	0.43	ND (<0.19)	ND (<0.50)	ND (<0.48)	ND (<0.48)	ND (<0.47)	1.1	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.46)	ND (<0.46)	5.2	ND (<0.49)	3.0	ND (<0.097)	ND (<0.097)	ND (<0.098)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Phenanthrene	µg/L	50	ND (<0.19)	ND (<0.19)	ND (<0.50)	ND (<0.48)	ND (<0.48)	0.097J	0.12J	ND (<0.48)	0.49	ND (<0.48)	ND (<0.48)	ND (<0.46)	ND (<0.46)	ND (<0.49)	ND (<0.49)	ND (<0.10)	ND (<0.097)	ND (<0.097)	ND (<0.098)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Pyrene	µg/L	50	ND (<0.19)	0.038J	ND (<0.50)	ND (<0.48)	ND (<0.48)	0.35J	0.098J	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.46)	ND (<0.46)	ND (<0.49)	ND (<0.49)	ND (<0.10)	ND (<0.097)	ND (<0.097)	ND (<0.098)	ND (<0.11)	ND (<0.11)	0.26	ND (<0.10)
Cyanide and Lead																									
Lead	µg/L	25	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<3.0)	19	12	3.2J	19	**33**	7.1	7.1	ND (<0.010)	ND (<0.010)	ND (<0.010)	ND (<0.010)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)
Cyanide	mg/L	0.2	**0.333**	**0.217**	R	**0.68J**	**0.986**	R	**0.22**	**5.9**	**1.4**	**0.4**	0.16	0.13	0.18	0.18	0.18	0.15	0.18	0.16	0.14	0.17	0.129	0.17	ND (<0.010)

AWQS = Ambient Water Quality Standards
B = Present in Associated Blank Sample
BTEX = Benzene, Ethylbenzene, Toluene and Xylene
D = Diluted Sample
E = Result exceeded calibration range
F1 = MS and/or MSD Recovery outside acceptance limits.
F2 = MS/MSD RPD above control limits.
J = Estimated Concentration Value
mg/L = Milligrams per Liter
NC = No Criteria
ND (<#) = Not detected above laboratory reporting limit (indicated by #)
NS = Not Sampled
NYSDEC = New York State Department of Environmental Conservation
PAHs = Polycyclic Aromatic Hydrocarbons
R = Rejected
µg/L = Micrograms per Liter
Bolded = values indicated exceedance of the NYSDEC AWQS

Table 3

Groundwater Analytical Data
MW-7

CONSTITUENT	UNITS	09/30/10	01/04/11	04/07/11	06/15/11	10/12/11	12/14/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/15/14	04/16/15	10/14/15	04/06/16	10/26/16	04/26/17	10/11/17	04/26/18	10/16/18	04/18/19	10/16/19	05/20/20
MNA/WQ Parameters																								
Alkalinity (as CaCO3)	mg/L	321	330J	R	R	327J	370J	R	310	324	367	375	392	340	403	395	406	412	380	390	440	370	400	446
Chloride	mg/L	108	104	122	93.8 B	111J	R	91.2	101	114	84	79	62.8	67.7	66.7	66.2	79.4	68.9	64.6	63.6	59.4	63.9	50.9	58.1
Ethane	µg/L	ND (<5.0)	ND (<5.0)	ND (<1.5)	ND (<150)	ND (<1.5)	ND (<75)	ND (<75)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	0.38J	0.86J	0.20J	0.32J	0.18J	0.13 J	ND (<1.0)	ND (<1.00)
Ethene	µg/L	ND (<5.0)	ND (<5.0)	ND (<1.5)	ND (<150)	ND (<1.5)	ND (<75)	ND (<75)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<0.035)	0.090J	ND (<0.10)	ND (<0.10)	ND (<0.032)	ND (<1.0)	ND (<1.0)	ND (<1.00)
Ferrous Iron	mg/L	1.12	ND (<0.1)	R	1.7J	0.83J	R	ND (<0.1)	0.37	ND (<0.1)	0.25	6.24	ND (<0.1)	ND (<0.1)	ND (<0.1)	0.14	0.59	3.7	3.3	2.8	3.2	2.5	2.1	4.3
Manganese	mg/L	NA	0.54	0.67	0.62	0.66	0.94	0.51	0.96	1.1	1.1	0.564	0.49	0.49	0.46	0.53	0.43	0.478	0.476	0.476	0.459	0.487	0.395	0.513
Methane	µg/L	290J	510	190	210	190	300	210	240	40	23	150	82	35	96	17	160	240	120	170	150	140	160	111
Nitrate	mg/L	NA	ND (<1.0)	ND (<0.05)	ND (<0.02)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	0.14	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<1.0)	ND (<1.0)
Nitrogen	mg/L	1.76	1.59	1.4	1.3	1.6	R	1.6	1.6	4.6	1.5	0.16	2	1.1	1.5	1.6	2.2	1.8	1.3	1.7	1.2	1.6	0.11	1.6
Sulfate	mg/L	NA	576	745 B	611 B	R	R	674 B	509	654	518	540	457	442	533	384	476	396	394	389	331	334	259	307
Sulfide	mg/L	NA	1.4J	ND (<1.0)	0.8J	2.8	ND (<1.0)	ND (<1.0)	1.2	1.4	1.4	1.4	1	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)

B = Present in Associated Blank Sample
D = Diluted Sample
J = Estimated Concentration
mg/L = Milligrams per Liter
MNA = Monitored Natural Attenuation
NA = Not Analyzed
ND (<#) = Not detected above laboratory reporting limit (indicated by #)
NS = Not Sampled
R = Rejected
µg/L = Micrograms per Liter
WQ = Water Quality

Table 3

Groundwater Analytical Data
MW-10

CONSTITUENT	UNITS	NYSDEC AWQS Values	09/29/10	01/04/11	04/06/11	06/14/11	10/11/11	12/13/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/20/14	04/16/15	10/13/15	04/06/16	10/26/16	04/26/17	10/11/17	04/26/18	10/16/18	04/18/19	10/16/19	05/20/20
BTEX Compounds																									
Benzene	µg/L	1	ND (<1.0)	ND (<1.0)	ND (<1.0)	**7.1**	**1.3**	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	**2.3**	ND (<1.0)	ND (<1.0)	**1.9**	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
Ethylbenzene	µg/L	5	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	1	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
m/p-Xylene	µg/L	5	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)
o-Xylene	µg/L	5	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
Toluene	µg/L	5	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	2	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
PAHs																									
Acenaphthene	µg/L	20	1.6	1.3	1.8J	2.4	2.3	0.099J	1.4	2	2.2	1.1	0.8	ND (<0.48)	0.63	ND (<0.50)	ND (<0.50)	1.4	0.72	1.6	0.53	1.7	1.4	1.8	0.52
Acenaphthylene	µg/L	NC	0.43J	0.32	0.24J	0.42J	0.74J	0.13J	0.14J	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.50)	ND (<0.50)	ND (<0.50)	0.18	0.16	0.18	0.11	0.22	0.22	0.27	ND (<0.095)
Anthracene	µg/L	50	0.061J	0.047J	ND (<0.47)	ND (<0.47)	0.28J	ND (<0.47)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.50)	ND (<0.50)	ND (<0.50)	ND (<0.10)	ND (<0.097)	ND (<0.099)	ND (<0.10)	ND (<0.11)	ND (<0.11)	ND (<0.096)	ND (<0.095)
Benzo(a)anthracene	µg/L	0.002	**0.13J**	**0.057J**	ND (<0.47)	ND (<0.47)	**1**	ND (<0.47)	**0.49 B**	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.50)	ND (<0.50)	ND (<0.50)	ND (<0.10)	**0.11**	ND (<0.099)	ND (<0.10)	ND (<0.11)	**0.13**	**0.15**	ND (<0.095)
Benzo(a)pyrene	µg/L	0.002	**0.14J**	**0.057J**	ND (<0.47)	ND (<0.47)	**0.81**	ND (<0.47)	**0.19J**	ND (<0.48)	**0.55**	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.50)	ND (<0.50)	ND (<0.50)	ND (<0.10)	**0.10**	ND (<0.099)	ND (<0.10)	ND (<0.11)	**0.12**	**0.15**	ND (<0.095)
Benzo(b)fluoranthene	µg/L	0.002	**0.071J**	**0.047J**	ND (<0.47)	ND (<0.47)	**0.8**	ND (<0.47)	**0.24J**	ND (<0.48)	**0.86**	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.50)	ND (<0.50)	ND (<0.50)	ND (<0.10)	**0.17**	ND (<0.099)	ND (<0.10)	ND (<0.11)	**0.13**	**0.15**	ND (<0.095)
Benzo(g,h,i)perylene	µg/L	NC	0.051J	ND (<0.19)	ND (<0.47)	ND (<0.47)	0.37J	ND (<0.47)	0.08J	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.50)	ND (<0.50)	ND (<0.50)	ND (<0.10)	ND (<0.097)	ND (<0.099)	ND (<0.10)	ND (<0.11)	ND (<0.11)	ND (<0.096)	ND (<0.095)
Benzo(k)fluoranthene	µg/L	0.002	**0.092J**	**0.047J**	ND (<0.47)	ND (<0.47)	**0.53**	ND (<0.47)	**0.18J**	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.50)	ND (<0.50)	ND (<0.50)		**0.15**	ND (<0.099)	ND (<0.10)	ND (<0.11)	ND (<0.11)	ND (<0.096)	ND (<0.095)
Chrysene	µg/L	0.002	**0.12J**	**0.047J**	ND (<0.47)	ND (<0.47)	**0.91**	ND (<0.47)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.50)	ND (<0.50)	ND (<0.50)	ND (<0.10)	**0.099**	ND (<0.099)	ND (<0.10)	ND (<0.11)	ND (<0.11)	0.12	ND (<0.095)
Dibenzo(a,h)anthracene	µg/L	NC	ND (<0.20)	ND (<0.19)	ND (<0.47)	ND (<0.47)	0.11J	ND (<0.47)	ND (<0.48)	ND (<0.48)	**1.1**	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.50)	ND (<0.50)	ND (<0.50)	ND (<0.10)	ND (<0.097)	ND (<0.099)	ND (<0.10)	ND (<0.11)	ND (<0.11)	ND (<0.096)	ND (<0.095)
Fluoranthene	µg/L	50	0.24	0.11J	0.085J	ND (<0.47)	1.5	ND (<0.47)	0.34J	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.50)	ND (<0.50)	ND (<0.50)	0.10	0.16	ND (<0.099)	ND (<0.10)	ND (<0.11)	0.18	0.22	ND (<0.095)
Fluorene	µg/L	50	0.13J	0.14J	ND (<0.47)	ND (<0.47)	ND (<0.49)	ND (<0.47)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.50)	ND (<0.50)	ND (<0.50)	ND (<0.10)	ND (<0.097)	ND (<0.099)	ND (<0.10)	ND (<0.11)	ND (<0.11)	ND (<0.096)	ND (<0.095)
Indeno(1,2,3-cd)pyrene	µg/L	0.002	**0.051J**	**ND (<0.19)**	ND (<0.47)	ND (<0.47)	**0.34J**	ND (<0.47)	**0.076J**	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.50)	ND (<0.50)	ND (<0.50)	ND (<0.10)	ND (<0.097)	ND (<0.099)	ND (<0.10)	ND (<0.11)	ND (<0.11)	ND (<0.096)	ND (<0.095)
Naphthalene	µg/L	10	0.33	ND (<0.19)	ND (<0.47)	ND (<0.47)	ND (<0.49)	ND (<0.47)	ND (<0.48)	0.7	0.7	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.50)	7.9	ND (<0.50)	0.23	ND (<0.097)	ND (<0.099)	ND (<0.10)	ND (<0.11)	ND (<0.11)	ND (<0.096)	ND (<0.095)
Phenanthrene	µg/L	50	0.11J	ND (<0.19)	ND (<0.47)	ND (<0.47)	0.53	0.10J	0.18J	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.50)	ND (<0.50)	ND (<0.50)	ND (<0.10)	ND (<0.097)	ND (<0.099)	ND (<0.10)	ND (<0.11)	ND (<0.11)	ND (<0.096)	ND (<0.095)
Pyrene	µg/L	50	0.33J	0.13J	0.15J	ND (<0.57)	1.8	0.14J	0.41J	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.50)	ND (<0.50)	ND (<0.50)	0.15	0.20	ND (<0.099)	ND (<0.10)	0.13	0.22	0.27	ND (<0.095)
Cyanide and Lead																									
Lead	µg/L	25	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<3.0)	9.1	3.9J	6.4	ND (<5.0)	8.4	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<0.010)	ND (<0.010)	ND (<0.010)	ND (<5.0)	ND (<10.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)
Cyanide	mg/L	0.2	0.139	0.124	R	0.17J	0.156	R	0.078	0.14	0.1	0.11	0.081	0.10	0.098	0.010	0.085	0.081	0.13	0.10	0.12	0.079	0.114	0.093	0.097

AWQS	= Ambient Water Quality Standards
B	= Present in Associated Blank Sample
BTEX	= Benzene, Ethylbenzene, Toluene and Xylene
D	= Diluted Sample
E	= Result exceeded calibration range
F1	= MS and/or MSD Recovery outside acceptance limits.
F2	= MS/MSD RPD above control limits.
J	= Estimated Concentration Value
mg/L	= Milligrams per Liter
NC	= No Criteria
ND (<#)	= Not detected above laboratory reporting limit (indicated by #)
NS	= Not Sampled
NYSDEC	= New York State Department of Environmental Conservation
PAHs	= Polycyclic Aromatic Hydrocarbons
R	= Rejected
µg/L	= Micrograms per Liter
Bolded	= values indicated exceedance of the NYSDEC AWQS

Table 3

Groundwater Analytical Data
MW-10

CONSTITUENT	UNITS	09/29/10	01/04/11	04/06/11	06/14/11	10/11/11	12/14/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/15/14	04/16/15	10/13/15	04/06/16	10/26/16	04/26/17	10/11/17	04/26/18	10/16/18	04/18/19	10/16/19	05/20/20
MNA/WQ Parameters																								
Alkalinity (as CaCO3)	mg/L	556	536J	R	R	523J	541J	R	589	584	552	566	548	512	581	586	660	628	616	606	650	550	640	624
Chloride	mg/L	344	277	181 B	160 B	156J	R	147	316	286	265	470	664	698	1060	893	784	390	427	419	709	440	566	314
Ethane	µg/L	ND (<1.0)	ND (<1.0)	ND (<1.5)	ND (<7.5)	ND (<1.5)	ND (<1.5)	ND (<1.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	0.16J	0.33J	0.20J	0.24J	0.42J	0.29 J	0.34 J	ND (<1.00)
Ethene	µg/L	ND (<1.0)	ND (<1.0)	ND (<1.5)	ND (<7.5)	ND (<1.5)	ND (<1.5)	ND (<1.5)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<0.035)	0.12J	ND (<0.10)	ND (<0.10)	ND (<0.032)	ND (<1.0)	ND (<1.0)	ND (<1.00)
Ferrous Iron	mg/L	0.31	ND (<0.2)	R	0.34J	0.47	ND (<0.1)	R	ND (<0.10)	ND (<0.10)	0.12	6.06	ND (<0.10)	ND (<0.10)	ND (<0.10)	0.11	1.0	4.2	4.7	3.2	4.8	2.6	2.2	5.3
Manganese	mg/L	NA	1.14	1.2	0.95	0.88	0.58	0.83	1	1.2	0.75	1.07	1.3	1.3	1.6	1.2	1.2	1.020	1.030	0.882	0.994	0.946	1.15	0.953
Methane	µg/L	64J	75	34	9.8	33	85	40	72	32	28	110	130	63	82	56	420	300	330	470	680	460	1300	390
Nitrate	mg/L	NA	ND (<1.0)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	0.11	ND (<0.05)	0.12	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)
Nitrogen	mg/L	6.02	4.91	8.5	4.9	4.9	R	5.4	5.7	6.1	4.1	4.8	6.2	5.6	6.3	4	6.5	5.1	3.8	3.3	4.5	4	ND (<1.0)	2.5
Sulfate	mg/L	NA	167	306	296 B	R	R	238 B	175	174	171	153	89.7	167	53.9	44.4	56.6	148	38.2	ND (<100)	23.0	59.4	20.9	55.2
Sulfide	mg/L	NA	R	R	ND (<1.0)	0.8J	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)

B = Present in Associated Blank Sample
D = Diluted Sample
J = Estimated Concentration
mg/L = Milligrams per Liter
MNA = Monitored Natural Attenuation
NA = Not Analyzed
ND (<#) = Not detected above laboratory reporting limit (indicated by #)
NS = Not Sampled
R = Rejected
µg/L = Micrograms per Liter
WQ = Water Quality

