nationalgrid

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May 27, 2014

Ms. Jamie Verrigni
Environmental Engineer
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 (April 2014)

Dear Ms. Verrigni:

Enclosed is the Semi-Annual Groundwater Monitoring Report for the Johnstown (N. Market St.) MGP Site located in Johnstown, New York. The report includes the April 9-10, 2014 groundwater monitoring results.

Please contact me at (315) 428-5652 or steven.stucker@us.ngrid.com if you have any questions regarding the report.

Sincerely,

Matthew D. Millias for SPS

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

Cc: John Parkinson-National Grid
Nathan Freeman- NYSDOH
Matt Millias- CDM Smith

SEMI-ANNUAL GROUNDWATER MONITORING REPORT

April 2014 Sampling Event

Prepared For:

nationalgrid

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Prepared By:

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1.0 INTRODUCTION

This Semi-Annual Groundwater Monitoring Report summarizes the results of April 2014 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 It was superseded by a new Order on Consent (Index Number A4-0473-0000), dated November 7, 2003.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 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 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 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 approval by NYSDEC is predicated on the pending filing of an environmental easement by National Grid. The SMP was approved by NYSDEC on 12/2/11 and included a Groundwater Monitoring Program.

SMP modifications were approved by NYSDEC in their 7/5/12 letter to National Grid which included:
1) The groundwater monitoring frequency has been reduced from quarterly to semi-annually (May & October);
2) MW-4, MW-7, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16 will continue to be sampled. MW – 8 and MW-9 were decommissioned (October 2013) in accordance with the Dept.'s CP-43 policy; and
3) RMW-1 will be monitored semi-annually and documented in the semi-annual report.

1.1 PURPOSE AND OBJECTIVE

The purpose of this Report is to summarize the 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 decrease, and continue to assess the effectiveness of monitored natural attenuation (MNA).

1.2 REPORT ORGANIZATION

This Report is organized in to the following six sections. Section 1.0 presents the purpose and objectives of this program. Section 2.0 provides the history, environmental setting and location of the Site. Section 3.0 provides a description of the approach used to collect and analyze groundwater samples at the Site. Section 4.0 presents the physical and chemical analytical data collected, and Section 5.0 presents the conclusions and recommended approach for further monitoring at the Site. References for the Report are located in Section 6.0.

2.0 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 approximately 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 goes 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). In 1861, the plant was improved with the addition of a coal shed and 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 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 western small gas holder (Holder #2) in the middle of the Site was removed. In 1929, a gas pipeline from a 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.

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 then conducted at the Site in 1998, which was followed by a RI (January 2000) and subsequent remedial measures. Remedial measures are discussed separately below in 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 FS Report.

Remedial Measures Completed

Several interim remedial measures (IRMs) were performed to address the MGP impacts. In 2002 and 2003, the former holders and associated impacts 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 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 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 ground surface gradually slopes from south to north, becoming increasingly steep 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.

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 underneath 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) range in thickness up to 13 ft. on the Site 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 soils consist 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).

Site Hydrogeology

Groundwater depths on-site are typically in the 10- to 20-foot below ground surface (bgs) ranges, 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 0.08 ft./ft.) In comparison the average hydraulic gradient decreases to a value of approximately 0.04 ft./ft. on the east and west sides of the site away from the gas holders. The groundwater flow is consistent with regional groundwater flow direction. This groundwater flow direction and hydraulic gradients calculated during this monitoring period are also generally consistent with data obtained prior to the issuance of the ROD.

3.0 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: 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 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 NAPL.

3.1 WATER GAUGING AND GROUNDWATER SAMPLING PROCEDURES

Gauging

Long-term groundwater monitoring includes water gauging at 9 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 1 for a summary of the water level measurements from April 2014 as well as previous events. Appendix A also presents the field documentation from the April 2014 water gauging event.

No product was present in RW-1 or the other nine groundwater monitoring wells.

A surface water level measurement was collected from the Cayadutta Creek using a water level probe (at the bridge; Gauging Point #1).

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, 9 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 matrix spike duplicate (MSD) 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.

Natural Attenuation Parameters

The ORP of groundwater is an indicator of the relative tendency of the groundwater to accept or transfer electrons. ORP is dependent on and influences rates of biodegradation. Lower ORP readings indicate a greater tendency toward reducing conditions and anaerobic 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 typically prefer 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.

Dissolved oxygen 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 dissolved oxygen (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 dissolved oxygen, 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 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 the 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, PAHs, lead, total cyanide, and MNA/WQ parameters including alkalinity, chloride, ethane, ethene, ferrous iron, manganese, methane, nitrate, nitrogen, sulfate and sulfide. BTEX and PAHs are constituents commonly associated with former MGP sites. Cyanide is also a constituent 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 favorable to natural attenuation occur at the Site.

- Refer to Table 2 for the analytical results summary.
- Refer to Appendix A for field data
- Refer to Appendix B for the DUSR

Groundwater analytical results were compared with levels specified in 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.

Site Related Parameters

BTEX - Groundwater samples collected from monitoring wells MW-10, MW-11, MW-13, MW-14, MW-15, and MW-16 contained concentrations of some or all individual BTEX constituents above their respective NYSDEC WQ Values (1 micrograms per liter [µg/L] for benzene and 5 µg/L for other BTEX constituents) since the June 2010 event. The highest concentrations were

observed in the groundwater samples collected from MW-13, MW-15 and MW-16. MW-13 typically had the highest total BTEX concentrations. MW-15 is located generally downgradient of the former gas holders and of MW-13, while MW-16 is located southwest of the former gas holders and generally upgradient of both MW-13 and MW-15.

PAHs – No PAHs were detected in MW-4 or MW-7. PAH compounds were detected in groundwater samples collected from the other sampled monitoring wells. Naphthalene has consistently exhibited the highest concentration of any PAH.

Lead - Lead exhibited excedances above its respective NYSDEC WQ Value (25 µg/l) in three wells (MW-7, MW-10, and MW-13) since June 2010.

Cyanide - Concentrations of cyanide were detected above its NYSDEC WQ Value (0.2 mg/L) in groundwater samples collected from MW-7, MW-13, MW-14, MW-15, and MW16 since June 2010.

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 MNA/WQ analytical results for all individual monitoring wells are summarized in Table 2. 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 will 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 dissolved oxygen 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 activities at the source and at downgradient areas are occurring, consuming the available oxygen and resulting in MGP petroleum-related compound degradation and the lowering of dissolved oxygen levels.

- The range of ORP levels observed at the source and downgradient area monitoring wells generally indicates aquifer conditions 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 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 do not exhibit higher levels relative to side gradient and upgradient monitoring wells. In addition, sulfate concentrations at the former source and upgradient areas are not depleted relative to upgradient and side gradient areas. These observations indicate ferric iron reduction and sulfate reduction are not likely to be significant biodegradation processes at this time at the source and downgradient areas.

- Based on the presence of methane, low DO amounts, and the ORP levels, methanogenesis is likely an important factor for biodegradation capacity in some areas of the Site. However, plume elongation is limited with a similar footprint throughout the monitoring period indicating that biodegradation is continuing and methanogenic conditions have not taken over completely.

Natural Attenuation Trending

Previous groundwater sampling data collected since June 2010 was 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, the use of statistical testing has been utilized for groundwater data collected from monitoring wells at the Site. The Mann-Kendall test was utilized for trend analysis. Trend analysis data started June 2010. The resultant statistical trend analysis for individual monitoring wells suggests (with 80% and 90% confidence) that total BTEX compounds and naphthalene plume lifecycle have been stable (no trend) to decreasing throughout the monitoring period. 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.

Well ID	Benzene	Toluene	Ethylbenzene	Total xylenes	Naphthalene
MW-4	No trend	No trend	No trend	No trend	No trend
MW-7	No trend	No trend	No trend	No trend	No trend
MW-10[1]	Increasing[2]	No trend	No trend	No trend	No trend
MW-11[1]	Decreasing	Decreasing	Decreasing	Decreasing	No trend
MW-12	No trend	No trend	No trend	No trend	No trend
MW-13[1]	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing
MW-14[1]	No trend	Decreasing	No trend	Decreasing	Decreasing
MW-15[1]	No trend	Increasing	No trend	Decreasing	No trend
MW-16[1]	Decreasing	Decreasing	Decreasing	Decreasing	No trend

1 No trend is indicative of plume stability at well locations with contaminant detections throughout the monitoring period.

2 The increasing trend (benzene) at MW-10 is attributed to concentration of 7.1 µg/L and 1.3 µg/L during two previous rounds with all other rounds exhibiting concentrations below WQ values.

Isoconcentration 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. The sampling rounds depicted include June 2010, January 2011 and March 2012; which represent seasonality and a snapshot of time trends through that monitoring period. Evaluation of the isoconcentration figures suggests that the contaminant plumes are relatively stable to decreasing (smaller footprint with time) within the Site boundary. BTEX constituent plume trends (concentrations above the benzene WQ at 1 µg/L) have consistently included MW-13, MW-15 and MW-16, while the naphthalene plume (concentrations above the WQ) has decreased to include only MW-13 and MW-15.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 CONCLUSIONS

Groundwater Levels

The groundwater elevation data indicates groundwater within the Site, south of the Creek, flows in a downgradient direction from the south to the north, toward Cayadutta Creek. The groundwater flow direction and hydraulic gradients have been consistent during previous gauging events and with data obtained prior to the ROD.

Flow on the north side of the Creek is to the south, towards the Creek. As such, Cayadutta Creek serves as the discharge location for the unconfined hydrostratigraphic unit, north and south of the Creek, and acts as a hydraulic boundary.

Site-Related Constituents

Concentrations of BTEX, PAHs, lead, and cyanide in groundwater samples have been detected at consistent well locations on the Site. The overall concentrations continue to show a slight decreasing trend as compared to historic levels. Based on historic sampling results (as depicted on Table 1 – Groundwater from the ROD), benzene and naphthalene were exhibited in groundwater at concentrations up to 2,600 µg/L and 7,300 µg/L pre-ROD, respectively; with the highest occurrences in the central portion of the Site. These levels are higher than concentrations exhibited during this monitoring period.

The concentrations of BTEX constituents and PAH compounds (and specifically naphthalene) appear to be relatively stable or decreasing as indicated by groundwater concentration trend analysis from on-site monitoring wells. Site institutional controls continue to be effective and will continue to be monitored semi-annually.

Concentrations of benzene are significantly higher than the concentrations of toluene, ethylbenzene, and xylenes at source area monitoring wells MW-13, MW-15 and MW-16. Higher concentrations of benzene relative to the other BTEX compounds may indicate the amount of DO in the subsurface may not be sufficient to completely biodegrade BTEX (Borden, et. al., 1995).

Natural Attenuation

Plume stability at the Site is in 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. Trend analysis data started with the June 2010 sampling event. Generally, the tests suggested that the plume and the related constituents were either stable or decreasing. Based on (1) trend analysis for BTEX and naphthalene and (2) MNA parameter assessment, it is evident that attenuation at the Site is likely geochemically dependent, the source is being removed, and the plume is not migrating or increasing.

4.2 RECOMMENDATIONS

Based on the results of the April 2014 event and previous events, the following recommendations are made:

1. Continue the long-term semi-annual groundwater monitoring program. The next event will be October 2014.

5.0 REFERENCES

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

National Grid. "Site Management Plan for the Johnstown (N. Market Street) Former MGP Site, Johnstown, New York". National Grid, November 2011.

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.

Niagara Mohawk Power Corporation. "Record of Decision for the Johnstown (N. Market Street) Former MGP Site, Johnstown, New York". Niagara Mohawk Power Corporation, March 2010.

TABLES

Table 1

Groundwater Level Measurements
Johnstown MGP Site
Johnstown, NY

Well ID	ELEVATION REFERENCE POINT	10/13/2011		12/15/2011		3/15/2012		10/9/2012		4/18/2013		10/7/2013		4/9/2014	
		Depth to Water (ft toc)	Groundwater Elevation (ft msl)	Depth to Water (ft toc)	Groundwater Elevation (ft msl)	Depth to Water (ft toc)	Groundwater Elevation (ft msl)	Depth to Water (ft toc)	Groundwater Elevation (ft msl)	Depth to Water (ft toc)	Groundwater Elevation (ft msl)	Depth to Water (ft toc)	Groundwater Elevation (ft msl)	Depth to Water (ft toc)	Groundwater Elevation (ft msl)
MW-4	676.54	21.41	655.13	22.78	653.76	22.81	653.73	NM	NM	23.97	652.57	23.12	653.42	23.28	653.26
MW-7	659.08	13.15	645.93	15.45	643.63	13.55	645.53	14.17	644.91	13.53	645.55	14.36	644.72	13.71	645.37
MW-10	657.59	14.11	643.48	14.22	643.37	14.18	643.41	15.05	642.54	14.27	643.32	14.44	643.15	14.13	643.46
MW-11	657.29	12.95	644.34	12.76	644.53	12.73	644.56	13.95	643.34	13.01	644.28	13.16	644.13	12.68	644.61
MW-12	660.08	13.61	646.47	14.54	645.54	14.26	645.82	16.36	643.72	14.06	646.02	14.99	645.09	14.41	645.67
MW-13	664.89	11.91	652.98	14.31	650.58	14.98	649.91	16.12	648.77	14.18	650.71	15.08	649.81	14.84	650.05
MW-14	663.91	13.26	650.65	13.65	650.26	15.49	648.42	16.98	646.93	13.14	650.77	14.74	649.17	15.70	648.21
MW-15	661.85	15.95	645.90	16.38	645.47	16.41	645.44	17.85	644.00	16.26	645.59	17.21	644.64	16.67	645.18
MW-16	665.57	9.79	655.78	9.91	655.66	11.56	654.01	10.51	655.06	9.98	655.59	9.85	655.72	9.45	656.12
RW-1								17.98		16.21		15.95		12.32	
GAUGE1	659.97	16.05	643.92	15.62	644.35	15.69	644.28	NM	NM	19.10	640.87	18.85	641.12	18.85	641.12

ft msl - feet mean sea level
ft toc - feet from top of inner casing
NM - not measured

Table 2
Analytical Data Results (MW-4)
Johnstown MGP Site
Johnstown, NY

CONSTITUENT	UNITS	NYSDEC WQ 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
BTEX Compounds													
Benzene	ug/l	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	ug/l	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m/p-Xylene	ug/l	5	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
o-Xylene	ug/l	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	ug/l	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
PAHs													
Acenaphthene	ug/l	20	0.19 U	0.19 U	0.47 U	0.48 U	0.47 U	0.48 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
Acenaphthylene	ug/l	NC	0.19 U	0.19 U	0.47 U	0.48 U	0.47 U	0.48 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
Anthracene	ug/l	50	0.19 U	0.19 U	0.47 U	0.48 U	0.47 U	0.48 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
Benzo(a)anthracene	ug/l	0.002	0.19 U	0.19 U	0.47 U	0.48 U	0.47 U	0.48 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
Benzo(a)pyrene	ug/l	0.000	0.19 U	0.19 U	0.47 U	0.48 U	0.47 U	0.48 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
Benzo(b)fluoranthene	ug/l	0.002	0.19 U	0.19 U	0.47 U	0.48 U	0.47 U	**0.26 J**	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
Benzo(g,h,i)perylene	ug/l	NC	0.19 U	0.19 U	0.47 U	0.48 U	0.47 U	0.19 J	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
Benzo(k)fluoranthene	ug/l	0.002	0.19 U	0.19 U	0.47 U	0.48 U	0.47 U	0.48 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
Chrysene	ug/l	0.002	0.19 U	0.19 U	0.47 U	0.48 U	0.47 U	0.48 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
Dibenzo(a,h)anthracene	ug/l	NC	0.19 U	0.19 U	0.47 U	0.48 U	0.47 U	0.48 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
Fluoranthene	ug/l	50	0.19 U	0.19 U	0.47 U	0.48 U	0.47 U	0.48 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
Fluorene	ug/l	50	0.19 U	0.19 U	0.47 U	0.48 U	0.47 U	0.48 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
Indeno(1,2,3-cd)pyrene	ug/l	0.002	0.19 U	0.19 U	0.47 U	0.48 U	0.47 U	0.48 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
Naphthalene	ug/l	10	0.27	0.19 U	0.47 U	0.48 U	0.47 U	0.48 U	0.49 U	0.49 U	0.49 U	3.2	3.2
Phenanthrene	ug/l	50	0.19 U	0.19 U	0.47 U	0.48 U	0.47 U	0.048 J	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
Pyrene	ug/l	50	0.19 U	0.19 U	0.47 U	0.48 U	0.47 U	0.10 J	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
Cyanide and Lead													
Lead	ug/l	25	5 U	5 U	5 U	3 U	3 U	5 U	5 U	5 U	5 U	5 U	5 U
Cyanide	mg/l	0.2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 UJ	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U

Notes:
BTEX - Benzene, Ethylbenzene, Toluene and Xylene
J - Estimated
mg/l - Milligrams per liter
NC - No Criteria
PAHs - Polycyclic Aromatic Hydrocarbons
U - Not Detected
ug/l - Micrograms per liter

Table 2
Monitored Natural Attenuation/Water Quality Data Results (MW-4)
Johnstown MGP Site
Johnstown, NY

Sample Date / 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
MNA/WQ Parameters												
Alkalinity (as CaCO3)	mg/l	385	420	R	R	405 J	431 J	R	405	354	442	398
Chloride	mg/l	354	269	265	385 B	288 J	R	228	222	275	411	304
Ethane	ug/l	1 U	1 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	7.5 U	7.5 U	7.5 U	7.5 U
Ethene	ug/l	1 U	1 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	7 U	7 U	7 U	7 U
Ferrous Iron	mg/l	0.1 U	0.1 U	R	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.013	0.1 U
Manganese	mg/l	NA	10 U	0.64 J	0.45 J	3 U	3.4	3 U	0.0087	3 U	3 U	3 U
Methane	ug/l	2 U	2 U	1 U	1 U	1 U	1 U	1 U	4 U	4 U	4 U	4 U
Nitrate	mg/l	NA	2.5	2.7	2.9	2.4	3	3.1	2.2	2.4	3.5	3.6
Nitrogen	mg/l	0.22	0.25	0.2 U	0.2 U	R	0.2 U	0.2 U	0.25	0.31	0.31	0.2 U
Sulfate	mg/l	NA	49.2	56.7	74.2 B	R	R	56 B	62.2	64.7	74.7	70.7
Sulfide	mg/l	NA	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U

Notes:

B - Present in Associated Blank Sample
J - Estimated Concentration
mg/l - Milligrams per liter
NA - Not analyzed
R - Rejected
U - Not Detected
ug/l - Micrograms per liter

Table 2
Analytical Data Results (MW-7)
Johnstown MGP Site
Johnstown, NY

CONSTITUENT	UNITS	NYSDEC WQ 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
BTEX Compounds													
Benzene	ug/l	1	1 U	1 U	1 U	0.72 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	ug/l	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m/p-Xylene	ug/l	5	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
o-Xylene	ug/l	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	ug/l	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
PAHs													
Acenaphthene	ug/l	20	0.075 J	0.19 U	0.50 U	0.48 U	0.48 U	0.55	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
Acenaphthylene	ug/l	NC	0.15 J	0.11 J	0.50 U	0.48 U	0.48 U	0.20 J	0.13 J	0.13 J	0.48 U	0.48 U	0.48 U
Anthracene	ug/l	50	0.19 U	0.19 U	0.50 U	0.48 U	0.48 U	0.47 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
Benzo(a)anthracene	ug/l	0.002	0.19 U	0.19 U	0.50 U	0.48 U	0.48 U	0.47 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
Benzo(a)pyrene	ug/l	0.000	0.19 U	0.19 U	0.50 U	0.48 U	0.48 U	0.47 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
Benzo(b)fluoranthene	ug/l	0.002	0.19 U	0.19 U	0.50 U	0.48 U	0.48 U	**0.15 J**	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
Benzo(g,h,i)perylene	ug/l	NC	0.19 U	0.19 U	0.50 U	0.48 U	0.48 U	0.47 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
Benzo(k)fluoranthene	ug/l	0.002	0.19 U	0.19 U	0.50 U	0.48 U	0.48 U	0.47 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
Chrysene	ug/l	0.002	0.19 U	0.19 U	0.50 U	0.48 U	0.48 U	0.47 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
Dibenzo(a,h)anthracene	ug/l	NC	0.19 U	0.19 U	0.50 U	0.48 U	0.48 U	0.47 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
Fluoranthene	ug/l	50	0.19 U	0.19 U	0.50 U	0.48 U	0.48 U	0.47 U	0.078 J	0.48 U	0.48 U	0.48 U	0.48 U
Fluorene	ug/l	50	0.19 U	0.057 J	0.50 U	0.48 U	0.48 U	0.11 J	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
Indeno(1,2,3-cd)pyrene	ug/l	0.002	0.19 U	0.19 U	0.50 U	0.48 U	0.48 U	0.47 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
Naphthalene	ug/l	10	0.43	0.19 U	0.50 U	0.48 U	0.48 U	0.47 U	1.1	0.48 U	0.48 U	0.48 U	0.48 U
Phenanthrene	ug/l	50	0.19 U	0.19 U	0.50 U	0.48 U	0.48 U	0.097 J	0.12 J	0.48 U	0.49	0.48 U	0.48 U
Pyrene	ug/l	50	0.19 U	0.038 J	0.50 U	0.48 U	0.48 U	0.35 J	0.098 J	0.48 U	0.48 U	0.48 U	0.48 U
Cyanide and Lead													
Lead	ug/l	25	5 U	5 U	5 U	3 U	19	12	3.2 J	19	**33**	7.1	7.1
Cyanide	mg/l	0.2	**0.333**	**0.217**	R	**0.68 J**	**0.986**	R	**0.22**	**5.9**	**1.4**	**0.4**	**0.16**

Notes:
BTEX - Benzene, Ethylbenzene, Toluene and Xylene
J - Estimated Concentration
mg/l - Milligrams per liter
NC - No Criteria
PAHs - Polycyclic Aromatic Hydrocarbons
R - Rejected
U - Not Detected
ug/l - Micrograms per liter

Table 2
Monitored Natural Attenuation/Water Quality Data Results (MW-7)
Johnstown MGP Site
Johnstown, NY

