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

December 11, 2015

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 2015)

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 October 13, 2015 groundwater monitoring results.

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

Sincerely,

Matthew D. Millias for SPS

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Senior Environmental Engineer

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SEMI-ANNUAL GROUNDWATER MONITORING REPORT

Former Manufactured Gas Plant Site
North Market Street
Johnstown, NY

October 2015 Sampling Event

Prepared For:

nationalgrid

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1.0 INTRODUCTION

This Semi-Annual Groundwater Monitoring Report summarizes the results of October 2015 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 It was superseded by a new Order on Consent (Index Number A4-0473-0000), dated November 7, 2003.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 will be decommissioned 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), see Figure 2. 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 also gauged at two locations: SG-1 and SG-2.
- 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. MW-11 was not sampled during the October 2015 sampling round due to concrete/metal and wood debris at this offsite well location.

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 October 2015 as well as previous events. Appendix A also presents the field documentation from the October 2015 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, 8 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-7, MW-10, MW-13, 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). 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 – PAHs were detected in MW-4, MW-7, MW-10, MW-12, MW-13, MW-15 and MW-16 during the October 2015 sampling round. 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-11, MW-10, and MW-13) since June 2010. There were no exceedances during the October 2015 sampling round.

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. Only two locations, MW-15 and MW-16 were above the NYSDEC WQ Value during the October 2015 sampling round.

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 during the 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	Increased[2]	No trend	No trend	No trend	Increased[2]
MW-10[1]	Increased[2]	No trend	No trend	No trend	Increased[2]
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 Prior to the October 2015 sampling round, benzene was non-detect at both MW-7 and MW-10 and naphthalene was only detected one other time, in March 2012 for MW-7 and September 2010 for MW-10.

Isoconcentration contour maps were developed for total BTEX (Figure 5) and naphthalene (Figure 6) contamination. The figures present locations of the groundwater monitoring wells and plume contours for total BTEX (as compared to the benzene WQ value of 1 µg/L) and naphthalene exceeding the NYSDEC WQ values. Evaluation of the isoconcentration figures suggests that the contaminant plumes were relatively stable to decreasing (smaller footprint with time) within the Site boundary up until this latest sampling round of October 2015. BTEX constituent plume trends (concentrations above the benzene WQ at 1 µg/L) have consistently included MW-13, MW-15 and MW-16 but has extended to the northeast this sampling round to MW-7 and MW-10. While the naphthalene plume (concentrations above the WQ) has decreased to include only MW-13 and MW-15. However, during the October 2015 sampling round, naphthalene was detected in MW-7 and MW-10 at concentrations below the NYSDEC WQ values. Naphthalene was non-detect as these locations during the last six sampling rounds for MW-7 and the last three sampling rounds for MW-10. Due to the naphthalene detections at MW-7 and MW-10 below the NSYDEC WQ, the naphthalene plume did not change.

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 has been consistent during previous gauging events and with data obtained prior to the ROD. However, the last groundwater gauging at the 8 groundwater monitoring wells indicated an average change to the depth of water at about one foot drop across the site with the largest change to the depth of water of -3.6 feet at MW-13, located at the center of the site. This is typical of the fall season especially during a dry year.

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 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. Concentrations of BTEX and PAHs 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 with the exception of the last sampling round, October 2015.

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. The elevated concentrations of BTEX and naphthalene that was indicated from the October 2015 sampling may be an anomaly due to the lower groundwater table. The next sampling round in 2016 will be evaluated. 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. However, the most recent data suggests some plume migration; this will be closely monitored in subsequent events to evaluate whether this was an anomaly.

4.2 RECOMMENDATIONS

Based on the results of the October 2015 event and previous events, the following recommendations are made:

1. Continue the long-term semi-annual groundwater monitoring program. The next event will be April 2016.

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	6/30/2010		9/29/2010		1/5/2011		4/8/2011		6/16/2011		10/13/2011		12/15/2011		3/15/2012		10/9/2012		4/18/2013		10/7/2013		4/9/2014		10/13/2014		4/16/2015		10/13/2015	
		Depth to Water (ft tic)	Groundwater Elevation (ft msl)	Depth to Water (ft tic)	Groundwater Elevation (ft msl)	Depth to Water (ft tic)	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)	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	23.10	653.44	23.41	653.13	22.95	653.59	22.50	654.04	22.04	654.50	21.41	655.13	22.78	653.76	22.81	653.73	NM	NM	23.97	652.57	23.12	653.42	23.28	653.26	23.28	653.26	22.91	653.63	23.48	653.06
MW-7	659.08	14.25	644.83	13.18	645.90	13.88	645.20	12.87	646.21	13.80	645.28	13.15	645.93	15.45	643.63	13.55	645.53	14.17	644.91	13.53	645.55	14.36	644.72	13.71	645.37	14.61	644.47	13.23	645.85	14.61	644.47
MW-10	657.59	14.80	642.79	14.60	642.99	14.75	642.84	14.09	643.50	14.77	642.82	14.11	643.48	14.22	643.37	14.18	643.41	15.05	642.54	14.27	643.32	14.44	643.15	14.13	643.46	14.98	642.61	14.15	643.44	14.95	642.64
MW-11	657.29	NM	NM	13.57	643.72	13.59	643.70	12.51	644.78	13.38	643.91	12.95	644.34	12.76	644.53	12.73	644.56	13.95	643.34	13.01	644.28	13.16	644.13	12.68	644.61	13.71	643.58	12.62	644.67	-	-
MW-12	660.08	NM	NM	NM	NM	15.06	645.02	NM	NM	NM	NM	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	15.65	644.43	14.25	645.83	15.62	644.46
MW-13	664.89	14.65	650.24	15.22	649.67	14.95	649.94	11.18	653.71	13.99	650.90	11.91	652.98	14.31	650.58	14.98	649.91	16.12	648.77	14.18	650.71	15.08	649.81	14.84	650.05	15.53	649.36	11.34	653.55	14.98	649.91
MW-14	663.91	13.50	650.41	14.46	649.45	14.28	649.63	12.86	651.05	13.65	650.26	13.26	650.65	13.65	650.26	15.49	648.42	16.98	646.93	13.14	650.77	14.74	649.17	15.70	648.21	15.02	648.89	13.06	650.85	13.63	650.28
MW-15	661.85	16.90	644.95	17.24	644.61	17.68	644.17	15.07	646.78	16.63	645.22	15.95	645.90	16.38	645.47	16.41	645.44	17.85	644.00	16.26	645.59	17.21	644.64	16.67	645.18	17.55	644.30	15.31	646.54	17.23	644.62
MW-16	665.57	9.70	655.87	10.19	655.38	12.33	653.24	11.00	654.57	10.50	655.07	9.79	655.78	9.91	655.66	11.56	654.01	10.51	655.06	9.98	655.59	9.85	655.72	9.45	656.12	10.24	655.33	10.48	655.09	9.61	655.96
RW-1																		17.98		16.21	-	15.95	-	12.32	-	17.31	-	16.84	-	13.21	-
GAUGE1	659.97	15.07	644.90	20.20	639.77	16.30	643.67	15.75	644.22	16.75	643.22	16.05	643.92	15.62	644.35	15.69	644.28	NM	NM	19.10	640.87	18.85	641.12	18.85	641.12	20.01	639.96	18.91	641.06	19.91	640.06

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	04/06/11	06/14/11	10/11/11	12/13/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/20/2014	4/16/2015	10/14/2015
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	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	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	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	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	1 U
PAHs														
Acenaphthene	ug/l	20	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	0.49 U	0.49 U	0.52 U
Acenaphthylene	ug/l	NC	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	0.49 U	0.49 U	0.52 U
Anthracene	ug/l	50	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	0.49 U	0.49 U	0.52 U
Benzo(a)anthracene	ug/l	0.002	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	0.49 U	0.49 U	0.52 U
Benzo(a)pyrene	ug/l	0.000	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	0.49 U	0.49 U	0.52 U
Benzo(b)fluoranthene	ug/l	0.002	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	0.49 U	0.49 U	0.52 U
Benzo(g,h,i)perylene	ug/l	NC	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	0.49 U	0.49 U	0.52 U
Benzo(k)fluoranthene	ug/l	0.002	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	0.49 U	0.49 U	0.52 U
Chrysene	ug/l	0.002	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	0.49 U	0.49 U	0.52 U
Dibenzo(a,h)anthracene	ug/l	NC	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	0.49 U	0.49 U	0.52 U
Fluoranthene	ug/l	50	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	0.49 U	0.49 U	0.52 U
Fluorene	ug/l	50	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	0.49 U	0.49 U	0.52 U
Indeno(1,2,3-cd)pyrene	ug/l	0.002	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	0.49 U	0.49 U	0.52 U
Naphthalene	ug/l	10	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	2.2	2.2	2.2
Phenanthrene	ug/l	50	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	0.49 U	0.49 U	0.52 U
Pyrene	ug/l	50	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	0.49 U	0.49 U	0.52 U
Cyanide and Lead														
Lead	ug/l	25	5 U	3 U	3 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U
Cyanide	mg/l	0.2	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	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	04/06/11	06/14/11	10/11/11	12/13/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/15/2014	4/16/2015	10/14/2015
MNA/WQ Parameters													
Alkalinity (as CaCO3)	mg/l	R	R	405 J	431 J	R	405	354	442	398	400	384	412
Chloride	mg/l	265	385 B	288 J	R	228	222	275	411	304	329	295	365
Ethane	ug/l	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	7.5 U	7.5 U	7.5 U
Ethene	ug/l	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	7 U	7 U	7 U	7 U	7 U	7 U	7 U
Ferrous Iron	mg/l	R	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.013	0.1 U	0.1 U	0.1 U	0.1 U
Manganese	mg/l	0.64 J	0.45 J	3 U	3.4	3 U	0.0087	3 U	3 U	3 U	3 U	3 U	0.019
Methane	ug/l	1 U	1 U	1 U	1 U	1 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Nitrate	mg/l	2.7	2.9	2.4	3	3.1	2.2	2.4	3.5	3.6	2.7	2.9	2.9
Nitrogen	mg/l	0.2 U	0.2 U	R	0.2 U	0.2 U	0.25	0.31	0.31	0.2 U	0.2 U	0.2 U	0.2 U
Sulfate	mg/l	56.7	74.2 B	R	R	56 B	62.2	64.7	74.7	70.7	50.8	60	60
Sulfide	mg/l	1 U	1 UJ	1 U	1 U	1 U	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	04/06/11	06/14/11	10/11/11	12/13/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/20/2014	4/16/2015	10/14/2015
BTEX Compounds														
Benzene	ug/l	1	1 U	0.72 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**1.3**
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	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	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	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	1.3
PAHs														
Acenaphthene	ug/l	20	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	0.46 U	0.46 U	0.49 U
Acenaphthylene	ug/l	NC	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	0.46 U	0.46 U	0.49 U
Anthracene	ug/l	50	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	0.46 U	0.46 U	0.49 U
Benzo(a)anthracene	ug/l	0.002	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	0.46 U	0.46 U	0.49 U
Benzo(a)pyrene	ug/l	0.000	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	0.46 U	0.46 U	0.49 U
Benzo(b)fluoranthene	ug/l	0.002	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	0.46 U	0.46 U	0.49 U
Benzo(g,h,i)perylene	ug/l	NC	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	0.46 U	0.46 U	0.49 U
Benzo(k)fluoranthene	ug/l	0.002	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	0.46 U	0.46 U	0.49 U
Chrysene	ug/l	0.002	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	0.46 U	0.46 U	0.49 U
Dibenzo(a,h)anthracene	ug/l	NC	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	0.46 U	0.46 U	0.49 U
Fluoranthene	ug/l	50	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	0.46 U	0.46 U	0.49 U
Fluorene	ug/l	50	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	0.46 U	0.46 U	0.49 U
Indeno(1,2,3-cd)pyrene	ug/l	0.002	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	0.46 U	0.46 U	0.49 U
Naphthalene	ug/l	10	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	0.46 U	0.46 U	5.2
Phenanthrene	ug/l	50	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	0.46 U	0.46 U	0.49 U
Pyrene	ug/l	50	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	0.46 U	0.46 U	0.49 U
Cyanide and Lead														
Lead	ug/l	25	5 U	3 U	19	12	3.2 J	19	**33**	7.1	7.1	0.010 U	0.010 U	0.010 U
Cyanide	mg/l	0.2	R	**0.68 J**	**0.986**	R	**0.22**	**5.9**	**1.4**	**0.4**	**0.16**	0.13	0.18	0.18

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		04/07/11	06/15/11	10/12/11	12/14/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/15/2014	4/16/2015	10/14/2015
CONSTITUENT	**UNITS**												
MNA/WQ Parameters													
Alkalinity (as CaCO3)	mg/l	R	R	327 J	370 J	R	310	324	367	375	392	340	403
Chloride	mg/l	122	93.8 B	111 J	R	91.2	101	114	84	79	62.8	67.7	66.7
Ethane	ug/l	1.5 U	150 U	1.5 U	75 U	75 U	7.5 U	7.5 U	7.5 U	7.5 U	7.5 U	7.5 U	7.5 U
Ethene	ug/l	1.5 U	150 U	1.5 U	75 U	75 U	7.0U	7.0U	7.0U	7.0U	7.0U	7.0U	7.0U
Ferrous Iron	mg/l	R	1.7 J	0.83 J	R	0.1 U	0.37	0.1 U	0.25	6.24	0.1 U	0.1 U	0.1 U
Manganese	mg/l	0.67	0.62	0.66	0.94	0.51	0.96	1.1	1.1	0.564	0.49	0.49	0.46
Methane	ug/l	190	210	190	300	210	240	40	23	150	82	35	96
Nitrate	mg/l	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	0.05 U	0.05 U	0.05 U
Nitrogen	mg/l	1.4	1.3	1.6	R	1.6	1.6	4.6	1.5	0.16	2	1.1	1.5
Sulfate	mg/l	745 B	611 B	R	R	674 B	509	654	518	540	457	442	533
Sulfide	mg/l	1 U	0.8 J	2.8	1 U	1 U	1.2	1.4	1.4	1.4	1	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-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	10/20/2014	4/16/2015	10/13/2015
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	1 U	1 U	**2.3**
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	1 U	1 U	1
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	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	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	1 U	1 U	2
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	0.48 U	0.63	0.50 U
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	0.48 U	0.50 U	0.50 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	0.48 U	0.50 U	0.50 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	0.48 U	0.50 U	0.50 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	0.48 U	0.50 U	0.50 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	0.48 U	0.50 U	0.50 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	0.48 U	0.50 U	0.50 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	0.48 U	0.50 U	0.50 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	0.48 U	0.50 U	0.50 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	0.48 U	0.50 U	0.50 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	0.48 U	0.50 U	0.50 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	0.48 U	0.50 U	0.50 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	0.48 U	0.50 U	0.50 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	0.48 U	0.50 U	7.9
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	0.48 U	0.50 U	0.50 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	0.48 U	0.50 U	0.50 U
Cyanide and Lead																
Lead	mg/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	5 U	0.010 U	0.010 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	0.10	0.098	0.010

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	04/06/11	06/14/11	10/11/11	12/14/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/15/2014	4/16/2015	10/13/2015
MNA/WQ Parameters													
Alkalinity (as CaCO3)	mg/l	R	R	523 J	541 J	R	589	584	552	566	548	512	581
Chloride	mg/l	181 B	160 B	156 J	R	147	316	286	265	470	664	698	1060
Ethane	ug/l	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	7.5 U	7.5 U	7.5 U
Ethene	ug/l	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	7.0 U	7.0 U	7.0 U
Ferrous Iron	mg/l	R	0.34 J	0.47	0.1 U	R	0.10 U	0.10 U	0.12	6.06	0.10 U	0.10 U	0.10 U
Manganese	mg/l	1.2	0.95	0.88	0.58	0.83	1	1.2	0.75	1.07	1.3	1.3	1.6
Methane	ug/l	34	9.8	33	85	40	72	32	28	110	130	63	82
Nitrate	mg/l	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	0.05 U	0.11
Nitrogen	mg/l	8.5	4.9	4.9	R	5.4	5.7	6.1	4.1	4.8	6.2	5.6	6.3
Sulfate	mg/l	306	296 B	R	R	238 B	175	174	171	153	89.7	167	53.9
Sulfide	mg/l	R	1 U J	0.8 J	1 U	1 U	1 U	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	04/06/11	06/14/11	10/11/11	12/13/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/20/2014	4/16/2015	10/14/2015
BTEX Compounds														
Benzene	ug/l	1	**2.8**	**13**	**18**	**15**	**7.9**	**12**	**3.5**	**8.1**	**10**	**22**	**7.3**	NS
Ethylbenzene	ug/l	5	1.9	**6.9**	**6.1**	**5.5**	3.5	1 U	1.2	3.8	**5.1**	**7.8**	3	NS
m/p-Xylene	ug/l	5	2.2	**5.3**	2.4	2.1	1.4 J	2 U	2 U	2 U	2 U	2.1	2 U	NS
o-Xylene	ug/l	5	1.1	3.1	2.0	2.0	1.2	1 U	1 U	1.6	2.1	2.6	1.5	NS
Toluene	ug/l	5	1 U	1.4	0.97 J	0.99 J	0.69 J	1 U	1 U	1 U	1.1	1.9	1 U	NS
PAHs														
Acenaphthene	ug/l	20	**150**	**110**	**120**	**130**	**100**	**140 E**	**97**	**110**	**120**	**110**	**59**	NS
Acenaphthylene	ug/l	NC	290	290	240 D	270 D	210	160 E	120	170	110	150	56	NS
Anthracene	ug/l	50	**88**	19 B	19	17	11	23	13	28	13	16	4.2	NS
Benzo(a)anthracene	ug/l	0.002	**35**	**6.2 B**	**2.7**	**3.0 B**	**5.2 B**	**3.8**	0.002U	**8.3**	**3.2**	4.8	**1.9**	NS
Benzo(a)pyrene	ug/l	0.002	**34**	**5.7 B**	**2.8**	**2.5 B**	**2.3 J**	**2.7**	**3.3**	**8.5**	**2.8**	4.7	**0.84**	NS
Benzo(b)fluoranthene	ug/l	0.002	**24**	**4.8 B**	**1.9**	**2.1**	**1.8 J**	**1.7**	0.002U	0.002U	0.002U	4.6	**0.68**	NS
Benzo(g,h,i)perylene	ug/l	NC	20	4.0 B	1.4	1.7	1.3 J	1	1	3.4	0.002U	1.8	0.002U	NS
Benzo(k)fluoranthene	ug/l	0.002	**12**	**2.5 B**	**1**	**0.78**	**1.2 J**	**1.6**	0.002U	0.002U	0.002U	2.1	0.002U	NS
Chrysene	ug/l	0.002	**43**	**8.1 B**	**3.3**	**3.5 B**	5.1 U	**3.4**	**4.4**	**10**	**5.4**	7.6	0.99	NS
Dibenzo(a,h)anthracene	ug/l	NC	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	0.47 U	0.47 U	NS
Fluoranthene	ug/l	50	**96**	22 B	20	16	12	24	14	28	12	16	5.4	NS
Fluorene	ug/l	50	**130**	**72**	**79**	**83**	**62**	**92**	**62**	**70**	31	44	16	NS
Indeno(1,2,3-cd)pyrene	ug/l	0.002	**13**	**2.8 B**	**0.96**	**1.0 B**	**0.69 J**	**1.6**	0.002U	0.002U	0.002U	1.2	0.002U	NS
Naphthalene	ug/l	10	**300**	**480**	**310 D**	**230 D**	**140**	**110**	**50**	**87**	10U	51	2.3	NS
Phenanthrene	ug/l	50	**260**	**52 B**	**140 D**	**130**	**91**	**170**	**80**	**130**	5.8	62	1.5	NS
Pyrene	ug/l	50	**150**	28 B	21	21	16	28	18	34	17	20	4.2	NS
Cyanide and Lead														
Lead	ug/l	25	**40**	7.6	12	5 U	4.6 J	5 U	5 U	5.9	5U	0.014	5U	NS
Cyanide	mg/l	0.2	R	0.015 J	0.021	0.01 UJ	0.012	0.010 U	0.010 U	0.010 U	0.018	0.021	0.012	NS

Notes:
B - Present in Associated Blank Sample
D - From a Diluted Sample
J - Estimated Concentration
NC - No Criteria
NS - Not Sampled
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		04/07/11	06/15/11	10/11/11	12/13/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/15/2014	4/16/2015	10/14/2015
CONSTITUENT	**UNITS**												
MNA/WQ Parameters													
Alkalinity (as CaCO3)	mg/l	R	R	518 J	536 J	R	623	507	573	465	457	428	NS
Chloride	mg/l	345	414 B	514 J	R	321	350	202	295	454	364	314	NS
Ethane	ug/l	1.5 U	1.5 U	1.5 U	15 U	15 U	380 U	380 U	380 U	380 U	7.5 U	7.5 U	NS
Ethene	ug/l	1.5 U	1.5 U	1.5 U	15 U	15 U	350 U	350 U	350 U	350 U	7.0 U	7.0 U	NS
Ferrous Iron	mg/l	R	9.4 J	0.9 J	R	0.1 U	0.5	0.18	0.22	0.29	0.1U	0.1U	NS
Manganese	mg/l	0.94	0.45	0.69	0.66	0.47	0.95	0.95	0.55	0.56	0.56	0.25	NS
Methane	ug/l	4.8	68	190	360	160	520	12	25	120	180	13	NS
Nitrate	mg/l	0.13	0.05 U	0.05 U	0.05 U	0.092	0.050 U	0.79	0.32	0.32	0.059	0.28	NS
Nitrogen	mg/l	1.3	0.59	1.3	R	1.3	1.4	0.58	0.64	0.57	1.2	0.26	NS
Sulfate	mg/l	126 B	65.1 B	R	R	8.5 B	16.9	112	94.1	58	44.3	82.9	NS
Sulfide	mg/l	0.8 J	0.8 J	1.6	1 U	1 U	1 U	1 U	1 U	1 U	1.8	1 U	NS

Notes:

B - Present in Associated Blank Sample
D - From a Diluted Sample
J - Estimated Concentration
mg/l - Milligrams per liter
NA - Not analyzed
NS - Not Sampled
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	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/20/2014	4/16/2015	10/14/2015
BTEX Compounds										
Benzene	ug/l	1	1 U	**2.1**	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
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	0.52 U	14	0.2 U	1.1	1.1	0.48 U	0.48 U	0.47 U
Acenaphthylene	ug/l	NC	0.18 J	100	0.2 U	0.2 U	0.2 U	0.63	0.2 U	0.47 U
Anthracene	ug/l	50	0.13 J	2.8	0.2 U	1.1	1.1	0.88	0.2 U	0.73
Benzo(a)anthracene	ug/l	0.002	**0.57 B**	**1.5**	**0.83**	**3**	**0.66**	1.5	0.49 U	0.47 U
Benzo(a)pyrene	ug/l	0.002	**0.35 J**	**1.5**	**1**	**3.6**	**0.92**	1.8	0.49 U	0.47 U
Benzo(b)fluoranthene	ug/l	0.002	**0.27 J**	**1.3**	**0.91**	**3.4**	**0.71**	2.1	0.49 U	0.47 U
Benzo(g,h,i)perylene	ug/l	NC	0.27 J	0.62	0.49 U	0.49 U	0.51	0.74	0.49 U	0.47 U
Benzo(k)fluoranthene	ug/l	0.002	**0.38 J**	**0.58**	0.49 U	**0.83**	0.49 U	0.74	0.49 U	0.47 U
Chrysene	ug/l	0.002	**0.60 B**	**1.1**	**1**	**3**	0.49 U	1.6	0.49 U	0.47 U
Dibenzo(a,h)anthracene	ug/l	NC	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.48 U	0.49 U	0.47 U
Fluoranthene	ug/l	50	0.41 J	3.4	1.4	4.3	0.87	2.00	0.49 U	0.47 U
Fluorene	ug/l	50	0.52 U	2.2	0.49 U	0.49 U	0.49 U	0.48 U	0.49 U	0.47 U
Indeno(1,2,3-cd)pyrene	ug/l	0.002	**0.13 J**	**0.97**	0.49 U	**1.2**	0.49 U	0.51	0.49 U	0.47 U
Naphthalene	ug/l	10	0.52 U	160 E	2.5	0.99	0.52 U	1.6	0.49 U	1.9
Phenanthrene	ug/l	50	0.48 J	7.6	1.1	3.6	0.61	2	0.49 U	0.47 U
Pyrene	ug/l	50	0.59	4.2	2.4	5.8	1.3	2.8	0.49 U	0.47 U
Cyanide and Lead										
Lead	ug/l	25	5 U	5 U	5 U	**29**	5 U	0.018	0.49 U	10 U
Cyanide	mg/l	0.2	0.0062 J	0.010 U	0.010 U	0.010 U	0.010 U	0.013	0.49 U	0.01 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	12/14/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/15/2014	4/16/2015	10/14/2015
MNA/WQ Parameters										
Alkalinity (as CaCO3)	mg/l	478 J	R	434	391	415	329	414	368	401
Chloride	mg/l	R	129 B	468	123	662	150	493	139	591
Ethane	ug/l	1.5 U	1.5 U	7.5 U	7.5 U	7.5 U	7.5 U	7.5 U	7.5 U	7.5 U
Ethene	ug/l	1.5 U	1.5 U	7 U	7 U	7 U	7 U	7 U	7 U	7 U
Ferrous Iron	mg/l	0.1 U	0.1 U	0.44	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Manganese	mg/l	0.16	0.12	0.52	0.19	2.1	0.36	1.2	0.16	0.039
Methane	ug/l	1.1	0.56 J	47	1 U	1 U	1 U	4 U	4 U	4 U
Nitrate	mg/l	6.2	3.2	0.05 U	2.5	4.8	1.4	3.7	1.4	2.5
Nitrogen	mg/l	R	0.19 J	0.29	0.24	2.4	0.44	0.61	0.61	0.2 U
Sulfate	mg/l	R	53.5 B	81.4	73.5	115	51.6	73.5	54.8	70.2
Sulfide	mg/l	1 U	1 U	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
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	10/20/2014	4/16/2015	10/13/2015
BTEX Compounds																
Benzene	ug/l	1	**430**	**360**	**71**	**200**	**59**	**300**	**370**	**360**	**490**	**400**	**200**	**300**	**17**	**360**
Ethylbenzene	ug/l	5	**850**	**730**	**87**	**200**	**110**	**520**	**670**	**490**	**600**	**320**	**200**	**340**	**17**	**190**
m/p-Xylene	ug/l	5	**920**	**810**	**110**	**240**	**140**	**550**	**740**	**590**	**730**	**420**	**250**	**480**	**24**	**270**
o-Xylene	ug/l	5	**390**	**350**	**71**	**130**	**74**	**260**	**340**	**260**	**320**	**190**	**120**	**210**	**16**	**120**
Toluene	ug/l	5	**800**	**660**	**80**	**260**	**89**	**550**	**740**	**520 E**	**710**	**440**	**270**	**430**	**17**	**320**
PAHs																
Acenaphthene	ug/l	20	**120**	**140**	17	**46**	**60**	**76**	**82 J**	**170**	**130**	**77**	**71**	**130**	4.9 U	65 E
Acenaphthylene	ug/l	NC	260 JD	320 D	51	170	220 J	230 D	210	570	430	350	22	450	4.9 U	77 E
Anthracene	ug/l	50	12	15	3.6	12 B	15	15	97 U	47 U	47 U	47 U	6.9	14	4.9 U	9.2 F1 F2
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	**1.9**	0.001 U	0.59 F2
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	**1.6**	0.001 U	0.49 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	**2.8**	0.001 U	0.49 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	0.6	0.001 U	0.49 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	**0.53**	0.001 U	0.49 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	**1.8**	0.001 U	0.50 F1 F2
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	0.47 U	0.001 U	0.49 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	8.2	4.9 U	5.5 F2
Fluorene	ug/l	50	**73**	**84**	18	48	**52 J**	**53**	37 J	**110**	**93**	**68**	30	**94 J**	4.9 U	43 F1 F2
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	**0.48**	0.001 U	0.49 U
Naphthalene	ug/l	10	**6000 D**	**5600 D**	**250 D**	**1600 D**	**2900 D**	**5000 D**	**4100**	**8200**	**7100**	**3700**	10U	**4200**	4.9 U	350 E
Phenanthrene	ug/l	50	**58**	**68**	7.2	44 B	**60**	**55**	44 J	**76**	**73**	**61**	50U	**70**	4.9 U	31 F1
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	9.7	4.9 U	5.8 F2
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	5 U	4.9 U	10 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	**0.24**	0.11	0.22 F1