Table 3

Groundwater Analytical Data
MW-11

CONSTITUENT	UNITS	NYSDEC AWQS Values	09/29/10	01/04/11	04/06/11	06/14/11	10/11/11	12/13/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/20/14	04/16/15	10/14/15	04/06/16	10/25/16	04/26/17	10/11/17	04/26/18	10/16/18	04/18/19	10/16/19	05/20/20
BTEX Compounds																								
Benzene	µg/L	1	**27**	**16**	**2.8**	**13**	**18**	**15**	**7.9**	**12**	**3.5**	**8.1**	**10**	**22**	**7.3**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	µg/L	5	**7.3**	**7.2**	1.9	**6.9**	**6.1**	**5.5**	3.5	ND (<1.0)	1.2	3.8	**5.1**	**7.8**	3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
m/p-Xylene	µg/L	5	3	3.9	2.2	**5.3**	2.4	2.1	1.4J	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	2.1	ND (<2.0)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
o-Xylene	µg/L	5	2.6	2.7	1.1	3.1	2.0	2.0	1.2	ND (<1.0)	ND (<1.0)	1.6	2.1	2.6	1.5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Xylenes					3.3	8.4	2.4	2.1	1.2	0	0	1.6	2.1	4.7	1.5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	µg/L	5	1.3	1.3	ND (<1.0)	1.4	0.97J	0.99J	0.69J	ND (<1.0)	ND (<1.0)	ND (<1.0)	1.1	1.9	ND (<1.0)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
PAHs																								
Acenaphthene	µg/L	20	**150 D**	**140 D**	**150**	**110**	**120**	**130**	**100**	**140 E**	**97**	**110**	**120**	**110**	**59**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acenaphthylene	µg/L	NC	280JD	330 D	290	290	240 D	270 D	210	160 E	120	170	110	150	56	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Anthracene	µg/L	50	21	18	**88**	19 B	19	17	11	23	13	28	13	16	4.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzo(a)anthracene	µg/L	0.002	**2.2J**	**2.2**	**35**	**6.2 B**	**2.7**	**3.0 B**	**5.2 B**	**3.8**	ND (<0.002)	**8.3**	**3.2**	**4.8**	**1.9**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzo(a)pyrene	µg/L	0.002	**1.7**	**2.2**	**34**	**5.7 B**	**2.8**	**2.5 B**	**2.3J**	**2.7**	**3.3**	**8.5**	**2.8**	**4.7**	**0.84**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzo(b)fluoranthene	µg/L	0.002	**0.65J**	**0.82J**	**24**	**4.8 B**	**1.9**	**2.1**	**1.8J**	**1.7**	ND (<0.002)	ND (<0.002)	ND (<0.002)	**4.6**	**0.68**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzo(g,h,i)perylene	µg/L	NC	0.90J	1.2J	20	4.0 B	1.4	1.7	1.3J	1	1	3.4	ND (<0.002)	1.8	ND (<0.002)	NS	NS		NS	NS	NS	NS	NS	NS	NS	NS
Benzo(k)fluoranthene	µg/L	0.002	**0.90J**	**1.1J**	**12**	**2.5 B**	**1**	**0.78**	**1.2J**	**1.6**	ND (<0.002)	ND (<0.002)	ND (<0.002)	**2.1**	ND (<0.002)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chrysene	µg/L	0.002	**2.8**	**2.9**	**43**	**8.1 B**	**3.3**	**3.5 B**	ND (<5.1)	**3.4**	**4.4**	**10**	**5.4**	**7.6**	**0.99**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibenzo(a,h)anthracene	µg/L	NC	ND (<1.0)	ND (<2.1)	3.2	ND (<2.4)	0.30J	0.59	ND (<5.1)	ND (<5.1)	ND (<5.1)	ND (<5.1)	ND (<5.1)	ND (<0.47)	ND (<0.47)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Fluoranthene	µg/L	50	18	14	**96**	22 B	20	16	12	24	14	28	12	16	5.4	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Fluorene	µg/L	50	**110 D**	**100 D**	**130**	**72**	**79**	**83**	**62**	**92**	**62**	**70**	31	44	16	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Indeno(1,2,3-cd)pyrene	µg/L	0.002	**0.65J**	**2.1U**	**13**	**2.8 B**	**0.96**	**1.0 B**	**0.69J**	**1.6**	ND (<0.002)	ND (<0.002)	ND (<0.002)	**1.2**	ND (<0.002)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	µg/L	10	**180 D**	**560 D**	**300**	**480**	**310 D**	**230 D**	**140**	**110**	**50**	**87**	ND (<10)	**51**	2.3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Phenanthrene	µg/L	50	**160 D**	**150 D**	**260**	**52 B**	**140 D**	**130**	**91**	**170**	**80**	**130**	5.8	**62**	1.5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Pyrene	µg/L	50	26J	17	**150**	28 B	21	21	16	28	18	34	17	20	4.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Cyanide and Lead																								
Lead	µg/L	25	ND (<5.0)	ND (<5.0)	**40**	7.6	12	ND (<5.0)	4.6J	ND (<5.0)	ND (<5.0)	5.9	ND (<5.0)	0.014	ND (<5.0)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Cyanide	mg/L	0.2	0.024	0.027	R	0.015J	0.021	ND (<0.01)	0.012	ND (<0.010)	ND (<0.010)	ND (<0.010)	0.018	0.021	0.012	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

AWQS	= Ambient Water Quality Standards
B	= Present in Associated Blank Sample
BTEX	= Benzene, Ethylbenzene, Toluene and Xylene
D	= Diluted Sample
E	= Result exceeded calibration range
F1	= MS and/or MSD Recovery outside acceptance limits.
F2	= MS/MSD RPD above control limits.
J	= Estimated Concentration Value
mg/L	= Milligrams per Liter
NC	= No Criteria
ND (<#)	= Not detected above laboratory reporting limit (indicated by #)
NS	= Not Sampled
NYSDEC	= New York State Department of Environmental Conservation
PAHs	= Polycyclic Aromatic Hydrocarbons
R	= Rejected
µg/L	= Micrograms per Liter
Bolded	= values indicated exceedance of the NYSDEC AWQS

Table 3

Groundwater Analytical Data
MW-11

CONSTITUENT	UNITS	09/29/10	01/04/11	04/07/11	06/15/11	10/11/11	12/13/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/15/14	04/16/15	10/14/15	04/06/16	10/25/16	04/26/17	10/11/17	04/26/18	10/16/18	04/18/19	10/16/19	05/20/20
MNA/WQ Parameters																								
Alkalinity (as CaCO3)	mg/L	502	504	R	R	518J	536J	R	623	507	573	465	457	428	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloride	mg/L	612	606	345	414 B	514J	R	321	350	202	295	454	364	314	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethane	µg/L	ND (<10)	ND (<5.0)	ND (<1.5)	ND (<1.5)	ND (<1.5)	ND (<15)	ND (<15)	ND (<380)	ND (<380)	ND (<380)	ND (<380)	ND (<7.5)	ND (<7.5)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethene	µg/L	ND (<10)	ND (<5.0)	ND (<1.5)	ND (<1.5)	ND (<1.5)	ND (<15)	ND (<15)	ND (<350)	ND (<350)	ND (<350)	ND (<350)	ND (<7.0)	ND (<7.0)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ferrous Iron	mg/L	ND (<0.2)	ND (<0.5)	R	9.4J	0.9J	R	ND (<0.1)	0.5	0.18	0.22	0.29	ND (<0.1)	ND (<0.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Manganese	mg/L	NA	0.61	0.94	0.45	0.69	0.66	0.47	0.95	0.95	0.55	0.56	0.56	0.25	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methane	µg/L	730J	420	4.8	68	190	360	160	520	12	25	120	180	13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nitrate	mg/L	NA	ND (<1.0)	0.13	ND (<0.05)	ND (<0.05)	ND (<0.05)	0.092	ND (<0.050)	0.79	0.32	0.32	0.059	0.28	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nitrogen	mg/L	1.76	1.36	1.3	0.59	1.3	R	1.3	1.4	0.58	0.64	0.57	1.2	0.26	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfate	mg/L	NA	46.3	126 B	65.1 B	R	R	8.5 B	16.9	112	94.1	58	44.3	82.9	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfide	mg/L	NA	ND (<1.0)	0.8J	0.8J	1.6	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	1.8	ND (<1.0)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

B = Present in Associated Blank Sample
D = Diluted Sample
J = Estimated Concentration
mg/L = Milligrams per Liter
MNA = Monitored Natural Attenuation
NA = Not Analyzed
ND (<#) = Not detected above laboratory reporting limit (indicated by #)
NS = Not Sampled
R = Rejected
µg/L = Micrograms per Liter
WQ = Water Quality

Table 3

Groundwater Analytical Data
MW-12

CONSTITUENT	UNITS	NYSDEC AWQS Values	06/14/11	10/11/11	12/13/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/20/14	04/16/15	10/14/15	04/06/16	10/26/16	04/26/17	10/11/17	04/26/18	10/16/18	04/18/19	10/16/19	05/20/20
BTEX Compounds																						
Benzene	µg/L	1	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	**2.1**	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
Ethylbenzene	µg/L	5	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
m/p-Xylene	µg/L	5	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)
o-Xylene	µg/L	5	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
Toluene	µg/L	5	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
PAHs																						
Acenaphthene	µg/L	20	ND (<0.2)	ND (<0.49)	0.086J	ND (<0.52)	14	ND (<0.2)	1.1	1.1	ND (<0.48)	ND (<0.48)	ND (<0.47)	ND (<0.51)	0.11	ND (<0.097)	ND (<0.10)	ND (<0.099)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<011)
Acenaphthylene	µg/L	NC	0.09J	ND (<0.49)	0.25J	0.18J	100	ND (<0.2)	ND (<0.2)	ND (<0.2)	0.63	ND (<0.2)	ND (<0.47)	ND (<0.51)	4.4	ND (<0.097)	0.30	0.39	0.62	ND (<0.11)	1.0	0.1
Anthracene	µg/L	50	0.07J	ND (<0.49)	0.21J	0.13J	2.8	ND (<0.2)	1.1	1.1	0.88	ND (<0.2)	0.73	ND (<0.51)	1.4	ND (<0.097)	ND (<0.10)	ND (<0.099)	ND (<0.11)	ND (<0.11)	0.099	ND (<0.11)
Benzo(a)anthracene	µg/L	0.002	**0.12J**	ND (<0.49)	0.64 B	**0.57 B**	**1.5**	**0.83**	**3**	**0.66**	**1.5**	ND (<0.49)	ND (<0.47)	ND (<0.51)	**2.1**	**0.11**	**0.14**	ND (<0.099)	ND (<0.11)	ND (<0.11)	**0.24**	**0.34**
Benzo(a)pyrene	µg/L	0.002	**0.2**	ND (<0.49)	0.69 B	**0.35J**	**1.5**	**1**	**3.6**	**0.92**	**1.8**	ND (<0.49)	ND (<0.47)	ND (<0.51)	**2.8**	**0.11**	**0.16**	ND (<0.099)	ND (<0.11)	ND (<0.11)	**0.3**	**0.41**
Benzo(b)fluoranthene	µg/L	0.002	**0.08J**	ND (<0.49)	0.56	**0.27J**	**1.3**	**0.91**	**3.4**	**0.71**	**2.1**	ND (<0.49)	ND (<0.47)	ND (<0.51)	**2.3**	**0.13**	**0.19**	ND (<0.099)	ND (<0.11)	ND (<0.11)	**0.24**	**0.34**
Benzo(g,h,i)perylene	µg/L	NC	0.13J	ND (<0.49)	0.43J	0.27J	0.62	ND (<0.49)	ND (<0.49)	0.51	0.74	ND (<0.49)	ND (<0.47)	ND (<0.51)	1.6	ND (<0.097)	ND (<0.10)	ND (<0.099)	ND (<0.11)	ND (<0.11)	0.15	0.21
Benzo(k)fluoranthene	µg/L	0.002	**0.10J**	ND (<0.49)	ND (<0.49)	**0.38J**	**0.58**	ND (<0.49)	**0.83**	ND (<0.49)	**0.74**	ND (<0.49)	ND (<0.47)	ND (<0.51)	**0.94**	**0.11**	**0.16**		ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.11)
Chrysene	µg/L	0.002	**0.13J**	ND (<0.49)	0.55 B	**0.60 B**	**1.1**	**1**	**3**	ND (<0.49)	**1.6**	ND (<0.49)	ND (<0.47)	ND (<0.51)	**1.9**	ND (<0.097)	**0.11**	ND (<0.099)	ND (<0.11)	ND (<0.11)	**0.19**	**0.22**
Dibenzo(a,h)anthracene	µg/L	NC	ND (<0.2)	ND (<0.49)	ND (<0.49)	ND (<0.52)	ND (<0.52)	ND (<0.52)	ND (<0.52)	ND (<0.52)	ND (<0.48)	ND (<0.49)	ND (<0.47)	ND (<0.51)	0.29	ND (<0.097)	ND (<0.10)	ND (<0.099)	ND (<0.11)	ND (<0.11)	ND (<0.097)	ND (<0.11)
Fluoranthene	µg/L	50	0.2	ND (<0.49)	0.73	0.41J	3.4	1.4	4.3	0.87	2.00	ND (<0.49)	ND (<0.47)	0.52	3.9	**0.11**	**0.17**	ND (<0.099)	ND (<0.11)	ND (<0.11)	0.33	0.43
Fluorene	µg/L	50	ND (<0.2)	ND (<0.49)	ND (<0.49)	ND (<0.52)	2.2	ND (<0.49)	ND (<0.49)	ND (<0.49)	ND (<0.48)	ND (<0.49)	ND (<0.47)	ND (<0.51)	0.51	ND (<0.097)	ND (<0.10)	ND (<0.099)	0.13	ND (<0.11)	ND (<0.097)	ND (<0.11)
Indeno(1,2,3-cd)pyrene	µg/L	0.002	**0.09J**	ND (<0.49)	ND (<0.49)	**0.13J**	**0.97**	ND (<0.49)	**1.2**	ND (<0.49)	**0.51**	ND (<0.49)	ND (<0.47)	ND (<0.51)	**1.2**	ND (<0.097)	ND (<0.10)	ND (<0.099)	ND (<0.11)	ND (<0.11)	**0.11**	**0.17**
Naphthalene	µg/L	10	ND (<0.2)	ND (<0.49)	0.68	ND (<0.52)	**160 E**	2.5	0.99	ND (<0.52)	1.6	ND (<0.49)	1.9	ND (<0.51)	0.96	ND (<0.097)	0.15	ND (<0.099)	ND (<0.11)	ND (<0.11)	1.8	ND (<0.11)
Phenanthrene	µg/L	50	1.9J	ND (<0.49)	0.66	0.48J	7.6	1.1	3.6	0.61	2	ND (<0.49)	ND (<0.47)	ND (<0.51)	3.5	ND (<0.097)	0.14	ND (<0.099)	ND (<0.11)	ND (<0.11)	0.23	0.34
Pyrene	µg/L	50	0.23	ND (<0.49)	0.95	0.59	4.2	2.4	5.8	1.3	2.8	ND (<0.49)	ND (<0.47)	0.64	5.4	0.17	0.24	ND (<0.099)	ND (<0.11)	ND (<0.11)	0.49	0.61
Cyanide and Lead																						
Lead	µg/L	25	ND (<5.0)	ND (<3.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	**29**	ND (<5.0)	0.018	ND (<0.49)	ND (<10)	ND (<10)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)
Cyanide	mg/L	0.2	0.01	0.004J	R	0.0062J	ND (<0.010)	ND (<0.010)	ND (<0.010)	ND (<0.010)	0.013	ND (<0.49)	ND (<0.01)	ND (<0.01)	ND (<0.010)	ND (<0.010)	ND (<0.010)	ND (<0.010)	ND (<0.010)	ND (<0.010)	0.011	0.011

AWQS = Ambient Water Quality Standards
B = Present in Associated Blank Sample
BTEX = Benzene, Ethylbenzene, Toluene and Xylene
D = Diluted Sample
E = Result exceeded calibration range
F1 = MS and/or MSD Recovery outside acceptance limits.
F2 = MS/MSD RPD above control limits.
J = Estimated Concentration Value
mg/L = Milligrams per Liter
NC = No Criteria
ND (<#) = Not detected above laboratory reporting limit (indicated by #)
NS = Not Sampled
NYSDEC = New York State Department of Environmental Conservation
PAHs = Polycyclic Aromatic Hydrocarbons
R = Rejected
µg/L = Micrograms per Liter
Bolded = values indicated exceedance of the NYSDEC AWQS

Table 3

Groundwater Analytical Data
MW-12

CONSTITUENT	UNITS	01/04/11	10/12/11	12/14/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/15/14	04/16/15	10/14/15	04/06/16	10/26/16	04/26/17	10/11/17	04/26/18	10/16/18	04/18/19	10/16/19	05/20/20
MNA/WQ Parameters																					
Alkalinity (as CaCO3)	mg/L	502	455J	478J	R	434	391	415	329	414	368	401	415	436	466	366	456	430	416	400	380
Chloride	mg/L	488	165J	R	129 B	468	123	662	150	493	139	591	276	556	152	587	345	757	334	490	267
Ethane	µg/L	ND (<1.0)	ND (<1.5)	ND (<1.5)	ND (<1.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	0.47J	ND (<0.025)	ND (<0.030)	ND (<0.030)	ND (<0.16)	ND (<1.0)	ND (<1.0)	ND (<1.00)
Ethene	µg/L	ND (<1.0)	ND (<1.5)	ND (<1.5)	ND (<1.5)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<0.035)	ND (<0.035)	ND (<0.10)	ND (<0.10)	ND (<0.032)	ND (<1.0)	ND (<1.0)	ND (<1.00)
Ferrous Iron	mg/L	ND (<0.1)	R	ND (<0.1)	ND (<0.1)	0.44	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	0.11	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)
Manganese	mg/L	0.084	0.096	0.16	0.12	0.52	0.19	2.1	0.36	1.2	0.16	0.039	0.062	0.202	0.0201	0.0399	0.0113	0.0152	0.0153	0.0636	0.0386
Methane	µg/L	ND (<2.0)	ND (<1.0)	1.1	0.56J	47	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<4.0)	ND (<4.0)	ND (<4.0)	ND (<4.0)	1.95	0.24J	0.27J	1.0J	0.35J	ND (<2.5)	ND (<2.5)	ND (<0.10)
Nitrate	mg/L	4	6.6	6.2	3.2	ND (<0.05)	2.5	4.8	1.4	3.7	1.4	2.5	3.3	2.9	5.1	3.6	0.84	5.6	4.3	ND (<0.10)	5.9
Nitrogen	mg/L	0.48	ND (<0.2)	R	0.19J	0.29	0.24	2.4	0.44	0.61	0.61	ND (<0.2)	ND (<0.2)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	5.1	ND (<1.0)	3.9	ND (<0.10)
Sulfate	mg/L	97.9	R	R	53.5 B	81.4	73.5	115	51.6	73.5	54.8	70.2	93.7	56.0	115	53.7	70.3	66.8	53.9	55.1	77.2
Sulfide	mg/L	1.1J	0.8J	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)