Sample Date / 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
MNA/WQ Parameters												
Alkalinity (as CaCO3)	mg/l	321	330 J	R	R	327 J	370 J	R	310	324	367	375
Chloride	mg/l	108	104	122	93.8 B	111 J	R	91.2	101	114	84	79
Ethane	ug/l	5 U	5 U	1.5 U	150 U	1.5 U	75 U	75 U	7.5 U	7.5 U	7.5 U	7.5 U
Ethene	ug/l	5 U	5 U	1.5 U	150 U	1.5 U	75 U	75 U	7.0U	7.0U	7.0U	7.0U
Ferrous Iron	mg/l	1.12	0.1 U	R	1.7 J	0.83 J	R	0.1 U	0.37	0.1 U	0.25	6.24
Manganese	mg/l	NA	0.54	0.67	0.62	0.66	0.94	0.51	0.96	1.1	1.1	0.564
Methane	ug/l	290 J	510	190	210	190	300	210	240	40	23	150
Nitrate	mg/l	NA	1 U	0.05 U	0.02 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Nitrogen	mg/l	1.76	1.59	1.4	1.3	1.6	R	1.6	1.6	4.6	1.5	0.16
Sulfate	mg/l	NA	576	745 B	611 B	R	R	674 B	509	654	518	540
Sulfide	mg/l	NA	1.4 J	1 U	0.8 J	2.8	1 U	1 U	1.2	1.4	1.4	1.4

Notes:
B - Present in Associated Blank Sample
D - From a Diluted Sample
J - Estimated Concentration
mg/l - Milligrams per liter
NA - Not analyzed
R - Rejected
U - Not Detected
ug/l - Micrograms per liter

Table 2
Analytical Data Results (MW-10)
Johnstown MGP Site
Johnstown, NY

CONSTITUENT	UNITS	NYSDEC WQ 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
BTEX Compounds													
Benzene	ug/l	1	1 U	1 U	1 U	**7.1**	**1.3**	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	ug/l	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m/p-Xylene	ug/l	5	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
o-Xylene	ug/l	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	ug/l	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
PAHs													
Acenaphthene	ug/l	20	1.6	1.3	1.8 J	2.4	2.3	0.099 J	1.4	2	2.2	1.1	0.8
Acenaphthylene	ug/l	NC	0.43 J	0.32	0.24 J	0.42 J	0.74 J	0.13 J	0.14 J	0.48 U	0.48 U	0.48 U	0.48 U
Anthracene	ug/l	50	0.061 J	0.047 J	0.47 U	0.47 U	0.28 J	0.47 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
Benzo(a)anthracene	ug/l	0.002	**0.13 J**	**0.057 J**	0.47 U	0.47 U	**1**	0.47 U	**0.49 B**	0.48 U	0.48 U	0.48 U	0.48 U
Benzo(a)pyrene	ug/l	0.002	**0.14 J**	**0.057 J**	0.47 U	0.47 U	**0.81**	0.47 U	**0.19 J**	0.48 U	**0.55**	0.48 U	0.48 U
Benzo(b)fluoranthene	ug/l	0.002	**0.071 J**	**0.047 J**	0.47 U	0.47 U	**0.8**	0.47 U	**0.24 J**	0.48 U	**0.86**	0.48 U	0.48 U
Benzo(g,h,i)perylene	ug/l	NC	0.051 J	0.19 U	0.47 U	0.47 U	0.37 J	0.47 U	0.08 J	0.48 U	0.48 U	0.48 U	0.48 U
Benzo(k)fluoranthene	ug/l	0.002	**0.092 J**	**0.047 J**	0.47 U	0.47 U	**0.53**	0.47 U	**0.18 J**	0.48 U	0.48 U	0.48 U	0.48 U
Chrysene	ug/l	0.002	**0.12 J**	**0.047 J**	0.47 U	0.47 U	**0.91**	0.47 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
Dibenzo(a,h)anthracene	ug/l	NC	0.20 U	0.19 U	0.47 U	0.47 U	0.11 J	0.47 U	0.48 U	0.48 U	**1.1**	0.48 U	0.48 U
Fluoranthene	ug/l	50	0.24	0.11 J	0.085 J	0.47 U	1.5	0.47 U	0.34 J	0.48 U	0.48 U	0.48 U	0.48 U
Fluorene	ug/l	50	0.13 J	0.14 J	0.47 U	0.47 U	0.49 U	0.47 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
Indeno(1,2,3-cd)pyrene	ug/l	0.002	**0.051 J**	**0.19 U**	0.47 U	0.47 U	**0.34 J**	0.47 U	**0.076 J**	0.48 U	0.48 U	0.48 U	0.48 U
Naphthalene	ug/l	10	0.33	0.19 U	0.47 U	0.47 U	0.49 U	0.47 U	0.48 U	0.7	0.7	0.48 U	0.48 U
Phenanthrene	ug/l	50	0.11 J	0.19 U	0.47 U	0.47 U	0.53	0.10 J	0.18 J	0.48 U	0.48 U	0.48 U	0.48 U
Pyrene	ug/l	50	0.33 J	0.13 J	0.15 J	0.57 U	1.8	0.14 J	0.41 J	0.48 U	0.48 U	0.48 U	0.48 U
Cyanide and Lead													
Lead	ug/l	25	5 U	5 U	5 U	3 U	9.1	3.9 J	6.4	5 U	8.4	5 U	5 U
Cyanide	mg/l	0.2	0.139	0.124	R	0.17 J	0.156	R	0.078	0.14	0.1	0.11	0.081

Notes:
B - Present in Associated Blank Sample
BTEX - Benzene, Ethylbenzene, Toluene and Xylene
J - Estimated Concentration
mg/l - Milligrams per liter
NC - No Criteria
PAHs - Polycyclic Aromatic Hydrocarbons
R - Rejected
U - Not Detected
ug/l - Micrograms per liter

Table 2
Monitored Natural Attenuation/Water Quality Data Results (MW-10)
Johnstown MGP Site
Johnstown, NY

Sample Date / 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
MNA/WQ Parameters												
Alkalinity (as CaCO3)	mg/l	556	536 J	R	R	523 J	541 J	R	589	584	552	566
Chloride	mg/l	344	277	181 B	160 B	156 J	R	147	316	286	265	470
Ethane	ug/l	1 U	1 U	1.5 U	7.5 U	1.5 U	1.5 U	1.5 U	7.5 U	7.5 U	7.5 U	7.5 U
Ethene	ug/l	1 U	1 U	1.5 U	7.5 U	1.5 U	1.5 U	1.5 U	7.0 U	7.0 U	7.0 U	7.0 U
Ferrous Iron	mg/l	0.31	0.2 U	R	0.34 J	0.47	0.1 U	R	0.10 U	0.10 U	0.12	6.06
Manganese	mg/l	NA	1.14	1.2	0.95	0.88	0.58	0.83	1	1.2	0.75	1.07
Methane	ug/l	64 J	75	34	9.8	33	85	40	72	32	28	110
Nitrate	mg/l	NA	1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Nitrogen	mg/l	6.02	4.91	8.5	4.9	4.9	R	5.4	5.7	6.1	4.1	4.8
Sulfate	mg/l	NA	167	306	296 B	R	R	238 B	175	174	171	153
Sulfide	mg/l	NA	R	R	1 U J	0.8 J	1 U	1 U	1 U	1 U	1 U	1 U

Notes:

B - Present in Associated Blank Sample
mg/l - Milligrams per liter
NA - Not analyzed
R - Rejected
U - Not Detected
ug/l - Micrograms per liter

Table 2
Analytical Data Results (MW-11)
Johnstown MGP Site
Johnstown, NY

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

Notes:
B - Present in Associated Blank Sample
D - From a Diluted Sample
J - Estimated Concentration
NC - No Criteria
R - Rejected
U - Not Detected
BTEX - Benzene, Ethylbenzene, Toluene and Xylene
PAHs - Polycyclic Aromatic Hydrocarbons
mg/l - Milligrams per liter
ug/l - Micrograms per liter

Table 2
Monitored Natural Attenuation/Water Quality Data Results (MW-11)
Johnstown MGP Site
Johnstown, NY

Sample Date / 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
MNA/WQ Parameters												
Alkalinity (as CaCO3)	mg/l	502	504	R	R	518 J	536 J	R	623	507	573	465
Chloride	mg/l	612	606	345	414 B	514 J	R	321	350	202	295	454
Ethane	ug/l	10 U	5 U	1.5 U	1.5 U	1.5 U	15 U	15 U	380 U	380 U	380 U	380 U
Ethene	ug/l	10 U	5 U	1.5 U	1.5 U	1.5 U	15 U	15 U	350 U	350 U	350 U	350 U
Ferrous Iron	mg/l	0.2 U	0.5 U	R	9.4 J	0.9 J	R	0.1 U	0.5	0.18	0.22	0.29
Manganese	mg/l	NA	0.61	0.94	0.45	0.69	0.66	0.47	0.95	0.95	0.55	0.56
Methane	ug/l	730 J	420	4.8	68	190	360	160	520	12	25	120
Nitrate	mg/l	NA	1 U	0.13	0.05 U	0.05 U	0.05 U	0.092	0.050 U	0.79	0.32	0.32
Nitrogen	mg/l	1.76	1.36	1.3	0.59	1.3	R	1.3	1.4	0.58	0.64	0.57
Sulfate	mg/l	NA	46.3	126 B	65.1 B	R	R	8.5 B	16.9	112	94.1	58
Sulfide	mg/l	NA	1 U	0.8 J	0.8 J	1.6	1 U	1 U	1 U	1 U	1 U	1 U

Notes:

B - Present in Associated Blank Sample
D - From a Diluted Sample
J - Estimated Concentration
mg/l - Milligrams per liter
NA - Not analyzed
R - Rejected
U - Not Detected
ug/l - Micrograms per liter

Table 2
Analytical Data Results (MW-12)
Johnstown MGP Site
Johnstown, NY

CONSTITUENT	UNITS	NYSDEC WQ 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
BTEX Compounds										
Benzene	ug/l	1	1 U	1 U	1 U	1 U	**2.1**	1 U	1 U	1 U
Ethylbenzene	ug/l	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m/p-Xylene	ug/l	5	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
o-Xylene	ug/l	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	ug/l	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
PAHs										
Acenaphthene	ug/l	20	0.2 U	0.49 U	0.086 J	0.52 U	14	0.2 U	1.1	1.1
Acenaphthylene	ug/l	NC	0.09 J	0.49 U	0.25 J	0.18 J	100	0.2 U	0.2 U	0.2 U
Anthracene	ug/l	50	0.07 J	0.49 U	0.21 J	0.13 J	2.8	0.2 U	1.1	1.1
Benzo(a)anthracene	ug/l	0.002	**0.12 J**	0.49 U	0.64 B	**0.57 B**	**1.5**	**0.83**	**3**	**0.66**
Benzo(a)pyrene	ug/l	0.002	**0.2**	0.49 U	0.69 B	**0.35 J**	**1.5**	**1**	**3.6**	**0.92**
Benzo(b)fluoranthene	ug/l	0.002	**0.08 J**	0.49 U	0.56	**0.27 J**	**1.3**	**0.91**	**3.4**	**0.71**
Benzo(g,h,i)perylene	ug/l	NC	0.13 J	0.49 U	0.43 J	0.27 J	0.62	0.49 U	0.49 U	0.51
Benzo(k)fluoranthene	ug/l	0.002	**0.10 J**	0.49 U	0.49 U	**0.38 J**	**0.58**	0.49 U	**0.83**	0.49 U
Chrysene	ug/l	0.002	**0.13 J**	0.49 U	0.55 B	**0.60 B**	**1.1**	**1**	**3**	0.49 U
Dibenzo(a,h)anthracene	ug/l	NC	0.2 U	0.49 U	0.49 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U
Fluoranthene	ug/l	50	0.2	0.49 U	0.73	0.41 J	3.4	1.4	4.3	0.87
Fluorene	ug/l	50	0.2 U	0.49 U	0.49 U	0.52 U	2.2	0.49 U	0.49 U	0.49 U
Indeno(1,2,3-cd)pyrene	ug/l	0.002	**0.09 J**	0.49 U	0.49 U	**0.13 J**	**0.97**	0.49 U	**1.2**	0.49 U
Naphthalene	ug/l	10	0.2 U	0.49 U	0.68	0.52 U	160 E	2.5	0.99	0.52 U
Phenanthrene	ug/l	50	1.9 J	0.49 U	0.66	0.48 J	7.6	1.1	3.6	0.61
Pyrene	ug/l	50	0.23	0.49 U	0.95	0.59	4.2	2.4	5.8	1.3
Cyanide and Lead										
Lead	ug/l	25	5 U	3 U	5 U	5 U	5 U	5 U	**29**	5 U
Cyanide	mg/l	0.2	0.01	0.004 J	R	0.0062 J	0.010 U	0.010 U	0.010 U	0.010 U

Notes:

B - Present in Associated Blank Sample

J - Estimated Concentration

NC - No Criteria

U - Not Detected

BTEX - Benzene, Ethylbenzene, Toluene and Xylene

PAHs - Polycyclic Aromatic Hydrocarbons

Table 2
Monitored Natural Attenuation/Water Quality Data Results (MW-12)
Johnstown MGP Site
Johnstown, NY

Sample Date / 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
MNA/WQ Parameters									
Alkalinity (as CaCO3)	mg/l	502	455 J	478 J	R	434	391	415	329
Chloride	mg/l	488	165 J	R	129 B	468	123	662	150
Ethane	ug/l	1 U	1.5 U	1.5 U	1.5 U	7.5 U	7.5 U	7.5 U	7.5 U
Ethene	ug/l	1 U	1.5 U	1.5 U	1.5 U	7 U	7 U	7 U	7 U
Ferrous Iron	mg/l	0.1 U	R	0.1 U	0.1 U	0.44	0.1 U	0.1 U	0.1 U
Manganese	mg/l	0.084	0.096	0.16	0.12	0.52	0.19	2.1	0.36
Methane	ug/l	2 U	1 U	1.1	0.56 J	47	1 U	1 U	1 U
Nitrate	mg/l	4	6.6	6.2	3.2	0.05 U	2.5	4.8	1.4
Nitrogen	mg/l	0.48	0.2 U	R	0.19 J	0.29	0.24	2.4	0.44
Sulfate	mg/l	97.9	R	R	53.5 B	81.4	73.5	115	51.6
Sulfide	mg/l	1.1 J	0.8 J	1 U	1 U	1 U	1 U	1 U	1 U

Notes:

B - Present in Associated Blank Sample
J - Estimated Concentration
mg/l - Milligrams per liter
NA - Not analyzed
U - Not Detected
ug/l - Micrograms per liter

Table 2
Analytical Data Results (MW-13)
Johnstown MGP Site
Johnstown, NY

CONSTITUENT	UNITS	NYSDEC WQ 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
BTEX Compounds													
Benzene	ug/l	1	**430**	**360**	**71**	**200**	**59**	**300**	**370**	**360**	**490**	**400**	**200**
Ethylbenzene	ug/l	5	**850**	**730**	**87**	**200**	**110**	**520**	**670**	**490**	**600**	**320**	**200**
m/p-Xylene	ug/l	5	**920**	**810**	**110**	**240**	**140**	**550**	**740**	**590**	**730**	**420**	**250**
o-Xylene	ug/l	5	**390**	**350**	**71**	**130**	**74**	**260**	**340**	**260**	**320**	**190**	**120**
Toluene	ug/l	5	**800**	**660**	**80**	**260**	**89**	**550**	**740**	**520 E**	**710**	**440**	**270**
PAHs													
Acenaphthene	ug/l	20	**120**	**140**	17	**46**	**60**	**76**	**82 J**	**170**	**130**	**77**	**71**
Acenaphthylene	ug/l	NC	260 JD	320 D	51	170	220 J	230 D	210	570	430	350	22
Anthracene	ug/l	50	12	15	3.6	12 B	15	15	97 U	47 U	47 U	47 U	6.9
Benzo(a)anthracene	ug/l	0.002	**1.9 J**	**2 J**	**0.35 J**	**4.9 B**	**7.3 J**	**5.3 B**	97 U	47 U	47 U	47 U	47 U
Benzo(a)pyrene	ug/l	0.000	**1.9 J**	**1.4 J**	**0.13 J**	**4.1 B**	10 U	**5.3 B**	97 U	47 U	47 U	47 U	47 U
Benzo(b)fluoranthene	ug/l	0.002	**0.75 J**	**0.78 J**	0.49 U	**3.5 B**	10 U	**3.8**	97 U	47 U	47 U	47 U	47 U
Benzo(g,h,i)perylene	ug/l	NC	0.75 J	3.9 U	0.49 U	2.5 B	10 U	3.8	97 U	47 U	47 U	47 U	47 U
Benzo(k)fluoranthene	ug/l	0.002	3.8 U	0.78 J	0.49 U	2.4 U	10 U	**2.6**	97 U	47 U	47 U	47 U	47 U
Chrysene	ug/l	0.002	**1.7 J**	**1.4 J**	**0.26 J**	**3.6 B**	**5.5 J**	**4.9 B**	97 U	47 U	47 U	47 U	47 U
Dibenzo(a,h)anthracene	ug/l	NC	3.8 U	3.9 U	0.49 U	2.4 U	10 U	0.79 B	97 U	47 U	47 U	47 U	47 U
Fluoranthene	ug/l	50	7.7	8.4	2.6	12 B	16	14	97 U	47 U	47 U	47 U	6.1
Fluorene	ug/l	50	**73**	**84**	18	48	**52 J**	**53**	37 J	**110**	**93**	**68**	30
Indeno(1,2,3-cd)pyrene	ug/l	0.002	3.8 U	3.9 U	0.49 U	2.4 U	10 U	**2.3 B**	97 U	47 U	47 U	47 U	47 U
Naphthalene	ug/l	10	**6000 D**	**5600 D**	**250 D**	**1600 D**	**2900 D**	**5000 D**	**4100**	**8200**	**7100**	**3700**	10U
Phenanthrene	ug/l	50	**58**	**68**	7.2	44 B	**60**	**55**	44 J	**76**	**73**	**61**	50U
Pyrene	ug/l	50	9.8 J	8.8	2.9	14 B	19	17	97 U	47 U	47 U	47 U	7.2
Cyanide and Lead													
Lead	ug/l	25	6.4	5 U	5 U	15 J	**27**	9.2	5.8	5 U	7.8	5 U	5 U
Cyanide	mg/l	0.2	**0.618**	**0.652**	R	**0.42 J**	**0.235**	R	**0.33**	**0.39**	**0.32**	**0.26**	0.17

Notes:
B - Present in Associated Blank Sample
D - From a Diluted Sample
J - Estimated Concentration
NC - No Criteria
R - Rejected
U - Not Detected
BTEX - Benzene, Ethylbenzene, Toluene and Xylene
PAHs - Polycyclic Aromatic Hydrocarbons
mg/l - Milligrams per liter
ug/l - Micrograms per liter

Table 2
Monitored Natural Attenuation/Water Quality Data Results (MW-13)
Johnstown MGP Site
Johnstown, NY

Sample Date / 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
MNA/WQ Parameters												
Alkalinity (as CaCO3)	mg/l	80	96.4	R	R	455 J	165 J	R	158	218	187	176
Chloride	mg/l	12.3	10.5	29.1	18.6 B	5.9 J	R	20.5	21.6	20.4	7.3	9.2
Ethane	ug/l	1.4 J	1.8	1.5 U	15 U	1.5 UJ	15 U	15 U	7.5 U	7.5 U	7.5 U	7.5 U
Ethene	ug/l	2.4	2.8	1.5 U	15 U	1.5 UJ	15 U	15 U	7.0 U	7.0 U	7.0 U	7.0 U
Ferrous Iron	mg/l	0.1 U	0.32	R	0.1 UJ	3.1 J	0.08 J	0.1 U	0.12	0.1 U	0.1 U	0.1 U
Manganese	mg/l	NA	0.84	0.12	0.077	0.83	0.16	0.096	0.092	0.11	0.088	0.14
Methane	ug/l	77 J	110 D	32	46	28 J	72	66	120	36	15	74
Nitrate	mg/l	NA	1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Nitrogen	mg/l	2.27	1.69	1.1	1.3	2 U	R	1.4	1.4	1.8	1.2	2.1
Sulfate	mg/l	NA	86.8	5 U	3.3 JB	R	R	52.1 J	139	82.3	15.5	15.5
Sulfide	mg/l	NA	3.3 J	1 U	3.2 J	1.2	R	R	1.2	1 U	1 U	1 U

Notes:

B - Present in Associated Blank Sample
D - From a Diluted Sample
J - Estimated Concentration
mg/l - Milligrams per liter
NA - Not analyzed
R - Rejected
U - Not Detected
ug/l - Micrograms per liter