Notes:

B - Present in Associated Blank Sample
D - From a Diluted Sample
E - Result exceeded calibration range.
F1 - MS and/or MSD Recovery is outside acceptance limits.
F2 - MS/MSD RPD exceeds control limits.
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		04/07/11	06/15/11	10/12/11	12/14/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/15/2014	10/13/2015
CONSTITUENT	**UNITS**											
MNA/WQ Parameters												
Alkalinity (as CaCO3)	mg/l	R	R	455 J	165 J	R	158	218	187	176	255	283 F1
Chloride	mg/l	29.1	18.6 B	5.9 J	R	20.5	21.6	20.4	7.3	9.2	17.3	11.2
Ethane	ug/l	1.5 U	15 U	1.5 UJ	15 U	15 U	7.5 U	7.5 U	7.5 U	7.5 U	7.5 U	7.5 U
Ethene	ug/l	1.5 U	15 U	1.5 UJ	15 U	15 U	7.0 U	7.0 U	7.0 U	7.0 U	7.0 U	7.0 U
Ferrous Iron	mg/l	R	0.1 UJ	3.1 J	0.08 J	0.1 U	0.12	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Manganese	mg/l	0.12	0.077	0.83	0.16	0.096	0.092	0.11	0.088	0.14	0.031	0.064
Methane	ug/l	32	46	28 J	72	66	120	36	15	74	4.0 U	110
Nitrate	mg/l	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	0.05 U
Nitrogen	mg/l	1.1	1.3	2 U	R	1.4	1.4	1.8	1.2	2.1	0.62	1.4
Sulfate	mg/l	5 U	3.3 JB	R	R	52.1 J	139	82.3	15.5	15.5	5.0 U	5.0 U
Sulfide	mg/l	1 U	3.2 J	1.2	R	R	1.2	1 U	1 U	1 U	1 U	1 U

Notes:

B - Present in Associated Blank Sample
D - From a Diluted Sample
F1 - MS and/or MSD Recovery is outside acceptance limits.
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	01/04/11	04/06/11	06/14/11	10/11/11	12/13/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/20/2014	4/16/2015	10/13/2015
BTEX Compounds															
Benzene	ug/l	1	**17**	1 U	**2.5**	**11**	**2.5**	**2.9**	1 U	1 U	**1.3**	1 U	1 U	1 U	1 U
Ethylbenzene	ug/l	5	**3.3**	1 U	1 U	1 U	1 U	1.3	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m/p-Xylene	ug/l	5	**3.1**	2 U	2 U	2 U	2 U	2.4	2 U	2 U	2 U	2 U	2 U	2 U	2 U
o-Xylene	ug/l	5	**5.6**	1 U	1 U	1 U	1 U	2.2	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	ug/l	5	0.88 J	1 U	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	4.9	0.47 U	0.47 U	1.2	0.82	5.1	1.4	0.48 U	2.2	0.5	2.00	0.47 U	0.52 U
Acenaphthylene	ug/l	NC	11	0.47 U	0.47 U	3	1.3	9	1.9	0.48 U	2.5	0.48 U	2.9	0.47 U	0.52 U
Anthracene	ug/l	50	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	0.5	0.47 U	0.52 U
Benzo(a)anthracene	ug/l	0.002	**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**	**1.9**	0.47 U	0.52 U
Benzo(a)pyrene	ug/l	0.002	**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**	**2.4**	0.47 U	0.52 U
Benzo(b)fluoranthene	ug/l	0.002	**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**	**3.8**	0.47 U	0.52 U
Benzo(g,h,i)perylene	ug/l	NC	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	1.3	0.47 U	0.52 U
Benzo(k)fluoranthene	ug/l	0.002	**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**	**1.1**	0.47 U	0.52 U
Chrysene	ug/l	0.002	**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**	**2.1**	0.47 U	0.52 U
Dibenzo(a,h)anthracene	ug/l	NC	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	0.49 U	0.47 U	0.52 U
Fluoranthene	ug/l	50	1.2	0.081 J	0.47 U	0.32 J	1.5	0.61	0.59	0.48 U	1.2	1.5	3.2	0.47 U	0.52 U
Fluorene	ug/l	50	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	0.49 U	0.47 U	0.52 U
Indeno(1,2,3-cd)pyrene	ug/l	0.002	**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**	**0.95**	0.47 U	0.52 U
Naphthalene	ug/l	10	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	1.1	0.47 U	0.52 U
Phenanthrene	ug/l	50	2	0.47 U	0.47 U	0.25 J	0.66	1.1	0.48 U	0.48 U	0.67	0.63	1.4	0.47 U	0.52 U
Pyrene	ug/l	50	1.2	0.098 J	0.52 U	0.39 J	2.2	0.7	0.76	0.48 U	1.5	2.4	5.0	0.47 U	0.52 U
Cyanide and Lead															
Lead	ug/l	25	5 U	5 U	4.2 J	4.8 J	9.1	5.7	21	5 U	15	5 U	0.031	0.01 U	0.01 U
Cyanide	mg/l	0.2	**0.197**	R	0.11 J	0.114	R	**0.28**	**1.4**	0.1	**0.2**	**0.9**	0.2	0.091	0.120

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		04/07/11	06/15/11	10/12/11	12/14/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/15/2014	10/13/2014
CONSTITUENT	**UNITS**											
MNA/WQ Parameters												
Alkalinity (as CaCO3)	mg/l	R	R	410	453 J	R	494	417	456	483	372	445
Chloride	mg/l	6.1	9.7 B	5.1	R	12.8	40.4	2	7.6	28.5	3.9	10.7
Ethane	ug/l	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	7.5 U	7.5 U
Ethene	ug/l	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	7 U	7 U	7 U	7 U	7 U	7 U
Ferrous Iron	mg/l	R	0.11 J	0.1 U	R	0.1 U	0.17	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Manganese	mg/l	0.054	0.17	0.2	0.28	0.51	2	0.008	0.25	1	0.019	0.011
Methane	ug/l	1 U	6.2	46	15	70	140	1 U	8.6	140	4.0 U	4.0 U
Nitrate	mg/l	0.71	0.19	0.086	0.023 J	0.05 U	0.05 U	0.8	0.05 U	0.05 U	0.87	0.16
Nitrogen	mg/l	0.85	0.32	0.36	R	0.86	2.5	0.54	0.68	1.5	0.22	0.72
Sulfate	mg/l	5 U	19.6 B	5.6 JB	R	173 B	639	5 U	5 U	363	5.0 U	5.0 U
Sulfide	mg/l	1 U	1 UJ	1 U	R	R	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-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	10/20/2014	4/16/2015	10/13/2015
BTEX Compounds																
Benzene	ug/l	1	**1600 D**	**1200**	**940 D**	**1300 D**	**670**	**790 D**	**1500 D**	**1100 E**	**410**	**390**	**210**	**300**	**16**	**350 E**
Ethylbenzene	ug/l	5	**200**	**250**	**190 D**	**210 D**	**120**	**190 D**	**220**	**200**	**75**	**53**	**38**	**74**	1.9	**92**
m/p-Xylene	ug/l	5	**12**	**8.7**	**17**	**18**	**19 J**	**9**	**6.6 J**	**23**	**19**	5 U	5 U	**10 U**	3.2	**8.1**
o-Xylene	ug/l	5	**39**	**39**	**44**	**48**	**37**	**38**	**27**	**23**	**19**	**16**	**8.5**	**28**	**7.5**	**23**
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	**5.8**	1 U	**7**
PAHs																
Acenaphthene	ug/l	20	**44 J**	**49**	**47**	**32**	**47**	**50**	**47**	**57**	**42**	**23**	**18**	**24**	6.7	16
Acenaphthylene	ug/l	NC	19 J	23	24	17	22	19	12	16	11	6.5	3	3.9	0.59	3.1
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	0.81	0.49 U	0.57
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	0.48 U	0.49 U	0.47 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	0.48 U	0.49 U	0.47 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	**0.72**	0.49 U	0.47 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	0.48 U	0.49 U	0.47 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	0.48 U	0.49 U	0.47 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	0.48 U	0.49 U	0.47 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	0.48 U	0.49 U	0.47 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	0.93	0.49 U	0.61
Fluorene	ug/l	50	12 J	13	13	8.7	14	13	10	17	13	6.1	4.3	5.2	1.2	4.1
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	0.48 U	0.49 U	0.47 U
Naphthalene	ug/l	10	**110 JD**	**89**	**560 D**	**450 D**	**570 D**	**140 D**	**51**	**27**	**94**	**13**	**29**	**210**	1.5	**48 E**
Phenanthrene	ug/l	50	8.3 J	11	8	6.7 B	13	11	8.8	12	10	5.1	3.4	3.7	0.49 U	2.8
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	1.1	0.49 U	0.69
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	0.010	0.010	0.010
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**	**0.58**	**0.29**	**1**

Notes:

B - Present in Associated Blank Sample
BTEX - Benzene, Ethylbenzene, Toluene and Xylene
D - From a Diluted Sample
E - Result exceeded calibration range.
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		04/07/11	06/15/11	10/12/11	12/14/11	03/14/12	10/09/12	04/18/13	10/08/13	04/09/14	10/15/2014	4/16/2015	10/13/2015
CONSTITUENT	**UNITS**												
MNA/WQ Parameters													
Alkalinity (as CaCO3)	mg/l	R	R	502 J	547 J	R	629	527	585	482	557	480	600
Chloride	mg/l	22.8	43.3 B	28.5 J	R	68.2	70.6	39.4	42	44.5	44.2	14.2	49.3
Ethane	ug/l	2.9	300 U	300 U	300 U	300 U	380 U	380 U	380 U	380 U	380 U	380 U	380 U
Ethene	ug/l	1.5 U	300 U	300 U	300 U	300 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U
Ferrous Iron	mg/l	R	0.51 J	0.47 J	0.13 J	R	0.1 U	0.15	0.18	0.1U	0.1U	0.1U	0.15 HF
Manganese	mg/l	0.89	0.67	0.79	0.77	0.61	0.61	1	1.1	0.68	1	0.68	0.7
Methane	ug/l	680	360	720	1900	1600	1900	780	580	1100	2400	16	1600
Nitrate	mg/l	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	0.28	0.05 U
Nitrogen	mg/l	1.9	3.1	2.1	R	4.6	5.4	3	3.1	3.2	2.9	0.81	3.9
Sulfate	mg/l	137 B	193 B	R	R	202 B	217	113	139	122	91.1	28.7	78.5
Sulfide	mg/l	1 U	1 UJ	2.4	1 U	R	1 U	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

HF - Field parameter with a holding time of 15 minutes. Test performed by laboratory at clients request

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	10/20/2014	4/16/2015	10/13/2015
BTEX Compounds																
Benzene	ug/l	1	**140**	**170**	**150 D**	**100 D**	**17**	**140 D**	**150 D**	**180**	**200**	**150**	**8.7**	**59**	**91**	**40**
Ethylbenzene	ug/l	5	**70**	**110**	**92**	**51**	**5**	**78**	**66**	**100**	**150**	**92**	**6.2**	**41**	**68**	**26**
m/p-Xylene	ug/l	5	**31**	**55**	**47**	**27**	2.8	**29**	**26**	**14**	**41**	**23**	1U	10 U	1U	4.9
o-Xylene	ug/l	5	**34**	**54**	**41**	**27**	3.6	**36**	**37**	**14**	**56**	**35**	1U	**17**	**24**	**11**
Toluene	ug/l	5	**17**	**36**	**33**	**15**	2	**21**	**11**	10 U	**14**	**9**	1U	**17**	**1U**	1.4
PAHs																
Acenaphthene	ug/l	20	14 D	18	**21**	7	2.3	13	15	**30**	**30**	16	1U	**40**	**27**	14
Acenaphthylene	ug/l	NC	16 J	27 D	36	11	4.7	10	2.2	34	49	0.48 U	0.48 U	31	25	16
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	2.8	1.8	1.2
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	0.48 U	0.50U	0.50U
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	0.48 U	0.50U	0.50U
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	0.48 U	0.50U	0.50U
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	0.48 U	0.50U	0.50U
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	0.48 U	0.50U	0.50U
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	0.48 U	0.50U	0.50U
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	0.48 U	0.50U	0.50U
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	2.7	1.6	1.1
Fluorene	ug/l	50	10 D	11	16	4.7	1.3	8.8	13	17	21	9.1	0.48 U	**22**	14	7.1
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	0.48 U	0.50U	0.50U
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	1.7	4.6	5.1
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	18	11	6.7
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	3	1.8	1.2
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	0.01U	0.01U	0.01U
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	**0.25**	**0.24**	**0.24**

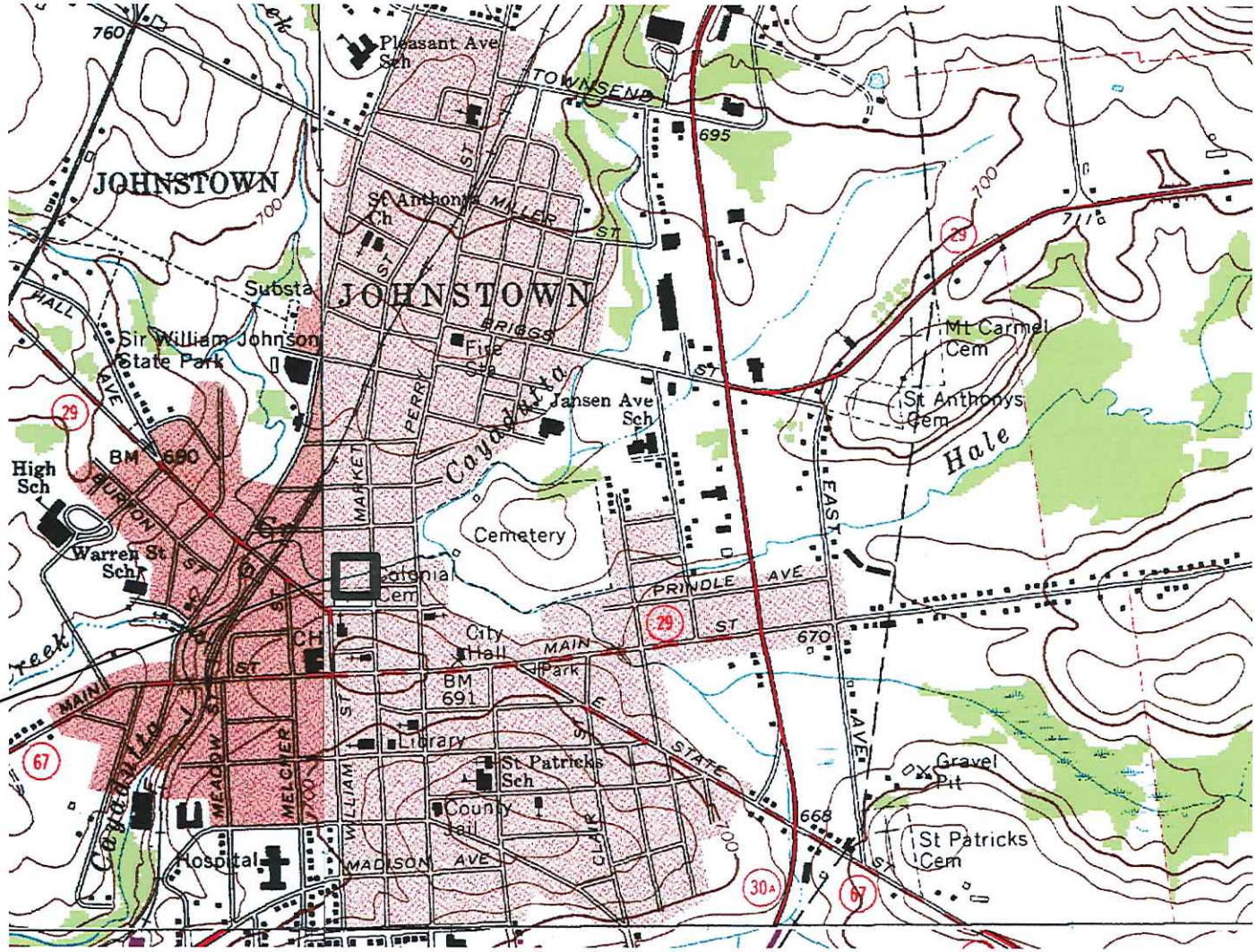
Table 2
Monitored Natural Attenuation/Water Quality Data Results (MW-16)
Johnstown MGP Site
Johnstown, NY

Sample Date / CONSTITUENT	UNITS	04/07/11	06/15/11	10/12/11	12/13/11	03/13/12	10/09/12	04/18/13	10/08/13	04/09/14	10/15/2014	4/16/2015	10/13/2015
MNA/WQ Parameters													
Alkalinity (as CaCO3)	mg/l	R	R	586 J	600 J	R	436	530	585	454	595	532	638
Chloride	mg/l	9.4	6.1 B	3.4 J	R	12.7	12.8	5.5	5.4	5	6.5	5.8	4.9
Ethane	ug/l	30 U	30 U	1.5 U	1.5 U	0.57 J	750 U	750 U	750 U	750 U	750 U	75U	75U
Ethene	ug/l	30 U	30 U	1.5 U	1.5 U	2.6	700 U	700 U	700 U	700 U	700 U	70U	70U
Ferrous Iron	mg/l	R	0.33 J	R	0.08	0.1 U	0.12	0.1 U	0.13	0.1 U	0.1 U	0.1 U	0.1 U
Manganese	mg/l	0.59	0.9	0.17	0.61	0.88	1.1	0.63	0.7	0.22	0.63	0.42	0.33
Methane	ug/l	270	170	37	400 B	140	550	170	150	75	410	160	1100
Nitrate	mg/l	0.05 U	0.05 U	0.65	0.17	0.05 U	0.05 U	0.1	0.05 U	0.53	0.05 U	0.05 U	0.37
Nitrogen	mg/l	2.6	1.8	R	R	3.2	3.8	3.6	2.8	2.4	3.3	2.1	1.9
Sulfate	mg/l	312 B	243 B	R	R	351 B	487	140	86	1U	107	38.2	22.8
Sulfide	mg/l	1 U	1 UJ	0.8 J	1 U	R	1 U	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

FIGURES



SITE LOCATION
N. MARKET STREET
JOHNSTOWN, NY

1" = 500'
250 0 500

REV. NO.	DATE	DRAWN	CHKD	REMARKS

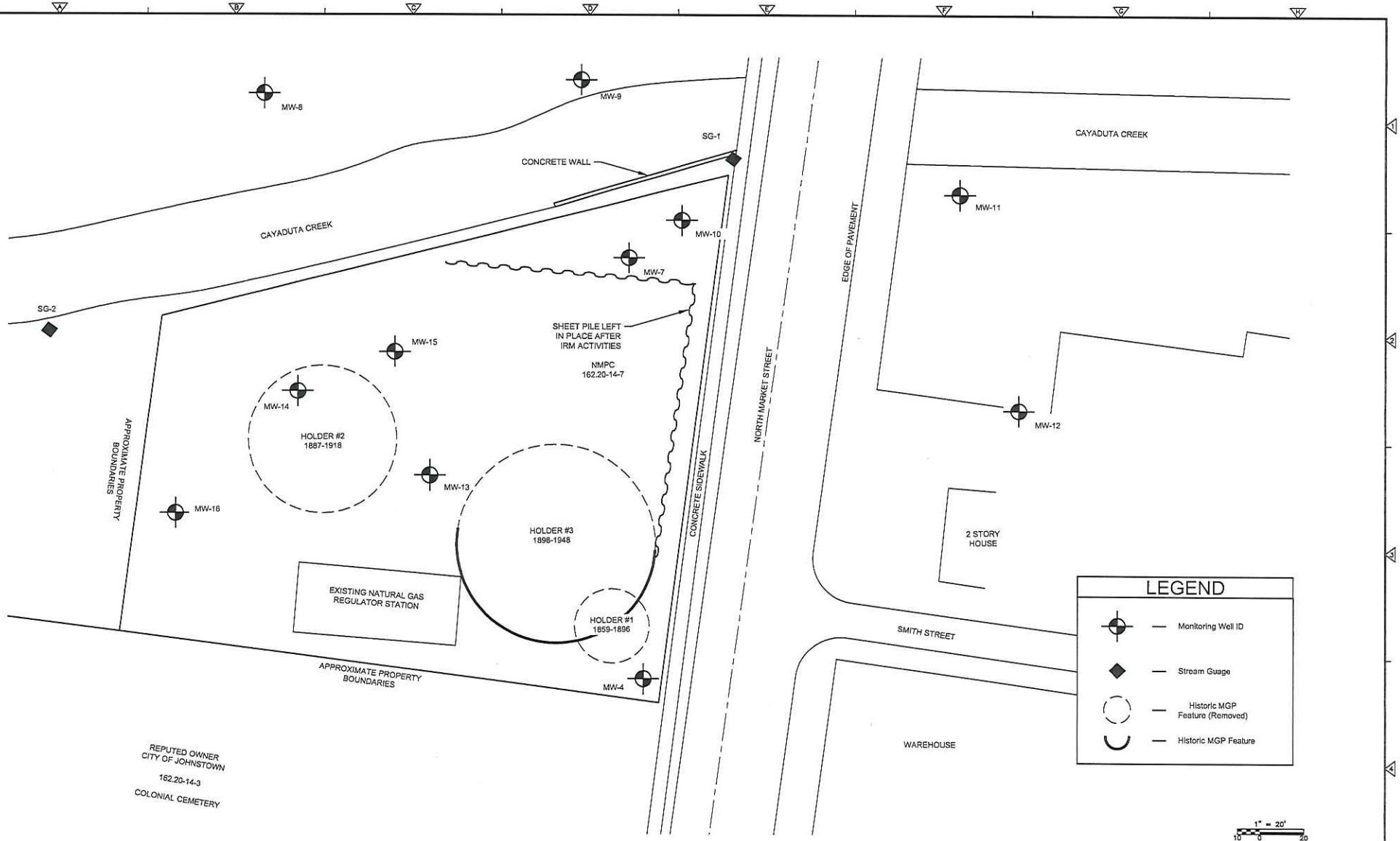
DESIGNED BY:
DRAWN BY: A.DOMAZET
SHEET CHK'D BY:
CROSS CHK'D BY:
APPROVED BY:
DATE: DECEMBER 2015

CDM Smith
6608 Old Collamer Road, Suite 3
East Syracuse, NY 13057
Tel: (315)434-8200

NATIONAL GRID

JOHNSTOWN, NY
FIGURE 1
SITE LOCATION MAP
NOVEMBER 2015

PROJECT NO.
FILE NAME:
SHEET NO.
1



*BASEMAP BY TETRATECH

REV. NO.	DATE	DRWN	CHKD	REMARKS

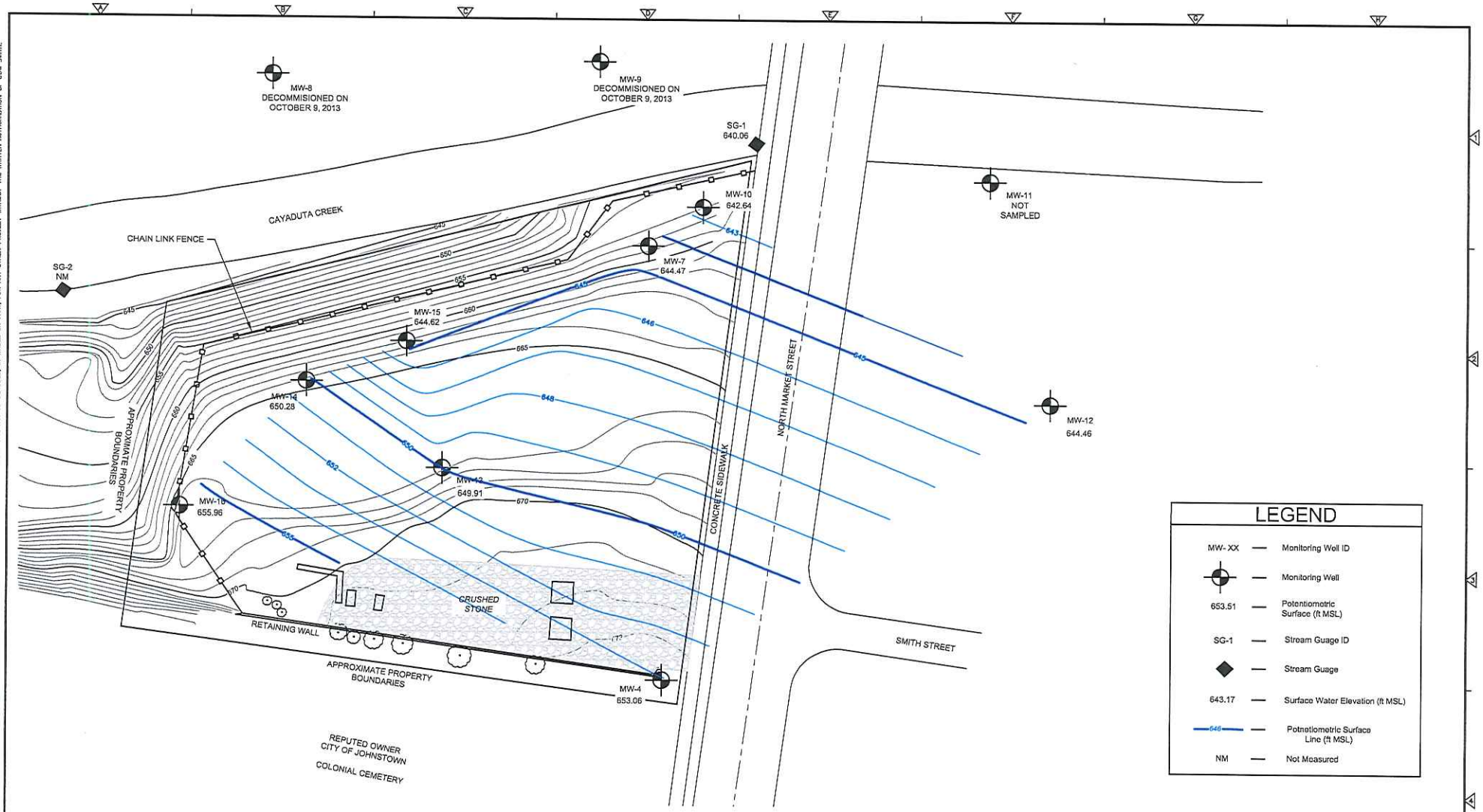
DESIGNED BY:
DRAWN BY: A.DOMAZET
SHEET CHK'D BY:
CROSS CHK'D BY:
APPROVED BY:
DATE: DECEMBER 2015

CDM Smith
6020 Old Collamer Road, Suite 3
East Syracuse, NY 13057
Tel: (315)434-9200

NATIONAL GRID

JOHNSTOWN, NY
FIGURE 2
HISTORICAL SITE FEATURES MAP
NOVEMBER 2015

PROJECT NO.
FILE NAME:
SHEET NO.
2



*BASEMAP BY TETRATECH

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY:
DRAWN BY: A.DOMAZET
SHEET CHK'D BY:
CROSS CHK'D BY:
APPROVED BY:
DATE: DECEMBER 2015