B = Present in Associated Blank Sample
D = Diluted Sample
J = Estimated Concentration
mg/L = Milligrams per Liter
MNA = Monitored Natural Attenuation
NA = Not Analyzed
ND (<#) = Not detected above laboratory reporting limit (indicated by #)
NS = Not Sampled
R = Rejected
µg/L = Micrograms per Liter
WQ = Water Quality

Table 3

Groundwater Analytical Data
MW-13

CONSTITUENT	UNITS	NYSDEC AWQS Values	09/29/10	01/04/11	04/06/11	06/14/11	10/11/11	12/13/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/20/14	04/16/15	10/13/15	04/06/16	10/25/16	04/26/17	10/11/17	04/26/18	10/16/18	04/18/19	10/16/19	05/20/20
BTEX Compounds																									
Benzene	µg/L	1	**430**	**360**	**71**	**200**	**59**	**300**	**370**	**360**	**490**	**400**	**200**	**300**	**17**	**360**	**300**	**348**	**15.5**	**363**	**11.6**	**32.8**	**16.9**	**328**	**126**
Ethylbenzene	µg/L	5	**850**	**730**	**87**	**200**	**110**	**520**	**670**	**490**	**600**	**320**	**200**	**340**	**17**	**190**	**270**	**366**	**7.4**	**210**	**4.8**	**23.3**	**12.4**	**230**	**85.6**
m/p-Xylene	µg/L	5	**920**	**810**	**110**	**240**	**140**	**550**	**740**	**590**	**730**	**420**	**250**	**480**	**24**	**270**	**360**	**467**	**12.1**	**257**	**8.6**	**34.8**	**16.6**	**229**	**89.5**
o-Xylene	µg/L	5	**390**	**350**	71	**130**	74	**260**	**340**	**260**	**320**	**190**	**120**	**210**	**16**	**120**	**150**	**203**	**8.4**	**117**	**9.3**	**18.6**	**9.7**	**112**	**48.6**
Toluene	µg/L	5	**800**	**660**	**80**	**260**	**89**	**550**	**740**	**520 E**	**710**	**440**	**270**	**430**	**17**	**320**	**410**	**552**	**7.6**	**332**	**3.9**	**25.1**	**11.1**	**288**	**95.7**
PAHs																									
Acenaphthene	µg/L	20	**120**	**140**	17	**46**	**60**	**76**	**82J**	**170**	**130**	**77**	**71**	**130**	ND (<4.9)	65 E	**130**	**225**	0.34	**78.4**	0.16	4.3	6.8	**141**	4.6
Acenaphthylene	µg/L	NC	260JD	320 D	51	170	220J	230 D	210	570	430	350	22	450	ND (<4.9)	77 E	220	267	1.2	122	0.61	6.4	6.7	57.0	0.78
Anthracene	µg/L	50	12	15	3.6	12 B	15	15	ND (<97)	ND (<47)	ND (<47)	ND (<47)	6.9	14	ND (<4.9)	9.2 F1 F2	10	19.2	0.55	7.2	0.25	0.73	0.82	7.3	0.15
Benzo(a)anthracene	µg/L	0.002	**1.9J**	**2J**	**0.35J**	**4.9 B**	**7.3J**	**5.3 B**	ND (<97)	ND (<47)	ND (<47)	ND (<47)	ND (<47)	**1.9**	ND (<0.001)	**0.59 F2**	ND (<9.7)	**6.7**	**0.93**	**1.7**	**0.30**	**0.22**	**0.14**	**0.79**	**0.18**
Benzo(a)pyrene	µg/L	0.002	**1.9J**	**1.4J**	**0.13J**	**4.1 B**	ND (<10)	**5.3 B**	ND (<97)	ND (<47)	ND (<47)	ND (<47)	ND (<47)	**1.6**	ND (<0.001)	ND (<0.49)	ND (<9.7)	**6.5**	**1.0**	**1.3**	**0.40**	**0.20**	ND (<0.10)	**0.58**	**0.20**
Benzo(b)fluoranthene	µg/L	0.002	**0.75J**	**0.78J**	ND (<0.49)	**3.5 B**	ND (<10)	**3.8**	ND (<97)	ND (<47)	ND (<47)	ND (<47)	ND (<47)	**2.8**	ND (<0.001)	ND (<0.49)	ND (<9.7)	**6.2**	**1.2**	**1.6**	**0.47**	**0.22**	**0.12**	**0.49**	**0.17**
Benzo(g,h,i)perylene	µg/L	NC	0.75J	ND (<3.9)	ND (<0.49)	2.5 B	ND (<10)	3.8	ND (<97)	ND (<47)	ND (<47)	ND (<47)	ND (<47)	0.6	ND (<0.001)	ND (<0.49)	ND (<9.7)	3.3	0.55	ND (<0.98)	0.21	ND (<0.099)	ND (<0.10)	0.23	ND (<0.10)
Benzo(k)fluoranthene	µg/L	0.002	ND (<3.8)	0.78J	ND (<0.49)	ND (<2.4)	ND (<10)	**2.6**	ND (<97)	ND (<47)	ND (<47)	ND (<47)	ND (<47)	**0.53**	ND (<0.001)	ND (<0.49)	ND (<9.7)		**1.1**	**1.3**	**0.35**	**0.20**	**0.11**	**0.21**	ND (<0.10)
Chrysene	µg/L	0.002	**1.7J**	**1.4J**	**0.26J**	**3.6 B**	**5.5J**	**4.9 B**	ND (<97)	ND (<47)	ND (<47)	ND (<47)	ND (<47)	**1.8**	ND (<0.001)	**0.50 F1 F2**	ND (<9.7)	**6.1**	**0.81**	**1.3**	**0.22**	**0.20**	ND (<0.10)	**0.64**	**0.13**
Dibenzo(a,h)anthracene	µg/L	NC	ND (<3.8)	ND (<3.9)	ND (<0.49)	ND (<2.4)	ND (<10)	0.79 B	ND (<97)	ND (<47)	ND (<47)	ND (<47)	ND (<47)	ND (<0.47)	ND (<0.001)	ND (<0.49)	ND (<9.7)	0.85	0.13	ND (<0.98)	ND (<0.099)	ND (<0.099)	ND (<0.10)	ND (<0.098)	ND (<0.10)
Fluoranthene	µg/L	50	7.7	8.4	2.6	12 B	16	14	ND (<97)	ND (<47)	ND (<47)	ND (<47)	6.1	8.2	ND (<4.9)	5.5 F2	ND (<9.7)	17.8	1.9	5.4	0.51	0.77	0.66	4.6	1.3
Fluorene	µg/L	50	**73**	**84**	18	48	**52J**	**53**	37J	**110**	**93**	**68**	30	**943**	ND (<4.9)	43 F1 F2	**55**	**74.8**	0.46	37.9	0.19	2.6	3.7	45.7	0.16
Indeno(1,2,3-cd)pyrene	µg/L	0.002	ND (<3.8)	ND (<3.9)	ND (<0.49)	ND (<2.4)	ND (<10)	**2.3 B**	ND (<97)	ND (<47)	ND (<47)	ND (<47)	ND (<47)	**0.48**	ND (<0.001)	ND (<0.49)	ND (<9.7)	2.7	**0.42**	ND (<0.98)	**0.17**	ND (<0.099)	ND (<0.10)	**0.19**	ND (<0.10)
Naphthalene	µg/L	10	**6000 D**	**5600 D**	**250 D**	**1600 D**	**2900 D**	**5000 D**	**4100**	**8200**	**7100**	**3700**	ND (<10)	**4200**	ND (<4.9)	**350 E**	**170**	**5560**	0.96	**1880**	0.45	0.31	0.14	**9,700**	0.19
Phenanthrene	µg/L	50	**58**	**68**	7.2	44 B	**60**	**55**	44J	**76**	**73**	**61**	ND (<50)	**70**	ND (<4.9)	31 F1	ND (<9.7)	**78.3**	1.5	32.8	0.60	0.37	2.40	39.8	0.14
Pyrene	µg/L	50	9.8J	8.8	2.9	14 B	19	17	ND (<97)	ND (<47)	ND (<47)	ND (<47)	7.2	9.7	ND (<4.9)	5.8 F2	ND (<9.7)	ND (<52.1)	1.7	6.0	0.54	0.78	0.63	4.8	0.86
Cyanide and Lead																									
Lead	µg/L	25	6.4	ND (<5.0)	ND (<5.0)	15J	**27**	9.2	5.8	ND (<5.0)	7.8	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<4.9)	ND (<10)	ND (<10)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)
Cyanide	mg/L	0.2	**0.618**	**0.652**	R	**0.42J**	**0.235**	R	**0.33**	**0.39**	**0.32**	**0.26**	0.17	**0.24**	0.11	0.22 F1	**0.29**	**0.23**	0.070	**0.20**	0.062	0.10	0.09	0.16	0.11

AWQS = Ambient Water Quality Standards
B = Present in Associated Blank Sample
BTEX = Benzene, Ethylbenzene, Toluene and Xylene
D = Diluted Sample
E = Result exceeded calibration range
F1 = MS and/or MSD Recovery outside acceptance limits.
F2 = MS/MSD RPD above control limits.
J = Estimated Concentration Value
mg/L = Milligrams per Liter
NC = No Criteria
ND (<#) = Not detected above laboratory reporting limit (indicated by #)
NS = Not Sampled
NYSDEC = New York State Department of Environmental Conservation
PAHs = Polycyclic Aromatic Hydrocarbons
R = Rejected
µg/L = Micrograms per Liter
Bolded = values indicated exceedance of the NYSDEC AWQS

Table 3

Groundwater Analytical Data
MW-13

CONSTITUENT	UNITS	09/30/10	01/05/11	04/07/11	06/15/11	10/12/11	12/14/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/15/14	10/13/15	04/06/16	10/25/16	04/26/17	10/11/17	04/26/18	10/16/18	04/18/19	10/16/19	05/20/20
MNA/WQ Parameters																							
Alkalinity (as CaCO3)	mg/L	80	96.4	R	R	455J	165J	R	158	218	187	176	255	283 F1	311	364	234	308	226	280	230	380	268
Chloride	mg/L	12.3	10.5	29.1	18.6 B	5.9J	R	20.5	21.6	20.4	7.3	9.2	17.3	11.2	9.8	11.4	3.4	7.6	92.7	31.6	8.4	19.5	9.3
Ethane	µg/L	1.4J	1.8	ND (<1.5)	ND (<15)	ND (<1.5)	ND (<15)	ND (<15)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	1.2	ND (<0.025)	0.88J	ND (<0.030)	0.22J	0.11 J	0.74 J	ND (<1.00)
Ethene	µg/L	2.4	2.8	ND (<1.5)	ND (<15)	ND (<1.5)	ND (<15)	ND (<15)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.5)	3.3	ND (<0.035)	2.3	ND (<0.10)	0.46J	0.19 J	2.1	ND (<1.00)
Ferrous Iron	mg/L	ND (<0.1)	0.32	R	ND (<0.1)	3.1J	0.08J	ND (<0.1)	0.12	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<1.0)	0.18	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)	0.15
Manganese	mg/L	NA	0.84	0.12	0.077	0.83	0.16	0.096	0.092	0.11	0.088	0.14	0.031	0.064	ND (<7.5)	0.0938	0.0417	0.0705	0.0570	0.0619	0.0298	0.0710	0.0446
Methane	µg/L	77J	110 D	32	46	28J	72	66	120	36	15	74	ND (<4.0)	110	50	280	0.34J	190	12	73	41	250	84.7
Nitrate	mg/L	NA	ND (<1.0)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	0.05	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<1.0)
Nitrogen	mg/L	2.27	1.69	1.1	1.3	ND (<2.0)	R	1.4	1.4	1.8	1.2	2.1	0.62	1.4	1.2	1.3	ND (<1.0)	2.1	ND (<1.0)	4.5	ND (<0.10)	ND (<0.10)	ND (<1.0)
Sulfate	mg/L	NA	86.8	ND (<5.0)	3.3JB	R	R	52.1J	139	82.3	15.5	15.5	ND (<5.0)	ND (<5.0)	ND (<5.0)	18.3	16.0	42.3	20.4	28.6	26.1	23.4	10.8
Sulfide	mg/L	NA	3.3J	ND (<1.0)	3.2J	1.2	R	R	1.2	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	1	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)

B = Present in Associated Blank Sample
D = Diluted Sample
J = Estimated Concentration
mg/L = Milligrams per Liter
MNA = Monitored Natural Attenuation
NA = Not Analyzed
ND (<#) = Not detected above laboratory reporting limit (indicated by #)
NS = Not Sampled
R = Rejected
µg/L = Micrograms per Liter
WQ = Water Quality

Table 3

Groundwater Analytical Data
MW-14

CONSTITUENT	UNITS	NYSDEC AWQS Values	09/29/10	01/04/11	04/06/11	06/14/11	10/11/11	12/13/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/20/14	04/16/15	10/13/15	04/06/16	10/25/16	04/26/17	10/11/17	04/26/18	10/16/18	04/18/19	10/16/19	05/20/20
BTEX Compounds																								
Benzene	µg/L	1	**25**	**17**	ND (<1.0)	**2.5**	**11**	**2.5**	**2.9**	ND (<1.0)	ND (<1.0)	**1.3**	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<0.54)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
Ethylbenzene	µg/L	5	**5.1**	**3.3**	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	1.3	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<0.54)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
m/p-Xylene	µg/L	5	**5.1**	**3.1**	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	2.4	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<0.54)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)
o-Xylene	µg/L	5	**9.1**	**5.6**	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	2.2	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<0.54)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
Toluene	µg/L	5	1.8	0.88J	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<0.54)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
PAHs																								
Acenaphthene	µg/L	20	9.3	4.9	ND (<0.47)	ND (<0.47)	1.2	0.82	5.1	1.4	ND (<0.48)	2.2	0.5	2.00	ND (<0.47)	ND (<0.52)	ND (<0.54)	0.19	ND (<0.096)	1.7	ND (<0.099)	ND (<0.099)	ND (<0.10)	0.18	0.8
Acenaphthylene	µg/L	NC	17JD	11	ND (<0.47)	ND (<0.47)	3	1.3	9	1.9	ND (<0.48)	2.5	ND (<0.48)	2.9	ND (<0.47)	ND (<0.52)	ND (<0.54)	0.99	0.25	4.1	0.19	0.34	0.26	0.71	8.4
Anthracene	µg/L	50	1.8	0.98	ND (<0.47)	ND (<0.47)	ND (<0.50)	0.18J	0.5	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	0.5	ND (<0.47)	ND (<0.52)	ND (<0.54)	0.25	0.096	0.29	ND (<0.099)	0.15	0.11	0.11	3.5
Benzo(a)anthracene	µg/L	0.002	**0.42J**	**0.27J**	ND (<0.47)	ND (<0.47)	**0.29J**	**0.91 B**	ND (<0.50)	ND (<0.48)	ND (<0.48)	**0.62**	**1**	**1.9**	ND (<0.47)	ND (<0.52)	ND (<0.54)	**0.28**	**0.13**	**0.26**	**0.11**	ND (<0.099)	ND (<0.10)	ND (<0.096)	**19.8**
Benzo(a)pyrene	µg/L	0.002	**0.46**	**0.24J**	ND (<0.47)	ND (<0.47)	**0.15J**	**0.90 B**	**0.12J**	ND (<0.48)	ND (<0.48)	**0.65**	**1.3**	**2.4**	ND (<0.47)	ND (<0.52)	ND (<0.54)	**0.32**	**0.12**	**0.29**	ND (<0.099)	ND (<0.099)	ND (<0.10)	ND (<0.096)	**24.8**
Benzo(b)fluoranthene	µg/L	0.002	**0.27**	**0.15J**	ND (<0.47)	ND (<0.47)	ND (<0.50)	**0.78**	ND (<0.50)	ND (<0.48)	ND (<0.48)	**0.79**	**1.2**	**3.8**	ND (<0.47)	ND (<0.52)	ND (<0.54)	**0.55**	**0.21**	**0.47**	**0.14**	ND (<0.099)	**0.7**	ND (<0.096)	**26.1**
Benzo(g,h,i)perylene	µg/L	NC	0.28	0.18J	ND (<0.47)	ND (<0.47)	ND (<0.50)	0.70	0.09J	ND (<0.48)	ND (<0.48)	ND (<0.48)	0.95	1.3	ND (<0.47)	ND (<0.52)	ND (<0.54)	0.29	0.11	0.24	ND (<0.099)	ND (<0.099)	ND (<0.10)	ND (<0.096)	17.5
Benzo(k)fluoranthene	µg/L	0.002	**0.3**	**0.15J**	ND (<0.47)	ND (<0.47)	ND (<0.50)	**0.57**	**0.17J**	ND (<0.48)	ND (<0.48)	ND (<0.48)	**0.83**	**1.1**	ND (<0.47)	ND (<0.52)	ND (<0.54)		**0.18**	**0.40**	**0.11**	ND (<0.099)	**0.14**	ND (<0.096)	**8.5**
Chrysene	µg/L	0.002	**0.43**	**0.3J**	ND (<0.47)	ND (<0.47)	**0.19J**	**0.85**	ND (<0.50)	ND (<0.48)	ND (<0.48)	**0.69**	**1.2**	**2.1**	ND (<0.47)	ND (<0.52)	ND (<0.54)	**0.27**	**0.13**	**0.24**	ND (<0.099)	ND (<0.099)	ND (<0.10)	ND (<0.096)	**17.0**
Dibenzo(a,h)anthracene	µg/L	NC	0.20J	ND (<0.59)	ND (<0.47)	ND (<0.47)	ND (<0.50)	ND (<0.50)	ND (<0.50)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.49)	ND (<0.47)	ND (<0.52)	ND (<0.54)	ND (<0.10)	ND (<0.096)	ND (<0.099)	ND (<0.099)	ND (<0.099)	ND (<0.10)	ND (<0.096)	4.5
Fluoranthene	µg/L	50	1.7	1.2	0.081J	ND (<0.47)	0.32J	1.5	0.61	0.59	ND (<0.48)	1.2	1.5	3.2	ND (<0.47)	ND (<0.52)	ND (<0.54)	0.45	0.17	0.55	0.13	ND (<0.099)	0.14	0.098	29.0
Fluorene	µg/L	50	3.8	1.4	ND (<0.47)	ND (<0.47)	ND (<0.50)	0.17J	0.35J	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.49)	ND (<0.47)	ND (<0.52)	ND (<0.54)	0.14	ND (<0.096)	0.21	ND (<0.099)	ND (<0.099)	ND (<0.10)	ND (<0.096)	1.3
Indeno(1,2,3-cd)pyrene	µg/L	0.002	**0.21**	**ND (<0.59)**	ND (<0.47)	ND (<0.47)	ND (<0.50)	ND (<0.50)	**0.054J**	ND (<0.48)	ND (<0.48)	ND (<0.48)	**0.63**	**0.95**	ND (<0.47)	ND (<0.52)	ND (<0.54)	**0.21**	ND (<0.096)	**0.18**	ND (<0.099)	ND (<0.099)	ND (<0.10)	ND (<0.096)	**14.4**
Naphthalene	µg/L	10	63 D	2.8	ND (<0.47)	ND (<0.47)	1.3	ND (<0.50)	1.2	ND (<0.48)	1.7	0.48	ND (<0.48)	1.1	ND (<0.47)	ND (<0.52)	ND (<0.54)	5.2	ND (<0.096)	4.2	ND (<0.099)	ND (<0.099)	ND (<0.10)	0.72	0.86
Phenanthrene	µg/L	50	9.1	2	ND (<0.47)	ND (<0.47)	0.25J	0.66	1.1	ND (<0.48)	ND (<0.48)	0.67	0.63	1.4	ND (<0.47)	ND (<0.52)	ND (<0.54)	0.22	ND (<0.096)	0.17	ND (<0.099)	ND (<0.099)	ND (<0.10)	ND (<0.096)	9.8
Pyrene	µg/L	50	2.5J	1.2	0.098J	ND (<0.52)	0.39J	2.2	0.7	0.76	ND (<0.48)	1.5	2.4	5.0	ND (<0.47)	ND (<0.52)	ND (<0.54)	0.68	0.28	0.74	0.20	ND (<0.099)	0.22	0.12	47.0
Cyanide and Lead																								
Lead	µg/L	25	7.7	ND (<5.0)	ND (<5.0)	4.2J	4.8J	9.1	5.7	21	ND (<5.0)	15	ND (<5.0)	0.031	ND (<0.01)	ND (<0.01)	ND (<10)	**33.3**	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	**256**
Cyanide	mg/L	0.2	**0.245**	**0.197**	R	0.11J	0.114	R	**0.28**	**1.4**	0.1	**0.2**	**0.9**	0.2	0.091	0.120	**0.88**	**0.67**	0.079	**0.25**	0.062	0.11	0.0838	0.11	0.12