Table 2
Analytical Data Results (MW-14)
Johnstown MGP Site
Johnstown, NY

CONSTITUENT	UNITS	NYSDEC WQ 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
BTEX Compounds													
Benzene	ug/l	1	**25**	**17**	1 U	**2.5**	**11**	**2.5**	**2.9**	1 U	1 U	**1.3**	1 U
Ethylbenzene	ug/l	5	**5.1**	**3.3**	1 U	1 U	1 U	1 U	1.3	1 U	1 U	1 U	1 U
m/p-Xylene	ug/l	5	**5.1**	**3.1**	2 U	2 U	2 U	2 U	2.4	2 U	2 U	2 U	2 U
o-Xylene	ug/l	5	**9.1**	**5.6**	1 U	1 U	1 U	1 U	2.2	1 U	1 U	1 U	1 U
Toluene	ug/l	5	1.8	0.88 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
PAHs													
Acenaphthene	ug/l	20	9.3	4.9	0.47 U	0.47 U	1.2	0.82	5.1	1.4	0.48 U	2.2	0.5
Acenaphthylene	ug/l	NC	17 JD	11	0.47 U	0.47 U	3	1.3	9	1.9	0.48 U	2.5	0.48 U
Anthracene	ug/l	50	1.8	0.98	0.47 U	0.47 U	0.50 U	0.18 J	0.5	0.48 U	0.48 U	0.48 U	0.48 U
Benzo(a)anthracene	ug/l	0.002	**0.42 J**	**0.27 J**	0.47 U	0.47 U	**0.29 J**	**0.91 B**	0.50 U	0.48 U	0.48 U	**0.62**	**1**
Benzo(a)pyrene	ug/l	0.002	**0.46**	**0.24 J**	0.47 U	0.47 U	**0.15 J**	**0.90 B**	**0.12 J**	0.48 U	0.48 U	**0.65**	**1.3**
Benzo(b)fluoranthene	ug/l	0.002	**0.27**	**0.15 J**	0.47 U	0.47 U	0.50 U	**0.78**	0.50 U	0.48 U	0.48 U	**0.79**	**1.2**
Benzo(g,h,i)perylene	ug/l	NC	0.28	0.18 J	0.47 U	0.47 U	0.50 U	0.70	0.09 J	0.48 U	0.48 U	0.48 U	0.95
Benzo(k)fluoranthene	ug/l	0.002	**0.3**	**0.15 J**	0.47 U	0.47 U	0.50 U	**0.57**	**0.17 J**	0.48 U	0.48 U	0.48 U	**0.83**
Chrysene	ug/l	0.002	**0.43**	**0.3 J**	0.47 U	0.47 U	**0.19 J**	**0.85**	0.50 U	0.48 U	0.48 U	**0.69**	**1.2**
Dibenzo(a,h)anthracene	ug/l	NC	0.20 J	0.59 U	0.47 U	0.47 U	0.50 U	0.50 U	0.50 U	0.48 U	0.48 U	0.48 U	0.48 U
Fluoranthene	ug/l	50	1.7	1.2	0.081 J	0.47 U	0.32 J	1.5	0.61	0.59	0.48 U	1.2	1.5
Fluorene	ug/l	50	3.8	1.4	0.47 U	0.47 U	0.50 U	0.17 J	0.35 J	0.48 U	0.48 U	0.48 U	0.48 U
Indeno(1,2,3-cd)pyrene	ug/l	0.002	**0.21**	**0.59 U**	0.47 U	0.47 U	0.50 U	0.50 U	**0.054 J**	0.48 U	0.48 U	0.48 U	**0.63**
Naphthalene	ug/l	10	63 D	2.8	0.47 U	0.47 U	1.3	0.50 U	1.2	0.48 U	1.7	0.48	0.48 U
Phenanthrene	ug/l	50	9.1	2	0.47 U	0.47 U	0.25 J	0.66	1.1	0.48 U	0.48 U	0.67	0.63
Pyrene	ug/l	50	2.5 J	1.2	0.098 J	0.52 U	0.39 J	2.2	0.7	0.76	0.48 U	1.5	2.4
Cyanide and Lead													
Lead	ug/l	25	7.7	5 U	5 U	4.2 J	4.8 J	9.1	5.7	21	5 U	15	5 U
Cyanide	mg/l	0.2	**0.245**	**0.197**	R	0.11 J	0.114	R	**0.28**	**1.4**	0.1	**0.2**	**0.9**

Notes:
B - Present in Associated Blank Sample
D - From a Diluted Sample
J - Estimated Concentration
NC - No Criteria
R - Rejected
U - Not Detected
BTEX - Benzene, Ethylbenzene, Toluene and Xylene
PAHs - Polycyclic Aromatic Hydrocarbons
mg/l - Milligrams per liter
ug/l - Micrograms per liter

Table 2
Monitored Natural Attenuation/Water Quality Data Results (MW-14)
Johnstown MGP Site
Johnstown, NY

Sample Date / 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
MNA/WQ Parameters												
Alkalinity (as CaCO3)	mg/l	528	450	R	R	410	453 J	R	494	417	456	483
Chloride	mg/l	9	10.8	6.1	9.7 B	5.1	R	12.8	40.4	2	7.6	28.5
Ethane	ug/l	1 U	1 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	7.5 U	7.5 U	7.5 U	7.5 U
Ethene	ug/l	1 U	1 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	7 U	7 U	7 U	7 U
Ferrous Iron	mg/l	0.29	0.1 U	R	0.11 J	0.1 U	R	0.1 U	0.17	0.1 U	0.1 U	0.1 U
Manganese	mg/l	NA	0.36	0.054	0.17	0.2	0.28	0.51	2	0.008	0.25	1
Methane	ug/l	9.1	120 D	1 U	6.2	46	15	70	140	1 U	8.6	140
Nitrate	mg/l	NA	1 U	0.71	0.19	0.086	0.023 J	0.05 U	0.05 U	0.8	0.05 U	0.05 U
Nitrogen	mg/l	0.81	0.77	0.85	0.32	0.36	R	0.86	2.5	0.54	0.68	1.5
Sulfate	mg/l	NA	53.3	5 U	19.6 B	5.6 JB	R	173 B	639	5 U	5 U	363
Sulfide	mg/l	NA	1.6	1 U	1 UJ	1 U	R	R	1 U	1 U	1 U	1 U

Notes:

B - Present in Associated Blank Sample
D - From a Diluted Sample
J - Estimated Concentration
mg/l - Milligrams per liter
NA - Not analyzed
R - Rejected
U - Not Detected
ug/l - Micrograms per liter

Table 2
Analytical Data Results (MW-15)
Johnstown MGP Site
Johnstown, NY

CONSTITUENT	UNITS	NYSDEC WQ 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
BTEX Compounds													
Benzene	ug/l	1	**1600 D**	**1200**	**940 D**	**1300 D**	**670**	**790 D**	**1500 D**	**1100 E**	**410**	**390**	**210**
Ethylbenzene	ug/l	5	**200**	**250**	**190 D**	**210 D**	**120**	**190 D**	**220**	**200**	**75**	**53**	**38**
m/p-Xylene	ug/l	5	**12**	**8.7**	**17**	**18**	**19 J**	**9**	**6.6 J**	**23**	**19**	5 U	5 U
o-Xylene	ug/l	5	**39**	**39**	**44**	**48**	**37**	**38**	**27**	**23**	**19**	**16**	**8.5**
Toluene	ug/l	5	3.8 J	10 U	**6.1**	4.7	10 U	**6.3**	**6.2 J**	**5**	5 U	5 U	5 U
PAHs													
Acenaphthene	ug/l	20	**44 J**	**49**	**47**	**32**	**47**	**50**	**47**	**57**	**42**	**23**	**18**
Acenaphthylene	ug/l	NC	19 J	23	24	17	22	19	12	16	11	6.5	3
Anthracene	ug/l	50	2.7 J	3.3	2.1	1.3 B	2.4	2	1.5 J	2.8	2.6	1.4	0.95
Benzo(a)anthracene	ug/l	0.002	**1.8 J**	**0.85 J**	**0.38 J**	0.48 U	**0.21 J**	0.54 U	4.7 U	0.58 U	0.96	0.59	0.58 U
Benzo(a)pyrene	ug/l	0.000	**2.1 J**	**0.75 J**	**0.2 J**	0.48 U	0.49 U	0.54 U	4.7 U	0.58 U	0.96	0.59	0.58 U
Benzo(b)fluoranthene	ug/l	0.002	**1.1 J**	**0.57 J**	**0.27 J**	0.48 U	0.49 U	**0.16 J**	4.7 U	0.58 U	0.85	0.62	0.58 U
Benzo(g,h,i)perylene	ug/l	NC	1.2 J	0.38 J	0.49 U	0.48 U	0.49 U	0.54 U	4.7 U	0.58 U	0.58 U	0.58 U	0.58 U
Benzo(k)fluoranthene	ug/l	0.002	**1.3 J**	**0.38 J**	0.49 U	0.48 U	0.49 U	0.54 U	4.7 U	0.58 U	0.72	0.58 U	0.58 U
Chrysene	ug/l	0.002	**1.8 J**	**0.85 J**	**0.23 J**	0.48 U	**0.16 J**	0.54 U	4.7 U	0.58 U	1.2	0.59	0.58 U
Dibenzo(a,h)anthracene	ug/l	NC	0.9 J	1.9 U	0.49 U	0.48 U	0.49 U	0.54 U	4.7 U	0.58 U	0.58 U	0.58 U	0.58 U
Fluoranthene	ug/l	50	4.1 J	2.7	1.8	1.2 B	1.7	1.7	1.3 J	2.6	3.3	1.7	1.1
Fluorene	ug/l	50	12 J	13	13	8.7	14	13	10	17	13	6.1	4.3
Indeno(1,2,3-cd)pyrene	ug/l	0.002	**0.9 J**	**1.9 U**	0.49 U	0.48 U	0.49 U	0.54 U	4.7 U	0.58 U	0.58 U	0.58 U	0.58 U
Naphthalene	ug/l	10	**110 JD**	**89**	**560 D**	**450 D**	**570 D**	**140 D**	**51**	**27**	**94**	**13**	**29**
Phenanthrene	ug/l	50	8.3 J	11	8	6.7 B	13	11	8.8	12	10	5.1	3.4
Pyrene	ug/l	50	5.9 J	2.9	2.2	1.2 B	1.6	1.8	1.5 J	2.9	3.7	2	1.5
Cyanide and Lead													
Lead	ug/l	25	8.2	5 U	5 U	7.8	5.1	5 U	5 U	5 U	10	5 U	5 U
Cyanide	mg/l	0.2	**0.843**	**0.816**	R	**0.61 J**	**0.427**	R	**0.91**	**1.2**	**0.5**	**0.5**	**0.48**

Notes:

B - Present in Associated Blank Sample
BTEX - Benzene, Ethylbenzene, Toluene and Xylene
D - From a Diluted Sample
J - Estimated Concentration
mg/l - Milligrams per liter
NC - No Criteria
PAHs - Polycyclic Aromatic Hydrocarbons
R - Rejected
U - Not Detected
ug/l - Micrograms per liter

Table 2
Monitored Natural Attenuation/Water Quality Data Results (MW-15)
Johnstown MGP Site
Johnstown, NY

Sample Date / 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
MNA/WQ Parameters												
Alkalinity (as CaCO3)	mg/l	558	550	R	R	502 J	547 J	R	629	527	585	482
Chloride	mg/l	44.3	46.4	22.8	43.3 B	28.5 J	R	68.2	70.6	39.4	42	44.5
Ethane	ug/l	10 U	10 U	2.9	300 U	300 U	300 U	300 U	380 U	380 U	380 U	380 U
Ethene	ug/l	10 U	10 U	1.5 U	300 U	300 U	300 U	300 U	350 U	350 U	350 U	350 U
Ferrous Iron	mg/l	0.15	1.36	R	0.51 J	0.47 J	0.13 J	R	0.1 U	0.15	0.18	0.1U
Manganese	mg/l	NA	0.74	0.89	0.67	0.79	0.77	0.61	0.61	1	1.1	0.68
Methane	ug/l	820	3400	680	360	720	1900	1600	1900	780	580	1100
Nitrate	mg/l	NA	1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Nitrogen	mg/l	4.07	4.15	1.9	3.1	2.1	R	4.6	5.4	3	3.1	3.2
Sulfate	mg/l	NA	182	137 B	193 B	R	R	202 B	217	113	139	122
Sulfide	mg/l	NA	1.4	1 U	1 UJ	2.4	1 U	R	1 U	1 U	1 U	1 U

Notes:

B - Present in Associated Blank Sample
D - From a Diluted Sample
J - Estimated Concentration
mg/l - Milligrams per liter
NA - Not analyzed
R - Rejected
U - Not Detected
ug/l - Micrograms per liter

Table 2
Analytical Data Results (MW-16)
Johnstown MGP Site
Johnstown, NY

CONSTITUENT	UNITS	NYSDEC WQ 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
BTEX Compounds													
Benzene	ug/l	1	**140**	**170**	**150 D**	**100 D**	**17**	**140 D**	**150 D**	**180**	**200**	**150**	**8.7**
Ethylbenzene	ug/l	5	**70**	**110**	**92**	**51**	**5**	**78**	**66**	**100**	**150**	**92**	**6.2**
m/p-Xylene	ug/l	5	**31**	**55**	**47**	**27**	2.8	**29**	**26**	**14**	**41**	**23**	1U
o-Xylene	ug/l	5	**34**	**54**	**41**	**27**	3.6	**36**	**37**	**14**	**56**	**35**	1U
Toluene	ug/l	5	**17**	**36**	**33**	**15**	2	**21**	**11**	10 U	**14**	**9**	1U
PAHs													
Acenaphthene	ug/l	20	14 D	18	**21**	7	2.3	13	15	**30**	**30**	16	1U
Acenaphthylene	ug/l	NC	16 J	27 D	36	11	4.7	10	2.2	34	49	0.48 U	0.48 U
Anthracene	ug/l	50	1.7	3	2.3	0.97 B	0.20 J	1.4	1.2	1.6	2.8	0.48 U	0.48 U
Benzo(a)anthracene	ug/l	0.002	0.19 U	0.14	0.47 U	**2.1 B**	0.50 U	0.47 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
Benzo(a)pyrene	ug/l	0.000	0.19 U	0.57 U	0.47 U	**2.3 B**	0.50 U	0.47 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
Benzo(b)fluoranthene	ug/l	0.002	0.19 U	0.57 U	**0.11 J**	**2.8 B**	0.50 U	0.47 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
Benzo(g,h,i)perylene	ug/l	NC	0.19 U	0.57 U	0.47 U	1.8 B	0.50 U	0.47 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
Benzo(k)fluoranthene	ug/l	0.002	0.19 U	0.57 U	0.47 U	**3.1 B**	0.50 U	0.47 U	**0.096 J**	0.48 U	0.48 U	0.48 U	0.48 U
Chrysene	ug/l	0.002	0.19 U	11 J	0.47 U	**2.7 B**	0.50 U	0.47 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
Dibenzo(a,h)anthracene	ug/l	NC	0.19 U	0.57 U	0.47 U	1.4	0.50 U	0.47 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
Fluoranthene	ug/l	50	1.2	1.4	1.7	1.5 B	0.21 J	1.1	0.94	1.5	2	0.48 U	0.48 U
Fluorene	ug/l	50	10 D	11	16	4.7	1.3	8.8	13	17	21	9.1	0.48 U
Indeno(1,2,3-cd)pyrene	ug/l	0.002	0.19 U	0.57 U	0.47 U	**1.7 B**	0.50 U	0.47 U	0.49 U	0.48 U	0.48 U	0.48 U	0.48 U
Naphthalene	ug/l	10	0.19 U	110 D	**220 D**	0.47 U	**26**	0.47 U	0.49 U	2.4	230E	0.48 U	0.48 U
Phenanthrene	ug/l	50	5.6	9.6	13	4.8 B	1.1	6.7	6.3	11	15	0.48 U	0.48 U
Pyrene	ug/l	50	1.4 J	1.3	1.9	2.1 B	0.50 U	1.1	0.87	1.3	2	0.48 U	0.48 U
Cyanide and Lead													
Lead	ug/l	25	5 U	5 U	5 U	3 U	3 U	5 U	5 U	5 U	5 U	5 U	5 U
Cyanide	mg/l	0.2	**0.353**	**0.342**	R	**0.25 J**	0.137	R	**0.34**	**0.41**	0.11	0.11	0.023

Notes:
B - Present in Associated Blank Sample
BTEX - Benzene, Ethylbenzene, Toluene and Xylene
D - From a Diluted Sample
J - Estimated Concentration
mg/l - Milligrams per liter
NC - No Criteria
PAHs - Polycyclic Aromatic Hydrocarbons
R - Rejected
U - Not Detected
ug/l - Micrograms per liter

Table 2
Monitored Natural Attenuation/Water Quality Data Results (MW-16)
Johnstown MGP Site
Johnstown, NY

Sample Date / 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
MNA/WQ Parameters												
Alkalinity (as CaCO3)	mg/l	442	410	R	R	586 J	600 J	R	436	530	585	454
Chloride	mg/l	7.2	6.7	9.4	6.1 B	3.4 J	R	12.7	12.8	5.5	5.4	5
Ethane	ug/l	2.5 U	2.5 U	30 U	30 U	1.5 U	1.5 U	0.57 J	750 U	750 U	750 U	750 U
Ethene	ug/l	2.5 U	2.5 U	30 U	30 U	1.5 U	1.5 U	2.6	700 U	700 U	700 U	700 U
Ferrous Iron	mg/l	0.1 U	0.44	R	0.33 J	R	0.08	0.1 U	0.12	0.1 U	0.13	0.1 U
Manganese	mg/l	NA	0.7	0.59	0.9	0.17	0.61	0.88	1.1	0.63	0.7	0.22
Methane	ug/l	210 J	580 D	270	170	37	400 B	140	550	170	150	75
Nitrate	mg/l	NA	1 U	0.05 U	0.05 U	0.65	0.17	0.05 U	0.05 U	0.1	0.05 U	0.53
Nitrogen	mg/l	3.2	2.75	2.6	1.8	R	R	3.2	3.8	3.6	2.8	2.4
Sulfate	mg/l	NA	316	312 B	243 B	R	R	351 B	487	140	86	1U
Sulfide	mg/l	NA	2.7 J	1 U	1 UJ	0.8 J	1 U	R	1 U	1 U	1 U	1 U

Notes:

B - Present in Associated Blank Sample
D - From a Diluted Sample
J - Estimated Concentration
mg/l - Milligrams per liter
NA - Not analyzed
R - Rejected
U - Not Detected
ug/l - Micrograms per liter

FIGURES

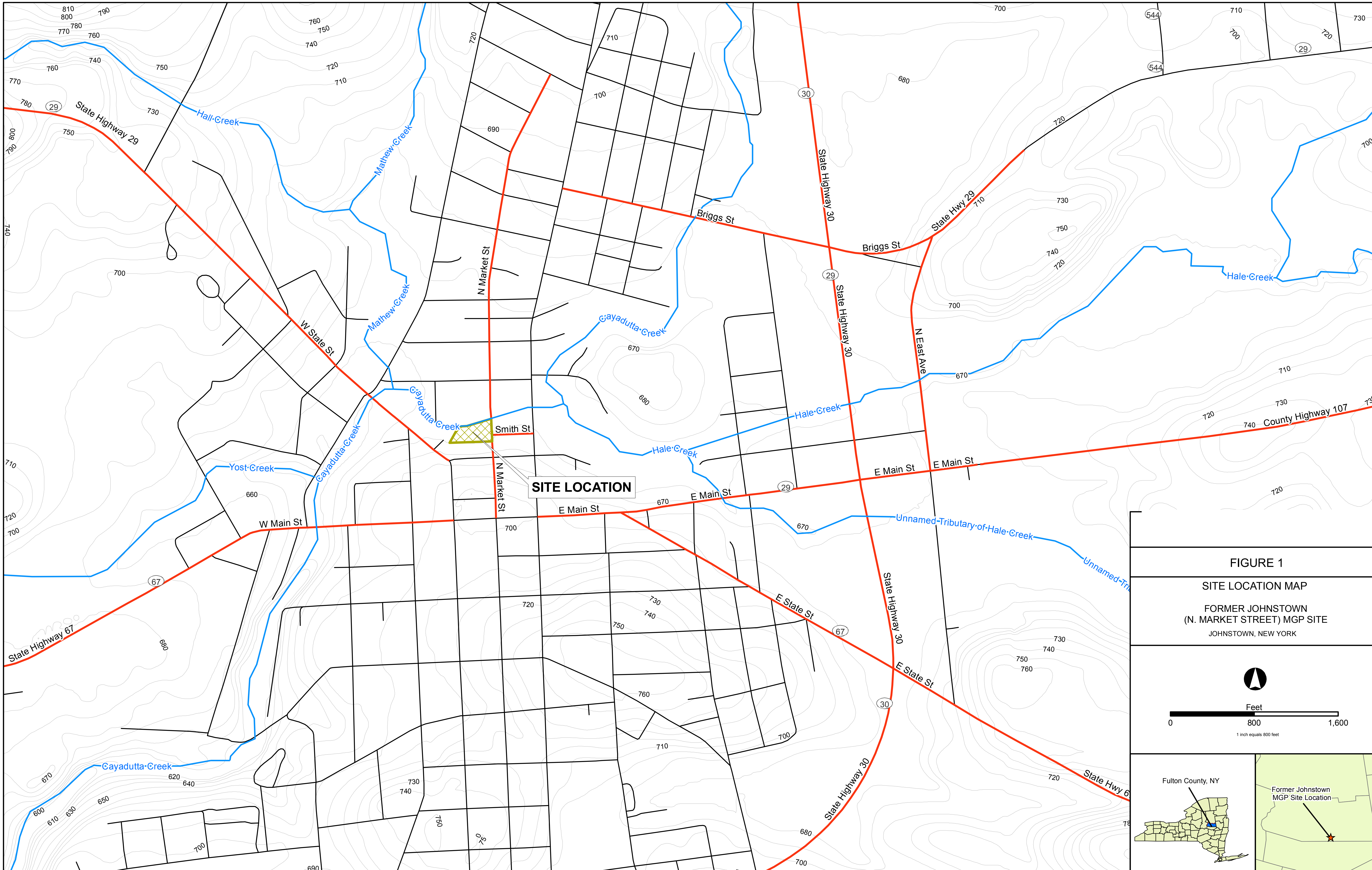


FIGURE 1
SITE LOCATION MAP
FORMER JOHNSTOWN
(N. MARKET STREET) MGP SITE
JOHNSTOWN, NEW YORK
Feet
0
800
1,600
1 inch equals 800 feet
Fulton County, NY
Former Johnstown
MGP Site Location
SITE LOCATION
Smith St
N Market St
Briggs St
State Highway 30
State Highway 29
State Hwy 29
State Highway 67
State Hwy 67
County Highway 107
W State St
E State St
W Main St
E Main St
N East Ave
Hall Creek
Mathew Creek
Cayadutta Creek
Hale Creek
Yost Creek
Unnamed Tributary of Hale Creek
29
30
67
544

REPUTED OWNER

City of Johnstown

BK. 738 PG. 322

Decommissioned
October 9, 2013

MW-9

MW-8

Decommissioned
October 9, 2013

Top of Bank

CAYADUTTA CREEK

Concrete Wall

SG-1

Stream Gauge Not
Accessible

SG-2

MW-10

MW-7

Sheet Pile
left in place
after IRM
activities

REPUTED OWNER
PETER G.
RANERI
162.19-14-7

MW-15

MW-14

Holder #2
1887-1918

NMPC
162.20-14-7

MW-16

MW-13

Holder #3
1898-1948

Existing Natural
Gas Regulator Station

Approx. Property
Lines

Holder #1
1859- 1896

MW-4

Retaining Wall

REPUTED OWNER
CITY OF JOHNSTOWN
162.20-14-3
COLONIAL CEMETERY

JOHNSTOWN
162.19-14-8

2 STY

2 STY
GARAGE

Museum

PARKING

Edge of Pavement

NORTH MARKET STREET

Sidewalk

Edge of Pavement

MW-11

CAYADUTTA CREEK

MW-12

2 Story
House

SMITH ST.