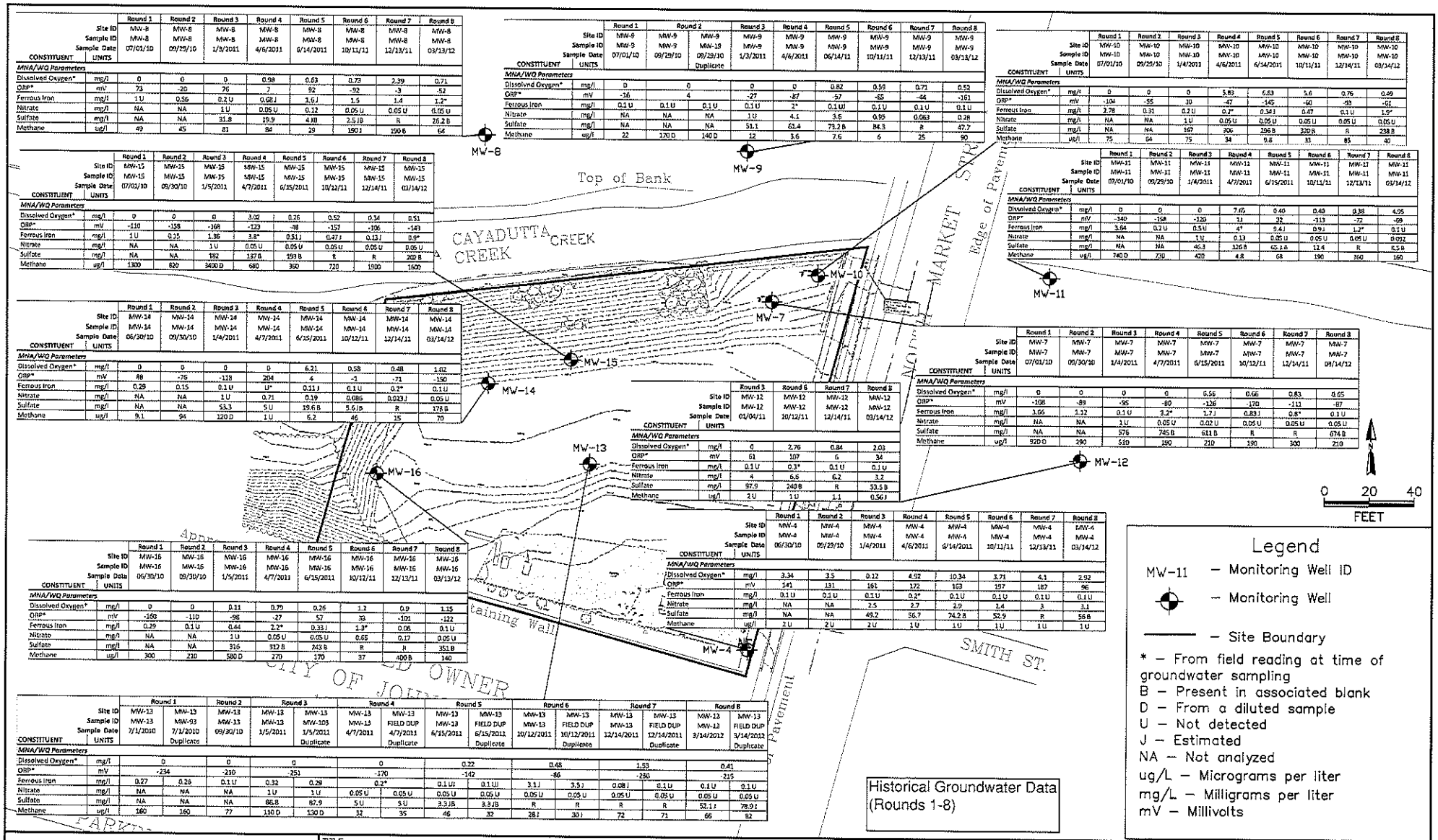
CDM Smith
5000 Old Collamer Road, Suite 3
East Syracuse, NY 13057
Tel: (315)434-3200

NATIONAL GRID

JOHNSTOWN, NY
FIGURE 3
GROUNDWATER CONTOURS
NOVEMBER 2015

PROJECT NO.
FILE NAME:

SHEET NO.
3



		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
CONSTITUENT	UNITS								
MNA/WQ Parameters									
Dissolved Oxygen*	mg/l	0	0	0	0.58	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	66

		Round 1	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
Sample ID		MW-9	MW-9	MW-19	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
CONSTITUENT	UNITS									
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	-84	-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

		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
CONSTITUENT	UNITS								
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

		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
CONSTITUENT	UNITS								
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	0.8*
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	187 B	193 B	R	R	202 B
Methane	ug/l	1300	820	3400 D	680	360	720	1900	1600

		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
CONSTITUENT	UNITS								
MNA/WQ Parameters									
Dissolved Oxygen*	mg/l	0	0	0	7.65	0.40	0.40	0.38	4.05
ORP*	mV	-340	-158	-120	11	32	-113	-72	-99
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

		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
CONSTITUENT	UNITS								
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

		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
CONSTITUENT	UNITS				
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

		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
CONSTITUENT	UNITS								
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	1.32	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

		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
CONSTITUENT	UNITS								
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*	0.06	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

		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
CONSTITUENT	UNITS		Duplicate			Duplicate		Duplicate		Duplicate		Duplicate		Duplicate		Duplicate
MNA/WQ Parameters																
Dissolved Oxygen*	mg/l		0		0		0		0.22		0.48		1.53		0.41	
ORP*	mV		-234		-210		-251		-170		-142		-86		-250		-215	
Ferrous Iron	mg/l	0.27	0.26	0.1 U	0.32	0.29	0.2*		0.1 UJ	0.1 UJ	3.3 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

		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
CONSTITUENT	UNITS								
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

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

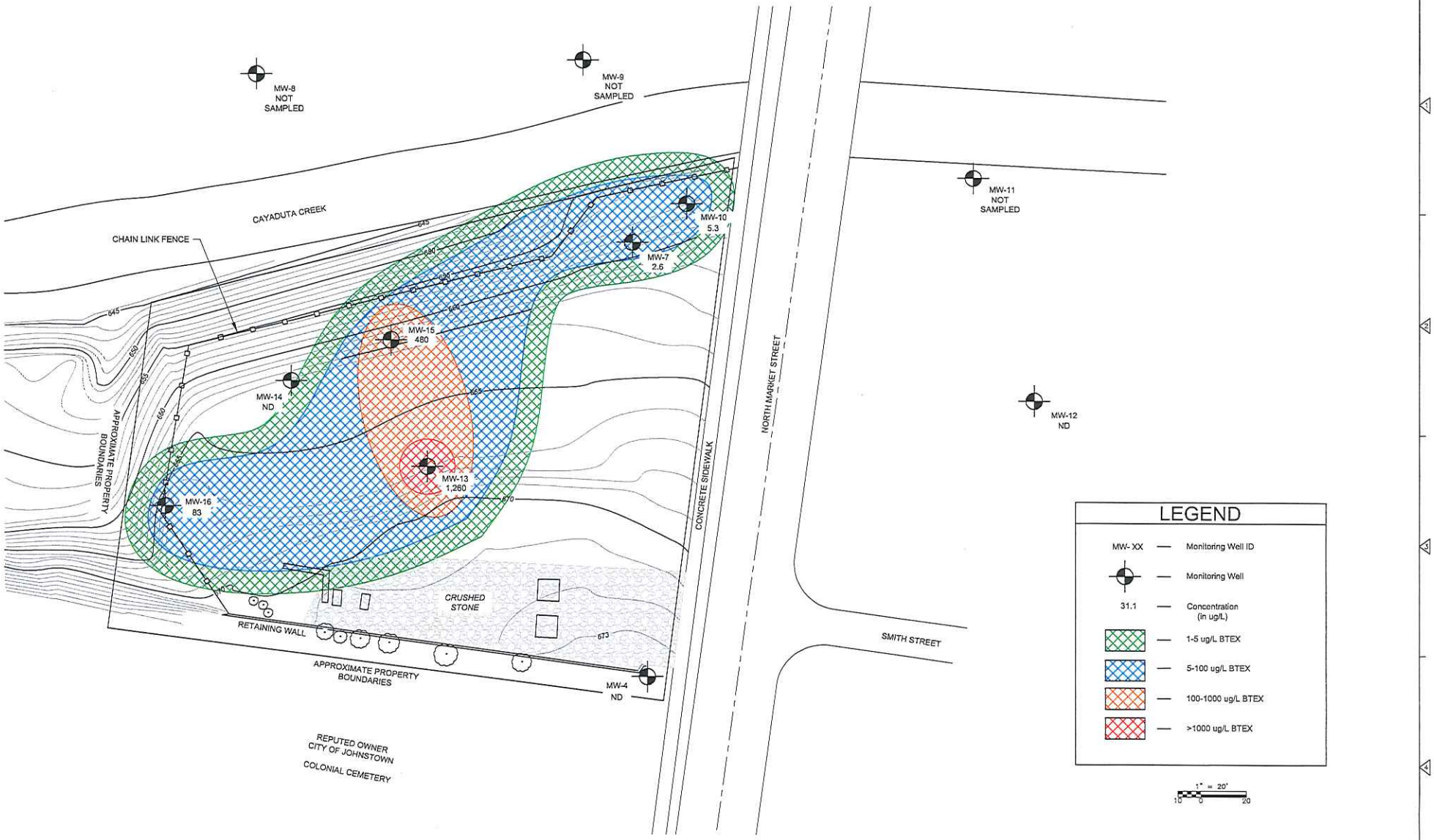
mV – Millivolts

nationalgrid

TITLE:

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

Figure 4



*BASEMAP BY TETRATECH

REV. NO.	DATE	DRWN	CHKD	REMARKS

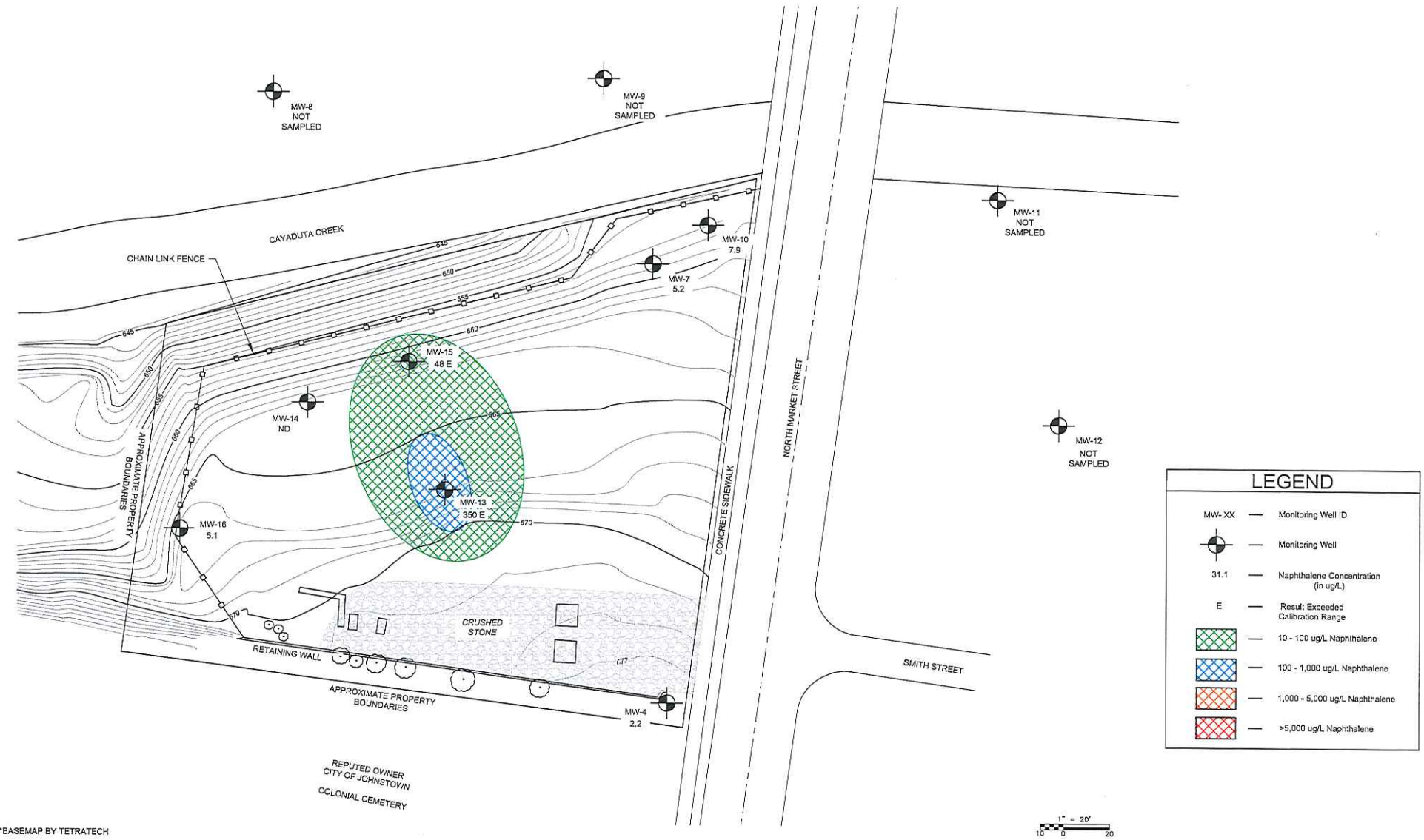
DESIGNED BY:
DRAWN BY: A.DOMAZET
SHEET CHK'D BY:
CROSS CHK'D BY:
APPROVED BY:
DATE: DECEMBER 2015

CDM Smith
6839 Old Collamer Road, Suite 3
East Syracuse, NY 13057
Tel. (315)434-3269

NATIONAL GRID

JOHNSTOWN, NY
FIGURE 5
BTEX CONTOURS
NOVEMBER 2015

PROJECT NO.
FILE NAME:
SHEET NO.
5



LEGEND

MW- XX	Monitoring Well ID
⊕	Monitoring Well
31.1	Naphthalene Concentration (in ug/L)
E	Result Exceeded Calibration Range
	10 - 100 ug/L Naphthalene
	100 - 1,000 ug/L Naphthalene
	1,000 - 5,000 ug/L Naphthalene
	>5,000 ug/L Naphthalene

*BASEMAP BY TETRATECH

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY:
DRAWN BY: A.DDMAZET
SHEET CHK'D BY:
CROSS CHK'D BY:
APPROVED BY:
DATE: DECEMBER 2015

CDM Smith
6390 Old Collamer Road, Suite 3
East Syracuse, NY 13057
Tel: (315)434-3200

NATIONAL GRID

JOHNSTOWN, NY
FIGURE 6
NAPHTHALENE CONTOURS
NOVEMBER 2015

PROJECT NO.
FILE NAME:
SHEET NO.
6

APPENDIX A

FIELD DATA

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

Fall Semi-Annual Event
October 13-14, 2015

Well ID	Sample?	Well Size?	DTW	DTP	DTB	Comments
RW-1	No	2"	13.21		21.50	
MW-4	Yes	2"	23.48		27.32	
MW-7	Yes	2"	14.61		22.10	
MW-10	Yes	2"	14.95		22.05	
MW-11	Yes	2"	n/a		22.90	inaccessable
MW-12	Yes	2"	15.62		22.24	
MW-13	Yes	2"	14.98		22.75	MS/MSD
MW-14	Yes	2"	13.63		23.55	Duplicate Sample
MW-15	Yes	2"	17.23		23.00	
MW-16	Yes	2"	9.61		19.45	
Gauge-1 (bridge)	No		19.91			

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

Site Management Plan Inspection Form

109 North Market Street
Johnstown, New York

Date: 10/14/2015
Technician: Rosenzweig

Time: 14:30
Weather: Clear 60 °F

Vegetation Cap				
Condition of Grass	GOOD	FAIR	POOR	COMMENTS:
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: Dog walking
Litter	NONE	MINOR	SIGNIFICANT	COMMENTS:

General Comments:
Unable to access MW-11. Area is on adjacent property and was full of concrete/metal and wood debris.

TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Fax (716) 691-7991

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: E Rosenzweig	Lab PM: Mason, Becky C	Carrier Tracking No(s):	COC No: 480-72273-16327.1
Client Contact: Timothy Beaumont	Phone: 203-727-6504	E-Mail: becky.mason@testamericainc.com		Page: Page 1 of 2
Company: CDM Smith, Inc.				Job #:
Address: 6800 Old Collamer Road Suite 3	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: East Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13057	PO #: 36380.110154			
Phone:	WO #:			
Email: beaumontj@cdmsmith.com	Project #: 48011229			Other:
Project Name: Johnstown semi-annual GW	SSOW#:			
Site:				

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	8270D_LL_PAH - PAH low level Semivolatiles	351.2 - Total Kjeldahl Nitrogen	8010C - Metals Pb/Mn	RSK_175 - Methane/Ethene/Ethane	8260C - BTEX - 8260	SM4500_S2_F - Sulfide	8012B - 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:		X	X	N	N	S	D	A	A	CB	B	N	N	N				
MW-4-1015				Water																	
MW-7-1015				Water																	
MW-10-1015	10/13/15	1205		Water			X	X	X	X	X	X	X	X	X	X	X				
MW-11-1015				Water																	
MW-12-1015				Water																	
MW-13-1015	10/13/15	1050		Water			X	X	X	X	X	X	X	X	X	X	X				
MW-13-1015 MS	10/13/15	1050		Water			X														
MW-13-1015 SD	10/13/15	1050		Water			X														
MW-14-1015	10/13/15	845		Water			N														
MW-15-1015	10/13/15	955		Water			N														
MW-16-1015	10/13/15	750	G	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: 10/13/15 1445	Company: CDMS	Received by:	Date/Time: 10/13/15 14:45	Company: TA-BUF	
Relinquished by:	Date/Time: 10/13/15 1800	Company: TA-BUF	Received by:	Date/Time:	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	

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

TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Fax (716) 691-7991

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler:	Lab PM: Mason, Becky C	Carrier Tracking No(s):	COC No: 480-72273-16327.2
Client Contact: Timothy Beaumont	Phone:	E-Mail: becky.mason@testamericainc.com		Page: Page 2 of 2
Company: CDM Smith, Inc.				Job #:
Address: 6800 Old Collamer Road Suite 3	Due Date Requested:			
City: East Syracuse	TAT Requested (days):			
State, Zip: NY, 13057				
Phone:	PO #: 36380.110154			
Email: beaumonttj@cdmsmith.com	WO #:			
Project Name: Johnstown semi-annual GW	Project #: 48011229			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	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	8270D_LL_PAH - PAH low level Semivolatiles	351.2 - Total Kjeldahl Nitrogen	6010C - Metals Pb/Mn	RSK_175 - Methane/Ethane/Ethene	8260C - BTEX - 8260	SM4500_S2_F - Sulfide	9012B - 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:		X	X	N	N	S	D	A	A	CB	B	N	N	N			X	
FD-1015	10/13/15	—	G	Water	N	N	X	X	X	X	X	X	X	X	X	X	X				
TRIP BLANK	10/13/15	—	G	Water	N	N						X									
TRIP BLANK				Water																	

10/13/15

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: 10/13/15 1445	Company: CDMS	Received by:	Date/Time: 10/13/15 14:45	Company: TA-BUF
Relinquished by:	Date/Time: 10/13/15 1800	Company: TA-BUF	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 Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Fax (716) 691-7991

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Eric Rosenberg	Lab PM: Mason, Becky C	Carrier Tracking No(s):	COC No: 480-72273-16327.1
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: 6800 Old Collamer Road Suite 3	Due Date Requested:			
City: East Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13057	PO #: 36380.110154			
Phone:	WO #:			
Email: beaumonttj@cdmsmith.com	Project #: 48011229			
Project Name: Johnstown semi-annual GW	SSOW#:			
Site:				

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)	R3K_176_CO2 - Carbon dioxide	8270D_LL_PAH - PAH low level Semivolatiles	351.2 - Total Kjeldahl Nitrogen	6010C - Metals Pb/Mn	RSK_175 - Methane/Ethane/Ethene	8260C - BTEX - 8260	SM4500_S2_F - Sulfide	8012B - 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	B	N	N	N		
MW-4-1015	10/14/15	1050	G	Water		MS/MSD	X	X	X	X	X	X	X	X	X	X			
MW-7-1015	10/14/15	805	G	Water		MS/MSD	X	X	X	X	X	X	X	X	X	X			
MW-10-1015				Water															
MW-11-1015				Water															
MW-12-1015	10/14/15	9.00	G	Water		MS/MSD	X	X	X	X	X	X	X	X	X	X			
MW-13-1015				Water															
MW-13-1015 MS				Water															
MW-13-1015 SD				Water															
MW-14-1015				Water															
MW-15-1015				Water															
MW-16-1015				Water															

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological
Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For ____ Months
Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	10/14/15 1300	CDMS			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	10-14-15 1800	TA ALB		10-14-15 1300	TA ALB
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 Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Fax (716) 691-7991

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: 480-72273-16327.2
Client Contact: Timothy Beaumont	Phone: 203-727-6524	E-Mail: becky.mason@testamericainc.com		Page: Page 2 of 2
Company: CDM Smith, Inc.				Job #:
Address: 6800 Old Collamer Road Suite 3	Due Date Requested:			
City: East Syracuse	TAT Requested (days):			
State, Zip: NY, 13057				
Phone:	PO #: 36380.110154			
Email: beaumontj@cdmsmith.com	WO #:			
Project Name: Johnstown semi-annual GW	Project #: 48011229			
Site:	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 (Wwater, Ssolid, Oowaste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	RSK_175_CO2 - Carbon dioxide	8270D_LL_PAH - PAH low level Semivolatiles	351.2 - Total Kjeldahl Nitrogen	6010C - Metals Pb/Mn	RSK_175 - Methane/Ethane/Ethene	8260C - BTEX - 8260	SM4500_S2_F - Sulfide	9012B - 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	N	S	D	A	A	GB	B	N	N	N		
FD-1015				Water																
TRIP BLANK	10/14/15	—	G	Water								X								
TRIP BLANK				Water																

10-14-15

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological
Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For ____ Months
Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by:	Date/Time: 10/14/15 1300	Company: CDM S	Received by:		Date/Time: 10-14-15 1300	Company: TA ALB	
Relinquished by:	Date/Time: 10-14-15 1800	Company: TA ALB	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:				

National Grid
109 North Market Street, Johnstown New York

Sampling Personnel: Eric Rosenzweig
Job Number: 36380.110154
Well Id. **MW-4**

Date: 10/14/15
Weather: Clear ~55
Time In: 1015 Time Out:

Well Information

		TOC	Other
Depth to Water:	(feet)	23.48	
Depth to Bottom:	(feet)	27.32	
Depth to Product:	(feet)	—	
Length of Water Column:	(feet)	3.84	
Volume of Water in Well:	(gal)	0.61	
Three Well Volumes:	(gal)	1.84	

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)	500
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)
1020	Top of Pump	15.79	6.95	73	1.71	9.8	10.43	1.23
1025		15.55	6.97	77	1.98	23.7	10.93	1.28
1030		14.58	6.73	91	2.12	95.2	8.49	1.36
1035		14.38	6.71	94	2.15	125	8.16	1.38
1040	Pump	14.06	6.63	98	2.18	128	7.59	1.40
1045		13.91	6.61	100	2.19	116	7.53	1.40

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-4-1015 Duplicate? Yes ☐ No ☒
Sample Time: 1053 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: 36380.110154
Well Id. **MW-7**

Date: 10/14/15
Weather: Clear ≈ 50
Time In: 0730 Time Out:

Well Information

		TOC	Other
Depth to Water:	(feet)	14.61	
Depth to Bottom:	(feet)	22.10	
Depth to Product:	(feet)	—	
Length of Water Column:	(feet)	7.49	
Volume of Water in Well:	(gal)	1.20	
Three Well Volumes:	(gal)	3.60	

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)	500				
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)
735	14.93	16.99	7.43	-76	1.86	67.4	9.83	1.18
740	15.31	16.12	6.89	-42	1.71	151	5.91	1.09
745	15.65	15.81	6.87	-68	1.70	134	4.25	1.09
750	15.92	15.47	6.77	-78	1.71	75.9	3.69	1.09
755	16.21	15.39	6.72	-75	1.71	58.7	3.59	1.10
800	16.49	15.37	6.72	-75	1.72	39.7	3.47	1.10

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 ☒	No ☐
3 - 40 ml vials	Yes ☒	No ☐
1 - 250 ml plastic	Yes ☒	No ☐
1 - 250 ml plastic	Yes ☒	No ☐
3 - 40 ml vials	Yes ☒	No ☐
1 - 125 ml plastic	Yes ☒	No ☐
1 - 250 ml plastic	Yes ☒	No ☐
1 - 250 ml plastic	Yes ☒	No ☐
1 - 125 ml plastic	Yes ☒	No ☐
3 - 40 ml vials	Yes ☒	No ☐
2 - 125 ml plastic	Yes ☒	No ☐

Sample ID: MW-7-10 15
Sample Time: 805
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: 36380.110154
Well Id. **MW-10**

Date: 10/13/15
Weather: Overcast 60
Time In: 1130 Time Out:

Well Information

		TOC	Other
Depth to Water:	(feet)	14.95	
Depth to Bottom:	(feet)	22.05	
Depth to Product:	(feet)	—	
Length of Water Column:	(feet)	7.10	
Volume of Water in Well:	(gal)	1.14	
Three Well Volumes:	(gal)	3.41	

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)	.500				
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)
1135	15.42	16.51	6.75	43	3.69	6.1	8.74	2.38
1140	15.68	15.21	6.58	-90	4.71	15.5	4.23	3.01
1145	15.87	15.36	6.58	-98	4.67	12.8	3.77	2.98
1150	16.14	15.42	6.55	-97	4.67	6.0	3.35	2.99
1155	16.31	15.63	6.54	-97	4.67	4.4	3.28	2.99
1200	16.59	15.35	6.54	-98	4.73	3.6	3.20	3.02

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 ☒	No ☐
3 - 40 ml vials	Yes ☒	No ☐
1 - 250 ml plastic	Yes ☒	No ☐
1 - 250 ml plastic	Yes ☒	No ☐
3 - 40 ml vials	Yes ☒	No ☐
1 - 125 ml plastic	Yes ☒	No ☐
1 - 250 ml plastic	Yes ☒	No ☐
1 - 250 ml plastic	Yes ☒	No ☐
1 - 125 ml plastic	Yes ☒	No ☐
3 - 40 ml vials	Yes ☒	No ☐
2 - 125 ml plastic	Yes ☒	No ☐

Sample ID: MW-10-1015 Duplicate? Yes ☐ No ☒
Sample Time: 1205 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	Date:
Job Number: 36380.110154	Weather:
Well Id. **MW-11**	Time In: Time Out:

Well Information

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

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

Purging Information

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

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

Did well go dry? Yes [ ] No [ ]

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)

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_CI_E	CHLORIDE			

Shipped: Drop-off Albany Service Center [ ]

Sample ID:
Sample Time:

Duplicate? Yes [ ] No [X]
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: 36380.110154
Well Id. **MW-12**

Date: 10/14/15
Weather: Clear ± 50°
Time In: 825 Time Out:

Well Information

		TOC	Other
Depth to Water:	(feet)	15.62	
Depth to Bottom:	(feet)	22.24	
Depth to Product:	(feet)	-	
Length of Water Column:	(feet)	6.62	
Volume of Water in Well:	(gal)	1.06	
Three Well Volumes:	(gal)	3.18	

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)
830	15.65	13.28	6.72	162	1.93	58.0	14.36	0.997
835	15.70	12.25	6.46	174	2.65	34.4	9.77	1.71
840	15.72	12.37	6.49	168	2.77	12.7	8.68	1.81
845	15.74	12.24	6.50	160	2.93	30.1	7.61	1.38
850	15.75	12.27	6.50	157	2.92	17.2	7.38	1.87
855	15.76	12.28	6.50	155	2.91	12.6	7.26	1.87

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-12-15
Sample Time: 900
Duplicate? Yes [ ] No [X]
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: 36380.110154
Well Id. **MW-13**

Date: 10/13/15
Weather: Clear ± 55
Time In: 1015 Time Out:

Well Information

		TOC	Other
Depth to Water:	(feet)	14.98	
Depth to Bottom:	(feet)	22.75	
Depth to Product:	(feet)	—	
Length of Water Column:	(feet)	7.77	
Volume of Water in Well:	(gal)	1.24	
Three Well Volumes:	(gal)	3.73	

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)
1020	15.23	15.48	7.05	-93	0.762	7.1	7.71	0.481
1025	15.49	14.48	7.42	-143	0.609	2.5	6.29	0.388
1030	15.61	14.40	7.76	-150	0.595	1.3	3.95	0.381
1035	15.68	14.30	7.77	-149	0.593	2.9	3.87	0.380
1040	15.74	13.83	7.76	-145	0.602	3.2	3.78	0.385
1047	15.80	13.79	7.74	-147	0.606	3.8	3.73	0.388