AWQS	= Ambient Water Quality Standards
B	= Present in Associated Blank Sample
BTEX	= Benzene, Ethylbenzene, Toluene and Xylene
D	= Diluted Sample
E	= Result exceeded calibration range
F1	= MS and/or MSD Recovery outside acceptance limits.
F2	= MS/MSD RPD above control limits.
J	= Estimated Concentration Value
mg/L	= Milligrams per Liter
NC	= No Criteria
ND (<#)	= Not detected above laboratory reporting limit (indicated by #)
NS	= Not Sampled
NYSDEC	= New York State Department of Environmental Conservation
PAHs	= Polycyclic Aromatic Hydrocarbons
R	= Rejected
µg/L	= Micrograms per Liter
Bolded	= values indicated exceedance of the NYSDEC AWQS

Table 3

Groundwater Analytical Data
MW-14

CONSTITUENT	UNITS	06/30/10	01/04/11	04/07/11	06/15/11	10/12/11	12/14/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/15/14	10/13/14	04/06/16	10/25/16	04/26/17	10/11/17	04/26/18	10/16/18	04/18/19	10/16/19	05/20/20
MNA/WQ Parameters																							
Alkalinity (as CaCO3)	mg/L	528	450	R	R	410	453J	R	494	417	456	483	372	445	507	520	380	404	392	450	384	380	342
Chloride	mg/L	9	10.8	6.1	9.7 B	5.1	R	12.8	40.4	2	7.6	28.5	3.9	10.7	27.4	18.0	3.5	6.6	ND (<3.0)	3.2	3.5	ND (<3.0)	ND (<3.0)
Ethane	µg/L	ND (<1.0)	ND (<1.0)	ND (<1.5)	ND (<1.5)	ND (<1.5)	ND (<1.5)	ND (<1.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	ND (<7.5)	0.17J	ND (<0.025)	0.13J	ND (<0.030)	ND (<0.16)	ND (<1.0)	ND (<1.0)	1.57
Ethene	µg/L	ND (<1.0)	ND (<1.0)	ND (<1.5)	ND (<1.5)	ND (<1.5)	ND (<1.5)	ND (<1.5)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.0)	ND (<7.5)	ND (<0.035)	ND (<0.035)	ND (<0.10)	ND (<0.10)	ND (<0.032)	ND (<1.0)	ND (<1.0)	ND (<1.00)
Ferrous Iron	mg/L	0.29	ND (<0.1)	R	0.11J	ND (<0.1)	R	ND (<0.1)	0.17	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	0.11	0.55	0.22	0.93	0.47	0.30	0.39	0.12	1.9
Manganese	mg/L	NA	0.36	0.054	0.17	0.2	0.28	0.51	2	0.008	0.25	1	0.019	0.011	ND (<7.5)	0.768	0.0262	0.416	0.201	0.0121	0.0208	0.051	3.79
Methane	µg/L	9.1	120 D	ND (<1.0)	6.2	46	15	70	140	ND (<1.0)	8.6	140	ND (<4.0)	ND (<4.0)	31	140	19	120	1.7J	1.4J	ND (<2.5)	19	1,020
Nitrate	mg/L	NA	ND (<1.0)	0.71	0.19	0.086	0.023J	ND (<0.05)	ND (<0.05)	0.8	ND (<0.05)	ND (<0.05)	0.87	0.16	ND (<0.05)	ND (<0.10)	0.29	ND (<0.10)	ND (<0.10)	0.59	0.4	ND (<1.0)	ND (<1.0)
Nitrogen	mg/L	0.81	0.77	0.85	0.32	0.36	R	0.86	2.5	0.54	0.68	1.5	0.22	0.72	1	1.2	ND (<1.0)	ND (<1.0)	1.0	ND (<1.0)	ND (<1.0)	ND (<1.0)	4.2
Sulfate	mg/L	NA	53.3	ND (<5.0)	19.6 B	5.6JB	R	173 B	639	ND (<5.0)	ND (<5.0)	363	ND (<5.0)	ND (<5.0)	324	153	12.5	52.4	15.2	20.3	ND (<10)	17.7	11.2
Sulfide	mg/L	NA	1.6	ND (<1.0)	ND (<1.0)	ND (<1.0)	R	R	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)

B = Present in Associated Blank Sample
D = Diluted Sample
J = Estimated Concentration
mg/L = Milligrams per Liter
MNA = Monitored Natural Attenuation
NA = Not Analyzed
ND (<#) = Not detected above laboratory reporting limit (indicated by #)
NS = Not Sampled
R = Rejected
µg/L = Micrograms per Liter
WQ = Water Quality

Table 3

Groundwater Analytical Data
MW-15

CONSTITUENT	UNITS	NYSDEC AWQS Values	09/29/10	01/04/11	04/06/11	06/14/11	10/11/11	12/13/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/20/14	04/16/15	10/13/15	04/06/16	10/25/16	04/26/17	10/11/17	04/26/18	10/16/18	04/18/19	10/16/19	05/20/20
BTEX Compounds																									
Benzene	µg/L	1	**1600 D**	**1200**	**940 D**	**1300 D**	**670**	**790 D**	**1500 D**	**1100 E**	**410**	**390**	**210**	**300**	**16**	**350 E**	**330**	**714**	**111**	**373**	**48.7**	**108**	**41.2**	**364**	**55.8**
Ethylbenzene	µg/L	5	**200**	**250**	**190 D**	**210 D**	**120**	**190 D**	**220**	**200**	**75**	**53**	**38**	**74**	1.9	**92**	**110**	**244**	**24.5**	**124**	**10.2**	**45.2**	**15.7**	**135**	**19.4**
m/p-Xylene	µg/L	5	**12**	**8.7**	**17**	**18**	**19J**	**9**	**6.6J**	**23**	**19**	ND (<5.0)	ND (<5.0)	**ND (<10)**	3.2	**8.1**	ND (<8.0)	**13.7**	2.7	**9.4**	ND (<2.0)	2.8	ND (<2.0)	**17.5**	ND (<2.0)
o-Xylene	µg/L	5	**39**	**39**	**44**	**48**	**37**	**38**	**27**	**23**	**19**	**16**	**8.5**	**28**	**7.5**	**23**	**21**	**31.7**	**7.3**	**22.8**	3.7	**18.8**	**8.1**	**26.2**	**4.6**
Toluene	µg/L	5	3.8J	ND (<10)	**6.1**	4.7	ND (<10)	**6.3**	**6.2J**	**5**	ND (<5.0)	ND (<5.0)	ND (<5.0)	**5.8**	ND (<1.0)	**7**	ND (<8.0)	**6.1**	**1.1**	**7.4**	ND (<1.0)	2.9	1.3	**8.5**	1.4
PAHs																									
Acenaphthene	µg/L	20	**44J**	**49**	**47**	**32**	**47**	**50**	**47**	**57**	**42**	**23**	**18**	**24**	6.7	16	**23**	**43.1**	10.1	16.3	12.4	**32.7**	**12.6**	**28.4**	4.7
Acenaphthylene	µg/L	NC	19J	23	24	17	22	19	12	16	11	6.5	3	3.9	0.59	3.1	ND (<5.1)	2.4	1.5	2.5	1.4	3.9	1.6	1.9	0.66
Anthracene	µg/L	50	2.7J	3.3	2.1	1.3 B	2.4	2	1.5J	2.8	2.6	1.4	0.95	0.81	ND (<0.49)	0.57	ND (<5.1)	1.9	0.36	0.56	0.31	0.55	0.46	0.74	0.25
Benzo(a)anthracene	µg/L	0.002	**1.8J**	**0.85J**	**0.38J**	ND (<0.48)	**0.21J**	ND (<0.54)	ND (<4.7)	ND (<0.58)	**0.96**	**0.59**	ND (<0.58)	ND (<0.48)	ND (<0.49)	ND (<0.47)	ND (<5.1)	**0.14**	**0.13**	**0.55**	**0.14**	ND (<0.099)	**0.14**	**0.14**	**0.16**
Benzo(a)pyrene	µg/L	0.000	**2.1J**	**0.75J**	**0.2J**	ND (<0.48)	ND (<0.49)	ND (<0.54)	ND (<4.7)	ND (<0.58)	**0.96**	**0.59**	ND (<0.58)	ND (<0.48)	ND (<0.49)	ND (<0.47)	ND (<5.1)	ND (<0.10)	**0.10**	**0.58**	**0.11**	ND (<0.099)	**0.12**	ND (<0.097)	**0.18**
Benzo(b)fluoranthene	µg/L	0.002	**1.1J**	**0.57J**	**0.27J**	ND (<0.48)	ND (<0.49)	**0.16J**	ND (<4.7)	ND (<0.58)	**0.85**	**0.62**	ND (<0.58)	**0.72**	ND (<0.49)	ND (<0.47)	ND (<5.1)	**0.11**	**0.16**	**0.81**	**0.15**	ND (<0.099)	**0.17**	**0.11**	**0.16**
Benzo(g,h,i)perylene	µg/L	NC	1.2J	0.38J	ND (<0.49)	ND (<0.48)	ND (<0.49)	ND (<0.54)	ND (<4.7)	ND (<0.58)	ND (<0.58)	ND (<0.58)	ND (<0.58)	ND (<0.48)	ND (<0.49)	ND (<0.47)	ND (<5.1)	ND (<0.10)	ND (<0.098)	0.4	ND (<0.099)	ND (<0.099)	ND (<0.10)	ND (<0.097)	0.11
Benzo(k)fluoranthene	µg/L	0.002	**1.3J**	**0.38J**	ND (<0.49)	ND (<0.48)	ND (<0.49)	ND (<0.54)	ND (<4.7)	ND (<0.58)	**0.72**	ND (<0.58)	ND (<0.58)	ND (<0.48)	ND (<0.49)	ND (<0.47)	ND (<5.1)		**0.13**	**0.69**	**0.11**	ND (<0.099)	**0.15**	**0.10**	ND (<0.10)
Chrysene	µg/L	0.002	**1.8J**	**0.85J**	**0.23J**	ND (<0.48)	**0.16J**	ND (<0.54)	ND (<4.7)	ND (<0.58)	**1.2**	**0.59**	ND (<0.58)	ND (<0.48)	ND (<0.49)	ND (<0.47)	ND (<5.1)	**0.11**	**0.12**	**0.48**	ND (<0.099)	ND (<0.099)	**0.12**	**0.11**	**0.12**
Dibenzo(a,h)anthracene	µg/L	NC	0.9J	ND (<1.9)	ND (<0.49)	ND (<0.48)	ND (<0.49)	ND (<0.54)	ND (<4.7)	ND (<0.58)	ND (<0.58)	ND (<0.58)	ND (<0.58)	ND (<0.48)	ND (<0.49)	ND (<0.47)	ND (<5.1)	ND (<0.10)	ND (<0.098)	ND (<0.098)	ND (<0.099)	ND (<0.099)	ND (<0.10)	ND (<0.097)	ND (<0.10)
Fluoranthene	µg/L	50	4.1J	2.7	1.8	1.2 B	1.7	1.7	1.3J	2.6	3.3	1.7	1.1	0.93	ND (<0.49)	0.61	ND (<5.1)	1.2	0.46	1.2	0.34	0.53	0.6	0.89	0.41
Fluorene	µg/L	50	12J	13	13	8.7	14	13	10	17	13	6.1	4.3	5.2	1.2	4.1	5.9	11.8	1.9	4.1	2.4	5.3	3.4	6.6	1.4
Indeno(1,2,3-cd)pyrene	µg/L	0.002	**0.9J**	**ND (<1.9)**	ND (<0.49)	ND (<0.48)	ND (<0.49)	ND (<0.54)	ND (<4.7)	ND (<0.58)	ND (<0.58)	ND (<0.58)	ND (<0.58)	ND (<0.48)	ND (<0.49)	ND (<0.47)	ND (<5.1)	ND (<0.10)	ND (<0.098)	**0.31**	ND (<0.099)	ND (<0.099)	ND (<0.10)	ND (<0.097)	ND (<0.10)
Naphthalene	µg/L	10	**110JD**	**89**	**560 D**	**450 D**	**570 D**	**140 D**	**51**	**27**	**94**	**13**	**29**	**210**	1.5	**48 E**	**110**	**363**	**34.1**	**69.3**	**16.8**	**138**	**43**	**512**	1.1
Phenanthrene	µg/L	50	8.3J	11	8	6.7 B	13	11	8.8	12	10	5.1	3.4	3.7	ND (<0.49)	2.8	ND (<5.1)	8.5	1.2	2.5	0.99	1.9	1.8	3.7	0.52
Pyrene	µg/L	50	5.9J	2.9	2.2	1.2 B	1.6	1.8	1.5J	2.9	3.7	2	1.5	1.1	ND (<0.49)	0.69	ND (<5.1)	1.4	0.58	1.6	0.45	0.59	0.73	1.0	0.54
Cyanide and Lead																									
Lead	µg/L	25	8.2	ND (<5.0)	ND (<5.0)	7.8	5.1	ND (<5.0)	ND (<5.0)	ND (<5.0)	10	ND (<5.0)	ND (<5.0)	0.010	0.010	0.010	ND (<10)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)
Cyanide	mg/L	0.2	**0.843**	**0.816**	R	**0.61J**	**0.427**	R	**0.91**	**1.2**	**0.5**	**0.5**	**0.48**	**0.58**	**0.29**	**1**	**1.1**	**1.1**	**0.42**	**1.3**	**0.56**	**0.27**	**0.171**	**0.61**	**0.32**