Warehouse

N

LEGEND

MONITORING WELL

STREAM GAUGE

HISTORIC MGP FEATURE (REMOVED)

HISTORIC MGP FEATURE

0 40 80

Feet

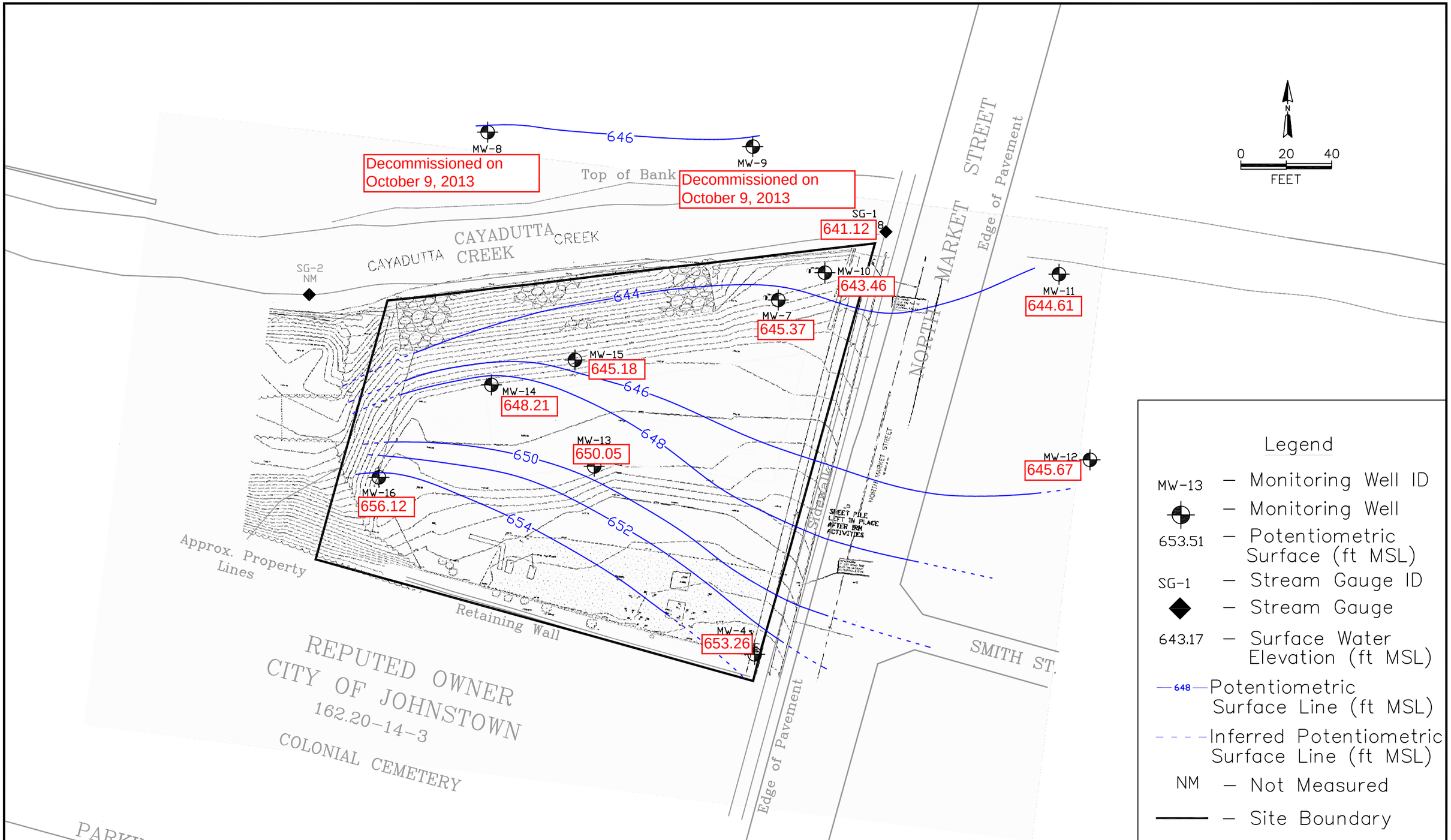
nationalgrid

SITE LOCATION PLAN
SHOWING MONITORING WELL LOCATIONS, HISTORIC MGP
FEATURES, AND SURROUNDING AREA

JOHNSTOWN (N. MARKET STREET) FORMER MGP SITE
JOHNSTOWN, NEW YORK

FIGURE 2

T:\GIS\National_Grid\JohnstownMXD\Feasibility_Study_2009\IRM_August_09\FIG_1_2_SITE_PLAN.mxd



nationalgrid

TITLE:
Potentiometric Surface Map
Johnstown MGP Site
North Market Street, Johnstown, NY

Figure 3 - Groundwater Elevations (April 2014)

CONSTITUENT	UNITS	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Round 7	Round 8
Site ID		MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8
Sample ID		MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8
Sample Date		07/01/10	09/29/10	1/3/2011	4/6/2011	6/14/2011	10/11/11	12/13/11	03/13/12
MNA/WQ Parameters									
Dissolved Oxygen*	mg/l	0	0	0	0.98	0.63	0.73	2.39	0.71
ORP*	mV	73	-20	76	7	92	-92	-3	-52
Ferrous Iron	mg/l	1 U	0.56	0.2 U	0.68 J	1.6 J	1.5	1.4	1.2*
Nitrate	mg/l	NA	NA	1 U	0.05 U	0.12	0.05 U	0.05 U	0.05 U
Sulfate	mg/l	NA	NA	31.8	19.9	4 JB	2.5 JB	R	26.2 B
Methane	ug/l	49	45	81	84	29	190 J	190 B	64

CONSTITUENT	UNITS	Round 1	Round 2	Round 2	Round 3	Round 4	Round 5	Round 6	Round 7	Round 8
Site ID		MW-9	MW-9	MW-9	MW-9	MW-9	MW-9	MW-9	MW-9	MW-9
Sample ID		MW-9	MW-9	MW-19	MW-9	MW-9	MW-9	MW-9	MW-9	MW-9
Sample Date		07/01/10	09/29/10	09/29/10 Duplicate	1/3/2011	4/6/2011	06/14/11	10/11/11	12/13/11	03/13/12
MNA/WQ Parameters										
Dissolved Oxygen*	mg/l	0	0		0	0	0.82	0.59	0.71	0.52
ORP*	mV	-16	4		-27	-87	-57	-65	-44	-161
Ferrous Iron	mg/l	0.1 U	0.1 U	0.1 U	0.1 U	2*	0.1 UJ	0.1 U	0.1 U	0.1 U
Nitrate	mg/l	NA	NA	NA	1 U	4.1	3.6	0.95	0.063	0.28
Sulfate	mg/l	NA	NA	NA	51.1	61.4	73.2 B	84.3	R	47.7
Methane	ug/l	22	170 D	140 D	12	3.6	7.6	6	25	90

CONSTITUENT	UNITS	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Round 7	Round 8
Site ID		MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10
Sample ID		MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10
Sample Date		07/01/10	09/29/10	1/4/2011	4/6/2011	6/14/2011	10/11/11	12/14/11	03/14/12
MNA/WQ Parameters									
Dissolved Oxygen*	mg/l	0	0	0	5.83	6.83	5.6	0.76	0.49
ORP*	mV	-104	-55	30	-47	-145	-60	-93	-61
Ferrous Iron	mg/l	2.78	0.31	0.2 U	0.2*	0.34 J	0.47	0.1 U	1.9*
Nitrate	mg/l	NA	NA	1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Sulfate	mg/l	NA	NA	167	306	296 B	320 B	R	238 B
Methane	ug/l	75	64	75	34	9.8	33	85	40

CONSTITUENT	UNITS	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Round 7	Round 8
Site ID		MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15
Sample ID		MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15
Sample Date		07/01/10	09/30/10	1/5/2011	4/7/2011	6/15/2011	10/12/11	12/14/11	03/14/12
MNA/WQ Parameters									
Dissolved Oxygen*	mg/l	0	0	0	3.02	0.26	0.52	0.34	0.51
ORP*	mV	-110	-158	-168	-123	-48	-157	-106	-143
Ferrous Iron	mg/l	1 U	0.15	1.36	3.8*	0.51 J	0.47 J	0.13 J	0.9*
Nitrate	mg/l	NA	NA	1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Sulfate	mg/l	NA	NA	182	137 B	193 B	R	R	202 B
Methane	ug/l	1300	820	3400 D	680	360	720	1900	1600

CONSTITUENT	UNITS	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Round 7	Round 8
Site ID		MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11
Sample ID		MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11
Sample Date		07/01/10	09/29/10	1/4/2011	4/7/2011	6/15/2011	10/11/11	12/13/11	03/14/12
MNA/WQ Parameters									
Dissolved Oxygen*	mg/l	0	0	0	7.65	0.40	0.40	0.38	4.95
ORP*	mV	-140	-158	-120	11	32	-113	-72	-69
Ferrous Iron	mg/l	3.64	0.2 U	0.5 U	4*	9.4 J	0.9 J	1.2*	0.1 U
Nitrate	mg/l	NA	NA	1 U	0.13	0.05 U	0.05 U	0.05 U	0.092
Sulfate	mg/l	NA	NA	46.3	126 B	65.1 B	12.4	R	8.5 B
Methane	ug/l	740 D	730	420	4.8	68	190	360	160

CONSTITUENT	UNITS	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Round 7	Round 8
Site ID		MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14
Sample ID		MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14
Sample Date		06/30/10	09/30/10	1/4/2011	4/7/2011	6/15/2011	10/12/11	12/14/11	03/14/12
MNA/WQ Parameters									
Dissolved Oxygen*	mg/l	0	0	0	0	6.21	0.58	0.48	1.02
ORP*	mV	88	-76	-118	204	4	-1	-71	-150
Ferrous Iron	mg/l	0.29	0.15	0.1 U	U*	0.11 J	0.1 U	0.2*	0.1 U
Nitrate	mg/l	NA	NA	1 U	0.71	0.19	0.086	0.023 J	0.05 U
Sulfate	mg/l	NA	NA	53.3	5 U	19.6 B	5.6 JB	R	173 B
Methane	ug/l	9.1	94	120 D	1 U	6.2	46	15	70

CONSTITUENT	UNITS	Round 3	Round 6	Round 7	Round 8
Site ID		MW-12	MW-12	MW-12	MW-12
Sample ID		MW-12	MW-12	MW-12	MW-12
Sample Date		01/04/11	10/12/11	12/14/11	03/14/12
MNA/WQ Parameters					
Dissolved Oxygen*	mg/l	0	2.76	0.84	2.03
ORP*	mV	61	107	6	34
Ferrous Iron	mg/l	0.1 U	0.3*	0.1 U	0.1 U
Nitrate	mg/l	4	6.6	6.2	3.2
Sulfate	mg/l	97.9	240 B	R	53.5 B
Methane	ug/l	2 U	1 U	1.1	0.56 J

CONSTITUENT	UNITS	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Round 7	Round 8
Site ID		MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7
Sample ID		MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7
Sample Date		07/01/10	09/30/10	1/4/2011	4/7/2011	6/15/2011	10/12/11	12/14/11	03/14/12
MNA/WQ Parameters									
Dissolved Oxygen*	mg/l	0	0	0	0	6.56	0.66	0.83	0.65
ORP*	mV	-108	-89	-95	-80	-126	-170	-111	-87
Ferrous Iron	mg/l	3.66	1.12	0.1 U	3.2*	1.7 J	0.83 J	0.8*	0.1 U
Nitrate	mg/l	NA	NA	1 U	0.05 U	0.02 U	0.05 U	0.05 U	0.05 U
Sulfate	mg/l	NA	NA	576	745 B	611 B	R	R	674 B
Methane	ug/l	920 D	290	510	190	210	190	300	210

CONSTITUENT	UNITS	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Round 7	Round 8
Site ID		MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16
Sample ID		MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16
Sample Date		06/30/10	09/30/10	1/5/2011	4/7/2011	6/15/2011	10/12/11	12/13/11	03/13/12
MNA/WQ Parameters									
Dissolved Oxygen*	mg/l	0	0	0.11	0.79	0.26	1.2	0.9	1.15
ORP*	mV	-160	-110	-98	-27	57	33	-101	-122
Ferrous Iron	mg/l	0.29	0.1 U	0.44	2.2*	0.33 J	1.3*	0.08	0.1 U
Nitrate	mg/l	NA	NA	1 U	0.05 U	0.05 U	0.65	0.17	0.05 U
Sulfate	mg/l	NA	NA	316	312 B	243 B	R	R	351 B
Methane	ug/l	300	210	580 D	270	170	37	400 B	140

CONSTITUENT	UNITS	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Round 7	Round 8
Site ID		MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4
Sample ID		MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4
Sample Date		06/30/10	09/29/10	1/4/2011	4/6/2011	6/14/2011	10/11/11	12/13/11	03/14/12
MNA/WQ Parameters									
Dissolved Oxygen*	mg/l	3.34	3.5	0.12	4.92	10.34	3.71	4.1	2.92
ORP*	mV	141	131	161	172	163	197	187	96
Ferrous Iron	mg/l	0.1 U	0.1 U	0.1 U	0.2*	0.1 U	0.1 U	0.1 U	0.1 U
Nitrate	mg/l	NA	NA	2.5	2.7	2.9	2.4	3	3.1
Sulfate	mg/l	NA	NA	49.2	56.7	74.2 B	52.9	R	56 B
Methane	ug/l	2 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U

CONSTITUENT	UNITS	Round 1		Round 2	Round 3		Round 4		Round 5		Round 6		Round 7		Round 8	
Site ID		MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13
Sample ID		MW-13	MW-93	MW-13	MW-13	MW-103	MW-13	FIELD DUP	MW-13	FIELD DUP	MW-13	FIELD DUP	MW-13	FIELD DUP	MW-13	FIELD DUP
Sample Date		7/1/2010	7/1/2010	09/30/10	1/5/2011	1/5/2011	4/7/2011	4/7/2011	6/15/2011	6/15/2011	10/12/2011	10/12/2011	12/14/2011	12/14/2011	3/14/2012	3/14/2012
			Duplicate			Duplicate		Duplicate		Duplicate		Duplicate		Duplicate		Duplicate
MNA/WQ Parameters																
Dissolved Oxygen*	mg/l	0		0	0		0		0.22		0.48		1.53		0.41	
ORP*	mV	-234		-210	-251		-170		-142		-86		-230		-215	
Ferrous Iron	mg/l	0.27	0.26	0.1 U	0.32	0.29	0.2*		0.1 UJ	0.1 UJ	3.1 J	3.5 J	0.08 J	0.1 U	0.1 U	0.1 U
Nitrate	mg/l	NA	NA	NA	1 U	1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Sulfate	mg/l	NA	NA	NA	86.8	87.9	5 U	5 U	3.3 JB	3.3 JB	R	R	R	R	52.1 J	78.9 J
Methane	ug/l	160	160	77	110 D	130 D	32	35	46	32	28 J	30 J	72	71	66	82

Historical Groundwater Data
(Rounds 1-8)

Legend

MW-11 – Monitoring Well ID

– Monitoring Well

– Site Boundary

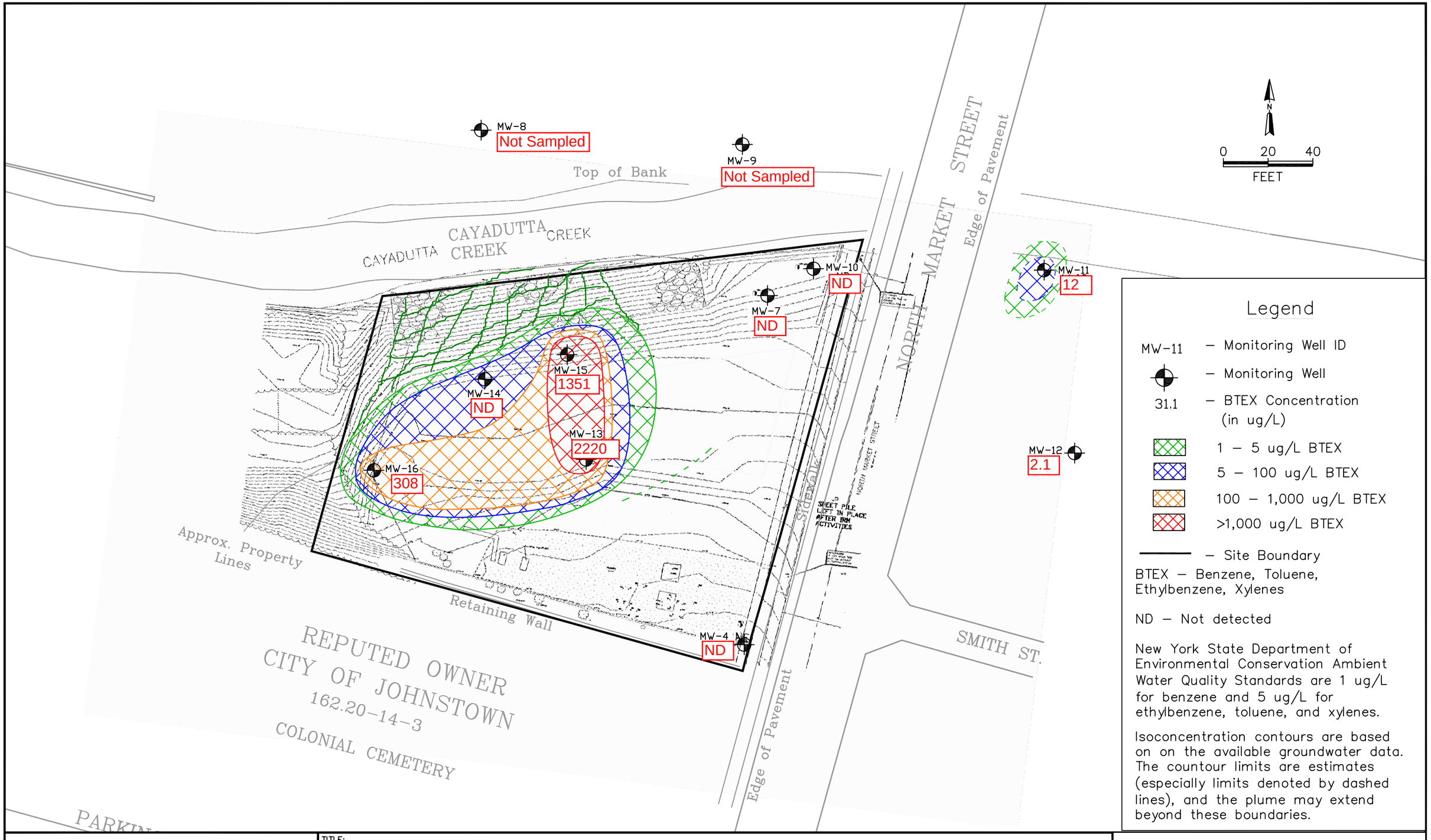
* – From field reading at time of groundwater sampling
B – Present in associated blank
D – From a diluted sample
U – Not detected
J – Estimated
NA – Not analyzed
ug/L – Micrograms per liter
mg/L – Milligrams per liter
mV – Millivolts

0 20 40
FEET

nationalgrid

TITLE:
Monitored Natural Attenuation/Water Quality Parameter Map
Johnstown MGP Site
North Market Street, Johnstown, NY

Figure 4



nationalgrid

TITLE:
BTEX Isoconcentration Contour
Johnstown MGP Site
North Market Street, Johnstown, NY

Figure 5

MW-8
Not Sampled

MW-9
Not Sampled

Top of Bank

CAYADUTTA CREEK

CAYADUTTA CREEK

MW-10
0.7

MW-7
ND

MW-15
27

MW-14
ND

MW-13
8200

MW-16
2.4

MW-4
ND

MW-11
110

MW-12
160

NORTH MARKET STREET

Edge of Pavement

Sidewalk

NORTH MARKET STREET

SHEET PILE LEFT IN PLACE AFTER RIM ACTIVITIES

Approx. Property Lines

Retaining Wall

REPUTED OWNER
CITY OF JOHNSTOWN
162.20-14-3
COLONIAL CEMETERY

SMITH ST.

Edge of Pavement

PARKIN

N

0 20 40
FEET

Legend

MW-11 – Monitoring Well ID

– Monitoring Well

31.1 – Naphthalene Concentration (in ug/L)

– 10 – 100 ug/L Naphthalene

– 100 – 1,000 ug/L Naphthalene

– 1,000 – 5,000 ug/L Naphthalene

– >5,000 ug/L Naphthalene

– Site Boundary

ND – Not detected

New York State Department of Environmental Conservation Ambient Water Quality Standard is 10 ug/L for naphthalene.