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			

Shipped: Drop-off Albany Service Center [ ]

Sample ID: MW-13-1015
Sample Time: 1050
Duplicate? Yes [ ] No [X]
MS/MSD? Yes [X] No [ ]

Laboratory: Test America
Amherst, New York

National Grid
109 North Market Street, Johnstown New York

Sampling Personnel: Eric Rosenzweig
Job Number: 36380.110154
Well Id. **MW-14**

Date: 10/13/15
Weather: Clear ≈ 50°
Time In: 810 Time Out:

Well Information

		TOC	Other
Depth to Water:	(feet)	13.63	
Depth to Bottom:	(feet)	23.55	
Depth to Product:	(feet)	—	
Length of Water Column:	(feet)	9.92	
Volume of Water in Well:	(gal)	1.59	
Three Well Volumes:	(gal)	4.76	

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)
815	13.68	13.71	7.16	-64	0.969	200	9.04	0.630
820	13.72	13.98	6.96	-61	0.968	27.4	5.60	0.620
825	13.77	14.00	6.95	-61	0.972	17.8	5.35	0.622
830	13.80	14.18	6.93	-64	0.969	3.9	5.11	0.620
835	13.83	14.23	6.93	-66	0.969	2.2	4.90	0.620
840	13.85	14.27	6.93	-66	0.969	1.0	4.80	0.620

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		

4 - 250 ml amber	Yes [X]	No [ ]
6 - 40 ml vials	Yes [X]	No [ ]
2 - 250 ml plastic	Yes [X]	No [ ]
2 - 250 ml plastic	Yes [X]	No [ ]
6 - 40 ml vials	Yes [X]	No [ ]
2 - 125 ml plastic	Yes [X]	No [ ]
2 - 250 ml plastic	Yes [X]	No [ ]
2 - 250 ml plastic	Yes [X]	No [ ]
2 - 125 ml plastic	Yes [X]	No [ ]
6 - 40 ml vials	Yes [X]	No [ ]
4 - 125 ml plastic	Yes [X]	No [ ]

Shipped: Drop-off Albany Service Center [ ]

Sample ID: MW-14-1015
Sample Time: 845

Duplicate? Yes [X] No [ ] **FD-1015**
MS/MSD? Yes [ ] No [X]

Laboratory: Test America Amherst, New York

National Grid
109 North Market Street, Johnstown New York

Sampling Personnel: Eric Rosenzweig	Date: 10/13
Job Number: 36380.110154	Weather: Clear ± 55°
Well Id. **MW-15**	Time In: 920 Time Out:

Well Information

		TOC	Other
Depth to Water:	(feet)	17.23	
Depth to Bottom:	(feet)	23.00	
Depth to Product:	(feet)		
Length of Water Column:	(feet)	5.77	
Volume of Water in Well:	(gal)	0.92	
Three Well Volumes:	(gal)	2.77	

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)	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)
925	17.41	15.23	6.92	-70	1.24	15.9	10.44	0.774
930	17.54	14.07	6.67	-50	1.36	10.5	6.40	0.871
935	17.64	14.04	6.67	-67	1.38	6.2	5.58	0.882
940	17.72	14.07	6.65	-90	1.38	2.6	4.81	0.885
945	17.79	14.01	6.67	-98	1.39	2.4	4.60	0.888
950	17.84	13.90	6.67	-102	1.39	2.6	4.47	0.891

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_CI_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 [ ]

Sample ID: MW-15-1015
Sample Time: 955
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: 36380.110154
Well Id. **MW-16**

Date: 10/13/15
Weather: Clear ~ 50°
Time In: 715 Time Out:

Well Information

		TOC	Other
Depth to Water:	(feet)	9.61	
Depth to Bottom:	(feet)	19.45	
Depth to Product:	(feet)	—	
Length of Water Column:	(feet)	9.84	
Volume of Water in Well:	(gal)	1.57	
Three Well Volumes:	(gal)	4.72	

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)	1,500				
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)
720	9.86	11.62	6.86	120	1.35	2.2	10.68	0.862
725	10.01	11.74	6.99	-94	1.36	6.1	10.73	0.681
730	10.19	11.80	7.00	-114	1.37	5.0	9.84	0.878
735	10.42	11.95	6.99	-124	1.36	4.5	8.93	0.871
740	10.48	12.15	6.87	-110	1.32	4.4	8.16	0.853
745	10.59	12.23	6.86	-99	1.37	4.5	7.96	0.850

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-16-10152015 Duplicate? Yes [ ] No [X]
Sample Time: 750 MS/MSD? Yes [ ] No [X]

Laboratory: Test America
Amherst, New York

APPENDIX B

DATA USABILITY SUMMARY REPORT

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

TestAmerica Job ID: 480-89015-1
Client Project/Site: Johnstown semi-annual GW

For:
CDM Smith, Inc.
6800 Old Collamer Road
Suite 3
East Syracuse, New York 13057

Attn: Matthew Millias

Authorized for release by:
10/29/2015 11:51:12 AM
Anne Pridgeon, Project Management Assistant I
anne.pridgeon@testamericainc.com

Designee for

Becky Mason, Project Manager II
(413)572-4000
becky.mason@testamericainc.com

Table of Contents

Definitions/Glossary

Client: CDM Smith, Inc.
Project/Site: Johnstown semi-annual GW

TestAmerica Job ID: 480-89015-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
E	Result exceeded calibration range.

GC/MS Semi VOA

Qualifier	Qualifier Description
E	Result exceeded calibration range.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

GC VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 480-89015-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-89015-1

Comments
No additional comments.

Receipt
The samples were received on 10/14/2015 2:00 AM and 10/15/2015 2:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.4º C, 0.6º C and 0.7º C.

GC/MS VOA
Method(s) 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-13-1015 (480-89015-2), MW-13-1015 MS (480-89015-2[MS]) and MW-13-1015 SD (480-89015-2[MSD]). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-15-1015 (480-89015-4), (480-89015-L-4 MS) and (480-89015-L-4 MSD). Elevated reporting limits (RLs) are provided.

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

GC/MS Semi VOA
Method(s) 8270D_LL_PAH: The continuing calibration verification (CCVIS) associated with analytical batch 270414 recovered above upper control limits for Benzo(g,h,i)perylene. The large number of analytes included in the continuing calibration verification (CCV) gives a high probability that one or more analytes will be outside acceptance criteria. As indicated in the reference method, analysis may proceed as long as no more than 20% of the analytes of interest are outside the method-defined %D criteria. (CCVIS 480-270414/4).

Method(s) 8270D_LL_PAH: The following sample was diluted due to an abundance of target analytes : MW-13-1015 (480-89015-2). As such, surrogate recoveries are below the calibration range, and elevated reporting limits (RLs) are provided.

Method(s) 8270D_LL_PAH: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-15-1015 (480-89015-4). Elevated reporting limits (RLs) are provided.

Method(s) 8270D_LL_PAH: The following samples were diluted due to an abundance of target analytes : MW-13-1015 MS (480-89015-2[MS]) and MW-13-1015 SD (480-89015-2[MSD]). As such, surrogate and MS/MSD spike recoveries were diluted below the calibration range and may not be reported.

Method(s) 8270D_LL_PAH: The continuing calibration verification (CCVIS) associated with analytical batch 270414 recovered above the upper control limit for the analyte Benzo(g,h,i)perylene. The large number of analytes included in the continuing calibration verification (CCV) gives a high probability that one or more analytes will be outside acceptance criteria. As indicated in the reference method, analysis may proceed as long as no more than 20% of the analytes of interest are outside the method-defined %D criteria. (CCVIS 480-270414/4).

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

GC VOA
Method(s) RSK-175: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 480-268948 recovered outside control limits for the following analytes: Ethane, Ethene, & Methane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) RSK-175: The following volatiles samples were diluted due to foaming and odor at the time of its preparation for RSK_175 analysis: MW-15-1015 (480-89015-4). This sample was subsequently re-analyzed at a higher dilution factor in order to bring particular analytes within their respective calibration curves. Elevated reporting limits (RLs) are provided.

Method(s) RSK-175: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-10-1015 (480-89015-1), MW-15-1015 (480-89015-4) and MW-16-1015 (480-89015-5). Elevated reporting limits (RLs) are provided.

Job ID: 480-89015-1 (Continued)

Laboratory: TestAmerica Buffalo (Continued)

Method(s) RSK-175: The following sample was collected in properly preserved vials for analysis of dissolved gases (RSK_175). However, the pH was outside the required criteria when verified by the laboratory, and corrective action was not possible: MW-10-1015 (480-89015-1).

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

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: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: MW-4-1015 (480-89119-1), MW-7-1015 (480-89119-2) and MW-12-1015 (480-89119-3).

Method(s) SM 3500 FE D: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: MW-10-1015 (480-89015-1), MW-13-1015 (480-89015-2), MW-13-1015 MS (480-89015-2[MS]), MW-13-1015 SD (480-89015-2[MSD]), MW-14-1015 (480-89015-3), MW-15-1015 (480-89015-4), MW-16-1015 (480-89015-5) and FD-1015 (480-89015-6).

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

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

Detection Summary

Client: CDM Smith, Inc.
Project/Site: Johnstown semi-annual GW

TestAmerica Job ID: 480-89015-1

Client Sample ID: MW-10-1015 — Lab Sample ID: 480-89015-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2.3		1.0		ug/L	1		8260C	Total/NA
Toluene	2.0		1.0		ug/L	1		8260C	Total/NA
Ethylbenzene	1.0		1.0		ug/L	1		8260C	Total/NA
Naphthalene	7.9		0.48		ug/L	1		8270D_LL_PAH	Total/NA
Methane	82		20		ug/L	5		RSK-175	Total/NA
Manganese	1.6		0.0030		mg/L	1		6010C	Total/NA
Total Kjeldahl Nitrogen	6.3		0.40		mg/L	2		351.2	Total/NA
Nitrate as N	0.11		0.050		mg/L	1		353.2	Total/NA
Cyanide, Total	0.10		0.010		mg/L	1		9012B	Total/NA
Sulfate	53.9		10.0		mg/L	2		D516-90, 02	Total/NA
Alkalinity, Total	581		5.0		mg/L	1		SM 2320B	Total/NA
Chloride	1060		25.0		mg/L	25		SM 4500 Cl- E	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	13000		1000		ug/L	1		RSK-175	Total/NA

Client Sample ID: MW-13-1015 — Lab Sample ID: 480-89015-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	360		5.0		ug/L	5		8260C	Total/NA
Toluene	320		5.0		ug/L	5		8260C	Total/NA
Ethylbenzene	190		5.0		ug/L	5		8260C	Total/NA
m-Xylene & p-Xylene	270		10		ug/L	5		8260C	Total/NA
o-Xylene	120		5.0		ug/L	5		8260C	Total/NA
Xylenes, Total	390		10		ug/L	5		8260C	Total/NA
Acenaphthene	65	E	0.49		ug/L	1		8270D_LL_PAH	Total/NA
Acenaphthylene	77	E	0.49		ug/L	1		8270D_LL_PAH	Total/NA
Anthracene	9.2	F1 F2	0.49		ug/L	1		8270D_LL_PAH	Total/NA
Benzo(a)anthracene	0.59	F2	0.49		ug/L	1		8270D_LL_PAH	Total/NA
Chrysene	0.50	F1 F2	0.49		ug/L	1		8270D_LL_PAH	Total/NA
Fluoranthene	5.5	F2	0.49		ug/L	1		8270D_LL_PAH	Total/NA
Fluorene	43	F1 F2	0.49		ug/L	1		8270D_LL_PAH	Total/NA
Naphthalene	320	E	0.49		ug/L	1		8270D_LL_PAH	Total/NA
Phenanthrene	31	F1	0.49		ug/L	1		8270D_LL_PAH	Total/NA
Pyrene	5.8	F2	0.49		ug/L	1		8270D_LL_PAH	Total/NA
Acenaphthene - DL	110		49		ug/L	100		8270D_LL_PAH	Total/NA
Acenaphthylene - DL	220	F2	49		ug/L	100		8270D_LL_PAH	Total/NA
Fluorene - DL	54	F1 F2	49		ug/L	100		8270D_LL_PAH	Total/NA
Naphthalene - DL	3200		49		ug/L	100		8270D_LL_PAH	Total/NA
Methane	110		4.0		ug/L	1		RSK-175	Total/NA
Manganese	0.064		0.0030		mg/L	1		6010C	Total/NA
Total Kjeldahl Nitrogen	1.4		0.20		mg/L	1		351.2	Total/NA
Cyanide, Total	0.22	F1	0.010		mg/L	1		9012B	Total/NA
Alkalinity, Total	283	F1	5.0		mg/L	1		SM 2320B	Total/NA
Chloride	11.2		1.0		mg/L	1		SM 4500 Cl- E	Total/NA

Client Sample ID: MW-14-1015 — Lab Sample ID: 480-89015-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.011		0.0030		mg/L	1		6010C	Total/NA
Total Kjeldahl Nitrogen	0.72		0.20		mg/L	1		351.2	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

Detection Summary

Client: CDM Smith, Inc.
Project/Site: Johnstown semi-annual GW

TestAmerica Job ID: 480-89015-1

Client Sample ID: MW-14-1015 (Continued) — Lab Sample ID: 480-89015-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrate as N	0.16		0.050		mg/L	1		353.2	Total/NA
Cyanide, Total	0.12		0.010		mg/L	1		9012B	Total/NA
Alkalinity, Total	445		5.0		mg/L	1		SM 2320B	Total/NA
Chloride	10.7		1.0		mg/L	1		SM 4500 Cl- E	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	5600		1000		ug/L	1		RSK-175	Total/NA

Client Sample ID: MW-15-1015 — Lab Sample ID: 480-89015-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	350	E	1.0		ug/L	1		8260C	Total/NA
Toluene	7.0		1.0		ug/L	1		8260C	Total/NA
Ethylbenzene	92		1.0		ug/L	1		8260C	Total/NA
m-Xylene & p-Xylene	8.1		2.0		ug/L	1		8260C	Total/NA
o-Xylene	23		1.0		ug/L	1		8260C	Total/NA
Xylenes, Total	31		2.0		ug/L	1		8260C	Total/NA
Benzene - DL	380		8.0		ug/L	8		8260C	Total/NA
Ethylbenzene - DL	94		8.0		ug/L	8		8260C	Total/NA
o-Xylene - DL	22		8.0		ug/L	8		8260C	Total/NA
Xylenes, Total - DL	22		16		ug/L	8		8260C	Total/NA
Acenaphthene	16		0.47		ug/L	1		8270D_LL_PAH	Total/NA
Acenaphthylene	3.1		0.47		ug/L	1		8270D_LL_PAH	Total/NA
Anthracene	0.57		0.47		ug/L	1		8270D_LL_PAH	Total/NA
Fluoranthene	0.61		0.47		ug/L	1		8270D_LL_PAH	Total/NA
Fluorene	4.1		0.47		ug/L	1		8270D_LL_PAH	Total/NA
Naphthalene	48	E	0.47		ug/L	1		8270D_LL_PAH	Total/NA
Phenanthrene	2.8		0.47		ug/L	1		8270D_LL_PAH	Total/NA
Pyrene	0.69		0.47		ug/L	1		8270D_LL_PAH	Total/NA
Acenaphthene - DL	17		1.9		ug/L	4		8270D_LL_PAH	Total/NA
Acenaphthylene - DL	3.0		1.9		ug/L	4		8270D_LL_PAH	Total/NA
Fluorene - DL	3.9		1.9		ug/L	4		8270D_LL_PAH	Total/NA
Naphthalene - DL	82		1.9		ug/L	4		8270D_LL_PAH	Total/NA
Phenanthrene - DL	2.8		1.9		ug/L	4		8270D_LL_PAH	Total/NA
Methane - DL	1600		200		ug/L	50		RSK-175	Total/NA
Manganese	0.70		0.0030		mg/L	1		6010C	Total/NA
Total Kjeldahl Nitrogen	3.9		0.20		mg/L	1		351.2	Total/NA
Cyanide, Total	1.0		0.050		mg/L	5		9012B	Total/NA
Sulfate	78.5		15.0		mg/L	3		D516-90, 02	Total/NA
Alkalinity, Total	600		5.0		mg/L	1		SM 2320B	Total/NA
Ferrous Iron	0.15	HF	0.10		mg/L	1		SM 3500 FE D	Total/NA
Chloride	49.3		1.0		mg/L	1		SM 4500 Cl- E	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	15000		1000		ug/L	1		RSK-175	Total/NA

Client Sample ID: MW-16-1015 — Lab Sample ID: 480-89015-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	40		1.0		ug/L	1		8260C	Total/NA
Toluene	1.4		1.0		ug/L	1		8260C	Total/NA
Ethylbenzene	26		1.0		ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

Detection Summary

Client: CDM Smith, Inc.
Project/Site: Johnstown semi-annual GW

TestAmerica Job ID: 480-89015-1

Client Sample ID: MW-16-1015 (Continued) — Lab Sample ID: 480-89015-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
m-Xylene & p-Xylene	4.9		2.0		ug/L	1		8260C	Total/NA
o-Xylene	11		1.0		ug/L	1		8260C	Total/NA
Xylenes, Total	16		2.0		ug/L	1		8260C	Total/NA
Acenaphthene	14		0.50		ug/L	1		8270D_LL_PAH	Total/NA
Acenaphthylene	16		0.50		ug/L	1		8270D_LL_PAH	Total/NA
Anthracene	1.2		0.50		ug/L	1		8270D_LL_PAH	Total/NA
Fluoranthene	1.1		0.50		ug/L	1		8270D_LL_PAH	Total/NA
Fluorene	7.1		0.50		ug/L	1		8270D_LL_PAH	Total/NA
Naphthalene	5.1		0.50		ug/L	1		8270D_LL_PAH	Total/NA
Phenanthrene	6.7		0.50		ug/L	1		8270D_LL_PAH	Total/NA
Pyrene	1.2		0.50		ug/L	1		8270D_LL_PAH	Total/NA
Methane - DL	1100		200		ug/L	50		RSK-175	Total/NA
Manganese	0.33		0.0030		mg/L	1		6010C	Total/NA
Total Kjeldahl Nitrogen	1.9		0.20		mg/L	1		351.2	Total/NA
Nitrate as N	0.37		0.050		mg/L	1		353.2	Total/NA
Cyanide, Total	0.24		0.010		mg/L	1		9012B	Total/NA
Sulfate	22.8		5.0		mg/L	1		D516-90, 02	Total/NA
Alkalinity, Total	638		5.0		mg/L	1		SM 2320B	Total/NA
Chloride	4.9		1.0		mg/L	1		SM 4500 Cl- E	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	12000		1000		ug/L	1		RSK-175	Total/NA

Client Sample ID: FD-1015 — Lab Sample ID: 480-89015-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.015		0.0030		mg/L	1		6010C	Total/NA
Total Kjeldahl Nitrogen	0.99		0.20		mg/L	1		351.2	Total/NA
Nitrate as N	0.16		0.050		mg/L	1		353.2	Total/NA
Cyanide, Total	0.14		0.010		mg/L	1		9012B	Total/NA
Alkalinity, Total	447		5.0		mg/L	1		SM 2320B	Total/NA
Chloride	12.0		1.0		mg/L	1		SM 4500 Cl- E	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	6200		1000		ug/L	1		RSK-175	Total/NA

Client Sample ID: TRIP BLANK — Lab Sample ID: 480-89015-7

No Detections.

Client Sample ID: MW-4-1015 — Lab Sample ID: 480-89119-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	2.2		0.52		ug/L	1		8270D_LL_PAH	Total/NA
Manganese	0.019		0.0030		mg/L	1		6010C	Total/NA
Nitrate as N	2.7		0.050		mg/L	1		353.2	Total/NA
Sulfate	70.1		10.0		mg/L	2		D516-90, 02	Total/NA
Alkalinity, Total	412		5.0		mg/L	1		SM 2320B	Total/NA
Chloride	365		10.0		mg/L	10		SM 4500 Cl- E	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	4700		1000		ug/L	1		RSK-175	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: CDM Smith, Inc.
Project/Site: Johnstown semi-annual GW

TestAmerica Job ID: 480-89015-1

Client Sample ID: MW-7-1015 — Lab Sample ID: 480-89119-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.3		1.0		ug/L	1		8260C	Total/NA
Toluene	1.3		1.0		ug/L	1		8260C	Total/NA
Naphthalene	5.2		0.49		ug/L	1		8270D_LL_PAH	Total/NA
Methane	96		4.0		ug/L	1		RSK-175	Total/NA
Manganese	0.46		0.0030		mg/L	1		6010C	Total/NA
Total Kjeldahl Nitrogen	1.5		0.20		mg/L	1		351.2	Total/NA
Cyanide, Total	0.18		0.010		mg/L	1		9012B	Total/NA
Sulfate	533		75.0		mg/L	15		D516-90, 02	Total/NA
Alkalinity, Total	403		5.0		mg/L	1		SM 2320B	Total/NA
Chloride	66.7		2.0		mg/L	2		SM 4500 Cl- E	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	3700		1000		ug/L	1		RSK-175	Total/NA

Client Sample ID: MW-12-1015 — Lab Sample ID: 480-89119-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthylene	0.73		0.47		ug/L	1		8270D_LL_PAH	Total/NA
Naphthalene	1.9		0.47		ug/L	1		8270D_LL_PAH	Total/NA
Manganese	0.039		0.0030		mg/L	1		6010C	Total/NA
Nitrate as N	2.5		0.050		mg/L	1		353.2	Total/NA
Sulfate	70.2		15.0		mg/L	3		D516-90, 02	Total/NA
Alkalinity, Total	401		5.0		mg/L	1		SM 2320B	Total/NA
Chloride	591		15.0		mg/L	15		SM 4500 Cl- E	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	11000		1000		ug/L	1		RSK-175	Total/NA

Client Sample ID: TRIP BLANK — Lab Sample ID: 480-89119-4

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-10-1015

Date Collected: 10/13/15 12:05
Date Received: 10/14/15 02:00

Lab Sample ID: 480-89015-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**2.3**		1.0		ug/L			10/22/15 23:13	1
Toluene	**2.0**		1.0		ug/L			10/22/15 23:13	1
Ethylbenzene	**1.0**		1.0		ug/L			10/22/15 23:13	1
m-Xylene & p-Xylene	ND		2.0		ug/L			10/22/15 23:13	1
o-Xylene	ND		1.0		ug/L			10/22/15 23:13	1
Xylenes, Total	ND		2.0		ug/L			10/22/15 23:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*66 - 137*		*10/22/15 23:13*	*1*
Toluene-d8 (Surr)	*99*		*71 - 126*		*10/22/15 23:13*	*1*
4-Bromofluorobenzene (Surr)	*99*		*73 - 120*		*10/22/15 23:13*	*1*
Dibromofluoromethane (Surr)	*103*		*60 - 140*		*10/22/15 23:13*	*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		0.48		ug/L		10/15/15 08:08	10/21/15 19:52	1
Acenaphthylene	ND		0.48		ug/L		10/15/15 08:08	10/21/15 19:52	1
Anthracene	ND		0.48		ug/L		10/15/15 08:08	10/21/15 19:52	1
Benzo(a)anthracene	ND		0.48		ug/L		10/15/15 08:08	10/21/15 19:52	1
Benzo(a)pyrene	ND		0.48		ug/L		10/15/15 08:08	10/21/15 19:52	1
Benzo(b)fluoranthene	ND		0.48		ug/L		10/15/15 08:08	10/21/15 19:52	1
Benzo(g,h,i)perylene	ND		0.48		ug/L		10/15/15 08:08	10/21/15 19:52	1
Benzo(k)fluoranthene	ND		0.48		ug/L		10/15/15 08:08	10/21/15 19:52	1
Chrysene	ND		0.48		ug/L		10/15/15 08:08	10/21/15 19:52	1
Dibenz(a,h)anthracene	ND		0.48		ug/L		10/15/15 08:08	10/21/15 19:52	1
Fluoranthene	ND		0.48		ug/L		10/15/15 08:08	10/21/15 19:52	1
Fluorene	ND		0.48		ug/L		10/15/15 08:08	10/21/15 19:52	1
Indeno(1,2,3-cd)pyrene	ND		0.48		ug/L		10/15/15 08:08	10/21/15 19:52	1
Naphthalene	**7.9**		0.48		ug/L		10/15/15 08:08	10/21/15 19:52	1
Phenanthrene	ND		0.48		ug/L		10/15/15 08:08	10/21/15 19:52	1
Pyrene	ND		0.48		ug/L		10/15/15 08:08	10/21/15 19:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*82*		*48 - 120*	*10/15/15 08:08*	*10/21/15 19:52*	*1*
Nitrobenzene-d5	*84*		*46 - 120*	*10/15/15 08:08*	*10/21/15 19:52*	*1*
p-Terphenyl-d14	*80*		*24 - 136*	*10/15/15 08:08*	*10/21/15 19:52*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5		ug/L			10/15/15 12:18	1
Ethene	ND	*	7.0		ug/L			10/15/15 12:18	1
Methane	**82**		20		ug/L			10/15/15 14:38	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	**13000**		1000		ug/L			10/26/15 14:22	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.010		mg/L		10/14/15 11:36	10/15/15 10:33	1
Manganese	**1.6**		0.0030		mg/L		10/14/15 11:36	10/15/15 10:33	1

Client Sample ID: MW-10-1015

Lab Sample ID: 480-89015-1

Date Collected: 10/13/15 12:05

Matrix: Water

Date Received: 10/14/15 02:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	**6.3**		0.40		mg/L		10/15/15 15:13	10/16/15 20:08	2
Nitrate as N	**0.11**		0.050		mg/L			10/14/15 12:08	1
Cyanide, Total	**0.10**		0.010		mg/L		10/21/15 19:50	10/22/15 11:46	1
Sulfate	**53.9**		10.0		mg/L			10/19/15 20:21	2
Alkalinity, Total	**581**		5.0		mg/L			10/14/15 13:21	1
Ferrous Iron	ND	HF	0.10		mg/L			10/14/15 14:17	1
Chloride	**1060**		25.0		mg/L			10/16/15 21:53	25
Sulfide	ND		1.0		mg/L			10/20/15 10:20	1

Client Sample ID: MW-13-1015

Lab Sample ID: 480-89015-2

Date Collected: 10/13/15 10:50

Matrix: Water

Date Received: 10/14/15 02:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**360**		5.0		ug/L			10/22/15 23:41	5
Toluene	**320**		5.0		ug/L			10/22/15 23:41	5
Ethylbenzene	**190**		5.0		ug/L			10/22/15 23:41	5
m-Xylene & p-Xylene	**270**		10		ug/L			10/22/15 23:41	5
o-Xylene	**120**		5.0		ug/L			10/22/15 23:41	5
Xylenes, Total	**390**		10		ug/L			10/22/15 23:41	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*66 - 137*		*10/22/15 23:41*	*5*
Toluene-d8 (Surr)	*100*		*71 - 126*		*10/22/15 23:41*	*5*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*		*10/22/15 23:41*	*5*
Dibromofluoromethane (Surr)	*102*		*60 - 140*		*10/22/15 23:41*	*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	**65**	**E**	0.49		ug/L		10/15/15 08:08	10/21/15 20:21	1
Acenaphthylene	**77**	**E**	0.49		ug/L		10/15/15 08:08	10/21/15 20:21	1
Anthracene	**9.2**	**F1 F2**	0.49		ug/L		10/15/15 08:08	10/21/15 20:21	1
Benzo(a)anthracene	**0.59**	**F2**	0.49		ug/L		10/15/15 08:08	10/21/15 20:21	1
Benzo(a)pyrene	ND	F2	0.49		ug/L		10/15/15 08:08	10/21/15 20:21	1
Benzo(b)fluoranthene	ND	F2	0.49		ug/L		10/15/15 08:08	10/21/15 20:21	1
Benzo(g,h,i)perylene	ND	F2	0.49		ug/L		10/15/15 08:08	10/21/15 20:21	1
Benzo(k)fluoranthene	ND	F2	0.49		ug/L		10/15/15 08:08	10/21/15 20:21	1
Chrysene	**0.50**	**F1 F2**	0.49		ug/L		10/15/15 08:08	10/21/15 20:21	1
Dibenz(a,h)anthracene	ND	F2	0.49		ug/L		10/15/15 08:08	10/21/15 20:21	1
Fluoranthene	**5.5**	**F2**	0.49		ug/L		10/15/15 08:08	10/21/15 20:21	1
Fluorene	**43**	**F1 F2**	0.49		ug/L		10/15/15 08:08	10/21/15 20:21	1
Indeno(1,2,3-cd)pyrene	ND	F2	0.49		ug/L		10/15/15 08:08	10/21/15 20:21	1
Naphthalene	**320**	**E**	0.49		ug/L		10/15/15 08:08	10/21/15 20:21	1
Phenanthrene	**31**	**F1**	0.49		ug/L		10/15/15 08:08	10/21/15 20:21	1
Pyrene	**5.8**	**F2**	0.49		ug/L		10/15/15 08:08	10/21/15 20:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*48 - 120*	*10/15/15 08:08*	*10/21/15 20:21*	*1*
Nitrobenzene-d5	*103*		*46 - 120*	*10/15/15 08:08*	*10/21/15 20:21*	*1*