AWQS = Ambient Water Quality Standards
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BTEX = Benzene, Ethylbenzene, Toluene and Xylene
D = Diluted Sample
E = Result exceeded calibration range
F1 = MS and/or MSD Recovery outside acceptance limits.
F2 = MS/MSD RPD above control limits.
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NYSDEC = New York State Department of Environmental Conservation
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R = Rejected
µg/L = Micrograms per Liter
Bolded = values indicated exceedance of the NYSDEC AWQS

Table 3

Groundwater Analytical Data
MW-15

CONSTITUENT	UNITS	09/30/10	01/05/11	04/07/11	06/15/11	10/12/11	12/14/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/15/14	04/16/15	10/13/15	04/06/16	10/25/16	04/26/17	10/11/17	04/26/18	10/16/18	04/18/19	10/16/19	05/20/20
MNA/WQ Parameters																								
Alkalinity (as CaCO3)	mg/L	558	550	R	R	502J	547J	R	629	527	585	482	557	480	600	601	676	562	610	616	600	478	590	446
Chloride	mg/L	44.3	46.4	22.8	43.3 B	28.5J	R	68.2	70.6	39.4	42	44.5	44.2	14.2	49.3	55.7	65.4	25.7	58.0	15.2	15.2	43.9	38	20.3
Ethane	µg/L	ND (<10)	ND (<10)	2.9	ND (<300)	ND (<300)	ND (<300)	ND (<300)	ND (<380)	ND (<380)	ND (<380)	ND (<380)	ND (<380)	ND (<380)	ND (<380)	ND (<75)	6.2	3.2	5.1	2.8	2.1	3.4	5.1	ND (<1.00)
Ethene	µg/L	ND (<10)	ND (<10)	ND (<1.5)	ND (<300)	ND (<300)	ND (<300)	ND (<300)	ND (<350)	ND (<350)	ND (<350)	ND (<350)	ND (<350)	ND (<350)	ND (<350)	ND (<75)	0.038J	0.037J	ND (<0.10)	ND (<0.10)	0.042J	ND (<1.0)	ND (<1.0)	ND (<1.00)
Ferrous Iron	mg/L	0.15	1.36	R	0.51J	0.47J	0.13J	R	ND (<0.1)	0.15	0.18	ND (<0.1)	ND (<0.1)	ND (<0.1)	0.15 HF	ND (<0.1)	8.2	3.0	5.8	3.8	9.2	2.5	3.2	4.2
Manganese	mg/L	NA	0.74	0.89	0.67	0.79	0.77	0.61	0.61	1	1.1	0.68	1	0.68	0.7	ND (<75)	0.609	0.0639	0.735	0.484	1.56	0.775	0.952	0.312
Methane	µg/L	820	3400	680	360	720	1,900	1,600	1,900	780	580	1,100	2,400	16	1,600	720	3,400	1,900	2,900	640	3,100	1,400	3,600	416
Nitrate	mg/L	NA	ND (<1.0)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	0.28	ND (<0.05)	ND (<0.5)	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)
Nitrogen	mg/L	4.07	4.15	1.9	3.1	2.1	R	4.6	5.4	3	3.1	3.2	2.9	0.81	3.9	3.4	4.7	2.0	4.4	3.1	1.9	1.4	3.1	1.9
Sulfate	mg/L	NA	182	137 B	193 B	R	R	202 B	217	113	139	122	91.1	28.7	78.5	116	67.9	17.7	60.6	39.0	28.4	25.1	65.9	31.9
Sulfide	mg/L	NA	1.4	ND (<1.0)	ND (<1.0)	2.4	ND (<1.0)	R	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)

B = Present in Associated Blank Sample
D = Diluted Sample
J = Estimated Concentration
mg/L = Milligrams per Liter
MNA = Monitored Natural Attenuation
NA = Not Analyzed
ND (<#) = Not detected above laboratory reporting limit (indicated by #)
NS = Not Sampled
R = Rejected
µg/L = Micrograms per Liter
WQ = Water Quality

Table 3

Groundwater Analytical Data
MW-16

CONSTITUENT	UNITS	NYSDEC AWQS Values	09/29/10	01/04/11	04/06/11	06/14/11	10/11/11	12/13/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/20/14	04/16/15	10/13/15	04/06/16	10/25/16	04/26/17	10/11/17	04/26/18	10/16/18	04/18/19	10/16/19	05/20/20
BTEX Compounds																									
Benzene	µg/L	1	**140**	**170**	**150 D**	**100 D**	**17**	**140 D**	**150 D**	**180**	**200**	**150**	**8.7**	**59**	**91**	**40**	76	**149**	**5.9**	**143**	**80.6**	**127**	**126**	**143**	**56.6**
Ethylbenzene	µg/L	5	**70**	**110**	**92**	**51**	**5**	**78**	**66**	**100**	**150**	**92**	**6.2**	**41**	**68**	**26**	35	**134**	**3.1**	**124**	**60.8**	**101**	**91.5**	**118**	**38.7**
m/p-Xylene	µg/L	5	**31**	**55**	**47**	**27**	2.8	**29**	**26**	**14**	**41**	**23**	ND (<1.0)	ND (<10)	ND (<1.0)	4.9	5	4.9	ND (<2.0)	**9.3**	**6.6**	**8.7**	**9.5**	**9.3**	3.9
o-Xylene	µg/L	5	**34**	**54**	**41**	**27**	3.6	**36**	**37**	**14**	**56**	**35**	ND (<1.0)	**17**	**24**	**11**	20	**32.1**	**1.6**	**38.0**	**21.3**	**32.8**	**31.4**	**34.6**	**12.8**
Toluene	µg/L	5	**17**	**36**	**33**	**15**	2	**21**	**11**	ND (<10)	**14**	**9**	ND (<1.0)	**17**	ND (<1.0)	1.4	ND (<2.0)	**2.9**	ND (<1.0)	3.8	2.1	3.8	3.7	4.5	1.5
PAHs																									
Acenaphthene	µg/L	20	14 D	18	**21**	7	2.3	13	15	**30**	**30**	16	ND (<1.0)	**40**	**27**	14	31	**54.7**	3.0	39.5	**39.1**	**57.8**	**45.2**	**53.3**	14.6
Acenaphthylene	µg/L	NC	16J	27 D	36	11	4.7	10	2.2	34	49	ND (<0.48)	ND (<0.48)	31	25	16	27	47.3	1.9	26.2	24.4	30.6	17.6	21.4	5.9
Anthracene	µg/L	50	1.7	3	2.3	0.97 B	0.20J	1.4	1.2	1.6	2.8	ND (<0.48)	ND (<0.48)	2.8	1.8	1.2	ND (<2.5)	1.4	0.37	2.2	1.7	2.6	1.8	2.4	0.74
Benzo(a)anthracene	µg/L	0.002	ND (<0.19)	0.14	ND (<0.47)	**2.1 B**	ND (<0.50)	ND (<0.47)	ND (<0.49)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.50)	ND (<2.5)	**0.10**	**0.11**	**0.11**	**0.13**	**0.12**	**0.11**	**0.13**	ND (<0.10)
Benzo(a)pyrene	µg/L	0.000	ND (<0.19)	ND (<0.57)	ND (<0.47)	**2.3 B**	ND (<0.50)	ND (<0.47)	ND (<0.49)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.50)	ND (<2.5)	ND (<0.10)	**0.11**	ND (<0.098)	ND (<0.099)	ND (<0.099)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Benzo(b)fluoranthene	µg/L	0.002	ND (<0.19)	ND (<0.57)	**0.11J**	**2.8 B**	ND (<0.50)	ND (<0.47)	ND (<0.49)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.50)	ND (<0.50)	ND (<2.5)	ND (<0.10)	**0.17**	ND (<0.098)	ND (<0.099)	ND (<0.099)	ND (<0.11)	0.11	ND (<0.10)
Benzo(g,h,i)perylene	µg/L	NC	ND (<0.19)	ND (<0.57)	ND (<0.47)	1.8 B	ND (<0.50)	ND (<0.47)	ND (<0.49)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.50)	ND (<0.50)	ND (<2.5)	ND (<0.10)	ND (<0.097)	ND (<0.098)	ND (<0.099)	ND (<0.099)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Benzo(k)fluoranthene	µg/L	0.002	ND (<0.19)	ND (<0.57)	ND (<0.47)	**3.1 B**	ND (<0.50)	ND (<0.47)	**0.096J**	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.50)	ND (<0.50)	ND (<2.5)		**0.15**	ND (<0.098)	ND (<0.099)	ND (<0.099)	ND (<0.11)	**0.098**	ND (<0.10)
Chrysene	µg/L	0.002	ND (<0.19)	11J	ND (<0.47)	**2.7 B**	ND (<0.50)	ND (<0.47)	ND (<0.49)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.50)	ND (<0.50)	ND (<2.5)	ND (<0.10)	**0.098**	ND (<0.098)	ND (<0.099)	ND (<0.099)	ND (<0.11)	**0.11**	ND (<0.10)
Dibenzo(a,h)anthracene	µg/L	NC	ND (<0.19)	ND (<0.57)	ND (<0.47)	1.4	ND (<0.50)	ND (<0.47)	ND (<0.49)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.50)	ND (<0.50)	ND (<2.5)	ND (<0.10)	ND (<0.097)	ND (<0.098)	ND (<0.099)	ND (<0.099)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Fluoranthene	µg/L	50	1.2	1.4	1.7	1.5 B	0.21J	1.1	0.94	1.5	2	ND (<0.48)	ND (<0.48)	2.7	1.6	1.1	ND (<2.5)	1.8	0.41	2.5	1.9	2.4	1.9	3.0	1.1
Fluorene	µg/L	50	10 D	11	16	4.7	1.3	8.8	13	17	21	9.1	ND (<0.48)	22	14	7.1	15	22.2	1.1	17.2	17.2	19.5	12.8	24.1	5.3
Indeno(1,2,3-cd)pyrene	µg/L	0.002	ND (<0.19)	ND (<0.57)	ND (<0.47)	**1.7 B**	ND (<0.50)	ND (<0.47)	ND (<0.49)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.48)	ND (<0.50)	ND (<0.50)	ND (<2.5)	ND (<0.10)	ND (<0.097)	ND (<0.098)	ND (<0.099)	ND (<0.099)	ND (<0.11)	ND (<0.097)	ND (<0.10)
Naphthalene	µg/L	10	ND (<0.19)	110 D	**220 D**	ND (<0.47)	**26**	ND (<0.47)	ND (<0.49)	2.4	230E	ND (<0.48)	ND (<0.48)	1.7	4.6	5.1	7.4	4.6	0.16	5.8	**30.9**	9.8	**12.9**	**36.8**	2.2
Phenanthrene	µg/L	50	5.6	9.6	13	4.8 B	1.1	6.7	6.3	11	15	ND (<0.48)	ND (<0.48)	18	11	6.7	10	15.9	0.99	15.7	14.1	16.5	11.6	18.4	2.5
Pyrene	µg/L	50	1.4J	1.3	1.9	2.1 B	ND (<0.50)	1.1	0.87	1.3	2	ND (<0.48)	ND (<0.48)	3	1.8	1.2	ND (<2.5)	2.0	0.50	2.7	2.1	2.5	2.1	3.3	1.2
Cyanide and Lead																									
Lead	µg/L	25	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<3.0)	ND (<3.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<10)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)
Cyanide	mg/L	0.2	**0.353**	**0.342**	R	**0.25J**	0.137	R	**0.34**	**0.41**	0.11	0.11	0.023	**0.25**	**0.24**	**0.24**	**0.25**	**0.26**	**0.21**	**0.26**	**0.23**	**0.26**	0.192	**0.23**	0.19

AWQS = Ambient Water Quality Standards
B = Present in Associated Blank Sample
BTEX = Benzene, Ethylbenzene, Toluene and Xylene
D = Diluted Sample
E = Result exceeded calibration range
F1 = MS and/or MSD Recovery outside acceptance limits.
F2 = MS/MSD RPD above control limits.
J = Estimated Concentration Value
mg/L = Milligrams per Liter
NC = No Criteria
ND (<#) = Not detected above laboratory reporting limit (indicated by #)
NS = Not Sampled
NYSDEC = New York State Department of Environmental Conservation
PAHs = Polycyclic Aromatic Hydrocarbons
R = Rejected
µg/L = Micrograms per Liter
Bolded = values indicated exceedance of the NYSDEC AWQS

Table 3

Groundwater Analytical Data
MW-16

CONSTITUENT	UNITS	09/30/10	01/05/11	04/07/11	06/15/11	10/12/11	12/13/11	03/13/12	10/09/12	04/18/13	10/08/13	04/09/14	10/15/14	04/16/15	10/13/15	04/06/16	10/25/16	04/26/17	10/11/17	04/26/18	10/16/18	04/18/19	10/16/19	05/20/20
MNA/WQ Parameters																								
Alkalinity (as CaCO3)	mg/L	442	410	R	R	586J	600J	R	436	530	585	454	595	532	638	615	636	706	630	724	740	560	650	156
Chloride	mg/L	7.2	6.7	9.4	6.1 B	3.4J	R	12.7	12.8	5.5	5.4	5	6.5	5.8	4.9	5.7	6.8	3.4	6.5	5.6	4.8	11.8	4.8	3.6
Ethane	µg/L	ND (<2.5)	ND (<2.5)	ND (<30)	ND (<30)	ND (<1.5)	ND (<1.5)	0.57J	ND (<750)	ND (<750)	ND (<750)	ND (<750)	ND (<750)	ND (<75)	ND (<75)	ND (<75)	1.2	0.15J	0.84J	0.82J	0.99J	0.92 J	1.1	ND (<1.00)
Ethene	µg/L	ND (<2.5)	ND (<2.5)	ND (<30)	ND (<30)	ND (<1.5)	ND (<1.5)	2.6	ND (<700)	ND (<700)	ND (<700)	ND (<700)	ND (<700)	ND (<70)	ND (<70)	ND (<75)	0.24J	0.036J	0.16J	0.13J	0.17J	0.15 J	0.20 J	ND (<1.00)
Ferrous Iron	mg/L	ND (<0.1)	0.44	R	0.33J	R	0.08	ND (<0.1)	0.12	ND (<0.1)	0.13	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	ND (<0.1)	2.4	1.2	3.0	3.5	3.1	2.6	1.9	2.8
Manganese	mg/L	NA	0.7	0.59	0.9	0.17	0.61	0.88	1.1	0.63	0.7	0.22	0.63	0.42	0.33	ND (<75)	0.601	0.522	0.599	0.551	0.592	0.603	0.658	0.373
Methane	µg/L	210J	580 D	270	170	37	400 B	140	550	170	150	75	410	160	1100	110	900	180	780	820	830	850	1100	4.95 J
Nitrate	mg/L	NA	ND (<1.0)	ND (<0.05)	ND (<0.05)	0.65	0.17	ND (<0.05)	ND (<0.05)	0.1	ND (<0.05)	0.53	ND (<0.05)	ND (<0.05)	0.37	0.074	ND (<0.10)	0.33	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<1.0)
Nitrogen	mg/L	3.2	2.75	2.6	1.8	R	R	3.2	3.8	3.6	2.8	2.4	3.3	2.1	1.9	2.6	5.4	2.4	3.2	2.3	3.2	3.4	3.9	2.0
Sulfate	mg/L	NA	316	312 B	243 B	R	R	351 B	487	140	86	ND (<1.0)	107	38.2	22.8	13.3	145	37.8	77.7	111	75.8	79.6	67.7	39.0
Sulfide	mg/L	NA	2.7J	ND (<1.0)	ND (<1.0)	0.8J	ND (<1.0)	R	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)

B = Present in Associated Blank Sample
D = Diluted Sample
J = Estimated Concentration
mg/L = Milligrams per Liter
MNA = Monitored Natural Attenuation
NA = Not Analyzed
ND (<#) = Not detected above laboratory reporting limit (indicated by #)
NS = Not Sampled
R = Rejected
µg/L = Micrograms per Liter
WQ = Water Quality

Appendix A – Field Data

Site Management Plan Inspection Form
109 North Market Street
Former MGP Site
Johnstown, New York

Date: 1/17/2020 Time: 9:00
Technician: KL Weather: Sunny 7

Vegetation Cap				
Condition of Grass	GOOD	FAIR	POOR	COMMENTS:
Condition of Site Trees	GOOD	FAIR	POOR	COMMENTS:
Surface Erosion	NONE	MINOR	SIGNIFICANT	COMMENTS:
Has the site been maintained/mowed?	YES		NO	COMMENTS:

Sheet Pile Wall			
Has any construction occurred that may have impacted the sheet pile wall?	YES	NO	COMMENTS:

Site Wide			
Does the property continue to be used for commercial and/or industrial uses?	YES	NO	COMMENTS:
Does the use of groundwater for potable or process water continue to be restricted?	YES	NO	COMMENTS:
Are agricultural or vegetable gardens present on the property?	YES	NO	COMMENTS:
Do the Engineering Controls continue to perform as designed?	YES	NO	COMMENTS:
Do the Engineering Controls continue to be protective of human health and environment?	YES	NO	COMMENTS:
Are the requirements of the Site Management Plan being met?	YES	NO	COMMENTS:
Are the requirements of the Environmental Easement being met?	YES	NO	COMMENTS:
Since the last inspection has the groundwater been sampled in accordance with the SMP?	YES	NO	COMMENTS: GWS April and October
Since the last inspection have there been any changes to the remedial system?	YES	NO	COMMENTS:
Are there any needed changes?	YES	NO	COMMENTS:
Are the site records complete and up to date?	YES	NO	COMMENTS:

Miscellaneous				
Evidence of Trespassing	YES		NO	COMMENTS:
Litter	NONE	MINOR	SIGNIFICANT	COMMENTS:

General Comments:

Site Management Plan Inspection Form
109 North Market Street
Former MGP Site
Johnstown, New York

Date: 4/30/2020 Time: 9:00
Technician: KL Weather: Cloudy 47

Vegetation Cap				
Condition of Grass	GOOD	FAIR	POOR	COMMENTS:
Condition of Site Trees	GOOD	FAIR	POOR	COMMENTS:
Surface Erosion	NONE	MINOR	SIGNIFICANT	COMMENTS:
Has the site been maintained/mowed?	YES		NO	COMMENTS:

Sheet Pile Wall			
Has any construction occurred that may have impacted the sheet pile wall?	YES	NO	COMMENTS:

Site Wide			
Does the property continue to be used for commercial and/or industrial uses?	YES	NO	COMMENTS:
Does the use of groundwater for potable or process water continue to be restricted?	YES	NO	COMMENTS:
Are agricultural or vegetable gardens present on the property?	YES	NO	COMMENTS:
Do the Engineering Controls continue to perform as designed?	YES	NO	COMMENTS:
Do the Engineering Controls continue to be protective of human health and environment?	YES	NO	COMMENTS:
Are the requirements of the Site Management Plan being met?	YES	NO	COMMENTS:
Are the requirements of the Environmental Easement being met?	YES	NO	COMMENTS:
Since the last inspection has the groundwater been sampled in accordance with the SMP?	YES	NO	COMMENTS: GWS April and October
Since the last inspection have there been any changes to the remedial system?	YES	NO	COMMENTS:
Are there any needed changes?	YES	NO	COMMENTS:
Are the site records complete and up to date?	YES	NO	COMMENTS:

Miscellaneous				
Evidence of Trespassing	YES		NO	COMMENTS:
Litter	NONE	MINOR	SIGNIFICANT	COMMENTS:

General Comments:
GWS has been posponed per NG COVID-19 Policy.