Isoconcentration contours are based on on the available groundwater data. The countour limits are estimates (especially limits denoted by dashed lines), and the plume may extend beyond these boundaries.

nationalgrid

TITLE:
Naphthalene Isoconcentration Contour
Johnstown MGP Site
North Market Street, Johnstown, NY

Figure 6

APPENDIX A

FIELD DATA

National Grid
109 North Market Street, Former MGP Site
Johnstown, New York

Spring Semi-Annual Event
April 9-10, 2014

Well ID	Sample?	Well Size?	DTW	DTP	DTB	Comments
RW-1	No	2"	12.32		21.50	
MW-4	Yes	2"	23.28		27.32	
MW-7	Yes	2"	13.71		22.10	
MW-10	Yes	2"	14.13		22.05	
MW-11	Yes	2"	12.68		22.90	
MW-12	Yes	2"	14.41		22.24	
MW-13	Yes	2"	14.84		22.75	MS/MSD
MW-14	Yes	2"	15.70		23.55	FD-0414
MW-15	Yes	2"	16.67		23.00	
MW-16	Yes	2"	9.45		19.45	
Gauge-1 (bridge)	No		18.85			

DTW *-depth to water*
DTP *-depth to product*
DTB *-depth to bottom*
All from top of casing

TestAmerica Albany
25 Kraft Road
Albany, NY 12205

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Eric Rosenzweig	Lab PM: Mason, Becky C	Carrier Tracking No(s):	COC No: 480-46664-10483.1
Client Contact: Timothy Beaumont	Phone: 203-727-6524	E-Mail: becky.mason@testamericainc.com		Page: Page 1 of 2
Company: CDM Smith, Inc.				Job #:
Address: One General Motors Drive	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13206	PO #: 36380.99758			
Phone:	WO #:			
Email: beaumontj@cdmsmith.com	Project #: 48002647			
Project Name: CDM Smith/ Event Desc: Johnstown (N. Market Street)	SSOW#:			
Site: New York				

Analysis Requested

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2SO3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - ph 4-5; Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	RSK_175_CO2 - Carbon dioxide	8270C_LL_PAH - PAH low level Semivolatiles	351.2 - Total (Kjeldahl) Nitrogen	6010B - (MOD) TAL Metals ICP	8260B - BTEX - 8260	RSK_175 - (MOD) Local Method	SM4500_S2_F - Sulfide	9012A - Cyanide, Total	353.2, 353.2_Nitrite, D516, Nitrate_Calc, SM4500_Cl_E	2320B - Alkalinity, Total	3500_FE_D - Ferrous Iron	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	S	D	A	A	B	D	N	N	N		
MW-4-0414	4/10/14	1040	G	Water	N	N	X	X	X	X	X	X	X	X	X	X	X		
MW-7-0414	4/10/14	0945	G	Water	N	N	X	X	X	X	X	X	X	X	X	X	X		
MW-10-0414	4/10/14	835	G	Water	N	N	X	X	X	X	X	X	X	X	X	X	X		
MW-11-0414	4/10/14	1130	G	Water	N	N	X	X	X	X	X	X	X	X	X	X	X		
~~MW-12-0414~~ Trip Blank	4/10/14	—	G	Water	N	N					X								
~~MW-13-0414~~				Water															
~~MW-13-0414 MS~~				Water															
~~MW-13-0414 SD~~				Water															
~~MW-14-0414~~				Water															
~~MW-15-0414~~				Water															
~~MW-16-0414~~				Water															

CL 4-10-14

4/10/14 CL
4/10/14 CL
4/10/14 CL
4/10/14 CL
4/10/14 CL

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:				
Relinquished by:	Date/Time: 4/10/14 1230	Company: CDM Smith	Received by:	Date/Time: 4-10-14 1230	Company: TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TestAmerica Albany
25 Kraft Road
Albany, NY 12205

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler:	Lab PM: Mason, Becky C	Carrier Tracking No(s):	COC No: 480-46664-10483.1
Client Contact: Timothy Beaumont	Phone: 703 787 6824	E-Mail: becky.mason@testamericainc.com		Page: Page 1 of 2
Company: CDM Smith, Inc.				Job #:
Address: One General Motors Drive	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13206				
Phone:	PO #: 36380.99758			
Email: beaumontlj@cdmsmith.com	WO #:			
Project Name: CDM Smith/ Event Desc: Johnstown (N. Market Street)	Project #: 48002647			
Site: New York	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	RSK_175_CO2 - Carbon dioxide	8270C_LL_PAH - PAH low level Semivolatiles	351.2 - Total Kjeldahl Nitrogen	6010B - (MOD) TAL Metals ICP	8260B - BTEX - 8260	RSK_175 - (MOD) Local Method	SM4500_S2_F - Sulfide	9012A - Cyanide, Total	353.2, 353.2_Nitrite, D516, Nitrate_Calc, SM4500_CL_E	2320B - Alkalinity, Total	3500_FE_D - Ferrous Iron	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	S	D	A	A	CB	B	N	N	N		
~~MW-4-0414~~			G	Water	N		X	X	X	X	X	X	X	X	X	X	X		CL 4/9/14
~~MW-7-0414~~				Water															CL 4/9/14
~~MW-10-0414~~				Water															CL 4/9/14
~~MW-11-0414~~				Water															CL 4/9/14
MW-12-0414	4/9/14	1320		Water	N	N	X	X	X	X	X	X	X	X	X	X	X		
MW-13-0414	4/9/14	1205		Water	N														
MW-13-0414 MS	4/9/14	1205		Water	N														
MW-13-0414 SD	4/9/14	1205		Water	N														
MW-14-0414	4/9/14	0955		Water	N														
MW-15-0414	4/9/14	1105		Water	N														
MW-16-0414	4/9/14	0850	↓	Water	N		↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 4/9/14 1410	Company: CDM Smith	Received by:	Date/Time: 4/9/14 14:15	Company: TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Albany
25 Kraft Road
Albany, NY 12205

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler:	Lab PM: Mason, Becky C	Carrier Tracking No(s):	COC No: 480-46664-10483.2
Client Contact: Timothy Beaumont	Phone: 203 627 6524	E-Mail: becky.mason@testamericainc.com		Page: Page 2 of 2
Company: CDM Smith, Inc.				Job #:
Address: One General Motors Drive	Due Date Requested:	Analysis Requested		Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13206	PO #: 36380.99758			
Phone:	WO #:			Other:
Email: beaumonttj@cdmsmith.com	Project #: 48002647			
Project Name: CDM Smith/ Event Desc: Johnstown (N. Market Street)	SSOW#:			
Site: New York				

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	RSK_175_CO2 - Carbon dioxide	8270C_LL_PAH - PAH low level Semivolatiles	351.2 - Total Kjeldahl Nitrogen	6010B - (MOD) TAL Metals ICP	8260B - BTEX - 8260	RSK_175 - (HOD) Local Method	SM4500_S2_F - Sulfide	9012A - Cyanide, Total	353.2, 353.2_Nitrite, D516, Nitrate_Calc, SM4500_Cl_E	2320B - Alkalinity, Total	3500_FE_D - Ferrous Iron			Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	S	D	A	A	CB	B	N	N	N				
FD-0414	4/9/14	—	G	Water	N	N	X	X	X	X	X	X	X	X	X	X	X				
Trip Blank	4/9/14	—	G	W	N	N					X										

4/9/14

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	4/9/14 1410	CDMSmith		4/9/14 14:15	TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Site Management Plan Inspection Form

109 North Market Street
Johnstown, New York

Date: 4/10/2014
Technician: Rosenzweig

Time: 1600
Weather: Clear 60 °F

Vegetation Cap

Condition of Grass	GOOD	FAIR	POOR	COMMENTS: Snow covered
Condition of Site Trees	NONE	MINOR	SIGNIFICANT	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:
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:

National Grid
109 North Market Street, Johnstown New York

Sampling Personnel: Eric Rosenzweig
Job Number: 36380.99758
Well Id. **MW-4**

Date: Clear 4/10/14
Weather: Clear ~45
Time In: 1005 Time Out:

Well Information

		TOC	Other
Depth to Water:	(feet)	23.28	
Depth to Bottom:	(feet)	27.32	
Depth to Product:	(feet)	—	
Length of Water Column:	(feet)	4.04	
Volume of Water in Well:	(gal)	0.65	
Three Well Volumes:	(gal)	1.94	

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: Clear No Sheen/Odor

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: (ml/min)	1500				
Duration of Pumping: (min)	30				
Total Volume Removed: (gal)	4	Did well go dry?	Yes ☐	No ☒	

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

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

Time	DTW (feet)	Temp (°C)	pH	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	TDS (g/L)
1010	Top	8.49	7.30	30	1.68	103	8.40	1.08
1015	of	9.77	7.28	59	1.71	92.7	5.22	1.10
1020	Sc	9.22	7.19	77	1.70	80.1	4.48	1.09
1025	P	9.35	7.17	82	1.69	76.8	4.40	1.08
1030	Pump	9.61	7.15	90	1.66	71.6	4.35	1.06
1035		9.74	7.14	95	1.65	69.7	4.22	1.05

Sampling Information:

EPA SW-846 Method 8270	SVOC PAH's		2 - 250 ml amber	Yes ☒ No ☐
EPA SW-846 Method 8260	VOC's BTEX		3 - 40 ml vials	Yes ☒ No ☐
EPA-Method 610B	LEAD		1 - 250 ml plastic	Yes ☒ No ☐
	MANGANESE			
EPA Method 9012A	TOTAL CYANIDE		1 - 250 ml plastic	Yes ☒ No ☐
RSK_175_CO2	DISSOLVED CARBON DIOXIDE		3 - 40 ml vials	Yes ☒ No ☐
EPA Method 2320B	TOTAL ALKALINITY		1 - 125 ml plastic	Yes ☒ No ☐
EPA Method 351.2	TOTAL KJELDAHL NITROGEN		1 - 250 ml plastic	Yes ☒ No ☐
SM 4500_S2_F	SULFIDE		1 - 250 ml plastic	Yes ☒ No ☐
SM_3500_FE_D	FERROUS IRON		1 - 125 ml plastic	Yes ☒ No ☐
RSK_175	METHANE/ETHENE/ETHANE		3 - 40 ml vials	Yes ☒ No ☐
D516	SULFATE		2 - 125 ml plastic	Yes ☒ No ☐
EPA Method 353.2	NITRATE			
SM_4500_Cl_E	CHLORIDE			

Sample ID: MW-4-0414
Sample Time: 1040
Duplicate? Yes ☐ No ☒
MS/MSD? Yes ☐ No ☒

Shipped: Drop-off Albany Service Center ☐

Laboratory: Test America Amherst, New York

National Grid
109 North Market Street, Johnstown New York

Sampling Personnel: Eric Rosenzweig
Job Number: 36380.99758
Well Id. **MW-7**

Date: 4/10/14
Weather: clear & 40°
Time In: 910 Time Out:

Well Information

		TOC	Other
Depth to Water:	(feet)	13.71	
Depth to Bottom:	(feet)	22.10	
Depth to Product:	(feet)	-	
Length of Water Column:	(feet)	8.39	
Volume of Water in Well:	(gal)	1.34	
Three Well Volumes:	(gal)	4.03	

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

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:	(ml/min)	500
Duration of Pumping:	(min)	30
Total Volume Removed:	(gal)	4

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

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

Conversion Factors

gal/ft. of water	1" ID	2" ID	4" ID	6" ID
	0.04	0.16	0.66	1.47

1 gallon=3.785L=3785mL=1337cu. feet

Time	DTW (feet)	Temp (°C)	pH	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	TDS (g/L)
915	14.01	5.77	7.59	6	1.55	277	7.31	0.990
920	14.43	6.41	7.28	-24	1.54	112	7.50	0.982
925	14.68	6.74	7.27	-31	1.53	127	0.50	0.976
930	15.21	7.11	7.26	-33	1.57	100	0.15	0.966
935	15.81	7.39	7.25	-33	1.50	107	0.14	0.960
940	16.45	8.40	7.24	-41	1.55	98.6	0.10	0.989

Sampling Information:

EPA SW-846 Method 8270	SVOC PAH's		2 - 250 ml amber	Yes [X] No [ ]
EPA SW-846 Method 8260	VOC's BTEX		3 - 40 ml vials	Yes [X] No [ ]
EPA Method 610B	LEAD	[ ]	1 - 250 ml plastic	Yes [X] No [ ]
	MANGANESE			
EPA Method 9012A	TOTAL CYANIDE		1 - 250 ml plastic	Yes [X] No [ ]
RSK_175_CO2	DISSOLVED CARBON DIOXIDE		3 - 40 ml vials	Yes [X] No [ ]
EPA Method 2320B	TOTAL ALKALINITY		1 - 125 ml plastic	Yes [X] No [ ]
EPA Method 351.2	TOTAL KJELDAHL NITROGEN		1 - 250 ml plastic	Yes [X] No [ ]
SM 4500_S2_F	SULFIDE		1 - 250 ml plastic	Yes [X] No [ ]
SM_3500_FE_D	FERROUS IRON		1 - 125 ml plastic	Yes [X] No [ ]
RSK_175	METHANE/ETHENE/ETHANE		3 - 40 ml vials	Yes [X] No [ ]
D516	SULFATE	[ ]	2 - 125 ml plastic	Yes [X] No [ ]
EPA Method 353.2	NITRATE			
SM_4500_Cl_E	CHLORIDE			

Sample ID: MW-7-0414
Sample Time: 945

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

Shipped: Drop-off Albany Service Center [ ]

Laboratory: Test America Amherst, New York

National Grid
109 North Market Street, Johnstown New York

Sampling Personnel: Eric Rosenzweig
Job Number: 36380.99758
Well Id. **MW-10**

Date: 4/10/14
Weather: clear ~ 40
Time In: 800 Time Out:

Well Information

		TOC	Other
Depth to Water:	(feet)	14.13	
Depth to Bottom:	(feet)	22.05	
Depth to Product:	(feet)	~	
Length of Water Column:	(feet)	7.92	
Volume of Water in Well:	(gal)	1.27	
Three Well Volumes:	(gal)	3.80	

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: Clear No Sheen/Odor

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:	(ml/min)	1500
Duration of Pumping:	(min)	30
Total Volume Removed:	(gal)	4

Did well go dry? Yes ☐ No ☒

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

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

Time	DTW (feet)	Temp (°C)	pH	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	TDS (g/L)
805	14.41	8.07	7.85	60	2.40	311	9.16	1.55
810	14.72	8.14	7.39	8	2.64	291	5.35	1.70
815	14.96	8.19	7.24	-21	2.77	255	1.42	1.78
820	15.20	8.26	7.22	-23	2.69	243	1.88	1.72
825	15.45	8.30	7.20	-20	2.70	222	2.08	1.73
830	15.69	8.27	7.19	-20	2.70	198	2.61	1.73

Sampling Information:

EPA SW-846 Method 8270	SVOC PAH's		2 - 250 ml amber	Yes ☒ No ☐
EPA SW-846 Method 8260	VOC's BTEX		3 - 40 ml vials	Yes ☒ No ☐
EPA Method 610B	LEAD	☐	1 - 250 ml plastic	Yes ☒ No ☐
	MANGANESE			
EPA Method 9012A	TOTAL CYANIDE		1 - 250 ml plastic	Yes ☒ No ☐
RSK_175_CO2	DISSOLVED CARBON DIOXIDE		3 - 40 ml vials	Yes ☒ No ☐
EPA Method 2320B	TOTAL ALKALINITY		1 - 125 ml plastic	Yes ☒ No ☐
EPA Method 351.2	TOTAL KJELDAHL NITROGEN		1 - 250 ml plastic	Yes ☒ No ☐
SM 4500_S2_F	SULFIDE		1 - 250 ml plastic	Yes ☒ No ☐
SM_3500_FE_D	FERROUS IRON		1 - 125 ml plastic	Yes ☒ No ☐
RSK_175	METHANE/ETHENE/ETHANE		3 - 40 ml vials	Yes ☒ No ☐
D516	SULFATE	☐	2 - 125 ml plastic	Yes ☒ No ☐
EPA Method 353.2	NITRATE			
SM_4500_Cl_E	CHLORIDE			

Shipped: Drop-off Albany Service Center ☐

Sample ID: MW-10-041414
Sample Time: 835

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

Laboratory: Test America
Amherst, New York

National Grid
109 North Market Street, Johnstown New York

Sampling Personnel: Eric Rosenzweig
Job Number: 36380.99758
Well Id. **MW-11**

Date: 4/10/14
Weather: Clear ~50
Time In: 1055 Time Out:

Well Information

		TOC	Other
Depth to Water:	(feet)	13.68	
Depth to Bottom:	(feet)	22.90	
Depth to Product:	(feet)		
Length of Water Column:	(feet)	10.22	
Volume of Water in Well:	(gal)	1.64	
Three Well Volumes:	(gal)	4.91	

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: clear No sheen/Odor

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: (ml/min)	500				
Duration of Pumping: (min)	30				
Total Volume Removed: (gal)	4	Did well go dry?	Yes [ ]	No [X]	

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

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

Time	DTW (feet)	Temp (°C)	pH	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	TDS (g/L)
1100	12.77	13.69	7.39	-43	2.09	410	1.72	1.35
1105	12.82	11.83	7.26	-53	2.13	256	0.50	1.30
1110	12.94	11.40	7.21	-58	2.12	153	0.16	1.36
1115	13.01	11.14	7.20	-59	2.13	122	0.05	1.36
1120	13.16	10.96	7.20	-61	2.14	153	0.01	1.37
1125	13.24	10.68	7.19	-61	2.13	123	0.01	1.36

Sampling Information:

EPA SW-846 Method 8270	SVOC PAH's		2 - 250 ml amber	Yes [X] No [ ]
EPA SW-846 Method 8260	VOC's BTEX		3 - 40 ml vials	Yes [X] No [ ]
EPA Method 610B	LEAD		1 - 250 ml plastic	Yes [X] No [ ]
	MANGANESE			
EPA Method 9012A	TOTAL CYANIDE		1 - 250 ml plastic	Yes [X] No [ ]
RSK_175_CO2	DISSOLVED CARBON DIOXIDE		3 - 40 ml vials	Yes [X] No [ ]
EPA Method 2320B	TOTAL ALKALINITY		1 - 125 ml plastic	Yes [X] No [ ]
EPA Method 351.2	TOTAL KJELDAHL NITROGEN		1 - 250 ml plastic	Yes [X] No [ ]
SM 4500_S2_F	SULFIDE		1 - 250 ml plastic	Yes [X] No [ ]
SM_3500_FE_D	FERROUS IRON		1 - 125 ml plastic	Yes [X] No [ ]
RSK_175	METHANE/ETHENE/ETHANE		3 - 40 ml vials	Yes [X] No [ ]
D516	SULFATE		2 - 125 ml plastic	Yes [X] No [ ]
EPA Method 353.2	NITRATE			
SM_4500_Cl_E	CHLORIDE			

Sample ID: MW-11-0414
Sample Time: 1130
Duplicate? Yes [ ] No [X]
MS/MSD? Yes [ ] No [X]

Shipped: Drop-off Albany Service Center [ ]

Laboratory: Test America Amherst, New York

National Grid
109 North Market Street, Johnstown New York

Sampling Personnel: Eric Rosenzweig
Job Number: 36380.99758
Well Id. **MW-12**

Date: 4/9/14
Weather: Clear ≈ 40°
Time In: 1245 Time Out:

Well Information

		TOC	Other
Depth to Water:	(feet)	14.41	
Depth to Bottom:	(feet)	22.24	
Depth to Product:	(feet)	—	
Length of Water Column:	(feet)	7.83	
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: Clear No Sheen/Odor

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:	(ml/min)	500
Duration of Pumping:	(min)	30
Total Volume Removed:	(gal)	4

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

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

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

Time	DTW (feet)	Temp (°C)	pH	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	TDS (g/L)
1250	14.41	10.03	7.50	25	2.23	467	3.77	1.43
1255	14.41	10.73	7.10	52	1.46	>1000	3.88	0.891
1300	14.41	10.64	7.02	64	0.941	763	2.94	0.577
1305	14.41	10.78	6.97	74	0.876	423	2.89	0.558
1310	14.42	10.54	6.96	83	0.901	324	2.94	0.571
1315	14.42	10.34	6.95	92	0.921	261	2.96	0.591

Sampling Information:

EPA SW-846 Method 8270	SVOC PAH's		2 - 250 ml amber	Yes [X] No [ ]
EPA SW-846 Method 8260	VOC's BTEX		3 - 40 ml vials	Yes [X] No [ ]
EPA Method 610B	LEAD		1 - 250 ml plastic	Yes [X] No [ ]
	MANGANESE			
EPA Method 9012A	TOTAL CYANIDE		1 - 250 ml plastic	Yes [X] No [ ]
RSK_175_CO2	DISSOLVED CARBON DIOXIDE		3 - 40 ml vials	Yes [X] No [ ]
EPA Method 2320B	TOTAL ALKALINITY		1 - 125 ml plastic	Yes [X] No [ ]
EPA Method 351.2	TOTAL KJELDAHL NITROGEN		1 - 250 ml plastic	Yes [X] No [ ]
SM 4500_S2_F	SULFIDE		1 - 250 ml plastic	Yes [X] No [ ]
SM_3500_FE_D	FERROUS IRON		1 - 125 ml plastic	Yes [X] No [ ]
RSK_175	METHANE/ETHENE/ETHANE		3 - 40 ml vials	Yes [X] No [ ]
D516	SULFATE		2 - 125 ml plastic	Yes [X] No [ ]
EPA Method 353.2	NITRATE			
SM_4500_Cl_E	CHLORIDE			

Sample ID: MW-12-0414 Duplicate? Yes [ ] No [X]
Sample Time: 1320 MS/MSD? Yes [ ] No [X]

Shipped: Drop-off Albany Service Center [ ]

Laboratory: Test America Amherst, New York

National Grid
109 North Market Street, Johnstown New York

Sampling Personnel: Eric Rosenzweig
Job Number: 36380.99758
Well Id. **MW-13**

Date: 4/9/14
Weather: clear & 40°
Time In: 1130 Time Out:

Well Information

		TOC	Other
Depth to Water:	(feet)	14.84	
Depth to Bottom:	(feet)	22.75	
Depth to Product:	(feet)	—	
Length of Water Column:	(feet)	7.91	
Volume of Water in Well:	(gal)	1.27	
Three Well Volumes:	(gal)	3.80	

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: Clear No Sheen/Odor

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:	(ml/min)	500
Duration of Pumping:	(min)	30
Total Volume Removed:	(gal)	4

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

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

Conversion Factors

gal/ft. of water	1" ID	2" ID	4" ID	6" ID
	0.04	0.16	0.66	1.47

1 gallon=3.785L=3785mL=1337cu. feet

Time	DTW (feet)	Temp (°C)	pH	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	TDS (g/L)
1135	15.01	8.44	7.43	-59	0.491	37.1	6.59	0.318
1140	15.15	9.23	7.93	-90	0.457	98.6	0.76	0.292
1145	15.47	9.23	8.41	-125	0.404	107	0.01	0.260
1150	15.54	9.30	8.56	-134	0.393	76.7	0.01	0.255
1155	15.63	9.36	8.573	-139	0.394	59.2	0.01	0.256
1200	15.71	9.45	8.51	-173	0.397	45.3	0.01	0.258

Sampling Information:

EPA SW-846 Method 8270	SVOC PAH's		6 - 250 ml amber	Yes [X] No [ ]
EPA SW-846 Method 8260	VOC's BTEX		9 - 40 ml vials	Yes [X] No [ ]
EPA Method 610B	LEAD		3 - 250 ml plastic	Yes [X] No [ ]
	MANGANESE			
EPA Method 9012A	TOTAL CYANIDE		3 - 250 ml plastic	Yes [X] No [ ]
RSK_175_CO2	DISSOLVED CARBON DIOXIDE		9 - 40 ml vials	Yes [X] No [ ]
EPA Method 2320B	TOTAL ALKALINITY		3 - 125 ml plastic	Yes [X] No [ ]
EPA Method 351.2	TOTAL KJELDAHL NITROGEN		3 - 250 ml plastic	Yes [X] No [ ]
SM 4500_S2_F	SULFIDE		3 - 250 ml plastic	Yes [X] No [ ]
SM_3500_FE_D	FERROUS IRON		3 - 125 ml plastic	Yes [X] No [ ]
RSK_175	METHANE/ETHENE/ETHANE		9 - 40 ml vials	Yes [X] No [ ]
D516	SULFATE		6 - 125 ml plastic	Yes [X] No [ ]
EPA Method 353.2	NITRATE			
SM_4500_Cl_E	CHLORIDE			