Client Sample ID: MW-13-1015

Date Collected: 10/13/15 10:50
Date Received: 10/14/15 02:00

Lab Sample ID: 480-89015-2

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	*78*		*24 - 136*	*10/15/15 08:08*	*10/21/15 20:21*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**110**		49		ug/L		10/15/15 08:08	10/27/15 07:28	100
Acenaphthylene	**220**	**F2**	49		ug/L		10/15/15 08:08	10/27/15 07:28	100
Anthracene	ND		49		ug/L		10/15/15 08:08	10/27/15 07:28	100
Benzo(a)anthracene	ND		49		ug/L		10/15/15 08:08	10/27/15 07:28	100
Benzo(a)pyrene	ND		49		ug/L		10/15/15 08:08	10/27/15 07:28	100
Benzo(b)fluoranthene	ND		49		ug/L		10/15/15 08:08	10/27/15 07:28	100
Benzo(g,h,i)perylene	ND		49		ug/L		10/15/15 08:08	10/27/15 07:28	100
Benzo(k)fluoranthene	ND	F1	49		ug/L		10/15/15 08:08	10/27/15 07:28	100
Chrysene	ND		49		ug/L		10/15/15 08:08	10/27/15 07:28	100
Dibenz(a,h)anthracene	ND		49		ug/L		10/15/15 08:08	10/27/15 07:28	100
Fluoranthene	ND		49		ug/L		10/15/15 08:08	10/27/15 07:28	100
Fluorene	**54**	**F1 F2**	49		ug/L		10/15/15 08:08	10/27/15 07:28	100
Indeno(1,2,3-cd)pyrene	ND		49		ug/L		10/15/15 08:08	10/27/15 07:28	100
Naphthalene	**3200**		49		ug/L		10/15/15 08:08	10/27/15 07:28	100
Phenanthrene	ND	F1	49		ug/L		10/15/15 08:08	10/27/15 07:28	100
Pyrene	ND		49		ug/L		10/15/15 08:08	10/27/15 07:28	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*93*		*48 - 120*	*10/15/15 08:08*	*10/27/15 07:28*	*100*
Nitrobenzene-d5	*71*		*46 - 120*	*10/15/15 08:08*	*10/27/15 07:28*	*100*
p-Terphenyl-d14	*79*		*24 - 136*	*10/15/15 08:08*	*10/27/15 07:28*	*100*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5		ug/L			10/15/15 14:56	1
Ethene	ND	*	7.0		ug/L			10/15/15 14:56	1
Methane	**110**		4.0		ug/L			10/15/15 14:56	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	ND		1000		ug/L			10/24/15 15:15	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.010		mg/L		10/14/15 11:36	10/15/15 10:37	1
Manganese	**0.064**		0.0030		mg/L		10/14/15 11:36	10/15/15 10:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	**1.4**		0.20		mg/L		10/15/15 15:13	10/16/15 16:36	1
Nitrate as N	ND		0.050		mg/L			10/14/15 12:09	1
Cyanide, Total	**0.22**	**F1**	0.010		mg/L		10/22/15 17:55	10/23/15 11:45	1
Sulfate	ND	F1	5.0		mg/L			10/19/15 19:55	1
Alkalinity, Total	**283**	**F1**	5.0		mg/L			10/15/15 20:42	1
Ferrous Iron	ND	HF	0.10		mg/L			10/14/15 14:17	1
Chloride	**11.2**		1.0		mg/L			10/16/15 19:36	1
Sulfide	ND		1.0		mg/L			10/20/15 10:20	1

Client Sample ID: MW-14-1015

Date Collected: 10/13/15 08:45
Date Received: 10/14/15 02:00

Lab Sample ID: 480-89015-3

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			10/23/15 11:11	1
Toluene	ND		1.0		ug/L			10/23/15 11:11	1
Ethylbenzene	ND		1.0		ug/L			10/23/15 11:11	1
m-Xylene & p-Xylene	ND		2.0		ug/L			10/23/15 11:11	1
o-Xylene	ND		1.0		ug/L			10/23/15 11:11	1
Xylenes, Total	ND		2.0		ug/L			10/23/15 11:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*66 - 137*		*10/23/15 11:11*	*1*
Toluene-d8 (Surr)	*100*		*71 - 126*		*10/23/15 11:11*	*1*
4-Bromofluorobenzene (Surr)	*100*		*73 - 120*		*10/23/15 11:11*	*1*
Dibromofluoromethane (Surr)	*100*		*60 - 140*		*10/23/15 11:11*	*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		0.52		ug/L		10/15/15 08:08	10/21/15 20:50	1
Acenaphthylene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 20:50	1
Anthracene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 20:50	1
Benzo(a)anthracene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 20:50	1
Benzo(a)pyrene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 20:50	1
Benzo(b)fluoranthene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 20:50	1
Benzo(g,h,i)perylene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 20:50	1
Benzo(k)fluoranthene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 20:50	1
Chrysene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 20:50	1
Dibenz(a,h)anthracene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 20:50	1
Fluoranthene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 20:50	1
Fluorene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 20:50	1
Indeno(1,2,3-cd)pyrene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 20:50	1
Naphthalene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 20:50	1
Phenanthrene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 20:50	1
Pyrene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 20:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*86*		*48 - 120*	*10/15/15 08:08*	*10/21/15 20:50*	*1*
Nitrobenzene-d5	*84*		*46 - 120*	*10/15/15 08:08*	*10/21/15 20:50*	*1*
p-Terphenyl-d14	*84*		*24 - 136*	*10/15/15 08:08*	*10/21/15 20:50*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5		ug/L			10/15/15 12:53	1
Ethene	ND	*	7.0		ug/L			10/15/15 12:53	1
Methane	ND		4.0		ug/L			10/15/15 12:53	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	**5600**		1000		ug/L			10/24/15 16:00	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.010		mg/L		10/14/15 11:36	10/15/15 10:52	1
Manganese	**0.011**		0.0030		mg/L		10/14/15 11:36	10/15/15 10:52	1

Client Sample ID: MW-14-1015

Date Collected: 10/13/15 08:45
Date Received: 10/14/15 02:00

Lab Sample ID: 480-89015-3
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	**0.72**		0.20		mg/L		10/14/15 12:41	10/15/15 11:50	1
Nitrate as N	**0.16**		0.050		mg/L			10/14/15 12:13	1
Cyanide, Total	**0.12**		0.010		mg/L		10/25/15 09:26	10/26/15 13:04	1
Sulfate	ND		5.0		mg/L			10/19/15 20:09	1
Alkalinity, Total	**445**		5.0		mg/L			10/14/15 14:01	1
Ferrous Iron	ND	HF	0.10		mg/L			10/14/15 14:17	1
Chloride	**10.7**		1.0		mg/L			10/16/15 12:23	1
Sulfide	ND		1.0		mg/L			10/20/15 10:20	1

Client Sample ID: MW-15-1015

Date Collected: 10/13/15 09:55
Date Received: 10/14/15 02:00

Lab Sample ID: 480-89015-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**350**	**E**	1.0		ug/L			10/23/15 00:36	1
Toluene	**7.0**		1.0		ug/L			10/23/15 00:36	1
Ethylbenzene	**92**		1.0		ug/L			10/23/15 00:36	1
m-Xylene & p-Xylene	**8.1**		2.0		ug/L			10/23/15 00:36	1
o-Xylene	**23**		1.0		ug/L			10/23/15 00:36	1
Xylenes, Total	**31**		2.0		ug/L			10/23/15 00:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*66 - 137*		*10/23/15 00:36*	*1*
Toluene-d8 (Surr)	*99*		*71 - 126*		*10/23/15 00:36*	*1*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*		*10/23/15 00:36*	*1*
Dibromofluoromethane (Surr)	*103*		*60 - 140*		*10/23/15 00:36*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**380**		8.0		ug/L			10/23/15 11:39	8
Toluene	ND		8.0		ug/L			10/23/15 11:39	8
Ethylbenzene	**94**		8.0		ug/L			10/23/15 11:39	8
m-Xylene & p-Xylene	ND		16		ug/L			10/23/15 11:39	8
o-Xylene	**22**		8.0		ug/L			10/23/15 11:39	8
Xylenes, Total	**22**		16		ug/L			10/23/15 11:39	8

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*66 - 137*		*10/23/15 11:39*	*8*
Toluene-d8 (Surr)	*100*		*71 - 126*		*10/23/15 11:39*	*8*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*		*10/23/15 11:39*	*8*
Dibromofluoromethane (Surr)	*101*		*60 - 140*		*10/23/15 11:39*	*8*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**16**		0.47		ug/L		10/15/15 08:08	10/21/15 21:19	1
Acenaphthylene	**3.1**		0.47		ug/L		10/15/15 08:08	10/21/15 21:19	1
Anthracene	**0.57**		0.47		ug/L		10/15/15 08:08	10/21/15 21:19	1
Benzo(a)anthracene	ND		0.47		ug/L		10/15/15 08:08	10/21/15 21:19	1
Benzo(a)pyrene	ND		0.47		ug/L		10/15/15 08:08	10/21/15 21:19	1
Benzo(b)fluoranthene	ND		0.47		ug/L		10/15/15 08:08	10/21/15 21:19	1

Client Sample ID: MW-15-1015
Date Collected: 10/13/15 09:55
Date Received: 10/14/15 02:00

Lab Sample ID: 480-89015-4
Matrix: 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(g,h,i)perylene	ND		0.47		ug/L		10/15/15 08:08	10/21/15 21:19	1
Benzo(k)fluoranthene	ND		0.47		ug/L		10/15/15 08:08	10/21/15 21:19	1
Chrysene	ND		0.47		ug/L		10/15/15 08:08	10/21/15 21:19	1
Dibenz(a,h)anthracene	ND		0.47		ug/L		10/15/15 08:08	10/21/15 21:19	1
Fluoranthene	**0.61**		0.47		ug/L		10/15/15 08:08	10/21/15 21:19	1
Fluorene	**4.1**		0.47		ug/L		10/15/15 08:08	10/21/15 21:19	1
Indeno(1,2,3-cd)pyrene	ND		0.47		ug/L		10/15/15 08:08	10/21/15 21:19	1
Naphthalene	**48**	**E**	0.47		ug/L		10/15/15 08:08	10/21/15 21:19	1
Phenanthrene	**2.8**		0.47		ug/L		10/15/15 08:08	10/21/15 21:19	1
Pyrene	**0.69**		0.47		ug/L		10/15/15 08:08	10/21/15 21:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*75*		*48 - 120*	*10/15/15 08:08*	*10/21/15 21:19*	*1*
Nitrobenzene-d5	*80*		*46 - 120*	*10/15/15 08:08*	*10/21/15 21:19*	*1*
p-Terphenyl-d14	*74*		*24 - 136*	*10/15/15 08:08*	*10/21/15 21:19*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**17**		1.9		ug/L		10/15/15 08:08	10/25/15 09:27	4
Acenaphthylene	**3.0**		1.9		ug/L		10/15/15 08:08	10/25/15 09:27	4
Anthracene	ND		1.9		ug/L		10/15/15 08:08	10/25/15 09:27	4
Benzo(a)anthracene	ND		1.9		ug/L		10/15/15 08:08	10/25/15 09:27	4
Benzo(a)pyrene	ND		1.9		ug/L		10/15/15 08:08	10/25/15 09:27	4
Benzo(b)fluoranthene	ND		1.9		ug/L		10/15/15 08:08	10/25/15 09:27	4
Benzo(g,h,i)perylene	ND		1.9		ug/L		10/15/15 08:08	10/25/15 09:27	4
Benzo(k)fluoranthene	ND		1.9		ug/L		10/15/15 08:08	10/25/15 09:27	4
Chrysene	ND		1.9		ug/L		10/15/15 08:08	10/25/15 09:27	4
Dibenz(a,h)anthracene	ND		1.9		ug/L		10/15/15 08:08	10/25/15 09:27	4
Fluoranthene	ND		1.9		ug/L		10/15/15 08:08	10/25/15 09:27	4
Fluorene	**3.9**		1.9		ug/L		10/15/15 08:08	10/25/15 09:27	4
Indeno(1,2,3-cd)pyrene	ND		1.9		ug/L		10/15/15 08:08	10/25/15 09:27	4
Naphthalene	**82**		1.9		ug/L		10/15/15 08:08	10/25/15 09:27	4
Phenanthrene	**2.8**		1.9		ug/L		10/15/15 08:08	10/25/15 09:27	4
Pyrene	ND		1.9		ug/L		10/15/15 08:08	10/25/15 09:27	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*88*		*48 - 120*	*10/15/15 08:08*	*10/25/15 09:27*	*4*
Nitrobenzene-d5	*72*		*46 - 120*	*10/15/15 08:08*	*10/25/15 09:27*	*4*
p-Terphenyl-d14	*77*		*24 - 136*	*10/15/15 08:08*	*10/25/15 09:27*	*4*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		75		ug/L			10/15/15 13:11	10
Ethene	ND	*	70		ug/L			10/15/15 13:11	10

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	**15000**		1000		ug/L			10/24/15 16:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**1600**		200		ug/L			10/15/15 15:13	50

Client Sample ID: MW-15-1015

Lab Sample ID: 480-89015-4

Date Collected: 10/13/15 09:55

Matrix: Water

Date Received: 10/14/15 02:00

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.010		mg/L		10/14/15 11:36	10/15/15 10:55	1
Manganese	**0.70**		0.0030		mg/L		10/14/15 11:36	10/15/15 10:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	**3.9**		0.20		mg/L		10/14/15 12:41	10/15/15 11:50	1
Nitrate as N	ND		0.050		mg/L			10/14/15 10:49	1
Cyanide, Total	**1.0**		0.050		mg/L		10/27/15 02:50	10/27/15 15:07	5
Sulfate	**78.5**		15.0		mg/L			10/19/15 20:32	3
Alkalinity, Total	**600**		5.0		mg/L			10/14/15 14:10	1
Ferrous Iron	**0.15**	**HF**	0.10		mg/L			10/14/15 14:17	1
Chloride	**49.3**		1.0		mg/L			10/16/15 12:23	1
Sulfide	ND		1.0		mg/L			10/20/15 10:20	1

Client Sample ID: MW-16-1015

Lab Sample ID: 480-89015-5

Date Collected: 10/13/15 07:50

Matrix: Water

Date Received: 10/14/15 02:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**40**		1.0		ug/L			10/23/15 12:07	1
Toluene	**1.4**		1.0		ug/L			10/23/15 12:07	1
Ethylbenzene	**26**		1.0		ug/L			10/23/15 12:07	1
m-Xylene & p-Xylene	**4.9**		2.0		ug/L			10/23/15 12:07	1
o-Xylene	**11**		1.0		ug/L			10/23/15 12:07	1
Xylenes, Total	**16**		2.0		ug/L			10/23/15 12:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*66 - 137*		*10/23/15 12:07*	*1*
Toluene-d8 (Surr)	*98*		*71 - 126*		*10/23/15 12:07*	*1*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*		*10/23/15 12:07*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 140*		*10/23/15 12:07*	*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	**14**		0.50		ug/L		10/15/15 08:08	10/21/15 21:48	1
Acenaphthylene	**16**		0.50		ug/L		10/15/15 08:08	10/21/15 21:48	1
Anthracene	**1.2**		0.50		ug/L		10/15/15 08:08	10/21/15 21:48	1
Benzo(a)anthracene	ND		0.50		ug/L		10/15/15 08:08	10/21/15 21:48	1
Benzo(a)pyrene	ND		0.50		ug/L		10/15/15 08:08	10/21/15 21:48	1
Benzo(b)fluoranthene	ND		0.50		ug/L		10/15/15 08:08	10/21/15 21:48	1
Benzo(g,h,i)perylene	ND		0.50		ug/L		10/15/15 08:08	10/21/15 21:48	1
Benzo(k)fluoranthene	ND		0.50		ug/L		10/15/15 08:08	10/21/15 21:48	1
Chrysene	ND		0.50		ug/L		10/15/15 08:08	10/21/15 21:48	1
Dibenz(a,h)anthracene	ND		0.50		ug/L		10/15/15 08:08	10/21/15 21:48	1
Fluoranthene	**1.1**		0.50		ug/L		10/15/15 08:08	10/21/15 21:48	1
Fluorene	**7.1**		0.50		ug/L		10/15/15 08:08	10/21/15 21:48	1
Indeno(1,2,3-cd)pyrene	ND		0.50		ug/L		10/15/15 08:08	10/21/15 21:48	1
Naphthalene	**5.1**		0.50		ug/L		10/15/15 08:08	10/21/15 21:48	1
Phenanthrene	**6.7**		0.50		ug/L		10/15/15 08:08	10/21/15 21:48	1

Client Sample ID: MW-16-1015

Lab Sample ID: 480-89015-5
Matrix: Water
Date Collected: 10/13/15 07:50
Date Received: 10/14/15 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
Pyrene	**1.2**		0.50		ug/L		10/15/15 08:08	10/21/15 21:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*80*		*48 - 120*	*10/15/15 08:08*	*10/21/15 21:48*	*1*
Nitrobenzene-d5	*83*		*46 - 120*	*10/15/15 08:08*	*10/21/15 21:48*	*1*
p-Terphenyl-d14	*80*		*24 - 136*	*10/15/15 08:08*	*10/21/15 21:48*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5		ug/L			10/15/15 13:28	1
Ethene	ND	*	7.0		ug/L			10/15/15 13:28	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	**12000**		1000		ug/L			10/24/15 16:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**1100**		200		ug/L			10/15/15 15:31	50

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.010		mg/L		10/14/15 11:36	10/15/15 11:08	1
Manganese	**0.33**		0.0030		mg/L		10/14/15 11:36	10/15/15 11:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	**1.9**		0.20		mg/L		10/14/15 12:41	10/15/15 11:50	1
Nitrate as N	**0.37**		0.050		mg/L			10/14/15 12:14	1
Cyanide, Total	**0.24**		0.010		mg/L		10/25/15 09:26	10/26/15 13:10	1
Sulfate	**22.8**		5.0		mg/L			10/19/15 19:56	1
Alkalinity, Total	**638**		5.0		mg/L			10/14/15 14:18	1
Ferrous Iron	ND	HF	0.10		mg/L			10/14/15 14:17	1
Chloride	**4.9**		1.0		mg/L			10/16/15 12:03	1
Sulfide	ND		1.0		mg/L			10/20/15 10:20	1

Client Sample ID: FD-1015

Lab Sample ID: 480-89015-6
Matrix: Water
Date Collected: 10/13/15 00:00
Date Received: 10/14/15 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			10/23/15 01:32	1
Toluene	ND		1.0		ug/L			10/23/15 01:32	1
Ethylbenzene	ND		1.0		ug/L			10/23/15 01:32	1
m-Xylene & p-Xylene	ND		2.0		ug/L			10/23/15 01:32	1
o-Xylene	ND		1.0		ug/L			10/23/15 01:32	1
Xylenes, Total	ND		2.0		ug/L			10/23/15 01:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*66 - 137*		*10/23/15 01:32*	*1*
Toluene-d8 (Surr)	*100*		*71 - 126*		*10/23/15 01:32*	*1*
4-Bromofluorobenzene (Surr)	*99*		*73 - 120*		*10/23/15 01:32*	*1*

Client Sample ID: FD-1015

Date Collected: 10/13/15 00:00
Date Received: 10/14/15 02:00

Lab Sample ID: 480-89015-6

Matrix: Water

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*101*		*60 - 140*		*10/23/15 01:32*	*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		0.50		ug/L		10/15/15 08:08	10/21/15 22:16	1
Acenaphthylene	ND		0.50		ug/L		10/15/15 08:08	10/21/15 22:16	1
Anthracene	ND		0.50		ug/L		10/15/15 08:08	10/21/15 22:16	1
Benzo(a)anthracene	ND		0.50		ug/L		10/15/15 08:08	10/21/15 22:16	1
Benzo(a)pyrene	ND		0.50		ug/L		10/15/15 08:08	10/21/15 22:16	1
Benzo(b)fluoranthene	ND		0.50		ug/L		10/15/15 08:08	10/21/15 22:16	1
Benzo(g,h,i)perylene	ND		0.50		ug/L		10/15/15 08:08	10/21/15 22:16	1
Benzo(k)fluoranthene	ND		0.50		ug/L		10/15/15 08:08	10/21/15 22:16	1
Chrysene	ND		0.50		ug/L		10/15/15 08:08	10/21/15 22:16	1
Dibenz(a,h)anthracene	ND		0.50		ug/L		10/15/15 08:08	10/21/15 22:16	1
Fluoranthene	ND		0.50		ug/L		10/15/15 08:08	10/21/15 22:16	1
Fluorene	ND		0.50		ug/L		10/15/15 08:08	10/21/15 22:16	1
Indeno(1,2,3-cd)pyrene	ND		0.50		ug/L		10/15/15 08:08	10/21/15 22:16	1
Naphthalene	ND		0.50		ug/L		10/15/15 08:08	10/21/15 22:16	1
Phenanthrene	ND		0.50		ug/L		10/15/15 08:08	10/21/15 22:16	1
Pyrene	ND		0.50		ug/L		10/15/15 08:08	10/21/15 22:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*48 - 120*	*10/15/15 08:08*	*10/21/15 22:16*	*1*
Nitrobenzene-d5	*80*		*46 - 120*	*10/15/15 08:08*	*10/21/15 22:16*	*1*
p-Terphenyl-d14	*79*		*24 - 136*	*10/15/15 08:08*	*10/21/15 22:16*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5		ug/L			10/15/15 13:46	1
Ethene	ND	*	7.0		ug/L			10/15/15 13:46	1
Methane	ND		4.0		ug/L			10/15/15 13:46	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	**6200**		1000		ug/L			10/24/15 16:28	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.010		mg/L		10/14/15 11:36	10/15/15 11:11	1
Manganese	**0.015**		0.0030		mg/L		10/14/15 11:36	10/15/15 11:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	**0.99**		0.20		mg/L		10/14/15 12:41	10/15/15 11:50	1
Nitrate as N	**0.16**		0.050		mg/L			10/14/15 12:15	1
Cyanide, Total	**0.14**		0.010		mg/L		10/25/15 09:26	10/26/15 13:11	1
Sulfate	ND		5.0		mg/L			10/19/15 20:09	1
Alkalinity, Total	**447**		5.0		mg/L			10/14/15 14:26	1
Ferrous Iron	ND	HF	0.10		mg/L			10/14/15 14:17	1
Chloride	**12.0**		1.0		mg/L			10/16/15 20:15	1
Sulfide	ND		1.0		mg/L			10/20/15 10:20	1

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-89015-7
Matrix: Water
Date Collected: 10/13/15 00:00
Date Received: 10/14/15 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			10/23/15 01:59	1
Toluene	ND		1.0		ug/L			10/23/15 01:59	1
Ethylbenzene	ND		1.0		ug/L			10/23/15 01:59	1
m-Xylene & p-Xylene	ND		2.0		ug/L			10/23/15 01:59	1
o-Xylene	ND		1.0		ug/L			10/23/15 01:59	1
Xylenes, Total	ND		2.0		ug/L			10/23/15 01:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*66 - 137*		*10/23/15 01:59*	*1*
Toluene-d8 (Surr)	*100*		*71 - 126*		*10/23/15 01:59*	*1*
4-Bromofluorobenzene (Surr)	*100*		*73 - 120*		*10/23/15 01:59*	*1*
Dibromofluoromethane (Surr)	*100*		*60 - 140*		*10/23/15 01:59*	*1*

Client Sample ID: MW-4-1015

Lab Sample ID: 480-89119-1
Matrix: Water
Date Collected: 10/14/15 10:50
Date Received: 10/15/15 02:45

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			10/23/15 04:45	1
Toluene	ND		1.0		ug/L			10/23/15 04:45	1
Ethylbenzene	ND		1.0		ug/L			10/23/15 04:45	1
m-Xylene & p-Xylene	ND		2.0		ug/L			10/23/15 04:45	1
o-Xylene	ND		1.0		ug/L			10/23/15 04:45	1
Xylenes, Total	ND		2.0		ug/L			10/23/15 04:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*66 - 137*		*10/23/15 04:45*	*1*
Toluene-d8 (Surr)	*101*		*71 - 126*		*10/23/15 04:45*	*1*
4-Bromofluorobenzene (Surr)	*100*		*73 - 120*		*10/23/15 04:45*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 140*		*10/23/15 04:45*	*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		0.52		ug/L		10/15/15 08:08	10/21/15 22:45	1
Acenaphthylene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 22:45	1
Anthracene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 22:45	1
Benzo(a)anthracene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 22:45	1
Benzo(a)pyrene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 22:45	1
Benzo(b)fluoranthene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 22:45	1
Benzo(g,h,i)perylene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 22:45	1
Benzo(k)fluoranthene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 22:45	1
Chrysene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 22:45	1
Dibenz(a,h)anthracene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 22:45	1
Fluoranthene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 22:45	1
Fluorene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 22:45	1
Indeno(1,2,3-cd)pyrene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 22:45	1
Naphthalene	**2.2**		0.52		ug/L		10/15/15 08:08	10/21/15 22:45	1
Phenanthrene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 22:45	1
Pyrene	ND		0.52		ug/L		10/15/15 08:08	10/21/15 22:45	1

Client Sample ID: MW-4-1015

Lab Sample ID: 480-89119-1

Date Collected: 10/14/15 10:50

Matrix: Water

Date Received: 10/15/15 02:45

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*55*		*48 - 120*	*10/15/15 08:08*	*10/21/15 22:45*	*1*
Nitrobenzene-d5	*55*		*46 - 120*	*10/15/15 08:08*	*10/21/15 22:45*	*1*
p-Terphenyl-d14	*64*		*24 - 136*	*10/15/15 08:08*	*10/21/15 22:45*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5		ug/L			10/16/15 12:44	1
Ethene	ND		7.0		ug/L			10/16/15 12:44	1
Methane	ND		4.0		ug/L			10/16/15 12:44	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	**4700**		1000		ug/L			10/24/15 16:39	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.010		mg/L		10/15/15 12:10	10/16/15 01:01	1
Manganese	**0.019**		0.0030		mg/L		10/15/15 12:10	10/16/15 01:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	ND		0.20		mg/L		10/15/15 15:13	10/16/15 15:46	1
Nitrate as N	**2.7**		0.050		mg/L			10/15/15 12:32	1
Cyanide, Total	ND		0.010		mg/L		10/26/15 02:50	10/26/15 13:56	1
Sulfate	**70.1**		10.0		mg/L			10/21/15 19:34	2
Alkalinity, Total	**412**		5.0		mg/L			10/15/15 22:29	1
Ferrous Iron	ND	HF	0.10		mg/L			10/15/15 12:13	1
Chloride	**365**		10.0		mg/L			10/20/15 17:56	10
Sulfide	ND		1.0		mg/L			10/20/15 10:20	1