Site Management Plan Inspection Form
109 North Market Street
Former MGP Site
Johnstown, New York

Date: 5/20/2020 Time: 8:40

Technician: AJ Weather: Sunny 54

Vegetation Cap				
Condition of Grass	GOOD	FAIR	POOR	COMMENTS:
Condition of Site Trees	GOOD	FAIR	POOR	COMMENTS:
Surface Erosion	NONE	MINOR	SIGNIFICANT	COMMENTS:
Has the site been maintained/mowed?	YES		NO	COMMENTS:

Sheet Pile Wall			
Has any construction occurred that may have impacted the sheet pile wall?	YES	NO	COMMENTS:

Site Wide			
Does the property continue to be used for commercial and/or industrial uses?	YES	NO	COMMENTS:
Does the use of groundwater for potable or process water continue to be restricted?	YES	NO	COMMENTS:
Are agricultural or vegetable gardens present on the property?	YES	NO	COMMENTS:
Do the Engineering Controls continue to perform as designed?	YES	NO	COMMENTS:
Do the Engineering Controls continue to be protective of human health and environment?	YES	NO	COMMENTS:
Are the requirements of the Site Management Plan being met?	YES	NO	COMMENTS:
Are the requirements of the Environmental Easement being met?	YES	NO	COMMENTS:
Since the last inspection has the groundwater been sampled in accordance with the SMP?	YES	NO	COMMENTS: Today
Since the last inspection have there been any changes to the remedial system?	YES	NO	COMMENTS:
Are there any needed changes?	YES	NO	COMMENTS:
Are the site records complete and up to date?	YES	NO	COMMENTS:

Miscellaneous				
Evidence of Trespassing	YES		NO	COMMENTS:
Litter	NONE	MINOR	SIGNIFICANT	COMMENTS:

General Comments:

GWS had been postponed until today per NG COVID-19 Policy.

National Grid
109 North Market Street, Johnstown New York

Sampling Personnel: JPH
Job Number: 0603123-120950-221
Well Id. **MW-4**

Date: 05/20/20
Weather: 55°F, Sunny
Time In: 1005 Time Out: 1050

Well Information

		TOC	Other
Depth to Water:	(feet)	22.11	
Depth to Bottom:	(feet)	27.32	
Depth to Product:	(feet)	NP	
Length of Water Column:	(feet)	5.21	
Volume of Water in Well:	(gal)	0.834	
Three Well Volumes:	(gal)	2.5	

Well Type: Flushmount ☐ Stick-Up ☒
Well Locked: Yes ☒ No ☐
Measuring Point Marked: Yes ☒ No ☐
Well Material: PVC ☒ SS ☐ Other:
Well Diameter: 1" ☐ 2" ☒ Other:
Comments:

Purging Information

Purging Method:	Bailer ☐	Peristaltic ☐	Well Wizard Dedicated Pump ☒		
Tubing/Bailer Material:	Teflon ☐	Stainless St. ☐	Polyethylene ☒	other ☐	
Sampling Method:	Bailer ☐	Peristaltic ☐	Well Wizard Dedicated Pump ☒		

Average Pumping Rate:	200	(ml/min)
Duration of Pumping:	30	(min)
Total Volume Removed:	3	(gal)

Did well go dry? Yes ☐ No ☒

Horiba U-52 Water Quality Meter Used? Yes ☒ No ☐

Conversion Factors				
	1" ID	2" ID	4" ID	6" ID
gal/ft. of water	0.04	0.16	0.66	1.47
1 gallon=3.785L=3785mL=1337cu. feet				

Time	DTW (feet)	Temp (°C)	pH (S.U.)	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	TDS (g/L)
1020	22.18	11.40	7.24	134	1.52	75.6	4.97	0.956
1025	22.21	10.87	7.19	130	1.39	50.1	3.46	0.899
1030	22.22	10.69	7.06	129	1.34	18.2	2.92	0.870
1035	22.24	10.47	7.02	126	1.35	9.4	2.60	0.867
1040	22.24	10.47	7.02	125	1.35	8.3	2.72	0.851
1045	22.24	10.65	7.01	122	1.34	8.2	2.41	0.850

Sampling Information:

Quantity	Size	Material	Preservative	Compounds analyzed	Method
2	1 L	Glass	Unpreserved	SVOC PAH's	EPA SW-846 Method 8270
1	250 mL	Plastic	Unpreserved	Ferrous Iron	SM 3500 FE D
				Chloride	SM 4500 Cl E
				Total Alkalinity	EPA Method 310.2
1	250 mL	Plastic	H2SO4	Nitrogen	EPA Method 351.2
1	250 mL	Plastic	HNO3	Lead & Manganese	EPA Method 6010
3	40 mL	Glass	HCl	VOC's & BTEX	EPA SW-846 Method 8260
1	250 mL	Plastic	NaOH	Total Cyanide	EPA Method 9012B
1	250 mL	Plastic	NaOH & Zinc Acetate	Nitrate & Nitrite	EPA Method 353.2
				Sulfide	EPA Method 376.1
				Sulfate	EPA Method 375.4
2	40 mL	Glass	Benzalkonium Chloride	Methane/Ethane/ Ethene/CO2	RSK-175

Shipped: Drop-off Albany Service Center ☐
Pace Courier ☒

Sample ID: **MW-4-0520**
Sample Time: 1045

Duplicate? Yes ☐ No ☒
MS/MSD? Yes ☐ No ☒

Laboratory: Pace Analytical
Greensburg, Pennsylvania

National Grid
109 North Market Street, Johnstown New York

Sampling Personnel: SH
Job Number: 0603123-120950-221
Well Id. **MW-7**

Date: 05/20/20
Weather: 60°, sunny
Time In: 1100 Time Out: 1135

Well Information

		TOC 15.15	Other
Depth to Water:	(feet)	~~15.15~~	
Depth to Bottom:	(feet)	22.10	
Depth to Product:	(feet)	NP	
Length of Water Column:	(feet)	6.95	
Volume of Water in Well:	(gal)	1.11	
Three Well Volumes:	(gal)	3.33	

Well Type: Flushmount ☐ Stick-Up ☒
Well Locked: Yes ☒ No ☐
Measuring Point Marked: Yes ☒ No ☐
Well Material: PVC ☒ SS ☐ Other:
Well Diameter: 1" ☐ 2" ☒ Other:
Comments:

Purging Information

Purging Method:	Bailer ☐	Peristaltic ☒	~~Well Wizard Dedicated Pump~~ ☒		
Tubing/Bailer Material:	Teflon ☐	Stainless St. ☐	Polyethylene ☒	other ☐	
Sampling Method:	Bailer ☐	Peristaltic ☐	Well Wizard Dedicated Pump ☒		
Average Pumping Rate:	200	(ml/min)			
Duration of Pumping:	30	(min)			
Total Volume Removed:	3	(gal)			

Did well go dry? Yes ☐ No ☒

Horiba U-52 Water Quality Meter Used? Yes ☒ No ☐

Conversion Factors				
	1" ID	2" ID	4" ID	6" ID
gal/ft. of water	0.04	0.16	0.66	1.47
1 gallon=3.785L=3785mL=1337cu. feet				

Time	DTW (feet)	Temp (°C)	pH (S.U.)	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	TDS (g/L)
1110	~~15.15~~ 15.30	11.30	7.23	-32	1.18	264	11.15	~~0.756~~
1115	15.51	11.12	7.16	-41	1.19	202	9.48	0.762
1120	~~15.63~~	11.03	~~7.09~~	-58	1.19	191	8.31	0.764
1125	15.70	~~11.85~~ 10.88	7.01	-66	1.21	185	7.10	0.770
1130	15.73	12.37	6.99	-68	1.21	168	6.70	0.772
1135	15.74	13.64	7.00	-72	1.19	151	6.22	0.763
~~1140~~								

Sampling Information:

Quantity	Size	Material	Preservative	Compounds analyzed	Method
2	1 L	Glass	Unpreserved	SVOC PAH's	EPA SW-846 Method 8270
1	250 mL	Plastic	Unpreserved	Ferrous Iron	SM 3500 FE D
				Chloride	SM 4500 CI E
				Total Alkalinity	EPA Method 310.2
1	250 mL	Plastic	H2SO4	Nitrogen	EPA Method 351.2
1	250 mL	Plastic	HNO3	Lead & Manganese	EPA Method 6010
3	40 mL	Glass	HCl	VOC's & BTEX	EPA SW-846 Method 8260
1	250 mL	Plastic	NaOH	Total Cyanide	EPA Method 9012B
1	250 mL	Plastic	NaOH & Zinc Acetate	Nitrate & Nitrite	EPA Method 353.2
				Sulfide	EPA Method 376.1
				Sulfate	EPA Method 375.4
2	40 mL	Glass	Benzalkonium Chloride	Methane/Ethane/ Ethene/CO2	RSK-175

Sample ID: **MW-7-0520**
Sample Time: ~~1135~~ 1135

Duplicate? Yes ☐ No ☒
MS/MSD? Yes ☐ No ☒

Shipped: Drop-off Albany Service Center ☐
Pace Courier ☒
Laboratory: Pace Analytical Greensburg, Pennsylvania

National Grid
109 North Market Street, Johnstown New York

Sampling Personnel: BH
Job Number: 0603123-120950-221
Well Id. **MW-10**

Date: 05/20/20
Weather: 65°, sunny
Time In: 1150 Time Out: 1235

Well Information

		TOC	Other
Depth to Water:	(feet)	15.02	
Depth to Bottom:	(feet)	22.05	
Depth to Product:	(feet)	~~NP 7.03~~	
Length of Water Column:	(feet)	7.03	
Volume of Water in Well:	(gal)	1.12	
Three Well Volumes:	(gal)	3.36	

Well Type: Flushmount ☐ Stick-Up ☒
Well Locked: Yes ☒ No ☐
Measuring Point Marked: Yes ☒ No ☐
Well Material: PVC ☒ SS ☐ Other:
Well Diameter: 1" ☐ 2" ☒ Other:
Comments:

Purging Information

Purging Method:	Bailer ☐	Peristaltic ☐	Well Wizard Dedicated Pump ☒		
Tubing/Bailer Material:	Teflon ☐	Stainless St. ☐	Polyethylene ☒	other ☐	
Sampling Method:	Bailer ☐	Peristaltic ☐	Well Wizard Dedicated Pump ☒		
Average Pumping Rate:	200 (ml/min)				
Duration of Pumping:	30 (min)				
Total Volume Removed:	3 (gal)				

Did well go dry? Yes ☐ No ☒

Horiba U-52 Water Quality Meter Used? Yes ☒ No ☐

Conversion Factors				
	1" ID	2" ID	4" ID	6" ID
gal/ft. of water	0.04	0.16	0.66	1.47
1 gallon=3.785L=3785mL=1337cu. feet				

Time	DTW (feet)	Temp (°C)	pH (S.U.)	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	TDS (g/L)
1200	15.25	11.29	7.10	-84	2.18	65.1	5.19	1.39
1205	15.32	11.37	7.04	-92	1.72	54.3	1.97	1.09
1210	15.51	13.35	7.04	-94	1.64	49.2	1.31	1.05
1215	15.60	14.51	7.05	-93	1.61	45.8	1.14	1.03
1220	15.67	15.37	7.05	-93	1.61	72.8	0.95	1.03
1225	15.68	16.15	7.05	-94	1.62	65.0	0.54	1.03

Sampling Information:

Quantity	Size	Material	Preservative	Compounds analyzed	Method
2	1 L	Glass	Unpreserved	SVOC PAH's	EPA SW-846 Method 8270
1	250 mL	Plastic	Unpreserved	Ferrous Iron	SM 3500 FE D
				Chloride	SM 4500 Cl E
				Total Alkalinity	EPA Method 310.2
1	250 mL	Plastic	H2SO4	Nitrogen	EPA Method 351.2
1	250 mL	Plastic	HNO3	Lead & Manganese	EPA Method 6010
3	40 mL	Glass	HCl	VOC's & BTEX	EPA SW-846 Method 8260
1	250 mL	Plastic	NaOH	Total Cyanide	EPA Method 9012B
1	250 mL	Plastic	NaOH & Zinc Acetate	Nitrate & Nitrite	EPA Method 353.2
				Sulfide	EPA Method 376.1
				Sulfate	EPA Method 375.4
2	40 mL	Glass	Benzalkonium Chloride	Methane/Ethane/ Ethene/CO2	RSK-175

Sample ID: **MW-10-0520**
Sample Time: 1225

Duplicate? Yes ☐ No ☒
MS/MSD? Yes ☐ No ☒

Shipped: Drop-off Albany Service Center ☐
Pace Courier ☒
Laboratory: Pace Analytical Greensburg, Pennsylvania

National Grid
109 North Market Street, Johnstown New York

Sampling Personnel: BH
Job Number: 0603123-120950-221
Well Id. ~~MW-11~~ 12

Date: 05/20/20
Weather: 52°F, sunny
Time In: 0920 Time Out: 0955

Well Information

		TOC	Other
Depth to Water:	(feet)	14.62	
Depth to Bottom:	(feet)	~~22.90~~	22.24
Depth to Product:	(feet)	ND	
Length of Water Column:	(feet)	~~8.82~~	
Volume of Water in Well:	(gal)	1.25	
Three Well Volumes:	(gal)	3.75	

Well Type: Flushmount [X] Stick-Up [ ]
Well Locked: Yes [X] No [ ]
Measuring Point Marked: Yes [X] No [ ]
Well Material: PVC [X] SS [ ] Other:
Well Diameter: 1" [ ] 2" [X] Other:
Comments:

Purging Information

Purging Method:	Bailer [ ]	Peristaltic [ ]	Well Wizard Dedicated Pump [X]		
Tubing/Bailer Material:	Teflon [ ]	Stainless St. [ ]	Polyethylene [X]	other [ ]	
Sampling Method:	Bailer [ ]	Peristaltic [ ]	Well Wizard Dedicated Pump [X]		
Average Pumping Rate:	200	(ml/min)			
Duration of Pumping:	30	(min)			
Total Volume Removed:	3	(gal)			

Did well go dry? Yes [ ] No [X]

Horiba U-52 Water Quality Meter Used? Yes [X] No [ ]

Conversion Factors				
	1" ID	2" ID	4" ID	6" ID
gal/ft. of water	0.04	0.16	0.66	1.47
1 gallon=3.785L=3785mL=1337cu. feet				

Time	DTW (feet)	Temp (°C)	pH (S.U.)	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	TDS (g/L)
0925	14.79	9.85	6.81	216	1.68	340	9.75	1.07
0930	14.72	9.70	6.80	216	1.67	202	9.41	1.02
0935	14.71	9.67	6.79	217	1.72	143.6	8.95	1.07
0940	14.72	9.65	6.77	217	1.78	91.2	8.27	1.15
0945	14.72	9.72	6.80	216	1.86	41.5	6.65	1.19
0950	14.72	9.65	6.80	214	1.84	13.9	5.84	1.18

Sampling Information:

Quantity	Size	Material	Preservative	Compounds analyzed	Method
2	1 L	Glass	Unpreserved	SVOC PAH's	EPA SW-846 Method 8270
1	250 mL	Plastic	Unpreserved	Ferrous Iron	SM 3500 FE D
				Chloride	SM 4500 Cl E
				Total Alkalinity	EPA Method 310.2
1	250 mL	Plastic	H2SO4	Nitrogen	EPA Method 351.2
1	250 mL	Plastic	HNO3	Lead & Manganese	EPA Method 6010
3	40 mL	Glass	HCl	VOC's & BTEX	EPA SW-846 Method 8260
1	250 mL	Plastic	NaOH	Total Cyanide	EPA Method 9012B
1	250 mL	Plastic	NaOH & Zinc Acetate	Nitrate & Nitrite	EPA Method 353.2
				Sulfide	EPA Method 376.1
				Sulfate	EPA Method 375.4
2	40 mL	Glass	Benzalkonium Chloride	Methane/Ethane/ Ethene/CO2	RSK-175