Sample ID: MW-13-040414 Duplicate? Yes [ ] No [X]
Sample Time: 1205 MS/MSD? Yes [X] No [ ]

Shipped: Drop-off Albany Service Center [ ]

Laboratory: Test America Amherst, New York

National Grid
109 North Market Street, Johnstown New York

Sampling Personnel: Eric Rosenzweig
Job Number: 36380.99758
Well Id. **MW-14**

Date: 4/9/14
Weather: clear ~40°
Time In: 920 Time Out:

Well Information

		TOC	Other
Depth to Water:	(feet)	15.70	
Depth to Bottom:	(feet)	23.55	
Depth to Product:	(feet)	—	
Length of Water Column:	(feet)	7.85	
Volume of Water in Well:	(gal)	1.20	
Three Well Volumes:	(gal)	3.77	

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: Clear No Sheen/Odor

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:	(ml/min)	500			
Duration of Pumping:	(min)	30			
Total Volume Removed:	(gal)	3	Did well go dry?	Yes [ ]	No [X]

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

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

Time	DTW (feet)	Temp (°C)	pH	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	TDS (g/L)
925	15.95	6.46	7.18	72	0.781	223	5.49	0.502
930	16.02	8.33	7.17	-37	1.09	>1000	1.66	0.702
935	16.11	8.37	7.16	-43	1.23	373	0.18	0.784
940	16.18	8.47	7.16	-46	1.26	187	0.01	0.807
945	16.24	8.49	7.17	-49	1.28	88.8	0.01	0.818
950	16.28	8.54	7.13	-51	1.28	36.1	0.01	0.820

Sampling Information:

EPA SW-846 Method 8270	SVOC PAH's		4 - 250 ml amber	Yes [X] No [ ]
EPA SW-846 Method 8260	VOC's BTEX		6 - 40 ml vials	Yes [X] No [ ]
EPA Method 610B	LEAD	[ ]	2 - 250 ml plastic	Yes [X] No [ ]
	MANGANESE			
EPA Method 9012A	TOTAL CYANIDE		2 - 250 ml plastic	Yes [X] No [ ]
RSK_175_CO2	DISSOLVED CARBON DIOXIDE		6 - 40 ml vials	Yes [X] No [ ]
EPA Method 2320B	TOTAL ALKALINITY		2 - 125 ml plastic	Yes [X] No [ ]
EPA Method 351.2	TOTAL KJELDAHL NITROGEN		2 - 250 ml plastic	Yes [X] No [ ]
SM 4500_S2_F	SULFIDE		2 - 250 ml plastic	Yes [X] No [ ]
SM_3500_FE_D	FERROUS IRON		2 - 125 ml plastic	Yes [X] No [ ]
RSK_175	METHANE/ETHENE/ETHANE		6 - 40 ml vials	Yes [X] No [ ]
D516	SULFATE	[ ]	4 - 125 ml plastic	Yes [X] No [ ]
EPA Method 353.2	NITRATE			
SM_4500_Cl_E	CHLORIDE			

Shipped: Drop-off Albany Service Center [ ]

Sample ID: MW-14-0414
Sample Time: 955

Duplicate? Yes [X] No [ ] **FD-0414**
MS/MSD? Yes [ ] No [X]

Laboratory: Test America Amherst, New York

National Grid
109 North Market Street, Johnstown New York

Sampling Personnel: Eric Rosenzweig
Job Number: 36380.93808
Well Id. **MW-15**

Date: 4/9/14
Weather: Clear & 40°
Time In: 1030 Time Out:

Well Information

		TOC	Other
Depth to Water:	(feet)	16.67	
Depth to Bottom:	(feet)	23.00	
Depth to Product:	(feet)	—	
Length of Water Column:	(feet)	6.33	
Volume of Water in Well:	(gal)	1.01	
Three Well Volumes:	(gal)	3.03	

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: Clear No Sheen/Odor

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:	(ml/min)	500
Duration of Pumping:	(min)	30
Total Volume Removed:	(gal)	4

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

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

Conversion Factors

gal/ft. of water	1" ID	2" ID	4" ID	6" ID
	0.04	0.16	0.66	1.47

1 gallon=3.785L=3785mL=1337cu. feet

Time	DTW (feet)	Temp (°C)	pH	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	TDS (g/L)
1035	16.81	8.08	7.44	-19	1.08	138	2.71	0.677
1040	16.98	8.09	7.20	-25	1.10	82.3	2.21	0.701
1045	17.14	8.37	7.17	-49	1.03	71.6	1.08	0.653
1050	17.21	8.30	7.14	-56	0.971	52.6	0.37	0.620
1055	17.35	8.27	7.13	-60	0.944	41.8	0.01	0.604
1100	17.46	8.24	7.13	-67	0.940	38.3	0.01	0.602

Sampling Information:

EPA SW-846 Method 8270	SVOC PAH's		2 - 250 ml amber	Yes [X] No [ ]
EPA SW-846 Method 8260	VOC's BTEX		3 - 40 ml vials	Yes [X] No [ ]
EPA Method 610B	LEAD	[ ]	1 - 250 ml plastic	Yes [X] No [ ]
	MANGANESE			
EPA Method 9012A	TOTAL CYANIDE		1 - 250 ml plastic	Yes [X] No [ ]
RSK_175_CO2	DISSOLVED CARBON DIOXIDE		3 - 40 ml vials	Yes [X] No [ ]
EPA Method 2320B	TOTAL ALKALINITY		1 - 125 ml plastic	Yes [X] No [ ]
EPA Method 351.2	TOTAL KJELDAHL NITROGEN		1 - 250 ml plastic	Yes [X] No [ ]
SM 4500_S2_F	SULFIDE		1 - 250 ml plastic	Yes [X] No [ ]
SM_3500_FE_D	FERROUS IRON		1 - 125 ml plastic	Yes [X] No [ ]
RSK_175	METHANE/ETHENE/ETHANE		3 - 40 ml vials	Yes [X] No [ ]
D516	SULFATE	[ ]	2 - 125 ml plastic	Yes [X] No [ ]
EPA Method 353.2	NITRATE			
SM_4500_Cl_E	CHLORIDE			

Shipped: Drop-off Albany Service Center [ ]

Sample ID: MW-15-0414 Duplicate? Yes [ ] No [X]
Sample Time: 1105 MS/MSD? Yes [ ] No [X]

Laboratory: Test America Amherst, New York

National Grid
109 North Market Street, Johnstown New York

Sampling Personnel: Eric Rosenzweig
Job Number: 36380.93808
Well Id. **MW-16**

Date: 4/9/14
Weather: Clear ~40°
Time In: 815 Time Out:

Well Information

		TOC	Other
Depth to Water:	(feet)	9.45	
Depth to Bottom:	(feet)	19.45	
Depth to Product:	(feet)	—	
Length of Water Column:	(feet)	10.00	
Volume of Water in Well:	(gal)	1.60	
Three Well Volumes:	(gal)	4.80	

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: Clear No Sheen/Odor

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:	(ml/min)	~350
Duration of Pumping:	(min)	30
Total Volume Removed:	(gal)	4

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

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

Conversion Factors

gal/ft. of water	1" ID	2" ID	4" ID	6" ID
	0.04	0.16	0.66	1.47

1 gallon=3.785L=3785mL=1337cu. feet

Time	DTW (feet)	Temp (°C)	pH	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	TDS (g/L)
820	10.74	4.93	8.11	61	1.04	28.2	9.50	0.676
825	10.01	6.43	7.50	-24	0.703	94.3	4.35	0.445
830	10.35	6.60	7.33	7	0.377	61.3	4.21	0.243
835	10.54	6.27	7.10	43	0.300	35.2	3.57	0.194
840	10.79	6.12	7.03	51	0.290	32.7	2.65	0.188
845	10.98	6.04	6.99	54	0.290	37.5	2.15	0.189

Sampling Information:

EPA SW-846 Method 8270	SVOC PAH's	
EPA SW-846 Method 8260	VOC's BTEX	
EPA Method 610B	LEAD	
	MANGANESE	
EPA Method 9012A	TOTAL CYANIDE	
RSK_175_CO2	DISSOLVED CARBON DIOXIDE	
EPA Method 2320B	TOTAL ALKALINITY	
EPA Method 351.2	TOTAL KJELDAHL NITROGEN	
SM 4500_S2_F	SULFIDE	
SM_3500_FE_D	FERROUS IRON	
RSK_175	METHANE/ETHENE/ETHANE	
D516	SULFATE	
EPA Method 353.2	NITRATE	
SM_4500_Cl_E	CHLORIDE	

2 - 250 ml amber	Yes [X]	No [ ]
3 - 40 ml vials	Yes [X]	No [ ]
1 - 250 ml plastic	Yes [X]	No [ ]
1 - 250 ml plastic	Yes [X]	No [ ]
3 - 40 ml vials	Yes [X]	No [ ]
1 - 125 ml plastic	Yes [X]	No [ ]
1 - 250 ml plastic	Yes [X]	No [ ]
1 - 250 ml plastic	Yes [X]	No [ ]
1 - 125 ml plastic	Yes [X]	No [ ]
3 - 40 ml vials	Yes [X]	No [ ]
2 - 125 ml plastic	Yes [X]	No [ ]

Shipped: Drop-off Albany Service Center [ ]

Sample ID: MW-16-0414
Sample Time: 0855

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

Laboratory: Test America Amherst, New York

APPENDIX B

DATA USABILITY SUMMARY REPORT

Data Validation Services

120 Cobble Creek Road P.O. Box 208
North Creek, NY 12853

Phone 518-251-4429
harry@frontiernet.net

May 22, 2014

Matthew Millias
CDM Smith
One General Motors Dr. Suite 2
Syracuse, NY 13206

RE: **D**ata **U**sability **S**ummary **R**eport for National Grid- Johnstown Landfill Site Data Package
TAL-Buffalo Job Nos. 480-57609-1 and 480-57727-1

Dear Mr. Millias:

Review has been completed for the data package generated by TestAmerica Laboratories, Inc. that pertains to samples collected 04/09/14 and 04/10/14 at the National Grid Johnstown Landfill site. Nine aqueous samples and a field duplicate were analyzed for BTEX, low level PAHs, three dissolved gases, carbon dioxide, lead, manganese, and eight wet chemistry parameters. Four of the samples were also processed for total iron. Methodologies utilized are those of the USEPA SW846 methods 6010B/8260B/8270D/9012, and ASTM, with additional QC requirements of the NYSDEC ASP.

The data packages submitted contain full deliverables for validation, but this usability report is generated from review of the summary form information, with review of sample raw data, and limited review of associated QC raw data. Full validation has not been performed. However, the reported summary forms have been reviewed for application of validation qualifiers, using guidance from the NMPC generic QAPP, USEPA Region 2 validation SOPs, the USEPA National Functional Guidelines for Data Review, and professional judgment, as affects the usability of the data. The following items were reviewed:

* Laboratory Narrative Discussion
* Custody Documentation
* Holding Times
* Surrogate and Internal Standard Recoveries
* Matrix Spike Recoveries/Duplicate Correlations
* Field Duplicate Correlations
* Laboratory Control Sample(LCS)
* Preparation/Calibration Blanks
* Control Spike/Laboratory Control Samples
* Calibration/Low Level Standard Responses
* Instrumental Tunes

* Instrument IDLs
* 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, most sample results are usable either as reported, or with minor qualification. The reporting limits for the low level PAHs have been elevated twofold to conform with the processing.

Copies of the laboratory case narratives and sample identification summary forms are attached to this text, and should be reviewed in conjunction with this report. Also included with this narrative are sample results forms, with the recommended qualifications applied thereupon.

BTEX by EPA8260B/NYSDEC ASP

Sample holding times were met and instrumental tune fragmentations are within acceptance ranges. Surrogate and internal standard recoveries are within required limits. Blanks show no contamination.

Calibrations standards show acceptable responses within analytical protocol and validation action limits.

The recoveries of two analytes in the matrix spike are below the recommended ranges. Matrix spikes duplicate recoveries are acceptable, and no qualification is made.

MW13-0414 are outside the laboratory acceptance ranges, and results for those compounds in the parent sample have therefore been qualified as estimated in value.

The blind field duplicate correlations of MW-14-0414 fall within guidance limits.

Some samples were processed only at dilution due to foaming during undiluted analysis and/or high concentrations of target analytes. This results in elevated reporting limits for undetected analytes.

The trip blanks associated with the samples collected 04/10/14 were broken at receipt, and therefore that evaluation for contamination has not been performed.

Low Level PAHs by EPA8270D/NYSDEC ASP

Holding times were met and instrumental tune fragmentations are within acceptance ranges. Surrogate and internal standard recoveries are within required limits.

The matrix spike recoveries and duplicate correlations of MW-13-0414 show some outlying correlations, but were analyzed at tenfold dilution (due to parent constituency), and the evaluation is therefore not applicable. LCS recoveries are within required ranges.

The following analytes show outlying correlations (all >±CRDL) in the blind field duplicate of MW-14-0414: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, and pyrene. The results for those compounds in the parent sample and its duplicate have been qualified as estimated in value.

Some samples were processed only at dilution. This results in elevated reporting limits for undetected analytes. It is not evident why MW-7-0414 was diluted fivefold.

Methane, Ethane, Ethene, and CO2 by RSK-175

The matrix spikes of MW-13-0414 show elevated recoveries for methane (163% and 187%). The result for that analyte in the parent sample has been qualified as estimated.

The blind field duplicate correlations of MW-14-0414 fall within guidance limits.

Instrument performance is compliant, blanks show no contamination, and reported results are substantiated by raw data.

Iron, Lead, and Manganese by EPA 6010B/NYSDEC ASP

The matrix spikes of MW-13-0414 acceptable accuracy and precision. The blind field duplicate correlation of lead in MW-14-0414 falls outside guidance limits (>±CRDL). The results for that element in the parent sample and its duplicate have been qualified as estimated.

The ICP Serial Dilution evaluation of MW-13-0414 is acceptable.

Blanks show no contamination affecting reported results, and reported results are substantiated by the raw data.

Wet Chemistry—Chloride, Sulfide, Sulfate, Nitrate, TKN, Alkalinity, Ferrous Iron, and Total Cyanide

Due to the very short holding time from sample collection (15 minutes), all ferrous ion analyses were conducted beyond the holding time, and those results have been qualified as estimated in value, with a likely low bias.

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

The recoveries (both 78%) for total cyanide were below the recommended limits in the matrix spikes of MW-13-0414. Sulfate produced elevated recoveries (152% and 134%) in both matrix spikes, consistent with repeated analyses. The results for those two analytes in the parent sample have therefore been qualified as estimated in value. The results for nitrate in those matrix spikes were not entered onto the QC summary forms, but show acceptable accuracy and precision.

A single matrix spike was performed on MW-07-0414, and it shows a low recovery (71%). The result for that analyte is qualified as estimated in that parent sample. The total cyanide duplicate of MW-10-0414 shows an acceptable correlation.

The matrix spikes of ferrous iron in MW-4-0414 show acceptable accuracy and precision.

Matrix spike/duplicate evaluations of total cyanide were performed on MW-10-0414

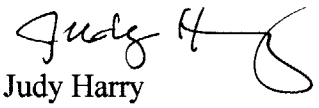
The blind field duplicate correlations of MW-14-0414 fall within guidance limits.

Data Package Completeness

Although some of the specific NYSDEC Category B deliverables were not 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.

Very truly yours,



Judy Harry

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.
UJ	The analyte was not detected. The associated reported quantitation limit is an estimate 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 analyte may or may not be present.
EMPC	The results do not meet all criteria for a confirmed identification. The quantitative value represents the Estimated Maximum Possible Concentration of the analyte in the sample.

CLIENT and LABORATORY SAMPLE IDs and LABORATORY CASE NARRATIVES

SAMPLE SUMMARY

Client: CDM Smith, Inc.

Job Number: 480-57609-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-57609-1	MW-12-0414	Ground Water	04/09/2014 1320	04/10/2014 0200
480-57609-2	MW-13-0414	Ground Water	04/09/2014 1205	04/10/2014 0200
480-57609-2MS	MW-13-0414	Ground Water	04/09/2014 1205	04/10/2014 0200
480-57609-2MSD	MW-13-0414	Ground Water	04/09/2014 1205	04/10/2014 0200
480-57609-3	MW-14-0414	Ground Water	04/09/2014 0955	04/10/2014 0200
480-57609-4	MW-15-0414	Ground Water	04/09/2014 1105	04/10/2014 0200
480-57609-5	MW-16-0414	Ground Water	04/09/2014 0850	04/10/2014 0200
480-57609-6FD	FD-0414	Water	04/09/2014 0000	04/10/2014 0200
480-57609-7TB	Trip Blank	Water	04/09/2014 0000	04/10/2014 0200

SAMPLE SUMMARY

Client: CDM Smith, Inc.

Job Number: 480-57727-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-57727-1	MW-4-0414	Water	04/10/2014 1040	04/11/2014 0145
480-57727-2	MW-7-0414	Water	04/10/2014 0945	04/11/2014 0145
480-57727-3	MW-10-0414	Ground Water	04/10/2014 0835	04/11/2014 0145
480-57727-4	MW-11-0414	Ground Water	04/10/2014 1130	04/11/2014 0145

Job Narrative
480-57609-1

Receipt
The samples were received on 4/10/2014 2:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 2.1° C, 2.7° C and 2.8° C.

GC/MS VOA
Method(s) 8260C: The following volatiles sample(s) was diluted due to foaming at the time of purging during the original sample analysis: MW-13-0414 (480-57609-2), MW-13-0414 (480-57609-2 MS), MW-13-0414 (480-57609-2 MSD), MW-16-0414 (480-57609-5). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The following sample(s) was diluted to bring the concentration of target analytes within the calibration range: MW-15-0414 (480-57609-4). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

GC/MS Semi VOA
Method(s) 8270D_LL_PAH: The following samples were diluted due to the nature of the sample matrix: MW-13-0414 (480-57609-2), MW-13-0414 (480-57609-2 MS), MW-13-0414 (480-57609-2 MSD). Elevated reporting limits (RLs) are provided.

Method(s) 8270D_LL_PAH: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 480-175942 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8270D_LL_PAH: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 480-175942 was outside control limits. The data has been qualified and reported.

Method(s) 8270D_LL_PAH: The continuing calibration verification (CCVIS 480-177411/3) recovered above the upper control limit for the analyte Indeno(1,2,3-cd)pyrene. This CCVIS was only associated with the method blank (MB 480-175942/1-A) and the laboratory control sample (LCS 480-175942/2-A). The LCS exhibited compliant recoveries for all spiking compounds; therefore, the data has been reported.

No other analytical or quality issues were noted.

GC VOA
Method(s) RSK-175: The following sample was diluted due to the nature of the sample matrix: MW-15-0414 (480-57609-4). Elevated reporting limits (RLs) are provided.

Method(s) RSK-175: The matrix spike / matrix spike duplicate (MS/MSD) recoveries were outside control limits for analytical batch 174868. Sample inconsistency is suspected. The associated laboratory control sample (LCS) recovery was within acceptance limits.

No other analytical or quality issues were noted.

Metals
Method(s) 6010C: The Low Level Continuing Calibration Verification (CCVL 480-175575/34) contained total manganese above the reporting limit (RL). All reported samples (480-57609-2 PDS), MW-12-0414 (480-57609-1), MW-13-0414 (480-57609-2), MW-13-0414 (480-57609-2 MS), MW-13-0414 (480-57609-2 MSD), MW-140414 (480-57609-3), MW-15-0414 (480-57609-4) associated with this CCVL were either below the laboratory's standard reporting limit for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCVL; therefore, re-analysis of samples was not performed.

No other analytical or quality issues were noted.

General Chemistry
Method(s) SM 2320B: The results reported for the following sample(s) do not concur with results previously reported for this site: MW-12-0414 (480-57609-1). Reanalysis was performed, and the result(s) confirmed.

Method(s) SM 3500 FE D: The following sample(s) was received outside of holding time: FD-0414 (480-57609-6), MW-12-0414 (480-57609-1), MW-13-0414 (480-57609-2), MW-13-0414 (480-57609-2 MS), MW-13-0414 (480-57609-2 MSD), MW-140414 (480-57609-3), MW-15-0414 (480-57609-4), MW-16-0414 (480-57609-5).

Method(s) 351.2: The results reported for the following sample(s) do not concur with results previously reported for this site: FD-0414 (480-57609-6). Reanalysis was performed, and the result(s) confirmed.

Method(s) 353.2: The results reported for the following sample(s) do not concur with results previously reported for this site: MW-16-0414 (480-57609-5). Reanalysis was performed, and the result(s) confirmed.

Method(s) 353.2: The results reported for the following sample(s) do not concur with results previously reported for this site: FD-0414 (480-57609-6). Reanalysis was performed, and the result(s) confirmed.

Method(s) 9012B: The results reported for the following sample(s) do not concur with results previously reported for this site: MW-16-0414 (480-57609-5). Reanalysis was performed, and the result(s) confirmed.

Method(s) 9012B: The results reported for the following sample(s) do not concur with results previously reported for this site: FD-0414 (480-57609-6), MW-13-0414 (480-57609-2). Reanalysis was performed, and the result(s) confirmed.

Method(s) 9038, D516-90, 02: The results reported for the following sample(s) do not concur with results previously reported for this site: FD-0414 (480-57609-6), MW-140414 (480-57609-3), MW-16-0414 (480-57609-5). Reanalysis was performed, and the result(s) confirmed.

Method(s) D516-90, 02: The results reported for the following sample(s) do not concur with results previously reported for this site: MW-13-0414 (480-57609-2). Reanalysis was performed, and the result(s) confirmed.

Method(s) D516-90, 02: The results reported for the following sample(s) do not concur with results previously reported for this site: MW-12-0414 (480-57609-1). Reanalysis was performed, and the result(s) confirmed.

Method(s) SM 4500 Cl- E: The results reported for the following sample(s) do not concur with results previously reported for this site: FD-0414 (480-57609-6). Reanalysis was performed, and the result(s) confirmed.