Client Sample ID: MW-7-1015

Lab Sample ID: 480-89119-2

Date Collected: 10/14/15 08:05

Matrix: Water

Date Received: 10/15/15 02:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1.3**		1.0		ug/L			10/26/15 15:10	1
Toluene	**1.3**		1.0		ug/L			10/26/15 15:10	1
Ethylbenzene	ND		1.0		ug/L			10/26/15 15:10	1
m-Xylene & p-Xylene	ND		2.0		ug/L			10/26/15 15:10	1
o-Xylene	ND		1.0		ug/L			10/26/15 15:10	1
Xylenes, Total	ND		2.0		ug/L			10/26/15 15:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*66 - 137*		*10/26/15 15:10*	*1*
Toluene-d8 (Surr)	*100*		*71 - 126*		*10/26/15 15:10*	*1*
4-Bromofluorobenzene (Surr)	*99*		*73 - 120*		*10/26/15 15:10*	*1*
Dibromofluoromethane (Surr)	*104*		*60 - 140*		*10/26/15 15:10*	*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		0.49		ug/L		10/15/15 08:08	10/21/15 23:14	1
Acenaphthylene	ND		0.49		ug/L		10/15/15 08:08	10/21/15 23:14	1

Client Sample ID: MW-7-1015
Date Collected: 10/14/15 08:05
Date Received: 10/15/15 02:45

Lab Sample ID: 480-89119-2
Matrix: 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		0.49		ug/L		10/15/15 08:08	10/21/15 23:14	1
Benzo(a)anthracene	ND		0.49		ug/L		10/15/15 08:08	10/21/15 23:14	1
Benzo(a)pyrene	ND		0.49		ug/L		10/15/15 08:08	10/21/15 23:14	1
Benzo(b)fluoranthene	ND		0.49		ug/L		10/15/15 08:08	10/21/15 23:14	1
Benzo(g,h,i)perylene	ND		0.49		ug/L		10/15/15 08:08	10/21/15 23:14	1
Benzo(k)fluoranthene	ND		0.49		ug/L		10/15/15 08:08	10/21/15 23:14	1
Chrysene	ND		0.49		ug/L		10/15/15 08:08	10/21/15 23:14	1
Dibenz(a,h)anthracene	ND		0.49		ug/L		10/15/15 08:08	10/21/15 23:14	1
Fluoranthene	ND		0.49		ug/L		10/15/15 08:08	10/21/15 23:14	1
Fluorene	ND		0.49		ug/L		10/15/15 08:08	10/21/15 23:14	1
Indeno(1,2,3-cd)pyrene	ND		0.49		ug/L		10/15/15 08:08	10/21/15 23:14	1
Naphthalene	**5.2**		0.49		ug/L		10/15/15 08:08	10/21/15 23:14	1
Phenanthrene	ND		0.49		ug/L		10/15/15 08:08	10/21/15 23:14	1
Pyrene	ND		0.49		ug/L		10/15/15 08:08	10/21/15 23:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*63*		*48 - 120*	*10/15/15 08:08*	*10/21/15 23:14*	*1*
Nitrobenzene-d5	*60*		*46 - 120*	*10/15/15 08:08*	*10/21/15 23:14*	*1*
p-Terphenyl-d14	*74*		*24 - 136*	*10/15/15 08:08*	*10/21/15 23:14*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5		ug/L			10/16/15 13:02	1
Ethene	ND		7.0		ug/L			10/16/15 13:02	1
Methane	**96**		4.0		ug/L			10/16/15 13:02	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	**3700**		1000		ug/L			10/24/15 16:46	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.010		mg/L		10/15/15 12:10	10/16/15 01:05	1
Manganese	**0.46**		0.0030		mg/L		10/15/15 12:10	10/16/15 01:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	**1.5**		0.20		mg/L		10/15/15 15:13	10/16/15 15:46	1
Nitrate as N	ND		0.050		mg/L			10/15/15 10:45	1
Cyanide, Total	**0.18**		0.010		mg/L		10/26/15 02:50	10/26/15 13:57	1
Sulfate	**533**		75.0		mg/L			10/20/15 20:07	15
Alkalinity, Total	**403**		5.0		mg/L			10/15/15 22:59	1
Ferrous Iron	ND	HF	0.10		mg/L			10/15/15 12:13	1
Chloride	**66.7**		2.0		mg/L			10/20/15 17:55	2
Sulfide	ND		1.0		mg/L			10/20/15 10:20	1

Client Sample ID: MW-12-1015

Date Collected: 10/14/15 09:00
Date Received: 10/15/15 02:45

Lab Sample ID: 480-89119-3

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			10/23/15 18:33	1
Toluene	ND		1.0		ug/L			10/23/15 18:33	1
Ethylbenzene	ND		1.0		ug/L			10/23/15 18:33	1
m-Xylene & p-Xylene	ND		2.0		ug/L			10/23/15 18:33	1
o-Xylene	ND		1.0		ug/L			10/23/15 18:33	1
Xylenes, Total	ND		2.0		ug/L			10/23/15 18:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*66 - 137*		*10/23/15 18:33*	*1*
Toluene-d8 (Surr)	*99*		*71 - 126*		*10/23/15 18:33*	*1*
4-Bromofluorobenzene (Surr)	*98*		*73 - 120*		*10/23/15 18:33*	*1*
Dibromofluoromethane (Surr)	*103*		*60 - 140*		*10/23/15 18:33*	*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		0.47		ug/L		10/15/15 08:08	10/21/15 23:43	1
Acenaphthylene	**0.73**		0.47		ug/L		10/15/15 08:08	10/21/15 23:43	1
Anthracene	ND		0.47		ug/L		10/15/15 08:08	10/21/15 23:43	1
Benzo(a)anthracene	ND		0.47		ug/L		10/15/15 08:08	10/21/15 23:43	1
Benzo(a)pyrene	ND		0.47		ug/L		10/15/15 08:08	10/21/15 23:43	1
Benzo(b)fluoranthene	ND		0.47		ug/L		10/15/15 08:08	10/21/15 23:43	1
Benzo(g,h,i)perylene	ND		0.47		ug/L		10/15/15 08:08	10/21/15 23:43	1
Benzo(k)fluoranthene	ND		0.47		ug/L		10/15/15 08:08	10/21/15 23:43	1
Chrysene	ND		0.47		ug/L		10/15/15 08:08	10/21/15 23:43	1
Dibenz(a,h)anthracene	ND		0.47		ug/L		10/15/15 08:08	10/21/15 23:43	1
Fluoranthene	ND		0.47		ug/L		10/15/15 08:08	10/21/15 23:43	1
Fluorene	ND		0.47		ug/L		10/15/15 08:08	10/21/15 23:43	1
Indeno(1,2,3-cd)pyrene	ND		0.47		ug/L		10/15/15 08:08	10/21/15 23:43	1
Naphthalene	**1.9**		0.47		ug/L		10/15/15 08:08	10/21/15 23:43	1
Phenanthrene	ND		0.47		ug/L		10/15/15 08:08	10/21/15 23:43	1
Pyrene	ND		0.47		ug/L		10/15/15 08:08	10/21/15 23:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*79*		*48 - 120*	*10/15/15 08:08*	*10/21/15 23:43*	*1*
Nitrobenzene-d5	*80*		*46 - 120*	*10/15/15 08:08*	*10/21/15 23:43*	*1*
p-Terphenyl-d14	*85*		*24 - 136*	*10/15/15 08:08*	*10/21/15 23:43*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5		ug/L			10/16/15 13:19	1
Ethene	ND		7.0		ug/L			10/16/15 13:19	1
Methane	ND		4.0		ug/L			10/16/15 13:19	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	**11000**		1000		ug/L			10/24/15 16:55	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.010		mg/L		10/15/15 12:10	10/16/15 01:08	1
Manganese	**0.039**		0.0030		mg/L		10/15/15 12:10	10/16/15 01:08	1

Client Sample ID: MW-12-1015

Lab Sample ID: 480-89119-3
Matrix: Water
Date Collected: 10/14/15 09:00
Date Received: 10/15/15 02:45

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	ND		0.20		mg/L		10/15/15 15:13	10/16/15 15:46	1
Nitrate as N	**2.5**		0.050		mg/L			10/15/15 12:33	1
Cyanide, Total	ND		0.010		mg/L		10/26/15 02:50	10/26/15 14:00	1
Sulfate	**70.2**		15.0		mg/L			10/20/15 20:21	3
Alkalinity, Total	**401**		5.0		mg/L			10/15/15 23:07	1
Ferrous Iron	ND	HF	0.10		mg/L			10/15/15 12:13	1
Chloride	**591**		15.0		mg/L			10/20/15 18:45	15
Sulfide	ND		1.0		mg/L			10/20/15 10:20	1

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-89119-4
Matrix: Water
Date Collected: 10/14/15 00:00
Date Received: 10/15/15 02:45

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			10/23/15 19:00	1
Toluene	ND		1.0		ug/L			10/23/15 19:00	1
Ethylbenzene	ND		1.0		ug/L			10/23/15 19:00	1
m-Xylene & p-Xylene	ND		2.0		ug/L			10/23/15 19:00	1
o-Xylene	ND		1.0		ug/L			10/23/15 19:00	1
Xylenes, Total	ND		2.0		ug/L			10/23/15 19:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*66 - 137*		*10/23/15 19:00*	*1*
Toluene-d8 (Surr)	*100*		*71 - 126*		*10/23/15 19:00*	*1*
4-Bromofluorobenzene (Surr)	*98*		*73 - 120*		*10/23/15 19:00*	*1*
Dibromofluoromethane (Surr)	*103*		*60 - 140*		*10/23/15 19:00*	*1*

Surrogate Summary

Client: CDM Smith, Inc.
Project/Site: Johnstown semi-annual GW

TestAmerica Job ID: 480-89015-1

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		12DCE	TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(66-137)	(71-126)	(73-120)	(60-140)
480-89015-1	MW-10-1015	100	99	99	103
480-89015-2	MW-13-1015	99	100	101	102
480-89015-2 MS	MW-13-1015 MS	102	100	104	104
480-89015-2 MSD	MW-13-1015 SD	100	99	101	101
480-89015-3	MW-14-1015	100	100	100	100
480-89015-4	MW-15-1015	102	99	102	103
480-89015-4 - DL	MW-15-1015	99	100	101	101
480-89015-4 MS	MW-15-1015	101	100	101	104
480-89015-4 MSD	MW-15-1015	98	98	101	103
480-89015-5	MW-16-1015	98	98	101	101
480-89015-6	FD-1015	102	100	99	101
480-89015-7	TRIP BLANK	98	100	100	100
480-89119-1	MW-4-1015	99	101	100	102
480-89119-2	MW-7-1015	100	100	99	104
480-89119-3	MW-12-1015	97	99	98	103
480-89119-4	TRIP BLANK	102	100	98	103
LCS 480-270546/4	Lab Control Sample	98	99	100	99
LCS 480-270597/4	Lab Control Sample	99	98	100	100
LCS 480-271049/5	Lab Control Sample	100	101	105	100
MB 480-270546/6	Method Blank	98	99	100	101
MB 480-270597/6	Method Blank	98	100	100	100
MB 480-271049/7	Method Blank	97	101	102	102

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPH
Lab Sample ID	Client Sample ID	(48-120)	(46-120)	(24-136)
480-89015-1	MW-10-1015	82	84	80
480-89015-2	MW-13-1015	77	103	78
480-89015-2 - DL	MW-13-1015	93	71	79
480-89015-2 MS	MW-13-1015 MS	64	65	67
480-89015-2 MS - DL	MW-13-1015 MS	63	51	58
480-89015-2 MSD	MW-13-1015 SD	89	104	83
480-89015-2 MSD - DL	MW-13-1015 SD	88	72	76
480-89015-3	MW-14-1015	86	84	84
480-89015-4	MW-15-1015	75	80	74
480-89015-4 - DL	MW-15-1015	88	72	77
480-89015-5	MW-16-1015	80	83	80
480-89015-6	FD-1015	77	80	79
480-89119-1	MW-4-1015	55	55	64
480-89119-2	MW-7-1015	63	60	74

Surrogate Summary

Client: CDM Smith, Inc.
Project/Site: Johnstown semi-annual GW

TestAmerica Job ID: 480-89015-1

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPH
Lab Sample ID	Client Sample ID	(48-120)	(46-120)	(24-136)
480-89119-3	MW-12-1015	79	80	85
LCS 480-268913/2-A	Lab Control Sample	96	88	99
MB 480-268913/1-A	Method Blank	79	67	96

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPH = p-Terphenyl-d14

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

Lab Sample ID: MB 480-270546/6
Matrix: Water
Analysis Batch: 270546

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			10/22/15 22:36	1
Toluene	ND		1.0		ug/L			10/22/15 22:36	1
Ethylbenzene	ND		1.0		ug/L			10/22/15 22:36	1
m-Xylene & p-Xylene	ND		2.0		ug/L			10/22/15 22:36	1
o-Xylene	ND		1.0		ug/L			10/22/15 22:36	1
Xylenes, Total	ND		2.0		ug/L			10/22/15 22:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*66 - 137*		*10/22/15 22:36*	*1*
Toluene-d8 (Surr)	*99*		*71 - 126*		*10/22/15 22:36*	*1*
4-Bromofluorobenzene (Surr)	*100*		*73 - 120*		*10/22/15 22:36*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 140*		*10/22/15 22:36*	*1*

Lab Sample ID: LCS 480-270546/4
Matrix: Water
Analysis Batch: 270546

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	25.0	24.7		ug/L		99	71 - 124
Toluene	25.0	23.3		ug/L		93	80 - 122
Ethylbenzene	25.0	24.3		ug/L		97	77 - 123
m-Xylene & p-Xylene	25.0	25.0		ug/L		100	76 - 122
o-Xylene	25.0	24.3		ug/L		97	76 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*66 - 137*
Toluene-d8 (Surr)	*99*		*71 - 126*
4-Bromofluorobenzene (Surr)	*100*		*73 - 120*
Dibromofluoromethane (Surr)	*99*		*60 - 140*

Lab Sample ID: 480-89015-2 MS
Matrix: Water
Analysis Batch: 270546

Client Sample ID: MW-13-1015 MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	360		125	470		ug/L		87	71 - 124
Toluene	320		125	422		ug/L		82	80 - 122
Ethylbenzene	190		125	308		ug/L		93	77 - 123
m-Xylene & p-Xylene	270		125	379		ug/L		88	76 - 122
o-Xylene	120		125	239		ug/L		96	76 - 122

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*66 - 137*
Toluene-d8 (Surr)	*100*		*71 - 126*
4-Bromofluorobenzene (Surr)	*104*		*73 - 120*
Dibromofluoromethane (Surr)	*104*		*60 - 140*

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

Lab Sample ID: 480-89015-2 MSD
Matrix: Water
Analysis Batch: 270546

Client Sample ID: MW-13-1015 SD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	360		125	480		ug/L		95	71 - 124	2	13
Toluene	320		125	432		ug/L		90	80 - 122	2	15
Ethylbenzene	190		125	317		ug/L		99	77 - 123	3	15
m-Xylene & p-Xylene	270		125	389		ug/L		96	76 - 122	2	16
o-Xylene	120		125	240		ug/L		97	76 - 122	0	16

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*66 - 137*
Toluene-d8 (Surr)	*99*		*71 - 126*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*
Dibromofluoromethane (Surr)	*101*		*60 - 140*

Lab Sample ID: MB 480-270597/6
Matrix: Water
Analysis Batch: 270597

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			10/23/15 10:33	1
Toluene	ND		1.0		ug/L			10/23/15 10:33	1
Ethylbenzene	ND		1.0		ug/L			10/23/15 10:33	1
m-Xylene & p-Xylene	ND		2.0		ug/L			10/23/15 10:33	1
o-Xylene	ND		1.0		ug/L			10/23/15 10:33	1
Xylenes, Total	ND		2.0		ug/L			10/23/15 10:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*66 - 137*		*10/23/15 10:33*	*1*
Toluene-d8 (Surr)	*100*		*71 - 126*		*10/23/15 10:33*	*1*
4-Bromofluorobenzene (Surr)	*100*		*73 - 120*		*10/23/15 10:33*	*1*
Dibromofluoromethane (Surr)	*100*		*60 - 140*		*10/23/15 10:33*	*1*

Lab Sample ID: LCS 480-270597/4
Matrix: Water
Analysis Batch: 270597

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			25.0	23.9		ug/L		96	71 - 124		
Toluene			25.0	23.3		ug/L		93	80 - 122		
Ethylbenzene			25.0	24.0		ug/L		96	77 - 123		
m-Xylene & p-Xylene			25.0	24.2		ug/L		97	76 - 122		
o-Xylene			25.0	24.0		ug/L		96	76 - 122		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*66 - 137*
Toluene-d8 (Surr)	*98*		*71 - 126*
4-Bromofluorobenzene (Surr)	*100*		*73 - 120*
Dibromofluoromethane (Surr)	*100*		*60 - 140*

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

Lab Sample ID: 480-89015-4 MS
Matrix: Water
Analysis Batch: 270597

Client Sample ID: MW-15-1015
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	380		200	525		ug/L		72	71 - 124
Toluene	ND		200	188		ug/L		90	80 - 122
Ethylbenzene	94		200	271		ug/L		88	77 - 123
m-Xylene & p-Xylene	ND		200	201		ug/L		97	76 - 122
o-Xylene	22		200	211		ug/L		94	76 - 122

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*66 - 137*
Toluene-d8 (Surr)	*100*		*71 - 126*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*
Dibromofluoromethane (Surr)	*104*		*60 - 140*

Lab Sample ID: 480-89015-4 MSD
Matrix: Water
Analysis Batch: 270597

Client Sample ID: MW-15-1015
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	380		200	538		ug/L		78	71 - 124	3	13
Toluene	ND		200	196		ug/L		94	80 - 122	4	15
Ethylbenzene	94		200	282		ug/L		94	77 - 123	4	15
m-Xylene & p-Xylene	ND		200	209		ug/L		100	76 - 122	4	16
o-Xylene	22		200	217		ug/L		97	76 - 122	3	16

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*66 - 137*
Toluene-d8 (Surr)	*98*		*71 - 126*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*
Dibromofluoromethane (Surr)	*103*		*60 - 140*

Lab Sample ID: MB 480-271049/7
Matrix: Water
Analysis Batch: 271049

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			10/26/15 11:09	1
Toluene	ND		1.0		ug/L			10/26/15 11:09	1
Ethylbenzene	ND		1.0		ug/L			10/26/15 11:09	1
m-Xylene & p-Xylene	ND		2.0		ug/L			10/26/15 11:09	1
o-Xylene	ND		1.0		ug/L			10/26/15 11:09	1
Xylenes, Total	ND		2.0		ug/L			10/26/15 11:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*66 - 137*		*10/26/15 11:09*	*1*
Toluene-d8 (Surr)	*101*		*71 - 126*		*10/26/15 11:09*	*1*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*		*10/26/15 11:09*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 140*		*10/26/15 11:09*	*1*

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

Lab Sample ID: LCS 480-271049/5
Matrix: Water
Analysis Batch: 271049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	25.0	25.6		ug/L		103	71 - 124
Toluene	25.0	24.8		ug/L		99	80 - 122
Ethylbenzene	25.0	25.9		ug/L		104	77 - 123
m-Xylene & p-Xylene	25.0	26.4		ug/L		106	76 - 122
o-Xylene	25.0	26.0		ug/L		104	76 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*66 - 137*
Toluene-d8 (Surr)	*101*		*71 - 126*
4-Bromofluorobenzene (Surr)	*105*		*73 - 120*
Dibromofluoromethane (Surr)	*100*		*60 - 140*

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

Lab Sample ID: MB 480-268913/1-A
Matrix: Water
Analysis Batch: 270414

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 268913

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.50		ug/L		10/15/15 08:08	10/22/15 14:33	1
Acenaphthylene	ND		0.50		ug/L		10/15/15 08:08	10/22/15 14:33	1
Anthracene	ND		0.50		ug/L		10/15/15 08:08	10/22/15 14:33	1
Benzo(a)anthracene	ND		0.50		ug/L		10/15/15 08:08	10/22/15 14:33	1
Benzo(a)pyrene	ND		0.50		ug/L		10/15/15 08:08	10/22/15 14:33	1
Benzo(b)fluoranthene	ND		0.50		ug/L		10/15/15 08:08	10/22/15 14:33	1
Benzo(g,h,i)perylene	ND		0.50		ug/L		10/15/15 08:08	10/22/15 14:33	1
Benzo(k)fluoranthene	ND		0.50		ug/L		10/15/15 08:08	10/22/15 14:33	1
Chrysene	ND		0.50		ug/L		10/15/15 08:08	10/22/15 14:33	1
Dibenz(a,h)anthracene	ND		0.50		ug/L		10/15/15 08:08	10/22/15 14:33	1
Fluoranthene	ND		0.50		ug/L		10/15/15 08:08	10/22/15 14:33	1
Fluorene	ND		0.50		ug/L		10/15/15 08:08	10/22/15 14:33	1
Indeno(1,2,3-cd)pyrene	ND		0.50		ug/L		10/15/15 08:08	10/22/15 14:33	1
Naphthalene	ND		0.50		ug/L		10/15/15 08:08	10/22/15 14:33	1
Phenanthrene	ND		0.50		ug/L		10/15/15 08:08	10/22/15 14:33	1
Pyrene	ND		0.50		ug/L		10/15/15 08:08	10/22/15 14:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*79*		*48 - 120*	*10/15/15 08:08*	*10/22/15 14:33*	*1*
Nitrobenzene-d5	*67*		*46 - 120*	*10/15/15 08:08*	*10/22/15 14:33*	*1*
p-Terphenyl-d14	*96*		*24 - 136*	*10/15/15 08:08*	*10/22/15 14:33*	*1*

Lab Sample ID: LCS 480-268913/2-A
Matrix: Water
Analysis Batch: 270414

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 268913

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	16.0	14.8		ug/L		93	60 - 120

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

Lab Sample ID: LCS 480-268913/2-A
Matrix: Water
Analysis Batch: 270414

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 268913

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthylene	16.0	15.2		ug/L		95	63 - 120
Anthracene	16.0	15.0		ug/L		94	69 - 131
Benzo(a)anthracene	16.0	15.3		ug/L		96	62 - 142
Benzo(a)pyrene	16.0	14.8		ug/L		92	46 - 156
Benzo(b)fluoranthene	16.0	15.5		ug/L		97	50 - 149
Benzo(g,h,i)perylene	16.0	21.3		ug/L		133	34 - 189
Benzo(k)fluoranthene	16.0	15.1		ug/L		95	47 - 147
Chrysene	16.0	15.2		ug/L		95	69 - 140
Dibenz(a,h)anthracene	16.0	18.1		ug/L		113	35 - 176
Fluoranthene	16.0	15.1		ug/L		94	67 - 133
Fluorene	16.0	14.8		ug/L		93	66 - 129
Indeno(1,2,3-cd)pyrene	16.0	18.3		ug/L		115	57 - 161
Naphthalene	16.0	14.5		ug/L		91	48 - 120
Phenanthrene	16.0	15.0		ug/L		93	67 - 130
Pyrene	16.0	15.9		ug/L		99	58 - 136

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*96*		*48 - 120*
Nitrobenzene-d5	*88*		*46 - 120*
p-Terphenyl-d14	*99*		*24 - 136*

Lab Sample ID: 480-89015-2 MS
Matrix: Water
Analysis Batch: 270150

Client Sample ID: MW-13-1015 MS
Prep Type: Total/NA
Prep Batch: 268913

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	65	E	16.1	60.2	E 4	ug/L		-31	60 - 120
Acenaphthylene	77	E	16.1	72.4	E 4	ug/L		-29	63 - 120
Anthracene	9.2	F1 F2	16.1	17.5	F1	ug/L		52	69 - 131
Benzo(a)anthracene	0.59	F2	16.1	11.0		ug/L		65	62 - 142
Benzo(a)pyrene	ND	F2	16.1	10.5		ug/L		65	46 - 156
Benzo(b)fluoranthene	ND	F2	16.1	10.2		ug/L		64	50 - 149
Benzo(g,h,i)perylene	ND	F2	16.1	11.1		ug/L		69	34 - 189
Benzo(k)fluoranthene	ND	F2	16.1	9.95		ug/L		61	47 - 147
Chrysene	0.50	F1 F2	16.1	10.7	F1	ug/L		63	69 - 140
Dibenz(a,h)anthracene	ND	F2	16.1	10.3		ug/L		64	35 - 176
Fluoranthene	5.5	F2	16.1	16.2		ug/L		67	67 - 133
Fluorene	43	F1 F2	16.1	40.8	F1	ug/L		-11	66 - 129
Indeno(1,2,3-cd)pyrene	ND	F2	16.1	10.7		ug/L		66	57 - 161
Naphthalene	320	E	16.1	254	E 4	ug/L		-421	48 - 120
Phenanthrene	31	F1	16.1	32.7	F1	ug/L		11	67 - 130
Pyrene	5.8	F2	16.1	16.1		ug/L		63	58 - 136

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*64*		*48 - 120*
Nitrobenzene-d5	*65*		*46 - 120*
p-Terphenyl-d14	*67*		*24 - 136*

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

Lab Sample ID: 480-89015-2 MSD
Matrix: Water
Analysis Batch: 270150

Client Sample ID: MW-13-1015 SD
Prep Type: Total/NA
Prep Batch: 268913

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	65	E	15.8	68.1	E 4	ug/L		19	60 - 120	12	24
Acenaphthylene	77	E	15.8	85.3	E 4	ug/L		52	63 - 120	16	18
Anthracene	9.2	F1 F2	15.8	23.4	F2	ug/L		90	69 - 131	29	15
Benzo(a)anthracene	0.59	F2	15.8	14.8	F2	ug/L		90	62 - 142	29	15
Benzo(a)pyrene	ND	F2	15.8	14.0	F2	ug/L		89	46 - 156	29	15
Benzo(b)fluoranthene	ND	F2	15.8	13.4	F2	ug/L		85	50 - 149	27	15
Benzo(g,h,i)perylene	ND	F2	15.8	14.7	F2	ug/L		93	34 - 189	28	15
Benzo(k)fluoranthene	ND	F2	15.8	13.7	F2	ug/L		86	47 - 147	32	22
Chrysene	0.50	F1 F2	15.8	14.4	F2	ug/L		88	69 - 140	29	15
Dibenz(a,h)anthracene	ND	F2	15.8	13.7	F2	ug/L		87	35 - 176	29	15
Fluoranthene	5.5	F2	15.8	20.3	F2	ug/L		94	67 - 133	22	15
Fluorene	43	F1 F2	15.8	51.6	E F1 F2	ug/L		57	66 - 129	23	15
Indeno(1,2,3-cd)pyrene	ND	F2	15.8	14.1	F2	ug/L		90	57 - 161	28	15
Naphthalene	320	E	15.8	265	E 4	ug/L		-362	48 - 120	4	29
Phenanthrene	31	F1	15.8	36.7	F1	ug/L		36	67 - 130	11	15
Pyrene	5.8	F2	15.8	21.2	F2	ug/L		97	58 - 136	27	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*89*		*48 - 120*
Nitrobenzene-d5	*104*		*46 - 120*
p-Terphenyl-d14	*83*		*24 - 136*

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

Lab Sample ID: 480-89015-2 MS
Matrix: Water
Analysis Batch: 271308

Client Sample ID: MW-13-1015 MS
Prep Type: Total/NA
Prep Batch: 268913

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene - DL	110		16.1	77.8	4	ug/L		-180	60 - 120
Acenaphthylene - DL	220	F2	16.1	142	4	ug/L		-463	63 - 120
Anthracene - DL	ND		16.1	ND		ug/L		NC	69 - 131
Benzo(a)anthracene - DL	ND		16.1	ND		ug/L		NC	62 - 142
Benzo(a)pyrene - DL	ND		16.1	ND		ug/L		NC	46 - 156
Benzo(b)fluoranthene - DL	ND		16.1	ND		ug/L		NC	50 - 149
Benzo(g,h,i)perylene - DL	ND		16.1	ND		ug/L		NC	34 - 189
Benzo(k)fluoranthene - DL	ND	F1	16.1	ND	F1	ug/L		0	47 - 147
Chrysene - DL	ND		16.1	ND		ug/L		NC	69 - 140
Dibenz(a,h)anthracene - DL	ND		16.1	ND		ug/L		NC	35 - 176
Fluoranthene - DL	ND		16.1	ND		ug/L		NC	67 - 133
Fluorene - DL	54	F1 F2	16.1	ND	F1	ug/L		-77	66 - 129
Indeno(1,2,3-cd)pyrene - DL	ND		16.1	ND		ug/L		NC	57 - 161
Naphthalene - DL	3200		16.1	2140	4	ug/L		-6517	48 - 120
Phenanthrene - DL	ND	F1	16.1	ND	F1	ug/L		0	67 - 130
Pyrene - DL	ND		16.1	ND		ug/L		NC	58 - 136