Sample ID: MW-11-0520
Sample Time: 0950

Duplicate? Yes [ ] No [X]
MS/MSD? Yes [ ] No [X]

Shipped: Drop-off Albany Service Center [ ]
Pace Courier [X]
Laboratory: Pace Analytical Greensburg, Pennsylvania

National Grid
109 North Market Street, Johnstown New York

Sampling Personnel: AS
Job Number: 0603123-120950-221
Well Id. **MW-13**

Date: 5/20/20
Weather: 57°F, Sunny
Time In: 0840 Time Out: 1005

Well Information

		TOC	Other
Depth to Water:	(feet)	15.42	
Depth to Bottom:	(feet)	22.75	
Depth to Product:	(feet)	-	
Length of Water Column:	(feet)	7.33	
Volume of Water in Well:	(gal)	1.17	
Three Well Volumes:	(gal)	3.5	

Well Type: Flushmount [X] Stick-Up [ ]
Well Locked: Yes [X] No [ ]
Measuring Point Marked: Yes [X] No [ ]
Well Material: PVC [X] SS [ ] Other:
Well Diameter: 1" [ ] 2" [X] Other:
Comments:

Purging Information

Purging Method:	Bailer [ ]	Peristaltic [ ]	Well Wizard Dedicated Pump [X]	
Tubing/Bailer Material:	Teflon [ ]	Stainless St. [ ]	Polyethylene [X]	other [ ]
Sampling Method:	Bailer [ ]	Peristaltic [ ]	Well Wizard Dedicated Pump [X]	
Average Pumping Rate:	200 (ml/min)			
Duration of Pumping:	30 (min)			
Total Volume Removed:	3.0 (gal)			

Did well go dry? Yes [ ] No [ ]

Horiba U-52 Water Quality Meter Used? Yes [X] No [ ]

Conversion Factors				
	1" ID	2" ID	4" ID	6" ID
gal/ft. of water	0.04	0.16	0.66	1.47
1 gallon=3.785L=3785mL=1337cu. feet				

Time	DTW (feet)	Temp (°C)	pH (S.U.)	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	TDS (g/L)
0900	14.50	11.64	7.58	-112	0.568	9.2	13.19	0.363
0905	14.52	11.15	7.64	-117	0.550	3.6	10.17	0.350
0910	14.55	10.79	7.71	-123	0.539	0.0	8.27	0.345
0915	14.55	10.72	7.73	-126	0.534	0.0	7.87	0.342
0920	14.55	10.64	7.75	-129	0.530	0.0	7.61	0.340
0925	14.55	10.54	7.78	-132	0.519	0.0	7.04	0.333
0930	14.55	10.45	7.82	-137	0.497	0.0	6.45	0.322

Sampling Information:

Quantity	Size	Material	Preservative	Compounds analyzed	Method
2	1 L	Glass	Unpreserved	SVOC PAH's	EPA SW-846 Method 8270
1	250 mL	Plastic	Unpreserved	Ferrous Iron	SM 3500 FE D
				Chloride	SM 4500 Cl E
				Total Alkalinity	EPA Method 310.2
1	250 mL	Plastic	H2SO4	Nitrogen	EPA Method 351.2
1	250 mL	Plastic	HNO3	Lead & Manganese	EPA Method 6010
3	40 mL	Glass	HCl	VOC's & BTEX	EPA SW-846 Method 8260
1	250 mL	Plastic	NaOH	Total Cyanide	EPA Method 9012B
1	250 mL	Plastic	NaOH & Zinc Acetate	Nitrate & Nitrite	EPA Method 353.2
				Sulfide	EPA Method 376.1
				Sulfate	EPA Method 375.4
2	40 mL	Glass	Benzalkonium Chloride	Methane/Ethane/ Ethene/CO2	RSK-175

MW-13-MS-0520 and MW-13-MSD-0520

Sample ID: **MW-13-0520**
Sample Time: 0935

Duplicate? Yes [ ] No [X]
MS/MSD? Yes [X] No [ ]

Shipped: Drop-off Albany Service Center [ ]
Pace Courier [X]
Laboratory: Pace Analytical Greensburg, Pennsylvania

National Grid
109 North Market Street, Johnstown New York

Sampling Personnel: AS
Job Number: 0603123-120950-221
Well Id. **MW-14**

Date: 5/20/20
Weather: 60°F, sunny
Time In: 1105 Time Out: 1200

Well Information

		TOC	Other
Depth to Water:	(feet)	14.23	
Depth to Bottom:	(feet)	23.55	
Depth to Product:	(feet)	—	
Length of Water Column:	(feet)	9.32	
Volume of Water in Well:	(gal)	1.5	
Three Well Volumes:	(gal)	4.5	

Well Type: Flushmount [X] Stick-Up [ ]
Well Locked: Yes [X] No [ ]
Measuring Point Marked: Yes [X] No [ ]
Well Material: PVC [X] SS [ ] Other:
Well Diameter: 1" [ ] 2" [X] Other:
Comments:

Purging Information

Purging Method:		Bailer [ ]	Peristaltic [ ]	Well Wizard Dedicated Pump [X]	
Tubing/Bailer Material:		Teflon [ ]	Stainless St. [ ]	Polyethylene [X]	other [ ]
Sampling Method:		Bailer [ ]	Peristaltic [ ]	Well Wizard Dedicated Pump [X]	
Average Pumping Rate:	200 (ml/min)				
Duration of Pumping:	30 (min)				
Total Volume Removed:	3 (gal)				

Did well go dry? Yes [ ] No [ ]

Horiba U-52 Water Quality Meter Used? Yes [X] No [ ]

Conversion Factors				
	1" ID	2" ID	4" ID	6" ID
gal/ft. of water	0.04	0.16	0.66	1.47
1 gallon=3.785L=3785mL=1337cu. feet				

Time	DTW (feet)	Temp (°C)	pH (S.U.)	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	TDS (g/L)
1110	14.45	11.52	7.09	41	0.747	139	3.04	0483
1115	14.55	12.59	7.37	29	0.600	925	5.69	0.386
1120	14.60	12.34	7.38	33	0.551	0.0	2.06	0341
1125	14.64	11.09	7.37	40	0.535	0.0	1.98	0.343
1130	14.79	11.08	7.37	41	0.534	773	1.89	0.341
1135	14.82	10.50	7.37	42	0.536	723	1.81	0.343
1140	14.89	10.29	7.37	44	0.542	462	1.79	0.347

Sampling Information:

Quantity	Size	Material	Preservative	Compounds analyzed	Method
2	1 L	Glass	Unpreserved	SVOC PAH's	EPA SW-846 Method 8270
1	250 mL	Plastic	Unpreserved	Ferrous Iron	SM 3500 FE D
				Chloride	SM 4500 Cl E
				Total Alkalinity	EPA Method 310.2
1	250 mL	Plastic	H2SO4	Nitrogen	EPA Method 351.2
1	250 mL	Plastic	HNO3	Lead & Manganese	EPA Method 6010
3	40 mL	Glass	HCl	VOC's & BTEX	EPA SW-846 Method 8260
1	250 mL	Plastic	NaOH	Total Cyanide	EPA Method 9012B
1	250 mL	Plastic	NaOH & Zinc Acetate	Nitrate & Nitrite	EPA Method 353.2
				Sulfide	EPA Method 376.1
				Sulfate	EPA Method 375.4
2	40 mL	Glass	Benzalkonium Chloride	Methane/Ethane/ Ethene/CO2	RSK-175

Field Duplicate-0520
Sample ID: **MW-14-0520**
Sample Time: 1145

Duplicate? Yes [X] No [X]
MS/MSD? Yes [ ] No [X]

Shipped: Drop-off Albany Service Center [ ]
Pace Courier [X]
Laboratory: Pace Analytical
Greensburg, Pennsylvania

National Grid

109 North Market Street, Johnstown New York

Sampling Personnel: AS

Job Number: 0603123-120950-221

Well Id. **MW-15**

Date: 5/20/20

Weather: 59°F, sunny

Time In: 1010 Time Out: 1100

Well Information

		TOC	Other
Depth to Water:	(feet)	16.52	
Depth to Bottom:	(feet)	23.00	
Depth to Product:	(feet)	-	
Length of Water Column:	(feet)	6.48	
Volume of Water in Well:	(gal)	1.0	
Three Well Volumes:	(gal)	3.0	

Well Type: Flushmount [X] Stick-Up [ ]

Well Locked: Yes [X] No [ ]

Measuring Point Marked: Yes [X] No [ ]

Well Material: PVC [X] SS [ ] Other:

Well Diameter: 1" [ ] 2" [X] Other:

Comments:

Purging Information

Purging Method:	Bailer [ ]	Peristaltic [ ]	Well Wizard Dedicated Pump [X]	
Tubing/Bailer Material:	Teflon [ ]	Stainless St. [ ]	Polyethylene [X]	other
Sampling Method:	Bailer [ ]	Peristaltic [ ]	Well Wizard Dedicated Pump [X]	

Average Pumping Rate:	200	(ml/min)
Duration of Pumping:	70	(min)
Total Volume Removed:	3.0	(gal)

Did well go dry? Yes [ ] No [ ]

Horiba U-52 Water Quality Meter Used? Yes [X] No [ ]

Conversion Factors				
	1" ID	2" ID	4" ID	6" ID
gal/ft. of water	0.04	0.16	0.66	1.47
1 gallon=3.785L=3785mL=1337cu. feet				

Time	DTW (feet)	Temp (°C)	pH (S.U.)	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	TDS (g/L)
1020	16.92	14.75	7.15	-67	0.866	0.0	18.10	0.554
1025	17.22	14.17	7.14	-67	0.827	0.0	7.20	0.531
1030	17.52	12.89	7.02	-107	0.726	0.0	0.62	0.473
1035	17.69	11.10	6.92	-66	0.698	0.0	0.00	0.445
1040	17.82	10.45	6.90	-69	0.728	0.0	0.00	0.465
1045	17.93	10.56	6.91	-75	0.769	0.0	0.00	0.491
1050	18.00	10.61	6.91	-81	0.814	0.0	0.00	0.519

Sampling Information:

Quantity	Size	Material	Preservative	Compounds analyzed	Method
2	1 L	Glass	Unpreserved	SVOC PAH's	EPA SW-846 Method 8270
1	250 mL	Plastic	Unpreserved	Ferrous Iron	SM 3500 FE D
				Chloride	SM 4500 Cl E
				Total Alkalinity	EPA Method 310.2
1	250 mL	Plastic	H2SO4	Nitrogen	EPA Method 351.2
1	250 mL	Plastic	HNO3	Lead & Manganese	EPA Method 6010
3	40 mL	Glass	HCl	VOC's & BTEX	EPA SW-846 Method 8260
1	250 mL	Plastic	NaOH	Total Cyanide	EPA Method 9012B
1	250 mL	Plastic	NaOH & Zinc Acetate	Nitrate & Nitrite	EPA Method 353.2
				Sulfide	EPA Method 376.1
				Sulfate	EPA Method 375.4
2	40 mL	Glass	Benzalkonium Chloride	Methane/Ethane/ Ethene/CO2	RSK-175

Sample ID: **MW-15-0520**

Sample Time: 1055

Duplicate? Yes [ ] No [X]

MS/MSD? Yes [ ] No [X]

Shipped: Drop-off Albany Service Center [ ]

Pace Courier [X]

Laboratory: Pace Analytical Greensburg, Pennsylvania

National Grid
109 North Market Street, Johnstown New York

Sampling Personnel: AS
Job Number: 0603123-120950-221
Well Id. **MW-16**

Date: 5/20/20
Weather: 63°F, sunny
Time In: 1205 Time Out:

Well Information

		TOC	Other
Depth to Water:	(feet)	9.81	
Depth to Bottom:	(feet)	19.45	
Depth to Product:	(feet)	—	
Length of Water Column:	(feet)	10.05	
Volume of Water in Well:	(gal)	1.6	
Three Well Volumes:	(gal)	4.8	

Well Type: Flushmount [X] Stick-Up [ ]
Well Locked: Yes [X] No [ ]
Measuring Point Marked: Yes [X] No [ ]
Well Material: PVC [X] SS [ ] Other:
Well Diameter: 1" [ ] 2" [X] Other:
Comments:

Purging Information

Purging Method:	Bailer [ ]	Peristaltic [ ]	Well Wizard Dedicated Pump [X]		
Tubing/Bailer Material:	Teflon [ ]	Stainless St. [ ]	Polyethylene [X]	other [ ]	
Sampling Method:	Bailer [ ]	Peristaltic [ ]	Well Wizard Dedicated Pump [X]		
Average Pumping Rate:	200 (ml/min)				
Duration of Pumping:	30 (min)				
Total Volume Removed:	(gal)				

Did well go dry? Yes [ ] No [ ]

Horiba U-52 Water Quality Meter Used? Yes [X] No [ ]

Conversion Factors				
	1" ID	2" ID	4" ID	6" ID
gal/ft. of water	0.04	0.16	0.66	1.47
1 gallon=3.785L=3785mL=1337cu. feet				

Time	DTW (feet)	Temp (°C)	pH (S.U.)	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	TDS (g/L)
1210	10.28	9.79	7.35	~6	0.725	401	2.43	0.452
1215	10.89	8.82	7.20	-46	0.545	142	1.77	0603
1220	11.02	8.14	7.19	-31	0.945	53.9	0.75	0.604
1225	11.35	8.10	7.15	-19	0.954	25.5	0.24	0610
1230	11.105	7.98	7.11	-10	0.961	4.7	0.05	0.615
1235	11.92	7.83	7.13	-19	0.970	0.0	0.00	0.621
1240	12.20	7.81	7.14	-35	0.984	0.0	0.00	0.629

Sampling Information:

Quantity	Size	Material	Preservative	Compounds analyzed	Method
2	1 L	Glass	Unpreserved	SVOC PAH's	EPA SW-846 Method 8270
1	250 mL	Plastic	Unpreserved	Ferrous Iron	SM 3500 FE D
				Chloride	SM 4500 Cl E
				Total Alkalinity	EPA Method 310.2
1	250 mL	Plastic	H2SO4	Nitrogen	EPA Method 351.2
1	250 mL	Plastic	HNO3	Lead & Manganese	EPA Method 6010
3	40 mL	Glass	HCl	VOC's & BTEX	EPA SW-846 Method 8260
1	250 mL	Plastic	NaOH	Total Cyanide	EPA Method 9012B
1	250 mL	Plastic	NaOH & Zinc Acetate	Nitrate & Nitrite	EPA Method 353.2
				Sulfide	EPA Method 376.1
				Sulfate	EPA Method 375.4
2	40 mL	Glass	Benzalkonium Chloride	Methane/Ethane/ Ethene/CO2	RSK-175

Sample ID: **MW-16-0520**
Sample Time: 1245

Duplicate? Yes [ ] No [X]
MS/MSD? Yes [ ] No [X]

Shipped: Drop-off Albany Service Center [ ]
Pace Courier [X]
Laboratory: Pace Analytical Greensburg, Pennsylvania

Appendix B – Data Usability Summary Report

Groundwater & Environmental Services, Inc.

708 North Main Street, Suite 201
Blacksburg, VA 24060

T. 800.662.5067

July 20, 2020

Devin Shay
Groundwater & Environmental Services
Syracuse
5 Technology Place, Suite 4
East Syracuse, NY 13057

RE: Data Usability Summary Report for National Grid: Johnstown, NY Site Data Package
Pace Analytical Job No. 30364213

Groundwater & Environmental Services, Inc. (GES) reviewed one data package (Laboratory Project Number 30364213) from Pace Analytical Services, Inc., for the analysis of groundwater samples collected on May 20, 2020 from monitoring wells located at the National Grid: Johnstown, NY Site. Eight aqueous samples and a field duplicate were analyzed for dissolved gases, PAHs, Nitrogen, Metals, Alkalinity, Chloride, Ferrous Iron, Cyanide, Sulfide and Sulfate. Methodologies utilized were, ASTM D516-11, EPA 351.2, EPA 6010C, SM 4500NO3F-2011, SM4500CIE-2011, SM 4500S2F-2011, SM 3500-FeB-2011, SM 2320B-2011, and the USEPA SW846 methods 8260C/8270DSIM/9012B, with additional QC requirements of the NYSDEC ASP.

The data were reported as part of a complete full deliverable type B data validation. This usability report is generated from review of the following:

- Laboratory Narrative Discussion
- Custody Documentation
- Holding Times
- Surrogate and Internal Standard Recoveries
- Matrix Spike Recoveries/Duplicate (MS/MSD) Correlations
- Field Duplicate Correlations
- Laboratory Control Sample (LCS)
- Preparation/Calibration Blanks
- Calibration/Low Level Standard Responses
- Instrumental Tunes
- Instrument MDLs
- Sample Quantitation and Identification

The items listed above which show deficiencies are discussed within the text of this narrative.

All of the other items were determined to be acceptable for the DUSR level review.

In summary, sample results were usable as reported, with exceptions due to poor precision or MS/MSD recoveries.

The laboratory case narratives and sample identification summary forms are attached to this text, and should be reviewed in conjunction with this report.