No other analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Job Narrative
480-57727-1

Receipt
The samples were received on 4/11/2014 1:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.7° C.

Except:

Both containers for the following sample were received broken or leaking: Trip Blank (480-57727-5).

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D_LL_PAH: The following samples were diluted due to the nature of the sample matrix: MW-11-0414 (480-57727-4), MW-7-0414 (480-57727-2). Elevated reporting limits (RLs) are provided.

Method(s) 8270D_LL_PAH: The continuing calibration verification (CCVIS 480-177411/3) recovered above the upper control limit for the analyte Indeno(1,2,3-cd)pyrene. The samples associated with this CCV were non-detect for the affected analyte; therefore, the data has been reported.

No other analytical or quality issues were noted.

GC VOA
Method(s) RSK-175: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-10-0414 (480-57727-3), MW-11-0414 (480-57727-4). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method(s) SM 3500 FE D: The following sample(s) was received outside of holding time: MW-10-0414 (480-57727-3), MW-11-0414 (480-57727-4), MW-4-0414 (480-57727-1), MW-7-0414 (480-57727-2).

Method(s) 9012B: The results reported for the following sample(s) do not concur with results previously reported for this site: MW-11-0414 (480-57727-4), MW-7-0414 (480-57727-2). Reanalysis was performed, and the result(s) confirmed.

Method(s) SM 4500 Cl- E: The results reported for the following sample(s) do not concur with results previously reported for this site: MW-11-0414 (480-57727-4). Reanalysis was performed, and the result(s) confirmed.

Method(s) 9251, SM 4500 Cl- E: The results reported for the following sample(s) do not concur with results previously reported for this site: MW-10-0414 (480-57727-3). Reanalysis was performed, and the result(s) confirmed.

No other analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

QUALIFIED RESULTS FORMS

Client: CDM Smith, Inc.
Project/Site: Johnstown (N. Market Street)

TestAmerica Job ID: 480-57609-1

Client Sample ID: MW-12-0414
Date Collected: 04/09/14 13:20
Date Received: 04/10/14 02:00

Lab Sample ID: 480-57609-1
Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			04/17/14 11:48	1
Toluene	ND		1.0		ug/L			04/17/14 11:48	1
Ethylbenzene	ND		1.0		ug/L			04/17/14 11:48	1
m-Xylene & p-Xylene	ND		2.0		ug/L			04/17/14 11:48	1
o-Xylene	ND		1.0		ug/L			04/17/14 11:48	1
Xylenes, Total	ND		2.0		ug/L			04/17/14 11:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*66 - 137*		*04/17/14 11:48*	*1*
Toluene-d8 (Surr)	*103*		*71 - 126*		*04/17/14 11:48*	*1*
4-Bromofluorobenzene (Surr)	*112*		*73 - 120*		*04/17/14 11:48*	*1*
Dibromofluoromethane (Surr)	*117*		*60 - 140*		*04/17/14 11:48*	*1*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 12:36	1
Acenaphthylene	ND		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 12:36	1
Anthracene	ND		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 12:36	1
Benzo(a)anthracene	**0.66**		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 12:36	1
Benzo(a)pyrene	**0.92**		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 12:36	1
Benzo(b)fluoranthene	**0.71**		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 12:36	1
Benzo(g,h,i)perylene	**0.51**		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 12:36	1
Benzo(k)fluoranthene	ND		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 12:36	1
Chrysene	ND		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 12:36	1
Dibenz(a,h)anthracene	ND		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 12:36	1
Fluoranthene	**0.87**		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 12:36	1
Fluorene	ND		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 12:36	1
Indeno(1,2,3-cd)pyrene	ND		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 12:36	1
Naphthalene	ND		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 12:36	1
Phenanthrene	**0.61**		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 12:36	1
Pyrene	**1.3**		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 12:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*101*		*48 - 120*	*04/15/14 14:43*	*04/23/14 12:36*	*1*
Nitrobenzene-d5	*101*		*46 - 120*	*04/15/14 14:43*	*04/23/14 12:36*	*1*
p-Terphenyl-d14	*95*		*24 - 136*	*04/15/14 14:43*	*04/23/14 12:36*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5		ug/L			04/10/14 10:42	1
Ethene	ND		7.0		ug/L			04/10/14 10:42	1
Methane	ND		4.0		ug/L			04/10/14 10:42	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	**22000**		1000		ug/L			04/14/14 13:28	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.010		mg/L		04/10/14 14:05	04/12/14 15:10	1
Manganese	**0.36**	**^ B7**	0.0030		mg/L		04/10/14 14:05	04/12/14 15:10	1

Client Sample ID: MW-12-0414

Lab Sample ID: 480-57609-1

Date Collected: 04/09/14 13:20

Matrix: Ground Water

Date Received: 04/10/14 02:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	**0.44**		0.20		mg/L		04/10/14 13:21	04/10/14 17:47	1
Nitrate as N	**1.4**		0.050		mg/L			04/11/14 00:16	1
Cyanide, Total	ND		0.010		mg/L		04/15/14 19:55	04/16/14 13:45	1
Sulfate	**51.6**		10.0		mg/L			04/16/14 05:27	2
Alkalinity, Total	**329**		5.0		mg/L			04/12/14 12:47	1
Ferrous Iron	ND	HF UJ	0.10		mg/L			04/11/14 05:40	1
Chloride	**150**		5.0		mg/L			04/15/14 15:56	5
Sulfide	ND		1.0		mg/L			04/11/14 16:45	1

Client Sample ID: MW-13-0414

Lab Sample ID: 480-57609-2

Date Collected: 04/09/14 12:05

Matrix: Ground Water

Date Received: 04/10/14 02:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**200**		10		ug/L			04/17/14 12:09	10
Toluene	**270**		10		ug/L			04/17/14 12:09	10
Ethylbenzene	**200**		10		ug/L			04/17/14 12:09	10
m-Xylene & p-Xylene	**250**		20		ug/L			04/17/14 12:09	10
o-Xylene	**120**		10		ug/L			04/17/14 12:09	10
Xylenes, Total	**370**		20		ug/L			04/17/14 12:09	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*66 - 137*		*04/17/14 12:09*	*10*
Toluene-d8 (Surr)	*104*		*71 - 126*		*04/17/14 12:09*	*10*
4-Bromofluorobenzene (Surr)	*118*		*73 - 120*		*04/17/14 12:09*	*10*
Dibromofluoromethane (Surr)	*116*		*60 - 140*		*04/17/14 12:09*	*10*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**71**	J	5.2 2.6		ug/L		04/15/14 14:43	04/23/14 12:52	5
Acenaphthylene	**22**		5.2 2.6		ug/L		04/15/14 14:43	04/23/14 12:52	5
Anthracene	**6.9**		5.2 2.6		ug/L		04/15/14 14:43	04/23/14 12:52	5
Benzo(a)anthracene	ND		5.2 2.6		ug/L		04/15/14 14:43	04/23/14 12:52	5
Benzo(a)pyrene	ND		5.2 2.6		ug/L		04/15/14 14:43	04/23/14 12:52	5
Benzo(b)fluoranthene	ND		5.2 2.6		ug/L		04/15/14 14:43	04/23/14 12:52	5
Benzo(g,h,i)perylene	ND		5.2 2.6		ug/L		04/15/14 14:43	04/23/14 12:52	5
Benzo(k)fluoranthene	ND		5.2 2.6		ug/L		04/15/14 14:43	04/23/14 12:52	5
Chrysene	ND		5.2 2.6		ug/L		04/15/14 14:43	04/23/14 12:52	5
Dibenz(a,h)anthracene	ND		5.2 2.6		ug/L		04/15/14 14:43	04/23/14 12:52	5
Fluoranthene	**6.1**		5.2 2.6		ug/L		04/15/14 14:43	04/23/14 12:52	5
Fluorene	**30**		5.2 2.6		ug/L		04/15/14 14:43	04/23/14 12:52	5
Indeno(1,2,3-cd)pyrene	ND		5.2 2.6		ug/L		04/15/14 14:43	04/23/14 12:52	5
Naphthalene	ND	UJ	5.2 2.6		ug/L		04/15/14 14:43	04/23/14 12:52	5
Phenanthrene	ND		5.2 2.6		ug/L		04/15/14 14:43	04/23/14 12:52	5
Pyrene	**7.2**		5.2 2.6		ug/L		04/15/14 14:43	04/23/14 12:52	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*95*		*48 - 120*	*04/15/14 14:43*	*04/23/14 12:52*	*5*
Nitrobenzene-d5	*100*		*46 - 120*	*04/15/14 14:43*	*04/23/14 12:52*	*5*

Client Sample ID: MW-13-0414

Date Collected: 04/09/14 12:05
Date Received: 04/10/14 02:00

Lab Sample ID: 480-57609-2

Matrix: Ground Water

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl-d14	*97*		*24 - 136*	*04/15/14 14:43*	*04/23/14 12:52*	*5*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5		ug/L			04/10/14 10:59	1
Ethene	ND		7.0		ug/L			04/10/14 10:59	1
Methane	**74**		4.0		ug/L			04/10/14 10:59	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	**1400**		1000		ug/L			04/14/14 13:35	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.010		mg/L		04/10/14 14:05	04/12/14 15:13	1
Manganese	**0.14**	**^ B7**	0.0030		mg/L		04/10/14 14:05	04/12/14 15:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	**2.1**		0.20		mg/L		04/10/14 13:21	04/10/14 17:47	1
Nitrate as N	ND		0.050		mg/L			04/11/14 00:17	1
Cyanide, Total	**0.17**	J	0.010		mg/L		04/18/14 03:02	04/18/14 12:18	1
Sulfate	ND	UJ	5.0		mg/L			04/15/14 09:00	1
Alkalinity, Total	**176**		5.0		mg/L			04/10/14 16:53	1
Ferrous Iron	ND	HF UJ	0.10		mg/L			04/11/14 05:40	1
Chloride	**9.2**		1.0		mg/L			04/10/14 09:58	1
Sulfide	ND		1.0		mg/L			04/11/14 16:45	1

Client Sample ID: MW-14-0414

Date Collected: 04/09/14 09:55
Date Received: 04/10/14 02:00

Lab Sample ID: 480-57609-3

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			04/17/14 13:12	1
Toluene	ND		1.0		ug/L			04/17/14 13:12	1
Ethylbenzene	ND		1.0		ug/L			04/17/14 13:12	1
m-Xylene & p-Xylene	ND		2.0		ug/L			04/17/14 13:12	1
o-Xylene	ND		1.0		ug/L			04/17/14 13:12	1
Xylenes, Total	ND		2.0		ug/L			04/17/14 13:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*66 - 137*		*04/17/14 13:12*	*1*
Toluene-d8 (Surr)	*101*		*71 - 126*		*04/17/14 13:12*	*1*
4-Bromofluorobenzene (Surr)	*113*		*73 - 120*		*04/17/14 13:12*	*1*
Dibromofluoromethane (Surr)	*107*		*60 - 140*		*04/17/14 13:12*	*1*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1.0 0.50		ug/L		04/15/14 14:43	04/23/14 13:08	1
Acenaphthylene	**0.50**		1.0 0.50		ug/L		04/15/14 14:43	04/23/14 13:08	1
Anthracene	ND		1.0 0.50		ug/L		04/15/14 14:43	04/23/14 13:08	1

Client Sample ID: MW-14-0414

Date Collected: 04/09/14 09:55
Date Received: 04/10/14 02:00

Lab Sample ID: 480-57609-3

Matrix: Ground Water

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo(a)anthracene	1.0		1.0 0.50		ug/L		04/15/14 14:43	04/23/14 13:08	1
Benzo(a)pyrene	1.3		1.0 0.50		ug/L		04/15/14 14:43	04/23/14 13:08	1
Benzo(b)fluoranthene	1.2		1.0 0.50		ug/L		04/15/14 14:43	04/23/14 13:08	1
Benzo(g,h,i)perylene	0.95		1.0 0.50		ug/L		04/15/14 14:43	04/23/14 13:08	1
Benzo(k)fluoranthene	0.83		1.0 0.50		ug/L		04/15/14 14:43	04/23/14 13:08	1
Chrysene	1.2		1.0 0.50		ug/L		04/15/14 14:43	04/23/14 13:08	1
Dibenz(a,h)anthracene	ND		1.0 0.50		ug/L		04/15/14 14:43	04/23/14 13:08	1
Fluoranthene	1.5		1.0 0.50		ug/L		04/15/14 14:43	04/23/14 13:08	1
Fluorene	ND		1.0 0.50		ug/L		04/15/14 14:43	04/23/14 13:08	1
Indeno(1,2,3-cd)pyrene	0.63		1.0 0.50		ug/L		04/15/14 14:43	04/23/14 13:08	1
Naphthalene	ND		1.0 0.50		ug/L		04/15/14 14:43	04/23/14 13:08	1
Phenanthrene	0.63		1.0 0.50		ug/L		04/15/14 14:43	04/23/14 13:08	1
Pyrene	2.4		1.0 0.50		ug/L		04/15/14 14:43	04/23/14 13:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*105*		*48 - 120*	*04/15/14 14:43*	*04/23/14 13:08*	*1*
Nitrobenzene-d5	*107*		*46 - 120*	*04/15/14 14:43*	*04/23/14 13:08*	*1*
p-Terphenyl-d14	*94*		*24 - 136*	*04/15/14 14:43*	*04/23/14 13:08*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5		ug/L			04/10/14 12:29	1
Ethene	ND		7.0		ug/L			04/10/14 12:29	1
Methane	140		4.0		ug/L			04/10/14 12:29	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	16000		1000		ug/L			04/14/14 14:01	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND	UJ	0.010		mg/L		04/10/14 14:05	04/12/14 15:26	1
Manganese	1.0	^ B7	0.0030		mg/L		04/10/14 14:05	04/12/14 15:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	1.5		0.20		mg/L		04/10/14 13:21	04/10/14 17:53	1
Nitrate as N	ND		0.050		mg/L			04/10/14 21:32	1
Cyanide, Total	0.90		0.050		mg/L		04/16/14 11:30	04/16/14 17:22	5
Sulfate	363		75.0		mg/L			04/15/14 01:58	15
Alkalinity, Total	483		5.0		mg/L			04/10/14 16:39	1
Ferrous Iron	ND	HF UJ	0.10		mg/L			04/11/14 05:40	1
Chloride	28.5		1.0		mg/L			04/10/14 12:21	1
Sulfide	ND		1.0		mg/L			04/11/14 16:45	1

Client Sample ID: MW-15-0414

Date Collected: 04/09/14 11:05
Date Received: 04/10/14 02:00

Lab Sample ID: 480-57609-4

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	210		5.0		ug/L			04/17/14 13:33	5

Client Sample ID: MW-15-0414
Date Collected: 04/09/14 11:05
Date Received: 04/10/14 02:00

Lab Sample ID: 480-57609-4
Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		5.0		ug/L			04/17/14 13:33	5
Ethylbenzene	**38**		5.0		ug/L			04/17/14 13:33	5
m-Xylene & p-Xylene	ND		10		ug/L			04/17/14 13:33	5
o-Xylene	**8.5**		5.0		ug/L			04/17/14 13:33	5
Xylenes, Total	ND		10		ug/L			04/17/14 13:33	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*66 - 137*		*04/17/14 13:33*	*5*
Toluene-d8 (Surr)	*100*		*71 - 126*		*04/17/14 13:33*	*5*
4-Bromofluorobenzene (Surr)	*111*		*73 - 120*		*04/17/14 13:33*	*5*
Dibromofluoromethane (Surr)	*106*		*60 - 140*		*04/17/14 13:33*	*5*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**18**		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 13:24	1
Acenaphthylene	**3.0**		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 13:24	1
Anthracene	**0.95**		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 13:24	1
Benzo(a)anthracene	ND		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 13:24	1
Benzo(a)pyrene	ND		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 13:24	1
Benzo(b)fluoranthene	ND		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 13:24	1
Benzo(g,h,i)perylene	ND		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 13:24	1
Benzo(k)fluoranthene	ND		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 13:24	1
Chrysene	ND		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 13:24	1
Dibenz(a,h)anthracene	ND		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 13:24	1
Fluoranthene	**1.1**		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 13:24	1
Fluorene	**4.3**		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 13:24	1
Indeno(1,2,3-cd)pyrene	ND		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 13:24	1
Naphthalene	**29**		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 13:24	1
Phenanthrene	**3.4**		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 13:24	1
Pyrene	**1.5**		1.0 0.49		ug/L		04/15/14 14:43	04/23/14 13:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*109*		*48 - 120*	*04/15/14 14:43*	*04/23/14 13:24*	*1*
Nitrobenzene-d5	*110*		*46 - 120*	*04/15/14 14:43*	*04/23/14 13:24*	*1*
p-Terphenyl-d14	*96*		*24 - 136*	*04/15/14 14:43*	*04/23/14 13:24*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		380		ug/L			04/10/14 13:31	50
Ethene	ND		350		ug/L			04/10/14 13:31	50
Methane	**1100**		200		ug/L			04/10/14 13:31	50

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	**24000**		1000		ug/L			04/14/14 14:08	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.010		mg/L		04/10/14 14:05	04/12/14 15:29	1
Manganese	**0.68**	**^ B7**	0.0030		mg/L		04/10/14 14:05	04/12/14 15:29	1

Client: CDM Smith, Inc.
Project/Site: Johnstown (N. Market Street)

TestAmerica Job ID: 480-57609-1

Client Sample ID: MW-15-0414

Lab Sample ID: 480-57609-4

Date Collected: 04/09/14 11:05

Matrix: Ground Water

Date Received: 04/10/14 02:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	**3.2**		0.20		mg/L		04/10/14 13:21	04/10/14 17:53	1
Nitrate as N	ND		0.050		mg/L			04/10/14 21:38	1
Cyanide, Total	**0.48**		0.010		mg/L		04/15/14 19:55	04/16/14 13:50	1
Sulfate	**122**		25.0		mg/L			04/15/14 16:01	5
Alkalinity, Total	**482**		5.0		mg/L			04/12/14 12:54	1
Ferrous Iron	ND	HF UJ	0.10		mg/L			04/11/14 05:40	1
Chloride	**44.5**		1.0		mg/L			04/15/14 15:39	1
Sulfide	ND		1.0		mg/L			04/11/14 16:45	1

Client Sample ID: MW-16-0414

Lab Sample ID: 480-57609-5

Date Collected: 04/09/14 08:50

Matrix: Ground Water

Date Received: 04/10/14 02:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**8.7**		5.0		ug/L			04/17/14 13:53	5
Toluene	ND		5.0		ug/L			04/17/14 13:53	5
Ethylbenzene	**6.2**		5.0		ug/L			04/17/14 13:53	5
m-Xylene & p-Xylene	ND		10		ug/L			04/17/14 13:53	5
o-Xylene	ND		5.0		ug/L			04/17/14 13:53	5
Xylenes, Total	ND		10		ug/L			04/17/14 13:53	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*66 - 137*		*04/17/14 13:53*	*5*
Toluene-d8 (Surr)	*99*		*71 - 126*		*04/17/14 13:53*	*5*
4-Bromofluorobenzene (Surr)	*109*		*73 - 120*		*04/17/14 13:53*	*5*
Dibromofluoromethane (Surr)	*111*		*60 - 140*		*04/17/14 13:53*	*5*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1.0 ~~0.49~~		ug/L		04/15/14 14:43	04/23/14 13:39	1
Acenaphthylene	ND		1.0 ~~0.49~~		ug/L		04/15/14 14:43	04/23/14 13:39	1
Anthracene	ND		1.0 ~~0.49~~		ug/L		04/15/14 14:43	04/23/14 13:39	1
Benzo(a)anthracene	ND		1.0 ~~0.49~~		ug/L		04/15/14 14:43	04/23/14 13:39	1
Benzo(a)pyrene	ND		1.0 ~~0.49~~		ug/L		04/15/14 14:43	04/23/14 13:39	1
Benzo(b)fluoranthene	ND		1.0 ~~0.49~~		ug/L		04/15/14 14:43	04/23/14 13:39	1
Benzo(g,h,i)perylene	ND		1.0 ~~0.49~~		ug/L		04/15/14 14:43	04/23/14 13:39	1
Benzo(k)fluoranthene	ND		1.0 ~~0.49~~		ug/L		04/15/14 14:43	04/23/14 13:39	1
Chrysene	ND		1.0 ~~0.49~~		ug/L		04/15/14 14:43	04/23/14 13:39	1
Dibenz(a,h)anthracene	ND		1.0 ~~0.49~~		ug/L		04/15/14 14:43	04/23/14 13:39	1
Fluoranthene	ND		1.0 ~~0.49~~		ug/L		04/15/14 14:43	04/23/14 13:39	1
Fluorene	ND		1.0 ~~0.49~~		ug/L		04/15/14 14:43	04/23/14 13:39	1
Indeno(1,2,3-cd)pyrene	ND		1.0 ~~0.49~~		ug/L		04/15/14 14:43	04/23/14 13:39	1
Naphthalene	ND		1.0 ~~0.49~~		ug/L		04/15/14 14:43	04/23/14 13:39	1
Phenanthrene	ND		1.0 ~~0.49~~		ug/L		04/15/14 14:43	04/23/14 13:39	1
Pyrene	ND		1.0 ~~0.49~~		ug/L		04/15/14 14:43	04/23/14 13:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*97*		*48 - 120*	*04/15/14 14:43*	*04/23/14 13:39*	*1*
Nitrobenzene-d5	*99*		*46 - 120*	*04/15/14 14:43*	*04/23/14 13:39*	*1*

Client Sample ID: MW-16-0414

Date Collected: 04/09/14 08:50
Date Received: 04/10/14 02:00

Lab Sample ID: 480-57609-5

Matrix: Ground Water

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl-d14	*92*		*24 - 136*	*04/15/14 14:43*	*04/23/14 13:39*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5		ug/L			04/10/14 14:07	1
Ethene	ND		7.0		ug/L			04/10/14 14:07	1
Methane	**75**		4.0		ug/L			04/10/14 14:07	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	**10000**		1000		ug/L			04/14/14 14:16	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.010		mg/L		04/10/14 14:05	04/12/14 15:40	1
Manganese	**0.22**	**B7**	0.0030		mg/L		04/10/14 14:05	04/12/14 15:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	**2.4**		0.20		mg/L		04/10/14 13:21	04/10/14 17:53	1
Nitrate as N	**0.53**		0.050		mg/L			04/11/14 00:20	1
Cyanide, Total	**0.023**		0.010		mg/L		04/16/14 11:30	04/16/14 16:24	1
Sulfate	ND		5.0		mg/L			04/15/14 05:09	1
Alkalinity, Total	**454**		5.0		mg/L			04/10/14 16:26	1
Ferrous Iron	ND	HF UJ	0.10		mg/L			04/11/14 05:40	1
Chloride	**5.0**		1.0		mg/L			04/15/14 15:39	1
Sulfide	ND		1.0		mg/L			04/11/14 16:45	1