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

Lab Sample ID: 480-89015-2 MS
Matrix: Water
Analysis Batch: 271308

Client Sample ID: MW-13-1015 MS
Prep Type: Total/NA
Prep Batch: 268913

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl - DL	63		48 - 120
Nitrobenzene-d5 - DL	51		46 - 120
p-Terphenyl-d14 - DL	58		24 - 136

Lab Sample ID: 480-89015-2 MSD
Matrix: Water
Analysis Batch: 271308

Client Sample ID: MW-13-1015 SD
Prep Type: Total/NA
Prep Batch: 268913

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene - DL	110		15.8	97.8	4	ug/L		-57	60 - 120	23	24
Acenaphthylene - DL	220	F2	15.8	227	4 F2	ug/L		65	63 - 120	46	18
Anthracene - DL	ND		15.8	ND		ug/L		NC	69 - 131	NC	15
Benzo(a)anthracene - DL	ND		15.8	ND		ug/L		NC	62 - 142	NC	15
Benzo(a)pyrene - DL	ND		15.8	ND		ug/L		NC	46 - 156	NC	15
Benzo(b)fluoranthene - DL	ND		15.8	ND		ug/L		NC	50 - 149	NC	15
Benzo(g,h,i)perylene - DL	ND		15.8	ND		ug/L		NC	34 - 189	NC	15
Benzo(k)fluoranthene - DL	ND	F1	15.8	ND		ug/L		71	47 - 147	NC	22
Chrysene - DL	ND		15.8	ND		ug/L		NC	69 - 140	NC	15
Dibenz(a,h)anthracene - DL	ND		15.8	ND		ug/L		NC	35 - 176	2	15
Fluoranthene - DL	ND		15.8	ND		ug/L		NC	67 - 133	NC	15
Fluorene - DL	54	F1 F2	15.8	57.5	F1 F2	ug/L		21	66 - 129	32	15
Indeno(1,2,3-cd)pyrene - DL	ND		15.8	ND		ug/L		NC	57 - 161	NC	15
Naphthalene - DL	3200		15.8	2390	4	ug/L		-5032	48 - 120	11	29
Phenanthrene - DL	ND	F1	15.8	ND	F1	ug/L		16	67 - 130	NC	15
Pyrene - DL	ND		15.8	ND		ug/L		NC	58 - 136	NC	25

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl - DL	88		48 - 120
Nitrobenzene-d5 - DL	72		46 - 120
p-Terphenyl-d14 - DL	76		24 - 136

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 480-268948/3
Matrix: Water
Analysis Batch: 268948

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5		ug/L			10/15/15 11:26	1
Ethene	ND		7.0		ug/L			10/15/15 11:26	1
Methane	ND		4.0		ug/L			10/15/15 11:26	1

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

Lab Sample ID: LCS 480-268948/4
Matrix: Water
Analysis Batch: 268948

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethane	14.6	16.7		ug/L		115	79 - 120
Ethene	13.6	15.7	*	ug/L		116	78 - 115
Methane	7.77	8.34		ug/L		107	71 - 118

Lab Sample ID: LCSD 480-268948/5
Matrix: Water
Analysis Batch: 268948

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethane	14.6	16.2		ug/L		111	79 - 120	3	50
Ethene	13.6	15.5		ug/L		114	78 - 115	2	50
Methane	7.77	8.18		ug/L		105	71 - 118	2	50

Lab Sample ID: 480-89015-2 MS
Matrix: Water
Analysis Batch: 268948

Client Sample ID: MW-13-1015 MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethane	ND		14.6	15.9		ug/L		109	76 - 125
Ethene	ND	*	13.6	16.4		ug/L		121	75 - 129
Methane	110		7.77	124	4	ug/L		181	38 - 184

Lab Sample ID: 480-89015-2 MSD
Matrix: Water
Analysis Batch: 268948

Client Sample ID: MW-13-1015 SD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethane	ND		14.6	16.5		ug/L		113	76 - 125	4	50
Ethene	ND	*	13.6	17.0		ug/L		125	75 - 129	4	50
Methane	110		7.77	120	4	ug/L		138	38 - 184	3	50

Lab Sample ID: MB 480-269186/3
Matrix: Water
Analysis Batch: 269186

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5		ug/L			10/16/15 09:49	1
Ethene	ND		7.0		ug/L			10/16/15 09:49	1
Methane	ND		4.0		ug/L			10/16/15 09:49	1

Lab Sample ID: LCS 480-269186/4
Matrix: Water
Analysis Batch: 269186

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethane	14.6	15.7		ug/L		108	79 - 120
Ethene	13.6	13.8		ug/L		102	78 - 115
Methane	7.77	7.88		ug/L		101	71 - 118

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

Lab Sample ID: LCSD 480-269186/5
Matrix: Water
Analysis Batch: 269186

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethane	14.6	15.2		ug/L		104	79 - 120	3	50
Ethene	13.6	14.2		ug/L		104	78 - 115	3	50
Methane	7.77	7.48		ug/L		96	71 - 118	5	50

Lab Sample ID: MB 200-96007/4
Matrix: Water
Analysis Batch: 96007

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	ND		1000		ug/L			10/24/15 14:51	1

Lab Sample ID: LCS 200-96007/2
Matrix: Water
Analysis Batch: 96007

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon dioxide	5010	6000		ug/L		120	70 - 130

Lab Sample ID: LCSD 200-96007/3
Matrix: Water
Analysis Batch: 96007

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon dioxide	5010	5830		ug/L		116	70 - 130	3	30

Lab Sample ID: 480-89015-2 MS
Matrix: Water
Analysis Batch: 96007

Client Sample ID: MW-13-1015 MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon dioxide	ND		5010	4770		ug/L		95	70 - 130

Lab Sample ID: 480-89015-2 MSD
Matrix: Water
Analysis Batch: 96007

Client Sample ID: MW-13-1015 SD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon dioxide	ND		5010	4580		ug/L		91	70 - 130	4	30

Lab Sample ID: MB 200-96041/4
Matrix: Water
Analysis Batch: 96041

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	ND		1000		ug/L			10/26/15 11:43	1

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

Lab Sample ID: LCS 200-96041/2
Matrix: Water
Analysis Batch: 96041

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Carbon dioxide			5010	4370		ug/L		87	70 - 130		

Lab Sample ID: LCSD 200-96041/3
Matrix: Water
Analysis Batch: 96041

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon dioxide			5010	5590		ug/L		112	70 - 130	24	30

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-268706/1-A
Matrix: Water
Analysis Batch: 269022

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 268706

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.010		mg/L		10/14/15 11:36	10/15/15 10:15	1
Manganese	ND		0.0030		mg/L		10/14/15 11:36	10/15/15 10:15	1

Lab Sample ID: LCS 480-268706/2-A
Matrix: Water
Analysis Batch: 269022

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 268706

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Lead			0.200	0.208		mg/L		104	80 - 120		
Manganese			0.200	0.206		mg/L		103	80 - 120		

Lab Sample ID: LCSD 480-268706/3-A
Matrix: Water
Analysis Batch: 269022

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 268706

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead			0.200	0.207		mg/L		103	80 - 120	1	20
Manganese			0.200	0.204		mg/L		102	80 - 120	1	20

Lab Sample ID: 480-89015-2 MS
Matrix: Water
Analysis Batch: 269022

Client Sample ID: MW-13-1015 MS
Prep Type: Total/NA
Prep Batch: 268706

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Lead	ND		0.200	0.205		mg/L		102	75 - 125		
Manganese	0.064		0.200	0.267		mg/L		102	75 - 125		

Lab Sample ID: 480-89015-2 MSD
Matrix: Water
Analysis Batch: 269022

Client Sample ID: MW-13-1015 SD
Prep Type: Total/NA
Prep Batch: 268706

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	ND		0.200	0.210		mg/L		105	75 - 125	2	20

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 480-89015-2 MSD — **Client Sample ID: MW-13-1015 SD**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 269022 — **Prep Batch: 268706**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese	0.064		0.200	0.266		mg/L		101	75 - 125	0	20

Lab Sample ID: MB 480-268970/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 269140 — **Prep Batch: 268970**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.010		mg/L		10/15/15 12:10	10/15/15 23:20	1
Manganese	ND		0.0030		mg/L		10/15/15 12:10	10/15/15 23:20	1

Lab Sample ID: LCS 480-268970/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 269140 — **Prep Batch: 268970**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	0.200	0.201		mg/L		100	80 - 120
Manganese	0.200	0.199		mg/L		99	80 - 120

Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 480-268749/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 268997 — **Prep Batch: 268749**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	ND		0.20		mg/L		10/14/15 12:41	10/15/15 11:50	1

Lab Sample ID: LCS 480-268749/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 268997 — **Prep Batch: 268749**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Kjeldahl Nitrogen	2.50	2.68		mg/L		107	90 - 110

Lab Sample ID: MB 480-269037/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 269363 — **Prep Batch: 269037**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	ND		0.20		mg/L		10/15/15 15:13	10/16/15 15:08	1

Lab Sample ID: LCS 480-269037/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 269363 — **Prep Batch: 269037**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Kjeldahl Nitrogen	2.50	2.29		mg/L		92	90 - 110

Method: 351.2 - Nitrogen, Total Kjeldahl (Continued)

Lab Sample ID: 480-89119-1 MS — **Client Sample ID: MW-4-1015**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 269363 — **Prep Batch: 269037**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Kjeldahl Nitrogen	ND		1.00	0.918		mg/L		92	90 - 110

Lab Sample ID: MB 480-269038/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 269363 — **Prep Batch: 269038**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	ND		0.20		mg/L		10/15/15 15:13	10/16/15 15:08	1

Lab Sample ID: LCS 480-269038/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 269363 — **Prep Batch: 269038**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Kjeldahl Nitrogen	2.50	2.39		mg/L		96	90 - 110

Lab Sample ID: 480-89015-2 MS — **Client Sample ID: MW-13-1015 MS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 269363 — **Prep Batch: 269038**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Kjeldahl Nitrogen	1.4		1.00	2.30		mg/L		94	90 - 110

Lab Sample ID: 480-89015-2 MSD — **Client Sample ID: MW-13-1015 SD**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 269363 — **Prep Batch: 269038**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Kjeldahl Nitrogen	1.4		1.00	2.34		mg/L		97	90 - 110	1	20

Method: 9012B - Cyanide, Total andor Amenable

Lab Sample ID: MB 480-270246/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 270449 — **Prep Batch: 270246**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.010		mg/L		10/21/15 19:50	10/22/15 11:31	1

Lab Sample ID: LCS 480-270246/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 270449 — **Prep Batch: 270246**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.250	0.265		mg/L		106	90 - 110

Method: 9012B - Cyanide, Total andor Amenable (Continued)

Lab Sample ID: MB 480-270562/1-A
Matrix: Water
Analysis Batch: 270709

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 270562

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.010		mg/L		10/22/15 17:55	10/23/15 11:41	1

Lab Sample ID: LCS 480-270562/2-A
Matrix: Water
Analysis Batch: 270709

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 270562

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.250	0.275		mg/L		110	90 - 110

Lab Sample ID: 480-89015-2 MS
Matrix: Water
Analysis Batch: 270709

Client Sample ID: MW-13-1015 MS
Prep Type: Total/NA
Prep Batch: 270562

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.22	F1	0.100	0.327		mg/L		106	90 - 110

Lab Sample ID: 480-89015-2 MSD
Matrix: Water
Analysis Batch: 270709

Client Sample ID: MW-13-1015 SD
Prep Type: Total/NA
Prep Batch: 270562

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.22	F1	0.100	0.354	F1	mg/L		133	90 - 110	8	15

Lab Sample ID: MB 480-270977/1-A
Matrix: Water
Analysis Batch: 271154

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 270977

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.010		mg/L		10/25/15 09:26	10/26/15 12:45	1

Lab Sample ID: LCS 480-270977/2-A
Matrix: Water
Analysis Batch: 271154

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 270977

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.250	0.266		mg/L		106	90 - 110

Lab Sample ID: 480-89015-3 DU
Matrix: Water
Analysis Batch: 271154

Client Sample ID: MW-14-1015
Prep Type: Total/NA
Prep Batch: 270977

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Cyanide, Total	0.12		0.139		mg/L		15	15

Lab Sample ID: MB 480-270993/1-A
Matrix: Water
Analysis Batch: 271154

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 270993

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.010		mg/L		10/26/15 02:50	10/26/15 13:27	1

Lab Sample ID: LCS 480-270993/2-A
Matrix: Water
Analysis Batch: 271154

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 270993

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.400	0.434		mg/L		109	90 - 110

Lab Sample ID: LCS 480-270993/3-A
Matrix: Water
Analysis Batch: 271154

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 270993

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.250	0.264		mg/L		106	90 - 110

Lab Sample ID: 480-89119-2 MS
Matrix: Water
Analysis Batch: 271154

Client Sample ID: MW-7-1015
Prep Type: Total/NA
Prep Batch: 270993

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.18		0.100	0.284		mg/L		101	90 - 110

Lab Sample ID: MB 480-271297/1-A
Matrix: Water
Analysis Batch: 271418

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 271297

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.010		mg/L		10/27/15 02:50	10/27/15 13:35	1

Lab Sample ID: LCS 480-271297/2-A
Matrix: Water
Analysis Batch: 271418

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 271297

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.400	0.403		mg/L		101	90 - 110

Lab Sample ID: LCS 480-271297/3-A
Matrix: Water
Analysis Batch: 271418

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 271297

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.250	0.249		mg/L		100	90 - 110

Method: D516-90, 02 - Sulfate

Lab Sample ID: MB 480-269719/12
Matrix: Water
Analysis Batch: 269719

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0		mg/L			10/19/15 18:07	1

Method: D516-90, 02 - Sulfate (Continued)

Lab Sample ID: MB 480-269719/84
Matrix: Water
Analysis Batch: 269719

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0		mg/L			10/19/15 19:55	1

Lab Sample ID: LCS 480-269719/11
Matrix: Water
Analysis Batch: 269719

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	30.0	30.77		mg/L		103	90 - 110

Lab Sample ID: LCS 480-269719/83
Matrix: Water
Analysis Batch: 269719

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	30.0	29.86		mg/L		100	90 - 110

Lab Sample ID: 480-89015-2 MS
Matrix: Water
Analysis Batch: 269719

Client Sample ID: MW-13-1015 MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	ND	F1	20.0	ND	F1	mg/L		21	60 - 128

Lab Sample ID: 480-89015-2 MSD
Matrix: Water
Analysis Batch: 269719

Client Sample ID: MW-13-1015 SD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	ND	F1	20.0	ND	F1	mg/L		21	60 - 128	2	20

Lab Sample ID: MB 480-269962/114
Matrix: Water
Analysis Batch: 269962

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0		mg/L			10/20/15 19:46	1

Lab Sample ID: MB 480-269962/12
Matrix: Water
Analysis Batch: 269962

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0		mg/L			10/20/15 16:32	1

Lab Sample ID: LCS 480-269962/11
Matrix: Water
Analysis Batch: 269962

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	30.0	30.97		mg/L		103	90 - 110

Lab Sample ID: LCS 480-269962/113
Matrix: Water
Analysis Batch: 269962

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	30.0	29.35		mg/L		98	90 - 110

Lab Sample ID: MB 480-270260/12
Matrix: Water
Analysis Batch: 270260

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0		mg/L			10/21/15 17:21	1

Lab Sample ID: MB 480-270260/67
Matrix: Water
Analysis Batch: 270260

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0		mg/L			10/21/15 19:07	1

Lab Sample ID: LCS 480-270260/11
Matrix: Water
Analysis Batch: 270260

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	30.0	30.40		mg/L		101	90 - 110

Lab Sample ID: LCS 480-270260/66
Matrix: Water
Analysis Batch: 270260

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	30.0	28.52		mg/L		95	90 - 110

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 480-268869/30
Matrix: Water
Analysis Batch: 268869

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	ND		5.0		mg/L			10/14/15 15:09	1

Lab Sample ID: MB 480-268869/7
Matrix: Water
Analysis Batch: 268869

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	ND		5.0		mg/L			10/14/15 12:23	1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCS 480-268869/31
Matrix: Water
Analysis Batch: 268869

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Total	100	99.92		mg/L		100	90 - 110

Lab Sample ID: LCS 480-268869/8
Matrix: Water
Analysis Batch: 268869

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Total	100	100.4		mg/L		100	90 - 110

Lab Sample ID: MB 480-269213/30
Matrix: Water
Analysis Batch: 269213

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	ND		5.0		mg/L			10/15/15 22:45	1

Lab Sample ID: MB 480-269213/7
Matrix: Water
Analysis Batch: 269213

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	ND		5.0		mg/L			10/15/15 20:27	1

Lab Sample ID: LCS 480-269213/31
Matrix: Water
Analysis Batch: 269213

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Total	100	99.58		mg/L		100	90 - 110

Lab Sample ID: LCS 480-269213/8
Matrix: Water
Analysis Batch: 269213

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Total	100	99.50		mg/L		100	90 - 110

Lab Sample ID: 480-89015-2 MS
Matrix: Water
Analysis Batch: 269213

Client Sample ID: MW-13-1015 MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Total	283	F1	100	319.8	F1	mg/L		37	60 - 140

Lab Sample ID: 480-89015-2 MSD
Matrix: Water
Analysis Batch: 269213

Client Sample ID: MW-13-1015 SD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity, Total	283	F1	100	327.8	F1	mg/L		45	60 - 140	2	20

Method: SM 3500 FE D - Iron, Ferrous and Ferric

Lab Sample ID: MB 480-269035/3
Matrix: Water
Analysis Batch: 269035

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ferrous Iron	ND		0.10		mg/L			10/15/15 12:13	1

Lab Sample ID: LCS 480-269035/4
Matrix: Water
Analysis Batch: 269035

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	2.00	1.82		mg/L		91	90 - 110

Lab Sample ID: 480-89119-3 MS
Matrix: Water
Analysis Batch: 269035

Client Sample ID: MW-12-1015
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	ND	HF	1.00	1.23		mg/L		123	70 - 130

Lab Sample ID: 480-89119-3 MSD
Matrix: Water
Analysis Batch: 269035

Client Sample ID: MW-12-1015
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ferrous Iron	ND	HF	1.00	1.22		mg/L		122	70 - 130	1	20

Lab Sample ID: MB 480-269068/3
Matrix: Water
Analysis Batch: 269068

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ferrous Iron	ND		0.10		mg/L			10/14/15 14:17	1

Lab Sample ID: LCS 480-269068/4
Matrix: Water
Analysis Batch: 269068

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	2.00	2.01		mg/L		101	90 - 110

Lab Sample ID: 480-89015-2 MS
Matrix: Water
Analysis Batch: 269068

Client Sample ID: MW-13-1015 MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	ND	HF	1.00	1.06	HF	mg/L		106	70 - 130

Method: SM 3500 FE D - Iron, Ferrous and Ferric (Continued)

Lab Sample ID: 480-89015-2 MSD
Matrix: Water
Analysis Batch: 269068

Client Sample ID: MW-13-1015 SD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ferrous Iron	ND	HF	1.00	1.07	HF	mg/L		107	70 - 130	1	20

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 480-269299/33
Matrix: Water
Analysis Batch: 269299

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0		mg/L			10/16/15 11:04	1

Lab Sample ID: MB 480-269299/55
Matrix: Water
Analysis Batch: 269299

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0		mg/L			10/16/15 11:23	1

Lab Sample ID: MB 480-269299/72
Matrix: Water
Analysis Batch: 269299

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0		mg/L			10/16/15 11:55	1

Lab Sample ID: MB 480-269299/80
Matrix: Water
Analysis Batch: 269299

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0		mg/L			10/16/15 12:03	1

Lab Sample ID: LCS 480-269299/34
Matrix: Water
Analysis Batch: 269299

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	26.65		mg/L		107	90 - 110

Lab Sample ID: LCS 480-269299/56
Matrix: Water
Analysis Batch: 269299

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	26.40		mg/L		106	90 - 110

Method: SM 4500 Cl- E - Chloride, Total (Continued)

Lab Sample ID: LCS 480-269299/73
Matrix: Water
Analysis Batch: 269299

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			25.0	26.43		mg/L		106	90 - 110		

Lab Sample ID: LCS 480-269299/81
Matrix: Water
Analysis Batch: 269299

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			25.0	26.64		mg/L		107	90 - 110		

Lab Sample ID: MB 480-269372/107
Matrix: Water
Analysis Batch: 269372

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0		mg/L			10/16/15 21:51	1

Lab Sample ID: MB 480-269372/40
Matrix: Water
Analysis Batch: 269372

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0		mg/L			10/16/15 19:29	1

Lab Sample ID: MB 480-269372/49
Matrix: Water
Analysis Batch: 269372

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0		mg/L			10/16/15 20:15	1

Lab Sample ID: LCS 480-269372/108
Matrix: Water
Analysis Batch: 269372

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			25.0	26.10		mg/L		104	90 - 110		

Lab Sample ID: LCS 480-269372/41
Matrix: Water
Analysis Batch: 269372

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			25.0	26.52		mg/L		106	90 - 110		

Lab Sample ID: LCS 480-269372/50
Matrix: Water
Analysis Batch: 269372

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			25.0	26.47		mg/L		106	90 - 110		

Lab Sample ID: 480-89015-2 MS
Matrix: Water
Analysis Batch: 269372

Client Sample ID: MW-13-1015 MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	11.2		20.0	33.15		mg/L		110	74 - 131		

Lab Sample ID: 480-89015-2 MSD
Matrix: Water
Analysis Batch: 269372

Client Sample ID: MW-13-1015 SD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	11.2		20.0	32.30		mg/L		106	74 - 131	3	20

Lab Sample ID: MB 480-269976/34
Matrix: Water
Analysis Batch: 269976

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0		mg/L			10/20/15 17:17	1

Lab Sample ID: MB 480-269976/44
Matrix: Water
Analysis Batch: 269976

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0		mg/L			10/20/15 17:47	1

Lab Sample ID: MB 480-269976/83
Matrix: Water
Analysis Batch: 269976

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0		mg/L			10/20/15 18:29	1

Lab Sample ID: MB 480-269976/93
Matrix: Water
Analysis Batch: 269976

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0		mg/L			10/20/15 18:39	1

Lab Sample ID: LCS 480-269976/35
Matrix: Water
Analysis Batch: 269976

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			25.0	26.61		mg/L		106	90 - 110		

Lab Sample ID: LCS 480-269976/45
Matrix: Water
Analysis Batch: 269976

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			25.0	26.65		mg/L		107	90 - 110		

Method: SM 4500 Cl- E - Chloride, Total (Continued)

Lab Sample ID: LCS 480-269976/84
Matrix: Water
Analysis Batch: 269976

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	26.23		mg/L		105	90 - 110

Lab Sample ID: LCS 480-269976/94
Matrix: Water
Analysis Batch: 269976

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	26.42		mg/L		106	90 - 110

Method: SM 4500 S2 F - Sulfide, Total

Lab Sample ID: MB 480-269882/3
Matrix: Water
Analysis Batch: 269882

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		1.0		mg/L			10/20/15 10:20	1

Lab Sample ID: LCS 480-269882/4
Matrix: Water
Analysis Batch: 269882

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	10.0	9.00		mg/L		90	90 - 110

Lab Sample ID: 480-89015-2 MS
Matrix: Water
Analysis Batch: 269882

Client Sample ID: MW-13-1015 MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	ND		5.00	6.00		mg/L		104	40 - 150

Lab Sample ID: 480-89015-2 MSD
Matrix: Water
Analysis Batch: 269882

Client Sample ID: MW-13-1015 SD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide	ND		5.00	5.60		mg/L		96	40 - 150	7	20

QC Association Summary

Client: CDM Smith, Inc.
Project/Site: Johnstown semi-annual GW

TestAmerica Job ID: 480-89015-1

GC/MS VOA

Analysis Batch: 270546

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-1	MW-10-1015	Total/NA	Water	8260C	
480-89015-2	MW-13-1015	Total/NA	Water	8260C	
480-89015-2 MS	MW-13-1015 MS	Total/NA	Water	8260C	
480-89015-2 MSD	MW-13-1015 SD	Total/NA	Water	8260C	
480-89015-4	MW-15-1015	Total/NA	Water	8260C	
480-89015-6	FD-1015	Total/NA	Water	8260C	
480-89015-7	TRIP BLANK	Total/NA	Water	8260C	
480-89119-1	MW-4-1015	Total/NA	Water	8260C	
LCS 480-270546/4	Lab Control Sample	Total/NA	Water	8260C	
MB 480-270546/6	Method Blank	Total/NA	Water	8260C	

Analysis Batch: 270597

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-3	MW-14-1015	Total/NA	Water	8260C	
480-89015-4 - DL	MW-15-1015	Total/NA	Water	8260C	
480-89015-4 MS	MW-15-1015	Total/NA	Water	8260C	
480-89015-4 MSD	MW-15-1015	Total/NA	Water	8260C	
480-89015-5	MW-16-1015	Total/NA	Water	8260C	
480-89119-3	MW-12-1015	Total/NA	Water	8260C	
480-89119-4	TRIP BLANK	Total/NA	Water	8260C	
LCS 480-270597/4	Lab Control Sample	Total/NA	Water	8260C	
MB 480-270597/6	Method Blank	Total/NA	Water	8260C	

Analysis Batch: 271049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89119-2	MW-7-1015	Total/NA	Water	8260C	
LCS 480-271049/5	Lab Control Sample	Total/NA	Water	8260C	
MB 480-271049/7	Method Blank	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 268913

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-1	MW-10-1015	Total/NA	Water	3510C	
480-89015-2	MW-13-1015	Total/NA	Water	3510C	
480-89015-2 - DL	MW-13-1015	Total/NA	Water	3510C	
480-89015-2 MS	MW-13-1015 MS	Total/NA	Water	3510C	
480-89015-2 MS - DL	MW-13-1015 MS	Total/NA	Water	3510C	
480-89015-2 MSD	MW-13-1015 SD	Total/NA	Water	3510C	
480-89015-2 MSD - DL	MW-13-1015 SD	Total/NA	Water	3510C	
480-89015-3	MW-14-1015	Total/NA	Water	3510C	
480-89015-4 - DL	MW-15-1015	Total/NA	Water	3510C	
480-89015-4	MW-15-1015	Total/NA	Water	3510C	
480-89015-5	MW-16-1015	Total/NA	Water	3510C	
480-89015-6	FD-1015	Total/NA	Water	3510C	
480-89119-1	MW-4-1015	Total/NA	Water	3510C	
480-89119-2	MW-7-1015	Total/NA	Water	3510C	
480-89119-3	MW-12-1015	Total/NA	Water	3510C	
LCS 480-268913/2-A	Lab Control Sample	Total/NA	Water	3510C	
MB 480-268913/1-A	Method Blank	Total/NA	Water	3510C	

GC/MS Semi VOA (Continued)

Analysis Batch: 270150

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-1	MW-10-1015	Total/NA	Water	8270D_LL_PAH	268913
480-89015-2	MW-13-1015	Total/NA	Water	8270D_LL_PAH	268913
480-89015-2 MS	MW-13-1015 MS	Total/NA	Water	8270D_LL_PAH	268913
480-89015-2 MSD	MW-13-1015 SD	Total/NA	Water	8270D_LL_PAH	268913
480-89015-3	MW-14-1015	Total/NA	Water	8270D_LL_PAH	268913
480-89015-4	MW-15-1015	Total/NA	Water	8270D_LL_PAH	268913
480-89015-5	MW-16-1015	Total/NA	Water	8270D_LL_PAH	268913
480-89015-6	FD-1015	Total/NA	Water	8270D_LL_PAH	268913
480-89119-1	MW-4-1015	Total/NA	Water	8270D_LL_PAH	268913
480-89119-2	MW-7-1015	Total/NA	Water	8270D_LL_PAH	268913
480-89119-3	MW-12-1015	Total/NA	Water	8270D_LL_PAH	268913