Table 1. Laboratory – Field Cross Reference

Lab ID	Sample ID	Date Collected	Date Received
30364213001	**MW-4-0520**	Water	05/20/20 10:45
30364213002	**MW-7-0520**	Water	05/20/20 11:35
30364213003	**MW-10-0520**	Water	05/20/20 12:25
30364213004	**MW-12-0520**	Water	05/20/20 09:50
30364213005	**MW-13-0520**	Water	05/20/20 09:35
30364213006	**MW-13-MS-0520**	Water	05/20/20 09:35
30364213007	**MW-13-MSD-0520**	Water	05/20/20 09:35
30364213008	**MW-14-0520**	Water	05/20/20 11:45
30364213009	**MW-15-0520**	Water	05/20/20 10:55
30364213010	**MW-16-0520**	Water	05/20/20 12:45
30364213011	**Field Duplicate-0520**	Water	05/20/20 00:01
30364213012	**Trip Blank**	Water	05/20/20 00:01

Table 2. Validation Qualifiers

Sample ID	Qualifier	Analyte	Reason for qualification
MW-13	J-	o-xylene, xylene	MS/MSD low recoveries
	UJ-	Ferrous Iron	
	J-	Cyanide	
All Samples	J-/UJ-	Ferrous Iron	Analyzed outside of hold time
MW-14	R	All analytes except cyanide and Alkalinity	Field RPD > 160% Does not match historical data
MW-16	J+	Nitrogen, Total Kjeldahl	High recoveries, RPD>30%

In summary, sample results were usable as reported, with the following exceptions:

- MW-14 was sampled with high turbidity in the field. The data does not match historical information, and the duplicate field sample showed large variances (>150% across all analyses except dissolved alkalinity and cyanide). Data is qualified as rejected due to anomalous information. Data will be compared to subsequent sampling information to see if the concentrations return to normal levels at the next event.
- MW-13 and MW-13MS/MSD duplicate information was employed to assess precision for the sampling event as the field duplicate sample's turbidity precluded accurate precision calculations.

The following non-compliances were not used to qualify data:

- Benzene, toluene and ethylbenzene all reported recoveries low out of specification in the MS/MSD; no qualification is necessary as the initial concentration in the sample is >4X the spiking concentration.

The laboratory case narratives and sample identification summary forms are attached to this text, and should be reviewed in conjunction with this report.

BTEX and TCL Volatiles by EPA 8260C/NYSDEC ASP

Sample holding times were met and instrumental tune fragmentations were within acceptance ranges. Surrogate and internal standard recoveries were within required limits. Calibrations standards show acceptable responses within analytical protocol and validation action limits. The MS/MSD benzene, ethylbenzene and toluene calculations could not be used to gauge accuracy, as the initial concentrations in the sample were greater than the EPA guidelines required <4x the spiking concentrations for accuracy calculations. Other low recoveries for 0-xylene and xylenes required qualification of the data as possibly low biased. Precision calculations showed that the recoveries were consistent, as RPDs were within expected ranges. Precision calculations for LCS/LCSD indicate good reproducibility. Surrogate recovery was within bounds, and LCS recoveries were compliant, and used to determine method efficacy.

The field duplicate correlations were not calculated as neither sample had above reporting limit detections.

Field duplicate precision was measured using MW-13 and the MS/MSD pair. The data showed good precision.

PAHs by EPA8270D/NYSDEC ASP

Holding times were met. Instrumental tune fragmentations were within acceptance ranges. Surrogate recoveries were within analytical and validation guidelines. Blanks show no contamination. Calibration standards, both initial and continuing, show acceptable responses within analytical method protocols and validation guidelines. The blind field duplicate correlations of MW-14-2020 did not fall within criteria, the correlations. Three analytes (Benzo(a)anthracene, Benzo(b)fluoranthene and Fluoranthene) are qualified as unusable in the field duplicate as the original sample does not confirm their presence at the location.

The MS/MSD calculations showed good reproducibility and recovery. Precision calculations indicate good reproducibility. Surrogate recovery was within bounds, with the exception of the surrogate in MW-14, the data of which was rejected due to turbidity issues effecting precision and accuracy. LCS recoveries were compliant for accuracy and precision.

Lead and Manganese by EPA 6010/NYDESC ASP

Holding times were met. Blanks show no contamination. Calibration standards, both initial and continuing, show acceptable responses within analytical method protocols and validation

guidelines. The blind field duplicate correlations of MW-14-2020 did not fall within criteria, due to turbidity issues. MW-13 and MS/MSD correlations were within specification.

MS/MSD recoveries were within criteria. The ICP serial dilution evaluations were within specification for samples with detections of the target elements above the action limit.

Wet Chemistry Tests and Total Cyanide by 9012B/ NYSDEC ASP

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 with the following exceptions in the MW-13 MS/MSDs:

- Alkalinity: reported recoveries low out of specification; no qualification is necessary as the initial concentration in the sample is >4X the spiking concentration.
- Cyanide: recovery was low, the data is qualified as estimated with a possible low bias

Calibration standard responses were compliant. Blanks show no detections above the reporting limits.

Ferrous Iron by S<3500-FeD-00/ NYSDEC ASP

Review was conducted for method compliance, holding times, transcription, calculations, standard and blank acceptability, and accuracy and precision. Samples were analyzed outside of holding time and are qualified as estimated with a possible low bias. All other criteria were found acceptable for the validated samples, except for the MS/MSD recoveries associated with MW-13, which were low, outside of criteria. The non-detect data in MW-13 is therefore qualified as estimated non-detect, with a possible low bias.

The precision was not calculated, as the turbidity in the sample precluded good correlations. The data in MW-14 is qualified as rejected.

Calibration standard responses were compliant. Blanks show no detections above the reporting limits.

Total Kjeldahl Nitrogen, Nitrogen as Nitrate/Nitrite by EPA 351.2 & 353.2/NYDESC ASP

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. Calibration standard responses were compliant. Blanks show no detections above the reporting limits. The MS/MSD recoveries were high, out-of-specification for MW-16. The sample reported no detections of this analyte, and the data was unaffected but the possible high bias.

Dissolved Gases by EPA 5021/RSK-175

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. Calibration standard responses were compliant. Blanks show no detections above the reporting limits.

Data Precision

Table 3
Field Precision
JOHNSTOWN NY SITE
May 2020

Field Identification	Analyte	Sample Result (µg/L)	Duplicate Result (µg/L)	RPD (%)	Qualified
MW-14/FIELD DUP	Lead	256	37.4	149.0	R
	Manganese	3790	574	147.4	R
	Acenaphthene	0.77	ND	N/A	Not calculated Original <5x RL
	Acenaphthylene	8.4	0.8	165.2	R
	Anthracene	3.5	0.32	166.5	R
	Benzo(a)anthracene	19.8	1.5	171.8	R
	Benzo(a)pyrene	24.8	1.96	170.7	R
	Benzo(b)fluoranthene	26.1	2.1	170.2	R
	Benzo(g,h,i)perylene	17.5	1.3	172.3	R
	Benzo(k)fluoranthene	8.5	0.65	171.6	R
	Chrysene	17.0	1.3	171.6	R
	Dibenz(a,h)anthracene	4.5	0.32	173.4	R
	Fluoranthene	29.0	2.1	173.0	R
	Fluorene	1.3	0.11	168.8	R
	Indeno(1,2,3-cd)pyrene	14.4	1.1	171.6	R
	2-Methylnaphthalene	0.34	ND	N/A	R
	Naphthalene	0.86	0.11	154.6	R
	Phenanthrene	9.8	0.67	174.4	R
	Pyrene	47	3.4	173.0	R
	Alkalinity,Total (CaCO3 pH4.5)	342	350	2.3	J
	Iron Ferrous	1.9	3.4	56.6	R
	Sulfide	ND	ND	N/A	Not calculated Original <5x RL
	Nitrogen, Kjeldahl, Total	4.2	1.1	117.0	R
	Chloride	ND	ND	N/A!	Not calculated Original <5x RL
	Nitrogen, NO2 plus NO3	ND	0.14	N/A	Not calculated Original <5x RL
	Cyanide	0.12	0.097	21.2	JR

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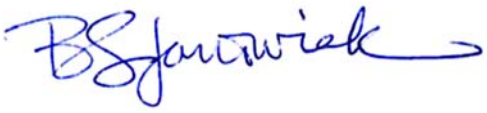
Data Package Completeness

Complete NYSDEC Category B deliverables were included in the laboratory data package, all information required for validation of the data is present.

Please do not hesitate to contact me if you have comments or questions regarding this report.



Bonnie Janowiak, Ph.D.
Project Chemist
708 N Main St, Suite 201
Blacksburg, VA 24060

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.

Sample Summaries

and

Laboratory Case Narratives

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: National Grid-Johnstown, NY-Revised Report
Pace Project No.: 30364213

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30364213001	**MW-4-0520**	Water	05/20/20 10:45	05/21/20 09:15
30364213002	**MW-7-0520**	Water	05/20/20 11:35	05/21/20 09:15
30364213003	**MW-10-0520**	Water	05/20/20 12:25	05/21/20 09:15
30364213004	**MW-12-0520**	Water	05/20/20 09:50	05/21/20 09:15
30364213005	**MW-13-0520**	Water	05/20/20 09:35	05/21/20 09:15
30364213006	**MW-13-MS-0520**	Water	05/20/20 09:35	05/21/20 09:15
30364213007	**MW-13-MSD-0520**	Water	05/20/20 09:35	05/21/20 09:15
30364213008	**MW-14-0520**	Water	05/20/20 11:45	05/21/20 09:15
30364213009	**MW-15-0520**	Water	05/20/20 10:55	05/21/20 09:15
30364213010	**MW-16-0520**	Water	05/20/20 12:45	05/21/20 09:15
30364213011	**Field Duplicate-0520**	Water	05/20/20 00:01	05/21/20 09:15
30364213012	**Trip Blank**	Water	05/20/20 00:01	05/21/20 09:15

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: National Grid-Johnstown, NY-Revised Report
Pace Project No.: 30364213

Method: **EPA 6010C**
Description: 6010C MET ICP
Client: Groundwater & Environmental Services, Inc. (Syracuse)
Date: June 10, 2020

General Information:
11 samples were analyzed for EPA 6010C by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: National Grid-Johnstown, NY-Revised Report
Pace Project No.: 30364213

Method: **EPA 8270D by SIM**
Description: 8270D PAH SIM Reduced Volume
Client: Groundwater & Environmental Services, Inc. (Syracuse)
Date: June 10, 2020

General Information:
11 samples were analyzed for EPA 8270D by SIM by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3510C with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

QC Batch: 397927

S2: Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by similar results from sample re-analysis).

- MW-14-0520 (Lab ID: 30364213008)
  - Terphenyl-d14 (S)

SR: Surrogate recovery was below laboratory control limits. Results may be biased low.

- MW-14-0520 (Lab ID: 30364213008)
  - Terphenyl-d14 (S)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: National Grid-Johnstown, NY-Revised Report
Pace Project No.: 30364213

Method: **EPA 8270D by SIM**
Description: 8270D PAH SIM Reduced Volume
Client: Groundwater & Environmental Services, Inc. (Syracuse)
Date: June 10, 2020

Analyte Comments:

QC Batch: 397927

1c: Emulsions were present during the extraction process. Appropriate mechanical means were employed to break up the emulsions and were successful.

- MW-14-0520 (Lab ID: 30364213008)
  - 2-Methylnaphthalene
  - Acenaphthene
  - Acenaphthylene
  - Anthracene
  - Benzo(k)fluoranthene
  - Benzo(g,h,i)perylene
  - Benzo(a)anthracene
  - Benzo(b)fluoranthene
  - Benzo(a)pyrene
  - Chrysene
  - Dibenz(a,h)anthracene
  - Fluorene
  - Fluoranthene
  - Indeno(1,2,3-cd)pyrene
  - Naphthalene
  - Phenanthrene
  - Pyrene

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: National Grid-Johnstown, NY-Revised Report
Pace Project No.: 30364213

Method: **EPA 8260C**
Description: 8260C MSV
Client: Groundwater & Environmental Services, Inc. (Syracuse)
Date: June 10, 2020

General Information:
12 samples were analyzed for EPA 8260C by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 398590

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30364213005

ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

- MS (Lab ID: 1930436)
  - Benzene
  - Ethylbenzene
  - Toluene
  - m&p-Xylene
  - o-Xylene
- MSD (Lab ID: 1930437)
  - Benzene
  - Ethylbenzene
  - Toluene

Additional Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: National Grid-Johnstown, NY-Revised Report
Pace Project No.: 30364213

Method: **SM 2320B-2011**
Description: 2320B Alkalinity
Client: Groundwater & Environmental Services, Inc. (Syracuse)
Date: June 10, 2020

General Information:
11 samples were analyzed for SM 2320B-2011 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: National Grid-Johnstown, NY-Revised Report
Pace Project No.: 30364213

Method: **SM 3500-FeB-2011**
Description: Iron, Ferrous
Client: Groundwater & Environmental Services, Inc. (Syracuse)
Date: June 10, 2020

General Information:
11 samples were analyzed for SM 3500-FeB-2011 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

H1: Analysis conducted outside the EPA method holding time.
- MW-10-0520 (Lab ID: 30364213003)
- MW-12-0520 (Lab ID: 30364213004)
- MW-13-0520 (Lab ID: 30364213005)
- MW-13-MS-0520 (Lab ID: 30364213006)
- MW-13-MSD-0520 (Lab ID: 30364213007)
- MW-14-0520 (Lab ID: 30364213008)
- MW-15-0520 (Lab ID: 30364213009)
- MW-16-0520 (Lab ID: 30364213010)
- MW-4-0520 (Lab ID: 30364213001)
- MW-7-0520 (Lab ID: 30364213002)

H3: Sample was received or analysis requested beyond the recognized method holding time.
- Field Duplicate-0520 (Lab ID: 30364213011)

H6: Analysis initiated outside of the 15 minute EPA required holding time.
- Field Duplicate-0520 (Lab ID: 30364213011)
- MW-10-0520 (Lab ID: 30364213003)
- MW-12-0520 (Lab ID: 30364213004)
- MW-13-0520 (Lab ID: 30364213005)
- MW-13-MS-0520 (Lab ID: 30364213006)
- MW-13-MSD-0520 (Lab ID: 30364213007)
- MW-14-0520 (Lab ID: 30364213008)
- MW-15-0520 (Lab ID: 30364213009)
- MW-16-0520 (Lab ID: 30364213010)
- MW-4-0520 (Lab ID: 30364213001)
- MW-7-0520 (Lab ID: 30364213002)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: National Grid-Johnstown, NY-Revised Report
Pace Project No.: 30364213

Method: **SM 3500-FeB-2011**
Description: Iron, Ferrous
Client: Groundwater & Environmental Services, Inc. (Syracuse)
Date: June 10, 2020

QC Batch: 397454

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30364213005

ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

- MS (Lab ID: 1925082)
  - Iron, Ferrous

Additional Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: National Grid-Johnstown, NY-Revised Report
Pace Project No.: 30364213

Method: **SM 4500S2F-2011**
Description: 4500S2F Sulfide, Iodometric
Client: Groundwater & Environmental Services, Inc. (Syracuse)
Date: June 10, 2020

General Information:
11 samples were analyzed for SM 4500S2F-2011 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: National Grid-Johnstown, NY-Revised Report
Pace Project No.: 30364213

Method: **EPA 351.2**
Description: 351.2 Total Kjeldahl Nitrogen
Client: Groundwater & Environmental Services, Inc. (Syracuse)
Date: June 10, 2020

General Information:
11 samples were analyzed for EPA 351.2 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 351.2 with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 399535

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30364213005,30364213010

MH: Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

- MS (Lab ID: 1935037)
  - Nitrogen, Kjeldahl, Total
- MS (Lab ID: 1935039)
  - Nitrogen, Kjeldahl, Total
- MSD (Lab ID: 1935038)
  - Nitrogen, Kjeldahl, Total
- MSD (Lab ID: 1935040)
  - Nitrogen, Kjeldahl, Total

R1: RPD value was outside control limits.

- MSD (Lab ID: 1935040)
  - Nitrogen, Kjeldahl, Total

Additional Comments:

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: National Grid-Johnstown, NY-Revised Report
Pace Project No.: 30364213

Method: **SM 4500ClE-2011**
Description: 4500 Chloride
Client: Groundwater & Environmental Services, Inc. (Syracuse)
Date: June 10, 2020

General Information:
11 samples were analyzed for SM 4500ClE-2011 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: National Grid-Johnstown, NY-Revised Report
Pace Project No.: 30364213

Method: **SM 4500NO3F-2011**
Description: SM4500NO3-F, NO3-NO2
Client: Groundwater & Environmental Services, Inc. (Syracuse)
Date: June 10, 2020

General Information:
11 samples were analyzed for SM 4500NO3F-2011 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 399337

D3: Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

- MW-13-0520 (Lab ID: 30364213005)
  - Nitrogen, NO2 plus NO3
- MW-14-0520 (Lab ID: 30364213008)
  - Nitrogen, NO2 plus NO3
- MW-16-0520 (Lab ID: 30364213010)
  - Nitrogen, NO2 plus NO3

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: National Grid-Johnstown, NY-Revised Report
Pace Project No.: 30364213

Method: **EPA 9012B**
Description: 9012B Cyanide, Total
Client: Groundwater & Environmental Services, Inc. (Syracuse)
Date: June 10, 2020

General Information:
11 samples were analyzed for EPA 9012B by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 9012B with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 397799

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30364213005,30364213006

ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

- MS (Lab ID: 1927051)
  - Cyanide
- MSD (Lab ID: 1927052)
  - Cyanide
- MSD (Lab ID: 1927054)
  - Cyanide

Additional Comments:

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1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: National Grid-Johnstown, NY-Revised Report
Pace Project No.: 30364213

Method: **ASTM D516-11**
Description: ASTM D516 Sulfate Water
Client: Groundwater & Environmental Services, Inc. (Syracuse)
Date: June 10, 2020

General Information:
11 samples were analyzed for ASTM D516-11 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.