Client Sample ID: FD-0414

Date Collected: 04/09/14 00:00
Date Received: 04/10/14 02:00

Lab Sample ID: 480-57609-6

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			04/17/14 14:14	1
Toluene	ND		1.0		ug/L			04/17/14 14:14	1
Ethylbenzene	ND		1.0		ug/L			04/17/14 14:14	1
m-Xylene & p-Xylene	ND		2.0		ug/L			04/17/14 14:14	1
o-Xylene	ND		1.0		ug/L			04/17/14 14:14	1
Xylenes, Total	ND		2.0		ug/L			04/17/14 14:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*66 - 137*		*04/17/14 14:14*	*1*
Toluene-d8 (Surr)	*102*		*71 - 126*		*04/17/14 14:14*	*1*
4-Bromofluorobenzene (Surr)	*114*		*73 - 120*		*04/17/14 14:14*	*1*
Dibromofluoromethane (Surr)	*108*		*60 - 140*		*04/17/14 14:14*	*1*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1.0 ~~0.48~~		ug/L		04/15/14 14:43	04/23/14 13:55	1
Acenaphthylene	ND		1.0 ~~0.48~~		ug/L		04/15/14 14:43	04/23/14 13:55	1
Anthracene	ND		1.0 ~~0.48~~		ug/L		04/15/14 14:43	04/23/14 13:55	1

Client Sample ID: FD-0414

Lab Sample ID: 480-57609-6

Date Collected: 04/09/14 00:00

Matrix: Water

Date Received: 04/10/14 02:00

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo(a)anthracene	ND		1.0 0.48		ug/L		04/15/14 14:43	04/23/14 13:55	1
Benzo(a)pyrene	ND		1.0 0.48		ug/L		04/15/14 14:43	04/23/14 13:55	1
Benzo(b)fluoranthene	**0.48**		1.0 0.48		ug/L		04/15/14 14:43	04/23/14 13:55	1
Benzo(g,h,i)perylene	ND		1.0 0.48		ug/L		04/15/14 14:43	04/23/14 13:55	1
Benzo(k)fluoranthene	ND		1.0 0.48		ug/L		04/15/14 14:43	04/23/14 13:55	1
Chrysene	ND		1.0 0.48		ug/L		04/15/14 14:43	04/23/14 13:55	1
Dibenz(a,h)anthracene	ND		1.0 0.48		ug/L		04/15/14 14:43	04/23/14 13:55	1
Fluoranthene	**0.50**		1.0 0.48		ug/L		04/15/14 14:43	04/23/14 13:55	1
Fluorene	ND		1.0 0.48		ug/L		04/15/14 14:43	04/23/14 13:55	1
Indeno(1,2,3-cd)pyrene	ND		1.0 0.48		ug/L		04/15/14 14:43	04/23/14 13:55	1
Naphthalene	ND		1.0 0.48		ug/L		04/15/14 14:43	04/23/14 13:55	1
Phenanthrene	ND		1.0 0.48		ug/L		04/15/14 14:43	04/23/14 13:55	1
Pyrene	**0.70**		1.0 0.48		ug/L		04/15/14 14:43	04/23/14 13:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*105*		*48 - 120*	*04/15/14 14:43*	*04/23/14 13:55*	*1*
Nitrobenzene-d5	*101*		*46 - 120*	*04/15/14 14:43*	*04/23/14 13:55*	*1*
p-Terphenyl-d14	*87*		*24 - 136*	*04/15/14 14:43*	*04/23/14 13:55*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5		ug/L			04/10/14 14:24	1
Ethene	ND		7.0		ug/L			04/10/14 14:24	1
Methane	**140**		4.0		ug/L			04/10/14 14:24	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	**14000**		1000		ug/L			04/14/14 14:25	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**0.031**	J	0.010		mg/L		04/10/14 14:05	04/12/14 15:43	1
Manganese	**1.1**	B7	0.0030		mg/L		04/10/14 14:05	04/12/14 15:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	**1.2**		0.20		mg/L		04/14/14 16:10	04/15/14 09:59	1
Nitrate as N	**0.060**		0.050		mg/L			04/11/14 00:21	1
Cyanide, Total	**0.76**		0.020		mg/L		04/18/14 03:02	04/18/14 13:33	2
Sulfate	**281**		75.0		mg/L			04/15/14 05:20	15
Alkalinity, Total	**459**		5.0		mg/L			04/11/14 11:53	1
Ferrous Iron	ND	HF UJ	0.10		mg/L			04/11/14 05:40	1
Chloride	**23.7**		1.0		mg/L			04/15/14 15:27	1
Sulfide	ND		1.0		mg/L			04/11/14 16:45	1

Client Sample ID: Trip Blank

Lab Sample ID: 480-57609-7

Date Collected: 04/09/14 00:00

Matrix: Water

Date Received: 04/10/14 02:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			04/17/14 14:35	1

Client: CDM Smith, Inc.
Project/Site: Johnstown (N. Market Street)

TestAmerica Job ID: 480-57609-1

Client Sample ID: Trip Blank
Date Collected: 04/09/14 00:00
Date Received: 04/10/14 02:00

Lab Sample ID: 480-57609-7
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		1.0		ug/L			04/17/14 14:35	1
Ethylbenzene	ND		1.0		ug/L			04/17/14 14:35	1
m-Xylene & p-Xylene	ND		2.0		ug/L			04/17/14 14:35	1
o-Xylene	ND		1.0		ug/L			04/17/14 14:35	1
Xylenes, Total	ND		2.0		ug/L			04/17/14 14:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*66 - 137*		*04/17/14 14:35*	*1*
Toluene-d8 (Surr)	*106*		*71 - 126*		*04/17/14 14:35*	*1*
4-Bromofluorobenzene (Surr)	*116*		*73 - 120*		*04/17/14 14:35*	*1*
Dibromofluoromethane (Surr)	*110*		*60 - 140*		*04/17/14 14:35*	*1*

Client: CDM Smith, Inc.
Project/Site: Johnstown (N.Market Street)

TestAmerica Job ID: 480-57727-1

Client Sample ID: MW-4-0414
Date Collected: 04/10/14 10:40
Date Received: 04/11/14 01:45

Lab Sample ID: 480-57727-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			04/17/14 17:05	1
Toluene	ND		1.0		ug/L			04/17/14 17:05	1
Ethylbenzene	ND		1.0		ug/L			04/17/14 17:05	1
m-Xylene & p-Xylene	ND		2.0		ug/L			04/17/14 17:05	1
o-Xylene	ND		1.0		ug/L			04/17/14 17:05	1
Xylenes, Total	ND		2.0		ug/L			04/17/14 17:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*66 - 137*		*04/17/14 17:05*	*1*
Toluene-d8 (Surr)	*101*		*71 - 126*		*04/17/14 17:05*	*1*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*04/17/14 17:05*	*1*
Dibromofluoromethane (Surr)	*97*		*60 - 140*		*04/17/14 17:05*	*1*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1.0 0.46		ug/L		04/15/14 14:43	04/22/14 17:56	1
Acenaphthylene	ND		1.0 0.46		ug/L		04/15/14 14:43	04/22/14 17:56	1
Anthracene	ND		1.0 0.46		ug/L		04/15/14 14:43	04/22/14 17:56	1
Benzo(a)anthracene	ND		1.0 0.46		ug/L		04/15/14 14:43	04/22/14 17:56	1
Benzo(a)pyrene	ND		1.0 0.46		ug/L		04/15/14 14:43	04/22/14 17:56	1
Benzo(b)fluoranthene	ND		1.0 0.46		ug/L		04/15/14 14:43	04/22/14 17:56	1
Benzo(g,h,i)perylene	ND		1.0 0.46		ug/L		04/15/14 14:43	04/22/14 17:56	1
Benzo(k)fluoranthene	ND		1.0 0.46		ug/L		04/15/14 14:43	04/22/14 17:56	1
Chrysene	ND		1.0 0.46		ug/L		04/15/14 14:43	04/22/14 17:56	1
Dibenz(a,h)anthracene	ND		1.0 0.46		ug/L		04/15/14 14:43	04/22/14 17:56	1
Fluoranthene	ND		1.0 0.46		ug/L		04/15/14 14:43	04/22/14 17:56	1
Fluorene	ND		1.0 0.46		ug/L		04/15/14 14:43	04/22/14 17:56	1
Indeno(1,2,3-cd)pyrene	ND		1.0 0.46		ug/L		04/15/14 14:43	04/22/14 17:56	1
Naphthalene	ND		1.0 0.46		ug/L		04/15/14 14:43	04/22/14 17:56	1
Phenanthrene	ND		1.0 0.46		ug/L		04/15/14 14:43	04/22/14 17:56	1
Pyrene	ND		1.0 0.46		ug/L		04/15/14 14:43	04/22/14 17:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*114*		*48 - 120*	*04/15/14 14:43*	*04/22/14 17:56*	*1*
Nitrobenzene-d5	*111*		*46 - 120*	*04/15/14 14:43*	*04/22/14 17:56*	*1*
p-Terphenyl-d14	*135*		*24 - 136*	*04/15/14 14:43*	*04/22/14 17:56*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5		ug/L			04/14/14 12:50	1
Ethene	ND		7.0		ug/L			04/14/14 12:50	1
Methane	ND		4.0		ug/L			04/14/14 12:50	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	**16000**		1000		ug/L			04/14/14 15:06	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		100		ug/L		04/17/14 09:58	04/18/14 09:48	1
Lead	ND		10.0		ug/L		04/17/14 09:58	04/18/14 09:48	1
Manganese	ND		15.0		ug/L		04/17/14 09:58	04/18/14 09:48	1

Client Sample ID: MW-4-0414

Lab Sample ID: 480-57727-1

Date Collected: 04/10/14 10:40

Matrix: Water

Date Received: 04/11/14 01:45

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	ND		0.20		mg/L		04/15/14 15:09	04/15/14 20:01	1
Nitrate as N	**3.6**		0.050		mg/L			04/11/14 13:36	1
Cyanide, Total	ND		0.010		mg/L		04/21/14 08:48	04/21/14 20:07	1
Sulfate	**70.7**		10.0		mg/L			04/16/14 09:11	2
Alkalinity, Total	**398**		5.0		mg/L			04/11/14 13:53	1
Ferrous Iron	ND	HF UJ	0.10		mg/L			04/12/14 00:58	1
Chloride	**304**		10.0		mg/L			04/17/14 04:02	10
Sulfide	ND		1.0		mg/L			04/11/14 16:45	1

Client Sample ID: MW-7-0414

Lab Sample ID: 480-57727-2

Date Collected: 04/10/14 09:45

Matrix: Water

Date Received: 04/11/14 01:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			04/17/14 17:29	1
Toluene	ND		1.0		ug/L			04/17/14 17:29	1
Ethylbenzene	ND		1.0		ug/L			04/17/14 17:29	1
m-Xylene & p-Xylene	ND		2.0		ug/L			04/17/14 17:29	1
o-Xylene	ND		1.0		ug/L			04/17/14 17:29	1
Xylenes, Total	ND		2.0		ug/L			04/17/14 17:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*66 - 137*		*04/17/14 17:29*	*1*
Toluene-d8 (Surr)	*104*		*71 - 126*		*04/17/14 17:29*	*1*
4-Bromofluorobenzene (Surr)	*107*		*73 - 120*		*04/17/14 17:29*	*1*
Dibromofluoromethane (Surr)	*97*		*60 - 140*		*04/17/14 17:29*	*1*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:12	5
Acenaphthylene	ND		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:12	5
Anthracene	ND		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:12	5
Benzo(a)anthracene	ND		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:12	5
Benzo(a)pyrene	ND		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:12	5
Benzo(b)fluoranthene	ND		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:12	5
Benzo(g,h,i)perylene	ND		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:12	5
Benzo(k)fluoranthene	ND		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:12	5
Chrysene	ND		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:12	5
Dibenz(a,h)anthracene	ND		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:12	5
Fluoranthene	ND		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:12	5
Fluorene	ND		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:12	5
Indeno(1,2,3-cd)pyrene	ND		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:12	5
Naphthalene	ND		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:12	5
Phenanthrene	ND		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:12	5
Pyrene	ND		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:12	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*97*		*48 - 120*	*04/15/14 14:43*	*04/22/14 18:12*	*5*
Nitrobenzene-d5	*99*		*46 - 120*	*04/15/14 14:43*	*04/22/14 18:12*	*5*

Client Sample ID: MW-7-0414

Date Collected: 04/10/14 09:45
Date Received: 04/11/14 01:45

Lab Sample ID: 480-57727-2

Matrix: Water

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl-d14	*103*		*24 - 136*	*04/15/14 14:43*	*04/22/14 18:12*	*5*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5		ug/L			04/14/14 13:07	1
Ethene	ND		7.0		ug/L			04/14/14 13:07	1
Methane	**150**		4.0		ug/L			04/14/14 13:07	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	**14000**		1000		ug/L			04/14/14 15:13	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**6240**		100		ug/L		04/17/14 09:58	04/18/14 09:53	1
Lead	ND		10.0		ug/L		04/17/14 09:58	04/18/14 09:53	1
Manganese	**564**		15.0		ug/L		04/17/14 09:58	04/18/14 09:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	**1.7**		0.20		mg/L		04/15/14 15:09	04/15/14 20:01	1
Nitrate as N	ND		0.050		mg/L			04/11/14 11:14	1
Cyanide, Total	**0.16**	J	0.010		mg/L		04/22/14 15:40	04/23/14 09:43	1
Sulfate	**540**		100		mg/L			04/16/14 09:49	20
Alkalinity, Total	**375**		5.0		mg/L			04/11/14 14:00	1
Ferrous Iron	ND	HF UJ	0.10		mg/L			04/12/14 00:58	1
Chloride	**79.0**		2.0		mg/L			04/16/14 09:08	2
Sulfide	ND		1.0		mg/L			04/11/14 16:45	1

Client Sample ID: MW-10-0414

Date Collected: 04/10/14 08:35
Date Received: 04/11/14 01:45

Lab Sample ID: 480-57727-3

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			04/17/14 17:52	1
Toluene	ND		1.0		ug/L			04/17/14 17:52	1
Ethylbenzene	ND		1.0		ug/L			04/17/14 17:52	1
m-Xylene & p-Xylene	ND		2.0		ug/L			04/17/14 17:52	1
o-Xylene	ND		1.0		ug/L			04/17/14 17:52	1
Xylenes, Total	ND		2.0		ug/L			04/17/14 17:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*66 - 137*		*04/17/14 17:52*	*1*
Toluene-d8 (Surr)	*102*		*71 - 126*		*04/17/14 17:52*	*1*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*04/17/14 17:52*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 140*		*04/17/14 17:52*	*1*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.80**		1.0 ~~0.47~~		ug/L		04/15/14 14:43	04/22/14 18:28	1
Acenaphthylene	ND		1.0 ~~0.47~~		ug/L		04/15/14 14:43	04/22/14 18:28	1

Client Sample ID: MW-10-0414
Date Collected: 04/10/14 08:35
Date Received: 04/11/14 01:45

Lab Sample ID: 480-57727-3
Matrix: Ground Water

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		1.0 0.47		ug/L		04/15/14 14:43	04/22/14 18:28	1
Benzo(a)anthracene	ND		1.0 0.47		ug/L		04/15/14 14:43	04/22/14 18:28	1
Benzo(a)pyrene	ND		1.0 0.47		ug/L		04/15/14 14:43	04/22/14 18:28	1
Benzo(b)fluoranthene	ND		1.0 0.47		ug/L		04/15/14 14:43	04/22/14 18:28	1
Benzo(g,h,i)perylene	ND		1.0 0.47		ug/L		04/15/14 14:43	04/22/14 18:28	1
Benzo(k)fluoranthene	ND		1.0 0.47		ug/L		04/15/14 14:43	04/22/14 18:28	1
Chrysene	ND		1.0 0.47		ug/L		04/15/14 14:43	04/22/14 18:28	1
Dibenz(a,h)anthracene	ND		1.0 0.47		ug/L		04/15/14 14:43	04/22/14 18:28	1
Fluoranthene	ND		1.0 0.47		ug/L		04/15/14 14:43	04/22/14 18:28	1
Fluorene	ND		1.0 0.47		ug/L		04/15/14 14:43	04/22/14 18:28	1
Indeno(1,2,3-cd)pyrene	ND		1.0 0.47		ug/L		04/15/14 14:43	04/22/14 18:28	1
Naphthalene	ND		1.0 0.47		ug/L		04/15/14 14:43	04/22/14 18:28	1
Phenanthrene	ND		1.0 0.47		ug/L		04/15/14 14:43	04/22/14 18:28	1
Pyrene	ND		1.0 0.47		ug/L		04/15/14 14:43	04/22/14 18:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*89*		*48 - 120*	*04/15/14 14:43*	*04/22/14 18:28*	*1*
Nitrobenzene-d5	*95*		*46 - 120*	*04/15/14 14:43*	*04/22/14 18:28*	*1*
p-Terphenyl-d14	*87*		*24 - 136*	*04/15/14 14:43*	*04/22/14 18:28*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5		ug/L			04/14/14 13:24	1
Ethene	ND		7.0		ug/L			04/14/14 13:24	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	**24000**		1000		ug/L			04/14/14 15:20	1

Method: RSK-175 - Dissolved Gases (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**110**		40		ug/L			04/14/14 14:07	10

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**6060**		100		ug/L		04/17/14 09:58	04/18/14 09:59	1
Lead	ND		10.0		ug/L		04/17/14 09:58	04/18/14 09:59	1
Manganese	**1070**		15.0		ug/L		04/17/14 09:58	04/18/14 09:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	**4.8**		0.20		mg/L		04/15/14 15:09	04/15/14 20:01	1
Nitrate as N	ND		0.050		mg/L			04/11/14 11:15	1
Cyanide, Total	**0.081**		0.010		mg/L		04/21/14 08:48	04/21/14 20:10	1
Sulfate	**153**		25.0		mg/L			04/17/14 04:51	5
Alkalinity, Total	**566**		5.0		mg/L			04/11/14 14:08	1
Ferrous Iron	ND	HF UJ	0.10		mg/L			04/12/14 00:58	1
Chloride	**470**		10.0		mg/L			04/22/14 03:36	10
Sulfide	ND		1.0		mg/L			04/11/14 16:45	1

Client: CDM Smith, Inc.
Project/Site: Johnstown (N.Market Street)

TestAmerica Job ID: 480-57727-1

Client Sample ID: MW-11-0414
Date Collected: 04/10/14 11:30
Date Received: 04/11/14 01:45

Lab Sample ID: 480-57727-4
Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	10		1.0		ug/L			04/17/14 18:16	1
Toluene	1.1		1.0		ug/L			04/17/14 18:16	1
Ethylbenzene	5.1		1.0		ug/L			04/17/14 18:16	1
m-Xylene & p-Xylene	ND		2.0		ug/L			04/17/14 18:16	1
o-Xylene	2.1		1.0		ug/L			04/17/14 18:16	1
Xylenes, Total	2.1		2.0		ug/L			04/17/14 18:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*66 - 137*		*04/17/14 18:16*	*1*
Toluene-d8 (Surr)	*102*		*71 - 126*		*04/17/14 18:16*	*1*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*		*04/17/14 18:16*	*1*
Dibromofluoromethane (Surr)	*100*		*60 - 140*		*04/17/14 18:16*	*1*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	120		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:44	5
Acenaphthylene	110		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:44	5
Anthracene	13		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:44	5
Benzo(a)anthracene	3.2		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:44	5
Benzo(a)pyrene	2.8		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:44	5
Benzo(b)fluoranthene	ND		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:44	5
Benzo(g,h,i)perylene	ND		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:44	5
Benzo(k)fluoranthene	ND		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:44	5
Chrysene	5.4		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:44	5
Dibenz(a,h)anthracene	ND		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:44	5
Fluoranthene	12		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:44	5
Fluorene	31		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:44	5
Indeno(1,2,3-cd)pyrene	ND		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:44	5
Naphthalene	ND		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:44	5
Phenanthrene	5.8		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:44	5
Pyrene	17		5.0 ~~2.5~~		ug/L		04/15/14 14:43	04/22/14 18:44	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*91*		*48 - 120*	*04/15/14 14:43*	*04/22/14 18:44*	*5*
Nitrobenzene-d5	*97*		*46 - 120*	*04/15/14 14:43*	*04/22/14 18:44*	*5*
p-Terphenyl-d14	*93*		*24 - 136*	*04/15/14 14:43*	*04/22/14 18:44*	*5*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		75		ug/L			04/14/14 15:16	10
Ethene	ND		70		ug/L			04/14/14 15:16	10
Methane	120		40		ug/L			04/14/14 15:16	10

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	21000		1000		ug/L			04/14/14 15:28	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	11800		100		ug/L		04/17/14 09:58	04/18/14 10:04	1
Lead	ND		10.0		ug/L		04/17/14 09:58	04/18/14 10:04	1
Manganese	560		15.0		ug/L		04/17/14 09:58	04/18/14 10:04	1

Client: CDM Smith, Inc.
Project/Site: Johnstown (N.Market Street)

TestAmerica Job ID: 480-57727-1

Client Sample ID: MW-11-0414
Date Collected: 04/10/14 11:30
Date Received: 04/11/14 01:45

Lab Sample ID: 480-57727-4
Matrix: Ground Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	**0.57**		0.20		mg/L		04/18/14 03:33	04/18/14 10:24	1
Nitrate as N	ND		0.050		mg/L			04/11/14 11:16	1
Cyanide, Total	**0.018**		0.010		mg/L		04/22/14 15:40	04/23/14 09:46	1
Sulfate	**58.0**		10.0		mg/L			04/15/14 16:59	2
Alkalinity, Total	**465**		5.0		mg/L			04/11/14 14:16	1
Ferrous Iron	**0.29**	HF J	0.10		mg/L			04/12/14 00:58	1
Chloride	**454**		10.0		mg/L			04/19/14 09:42	10
Sulfide	ND		1.0		mg/L			04/11/14 16:45	1