Analysis Batch: 270414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-268913/2-A	Lab Control Sample	Total/NA	Water	8270D_LL_PAH	268913
MB 480-268913/1-A	Method Blank	Total/NA	Water	8270D_LL_PAH	268913

Analysis Batch: 270929

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-4 - DL	MW-15-1015	Total/NA	Water	8270D_LL_PAH	268913

Analysis Batch: 271160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-2 - DL	MW-13-1015	Total/NA	Water	8270D_LL_PAH	268913

Analysis Batch: 271308

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-2 MS - DL	MW-13-1015 MS	Total/NA	Water	8270D_LL_PAH	268913
480-89015-2 MSD - DL	MW-13-1015 SD	Total/NA	Water	8270D_LL_PAH	268913

GC VOA

Analysis Batch: 96007

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-2	MW-13-1015	Total/NA	Water	RSK-175	
480-89015-2 MS	MW-13-1015 MS	Total/NA	Water	RSK-175	
480-89015-2 MSD	MW-13-1015 SD	Total/NA	Water	RSK-175	
480-89015-3	MW-14-1015	Total/NA	Water	RSK-175	
480-89015-4	MW-15-1015	Total/NA	Water	RSK-175	
480-89015-5	MW-16-1015	Total/NA	Water	RSK-175	
480-89015-6	FD-1015	Total/NA	Water	RSK-175	
480-89119-1	MW-4-1015	Total/NA	Water	RSK-175	
480-89119-2	MW-7-1015	Total/NA	Water	RSK-175	
480-89119-3	MW-12-1015	Total/NA	Water	RSK-175	
LCS 200-96007/2	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 200-96007/3	Lab Control Sample Dup	Total/NA	Water	RSK-175	
MB 200-96007/4	Method Blank	Total/NA	Water	RSK-175	

GC VOA (Continued)

Analysis Batch: 96041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-1	MW-10-1015	Total/NA	Water	RSK-175	
LCS 200-96041/2	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 200-96041/3	Lab Control Sample Dup	Total/NA	Water	RSK-175	
MB 200-96041/4	Method Blank	Total/NA	Water	RSK-175	

Analysis Batch: 268948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-1	MW-10-1015	Total/NA	Water	RSK-175	
480-89015-1	MW-10-1015	Total/NA	Water	RSK-175	
480-89015-2	MW-13-1015	Total/NA	Water	RSK-175	
480-89015-2 MS	MW-13-1015 MS	Total/NA	Water	RSK-175	
480-89015-2 MSD	MW-13-1015 SD	Total/NA	Water	RSK-175	
480-89015-3	MW-14-1015	Total/NA	Water	RSK-175	
480-89015-4	MW-15-1015	Total/NA	Water	RSK-175	
480-89015-4 - DL	MW-15-1015	Total/NA	Water	RSK-175	
480-89015-5	MW-16-1015	Total/NA	Water	RSK-175	
480-89015-5 - DL	MW-16-1015	Total/NA	Water	RSK-175	
480-89015-6	FD-1015	Total/NA	Water	RSK-175	
LCS 480-268948/4	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 480-268948/5	Lab Control Sample Dup	Total/NA	Water	RSK-175	
MB 480-268948/3	Method Blank	Total/NA	Water	RSK-175	

Analysis Batch: 269186

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89119-1	MW-4-1015	Total/NA	Water	RSK-175	
480-89119-2	MW-7-1015	Total/NA	Water	RSK-175	
480-89119-3	MW-12-1015	Total/NA	Water	RSK-175	
LCS 480-269186/4	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 480-269186/5	Lab Control Sample Dup	Total/NA	Water	RSK-175	
MB 480-269186/3	Method Blank	Total/NA	Water	RSK-175	

Metals

Prep Batch: 268706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-1	MW-10-1015	Total/NA	Water	3005A	
480-89015-2	MW-13-1015	Total/NA	Water	3005A	
480-89015-2 MS	MW-13-1015 MS	Total/NA	Water	3005A	
480-89015-2 MSD	MW-13-1015 SD	Total/NA	Water	3005A	
480-89015-3	MW-14-1015	Total/NA	Water	3005A	
480-89015-4	MW-15-1015	Total/NA	Water	3005A	
480-89015-5	MW-16-1015	Total/NA	Water	3005A	
480-89015-6	FD-1015	Total/NA	Water	3005A	
LCS 480-268706/2-A	Lab Control Sample	Total/NA	Water	3005A	
LCSD 480-268706/3-A	Lab Control Sample Dup	Total/NA	Water	3005A	
MB 480-268706/1-A	Method Blank	Total/NA	Water	3005A	

Prep Batch: 268970

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89119-1	MW-4-1015	Total/NA	Water	3005A	

Metals (Continued)

Prep Batch: 268970 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89119-2	MW-7-1015	Total/NA	Water	3005A	
480-89119-3	MW-12-1015	Total/NA	Water	3005A	
LCS 480-268970/2-A	Lab Control Sample	Total/NA	Water	3005A	
MB 480-268970/1-A	Method Blank	Total/NA	Water	3005A	

Analysis Batch: 269022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-1	MW-10-1015	Total/NA	Water	6010C	268706
480-89015-2	MW-13-1015	Total/NA	Water	6010C	268706
480-89015-2 MS	MW-13-1015 MS	Total/NA	Water	6010C	268706
480-89015-2 MSD	MW-13-1015 SD	Total/NA	Water	6010C	268706
480-89015-3	MW-14-1015	Total/NA	Water	6010C	268706
480-89015-4	MW-15-1015	Total/NA	Water	6010C	268706
480-89015-5	MW-16-1015	Total/NA	Water	6010C	268706
480-89015-6	FD-1015	Total/NA	Water	6010C	268706
LCS 480-268706/2-A	Lab Control Sample	Total/NA	Water	6010C	268706
LCSD 480-268706/3-A	Lab Control Sample Dup	Total/NA	Water	6010C	268706
MB 480-268706/1-A	Method Blank	Total/NA	Water	6010C	268706

Analysis Batch: 269140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89119-1	MW-4-1015	Total/NA	Water	6010C	268970
480-89119-2	MW-7-1015	Total/NA	Water	6010C	268970
480-89119-3	MW-12-1015	Total/NA	Water	6010C	268970
LCS 480-268970/2-A	Lab Control Sample	Total/NA	Water	6010C	268970
MB 480-268970/1-A	Method Blank	Total/NA	Water	6010C	268970

General Chemistry

Prep Batch: 268749

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-3	MW-14-1015	Total/NA	Water	351.2	
480-89015-4	MW-15-1015	Total/NA	Water	351.2	
480-89015-5	MW-16-1015	Total/NA	Water	351.2	
480-89015-6	FD-1015	Total/NA	Water	351.2	
LCS 480-268749/2-A	Lab Control Sample	Total/NA	Water	351.2	
MB 480-268749/1-A	Method Blank	Total/NA	Water	351.2	

Analysis Batch: 268786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-1	MW-10-1015	Total/NA	Water	353.2	
480-89015-2	MW-13-1015	Total/NA	Water	353.2	
480-89015-3	MW-14-1015	Total/NA	Water	353.2	
480-89015-4	MW-15-1015	Total/NA	Water	353.2	
480-89015-5	MW-16-1015	Total/NA	Water	353.2	
480-89015-6	FD-1015	Total/NA	Water	353.2	

Analysis Batch: 268869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-1	MW-10-1015	Total/NA	Water	SM 2320B	

General Chemistry (Continued)

Analysis Batch: 268869 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-3	MW-14-1015	Total/NA	Water	SM 2320B	
480-89015-4	MW-15-1015	Total/NA	Water	SM 2320B	
480-89015-5	MW-16-1015	Total/NA	Water	SM 2320B	
480-89015-6	FD-1015	Total/NA	Water	SM 2320B	
LCS 480-268869/31	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 480-268869/8	Lab Control Sample	Total/NA	Water	SM 2320B	
MB 480-268869/30	Method Blank	Total/NA	Water	SM 2320B	
MB 480-268869/7	Method Blank	Total/NA	Water	SM 2320B	

Analysis Batch: 268997

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-3	MW-14-1015	Total/NA	Water	351.2	268749
480-89015-4	MW-15-1015	Total/NA	Water	351.2	268749
480-89015-5	MW-16-1015	Total/NA	Water	351.2	268749
480-89015-6	FD-1015	Total/NA	Water	351.2	268749
LCS 480-268749/2-A	Lab Control Sample	Total/NA	Water	351.2	268749
MB 480-268749/1-A	Method Blank	Total/NA	Water	351.2	268749

Analysis Batch: 269007

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89119-1	MW-4-1015	Total/NA	Water	353.2	
480-89119-2	MW-7-1015	Total/NA	Water	353.2	
480-89119-3	MW-12-1015	Total/NA	Water	353.2	

Analysis Batch: 269035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89119-1	MW-4-1015	Total/NA	Water	SM 3500 FE D	
480-89119-2	MW-7-1015	Total/NA	Water	SM 3500 FE D	
480-89119-3	MW-12-1015	Total/NA	Water	SM 3500 FE D	
480-89119-3 MS	MW-12-1015	Total/NA	Water	SM 3500 FE D	
480-89119-3 MSD	MW-12-1015	Total/NA	Water	SM 3500 FE D	
LCS 480-269035/4	Lab Control Sample	Total/NA	Water	SM 3500 FE D	
MB 480-269035/3	Method Blank	Total/NA	Water	SM 3500 FE D	

Prep Batch: 269037

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89119-1	MW-4-1015	Total/NA	Water	351.2	
480-89119-1 MS	MW-4-1015	Total/NA	Water	351.2	
480-89119-2	MW-7-1015	Total/NA	Water	351.2	
480-89119-3	MW-12-1015	Total/NA	Water	351.2	
LCS 480-269037/2-A	Lab Control Sample	Total/NA	Water	351.2	
MB 480-269037/1-A	Method Blank	Total/NA	Water	351.2	

Prep Batch: 269038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-1	MW-10-1015	Total/NA	Water	351.2	
480-89015-2	MW-13-1015	Total/NA	Water	351.2	
480-89015-2 MS	MW-13-1015 MS	Total/NA	Water	351.2	
480-89015-2 MSD	MW-13-1015 SD	Total/NA	Water	351.2	
LCS 480-269038/2-A	Lab Control Sample	Total/NA	Water	351.2	
MB 480-269038/1-A	Method Blank	Total/NA	Water	351.2	

QC Association Summary

Client: CDM Smith, Inc.
Project/Site: Johnstown semi-annual GW

TestAmerica Job ID: 480-89015-1

Analysis Batch: 269068

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-1	MW-10-1015	Total/NA	Water	SM 3500 FE D	
480-89015-2	MW-13-1015	Total/NA	Water	SM 3500 FE D	
480-89015-2 MS	MW-13-1015 MS	Total/NA	Water	SM 3500 FE D	
480-89015-2 MSD	MW-13-1015 SD	Total/NA	Water	SM 3500 FE D	
480-89015-3	MW-14-1015	Total/NA	Water	SM 3500 FE D	
480-89015-4	MW-15-1015	Total/NA	Water	SM 3500 FE D	
480-89015-5	MW-16-1015	Total/NA	Water	SM 3500 FE D	
480-89015-6	FD-1015	Total/NA	Water	SM 3500 FE D	
LCS 480-269068/4	Lab Control Sample	Total/NA	Water	SM 3500 FE D	
MB 480-269068/3	Method Blank	Total/NA	Water	SM 3500 FE D	

Analysis Batch: 269213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-2	MW-13-1015	Total/NA	Water	SM 2320B	
480-89015-2 MS	MW-13-1015 MS	Total/NA	Water	SM 2320B	
480-89015-2 MSD	MW-13-1015 SD	Total/NA	Water	SM 2320B	
480-89119-1	MW-4-1015	Total/NA	Water	SM 2320B	
480-89119-2	MW-7-1015	Total/NA	Water	SM 2320B	
480-89119-3	MW-12-1015	Total/NA	Water	SM 2320B	
LCS 480-269213/31	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 480-269213/8	Lab Control Sample	Total/NA	Water	SM 2320B	
MB 480-269213/30	Method Blank	Total/NA	Water	SM 2320B	
MB 480-269213/7	Method Blank	Total/NA	Water	SM 2320B	

Analysis Batch: 269299

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-3	MW-14-1015	Total/NA	Water	SM 4500 Cl- E	
480-89015-4	MW-15-1015	Total/NA	Water	SM 4500 Cl- E	
480-89015-5	MW-16-1015	Total/NA	Water	SM 4500 Cl- E	
LCS 480-269299/34	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
LCS 480-269299/56	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
LCS 480-269299/73	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
LCS 480-269299/81	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MB 480-269299/33	Method Blank	Total/NA	Water	SM 4500 Cl- E	
MB 480-269299/55	Method Blank	Total/NA	Water	SM 4500 Cl- E	
MB 480-269299/72	Method Blank	Total/NA	Water	SM 4500 Cl- E	
MB 480-269299/80	Method Blank	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 269363

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-1	MW-10-1015	Total/NA	Water	351.2	269038
480-89015-2	MW-13-1015	Total/NA	Water	351.2	269038
480-89015-2 MS	MW-13-1015 MS	Total/NA	Water	351.2	269038
480-89015-2 MSD	MW-13-1015 SD	Total/NA	Water	351.2	269038
480-89119-1	MW-4-1015	Total/NA	Water	351.2	269037
480-89119-1 MS	MW-4-1015	Total/NA	Water	351.2	269037
480-89119-2	MW-7-1015	Total/NA	Water	351.2	269037
480-89119-3	MW-12-1015	Total/NA	Water	351.2	269037
LCS 480-269037/2-A	Lab Control Sample	Total/NA	Water	351.2	269037
LCS 480-269038/2-A	Lab Control Sample	Total/NA	Water	351.2	269038
MB 480-269037/1-A	Method Blank	Total/NA	Water	351.2	269037
MB 480-269038/1-A	Method Blank	Total/NA	Water	351.2	269038

General Chemistry (Continued)

Analysis Batch: 269372

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-1	MW-10-1015	Total/NA	Water	SM 4500 Cl- E	
480-89015-2	MW-13-1015	Total/NA	Water	SM 4500 Cl- E	
480-89015-2 MS	MW-13-1015 MS	Total/NA	Water	SM 4500 Cl- E	
480-89015-2 MSD	MW-13-1015 SD	Total/NA	Water	SM 4500 Cl- E	
480-89015-6	FD-1015	Total/NA	Water	SM 4500 Cl- E	
LCS 480-269372/108	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
LCS 480-269372/41	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
LCS 480-269372/50	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MB 480-269372/107	Method Blank	Total/NA	Water	SM 4500 Cl- E	
MB 480-269372/40	Method Blank	Total/NA	Water	SM 4500 Cl- E	
MB 480-269372/49	Method Blank	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 269719

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-1	MW-10-1015	Total/NA	Water	D516-90, 02	
480-89015-2	MW-13-1015	Total/NA	Water	D516-90, 02	
480-89015-2 MS	MW-13-1015 MS	Total/NA	Water	D516-90, 02	
480-89015-2 MSD	MW-13-1015 SD	Total/NA	Water	D516-90, 02	
480-89015-3	MW-14-1015	Total/NA	Water	D516-90, 02	
480-89015-4	MW-15-1015	Total/NA	Water	D516-90, 02	
480-89015-5	MW-16-1015	Total/NA	Water	D516-90, 02	
480-89015-6	FD-1015	Total/NA	Water	D516-90, 02	
LCS 480-269719/11	Lab Control Sample	Total/NA	Water	D516-90, 02	
LCS 480-269719/83	Lab Control Sample	Total/NA	Water	D516-90, 02	
MB 480-269719/12	Method Blank	Total/NA	Water	D516-90, 02	
MB 480-269719/84	Method Blank	Total/NA	Water	D516-90, 02	

Analysis Batch: 269882

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-1	MW-10-1015	Total/NA	Water	SM 4500 S2 F	
480-89015-2	MW-13-1015	Total/NA	Water	SM 4500 S2 F	
480-89015-2 MS	MW-13-1015 MS	Total/NA	Water	SM 4500 S2 F	
480-89015-2 MSD	MW-13-1015 SD	Total/NA	Water	SM 4500 S2 F	
480-89015-3	MW-14-1015	Total/NA	Water	SM 4500 S2 F	
480-89015-4	MW-15-1015	Total/NA	Water	SM 4500 S2 F	
480-89015-5	MW-16-1015	Total/NA	Water	SM 4500 S2 F	
480-89015-6	FD-1015	Total/NA	Water	SM 4500 S2 F	
480-89119-1	MW-4-1015	Total/NA	Water	SM 4500 S2 F	
480-89119-2	MW-7-1015	Total/NA	Water	SM 4500 S2 F	
480-89119-3	MW-12-1015	Total/NA	Water	SM 4500 S2 F	
LCS 480-269882/4	Lab Control Sample	Total/NA	Water	SM 4500 S2 F	
MB 480-269882/3	Method Blank	Total/NA	Water	SM 4500 S2 F	

Analysis Batch: 269962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89119-2	MW-7-1015	Total/NA	Water	D516-90, 02	
480-89119-3	MW-12-1015	Total/NA	Water	D516-90, 02	
LCS 480-269962/11	Lab Control Sample	Total/NA	Water	D516-90, 02	
LCS 480-269962/113	Lab Control Sample	Total/NA	Water	D516-90, 02	
MB 480-269962/114	Method Blank	Total/NA	Water	D516-90, 02	
MB 480-269962/12	Method Blank	Total/NA	Water	D516-90, 02	

QC Association Summary

Client: CDM Smith, Inc.
Project/Site: Johnstown semi-annual GW

TestAmerica Job ID: 480-89015-1

Analysis Batch: 269976

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89119-1	MW-4-1015	Total/NA	Water	SM 4500 Cl- E	
480-89119-2	MW-7-1015	Total/NA	Water	SM 4500 Cl- E	
480-89119-3	MW-12-1015	Total/NA	Water	SM 4500 Cl- E	
LCS 480-269976/35	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
LCS 480-269976/45	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
LCS 480-269976/84	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
LCS 480-269976/94	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MB 480-269976/34	Method Blank	Total/NA	Water	SM 4500 Cl- E	
MB 480-269976/44	Method Blank	Total/NA	Water	SM 4500 Cl- E	
MB 480-269976/83	Method Blank	Total/NA	Water	SM 4500 Cl- E	
MB 480-269976/93	Method Blank	Total/NA	Water	SM 4500 Cl- E	

Prep Batch: 270246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-1	MW-10-1015	Total/NA	Water	9012B	
LCS 480-270246/2-A	Lab Control Sample	Total/NA	Water	9012B	
MB 480-270246/1-A	Method Blank	Total/NA	Water	9012B	

Analysis Batch: 270260

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89119-1	MW-4-1015	Total/NA	Water	D516-90, 02	
LCS 480-270260/11	Lab Control Sample	Total/NA	Water	D516-90, 02	
LCS 480-270260/66	Lab Control Sample	Total/NA	Water	D516-90, 02	
MB 480-270260/12	Method Blank	Total/NA	Water	D516-90, 02	
MB 480-270260/67	Method Blank	Total/NA	Water	D516-90, 02	

Analysis Batch: 270449

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-1	MW-10-1015	Total/NA	Water	9012B	270246
LCS 480-270246/2-A	Lab Control Sample	Total/NA	Water	9012B	270246
MB 480-270246/1-A	Method Blank	Total/NA	Water	9012B	270246

Prep Batch: 270562

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-2	MW-13-1015	Total/NA	Water	9012B	
480-89015-2 MS	MW-13-1015 MS	Total/NA	Water	9012B	
480-89015-2 MSD	MW-13-1015 SD	Total/NA	Water	9012B	
LCS 480-270562/2-A	Lab Control Sample	Total/NA	Water	9012B	
MB 480-270562/1-A	Method Blank	Total/NA	Water	9012B	

Analysis Batch: 270709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-2	MW-13-1015	Total/NA	Water	9012B	270562
480-89015-2 MS	MW-13-1015 MS	Total/NA	Water	9012B	270562
480-89015-2 MSD	MW-13-1015 SD	Total/NA	Water	9012B	270562
LCS 480-270562/2-A	Lab Control Sample	Total/NA	Water	9012B	270562
MB 480-270562/1-A	Method Blank	Total/NA	Water	9012B	270562

Prep Batch: 270977

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-3	MW-14-1015	Total/NA	Water	9012B	
480-89015-3 DU	MW-14-1015	Total/NA	Water	9012B	
480-89015-5	MW-16-1015	Total/NA	Water	9012B	

General Chemistry (Continued)

Prep Batch: 270977 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-6	FD-1015	Total/NA	Water	9012B	
LCS 480-270977/2-A	Lab Control Sample	Total/NA	Water	9012B	
MB 480-270977/1-A	Method Blank	Total/NA	Water	9012B	

Prep Batch: 270993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89119-1	MW-4-1015	Total/NA	Water	9012B	
480-89119-2	MW-7-1015	Total/NA	Water	9012B	
480-89119-2 MS	MW-7-1015	Total/NA	Water	9012B	
480-89119-3	MW-12-1015	Total/NA	Water	9012B	
LCS 480-270993/2-A	Lab Control Sample	Total/NA	Water	9012B	
LCS 480-270993/3-A	Lab Control Sample	Total/NA	Water	9012B	
MB 480-270993/1-A	Method Blank	Total/NA	Water	9012B	

Analysis Batch: 271154

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-3	MW-14-1015	Total/NA	Water	9012B	270977
480-89015-3 DU	MW-14-1015	Total/NA	Water	9012B	270977
480-89015-5	MW-16-1015	Total/NA	Water	9012B	270977
480-89015-6	FD-1015	Total/NA	Water	9012B	270977
480-89119-1	MW-4-1015	Total/NA	Water	9012B	270993
480-89119-2	MW-7-1015	Total/NA	Water	9012B	270993
480-89119-2 MS	MW-7-1015	Total/NA	Water	9012B	270993
480-89119-3	MW-12-1015	Total/NA	Water	9012B	270993
LCS 480-270977/2-A	Lab Control Sample	Total/NA	Water	9012B	270977
LCS 480-270993/2-A	Lab Control Sample	Total/NA	Water	9012B	270993
LCS 480-270993/3-A	Lab Control Sample	Total/NA	Water	9012B	270993
MB 480-270977/1-A	Method Blank	Total/NA	Water	9012B	270977
MB 480-270993/1-A	Method Blank	Total/NA	Water	9012B	270993

Prep Batch: 271297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-4	MW-15-1015	Total/NA	Water	9012B	
LCS 480-271297/2-A	Lab Control Sample	Total/NA	Water	9012B	
LCS 480-271297/3-A	Lab Control Sample	Total/NA	Water	9012B	
MB 480-271297/1-A	Method Blank	Total/NA	Water	9012B	

Analysis Batch: 271418

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-271297/2-A	Lab Control Sample	Total/NA	Water	9012B	271297
LCS 480-271297/3-A	Lab Control Sample	Total/NA	Water	9012B	271297
MB 480-271297/1-A	Method Blank	Total/NA	Water	9012B	271297

Analysis Batch: 271434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-89015-4	MW-15-1015	Total/NA	Water	9012B	271297

Client Sample ID: MW-10-1015

Lab Sample ID: 480-89015-1

Date Collected: 10/13/15 12:05

Matrix: Water

Date Received: 10/14/15 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	270546	10/22/15 23:13	GTG	TAL BUF
Total/NA	Prep	3510C			268913	10/15/15 08:08	RJS	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		1	270150	10/21/15 19:52	PJQ	TAL BUF
Total/NA	Analysis	RSK-175		1	96041	10/26/15 14:22	ERT	TAL BUR
Total/NA	Analysis	RSK-175		1	268948	10/15/15 12:18	JMO	TAL BUF
Total/NA	Analysis	RSK-175		5	268948	10/15/15 14:38	JMO	TAL BUF
Total/NA	Prep	3005A			268706	10/14/15 11:36	CMM	TAL BUF
Total/NA	Analysis	6010C		1	269022	10/15/15 10:33	AMH	TAL BUF
Total/NA	Prep	351.2			269038	10/15/15 15:13	DCB	TAL BUF
Total/NA	Analysis	351.2		2	269363	10/16/15 20:08	CLT	TAL BUF
Total/NA	Analysis	353.2		1	268786	10/14/15 12:08	NCH	TAL BUF
Total/NA	Prep	9012B			270246	10/21/15 19:50	MGH	TAL BUF
Total/NA	Analysis	9012B		1	270449	10/22/15 11:46	JJK	TAL BUF
Total/NA	Analysis	D516-90, 02		2	269719	10/19/15 20:21	LED	TAL BUF
Total/NA	Analysis	SM 2320B		1	268869	10/14/15 13:21	CDC	TAL BUF
Total/NA	Analysis	SM 3500 FE D		1	269068	10/14/15 14:17	ELR	TAL BUF
Total/NA	Analysis	SM 4500 Cl- E		25	269372	10/16/15 21:53	LED	TAL BUF
Total/NA	Analysis	SM 4500 S2 F		1	269882	10/20/15 10:20	LAW	TAL BUF

Client Sample ID: MW-13-1015

Lab Sample ID: 480-89015-2

Date Collected: 10/13/15 10:50

Matrix: Water

Date Received: 10/14/15 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		5	270546	10/22/15 23:41	GTG	TAL BUF
Total/NA	Prep	3510C			268913	10/15/15 08:08	RJS	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		1	270150	10/21/15 20:21	PJQ	TAL BUF
Total/NA	Prep	3510C	DL		268913	10/15/15 08:08	RJS	TAL BUF
Total/NA	Analysis	8270D_LL_PAH	DL	100	271160	10/27/15 07:28	LMW	TAL BUF
Total/NA	Analysis	RSK-175		1	96007	10/24/15 15:15	ERT	TAL BUR
Total/NA	Analysis	RSK-175		1	268948	10/15/15 14:56	JMO	TAL BUF
Total/NA	Prep	3005A			268706	10/14/15 11:36	CMM	TAL BUF
Total/NA	Analysis	6010C		1	269022	10/15/15 10:37	AMH	TAL BUF
Total/NA	Prep	351.2			269038	10/15/15 15:13	DCB	TAL BUF
Total/NA	Analysis	351.2		1	269363	10/16/15 16:36	CLT	TAL BUF
Total/NA	Analysis	353.2		1	268786	10/14/15 12:09	NCH	TAL BUF
Total/NA	Prep	9012B			270562	10/22/15 17:55	MGH	TAL BUF
Total/NA	Analysis	9012B		1	270709	10/23/15 11:45	JJK	TAL BUF
Total/NA	Analysis	D516-90, 02		1	269719	10/19/15 19:55	LED	TAL BUF
Total/NA	Analysis	SM 2320B		1	269213	10/15/15 20:42	KMF	TAL BUF
Total/NA	Analysis	SM 3500 FE D		1	269068	10/14/15 14:17	ELR	TAL BUF

Lab Chronicle

Client: CDM Smith, Inc.
Project/Site: Johnstown semi-annual GW

TestAmerica Job ID: 480-89015-1

Client Sample ID: MW-13-1015

Date Collected: 10/13/15 10:50
Date Received: 10/14/15 02:00

Lab Sample ID: 480-89015-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	269372	10/16/15 19:36	LED	TAL BUF
Total/NA	Analysis	SM 4500 S2 F		1	269882	10/20/15 10:20	LAW	TAL BUF

Client Sample ID: MW-14-1015

Date Collected: 10/13/15 08:45
Date Received: 10/14/15 02:00

Lab Sample ID: 480-89015-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	270597	10/23/15 11:11	GVF	TAL BUF
Total/NA	Prep	3510C			268913	10/15/15 08:08	RJS	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		1	270150	10/21/15 20:50	PJQ	TAL BUF
Total/NA	Analysis	RSK-175		1	96007	10/24/15 16:00	ERT	TAL BUR
Total/NA	Analysis	RSK-175		1	268948	10/15/15 12:53	JMO	TAL BUF
Total/NA	Prep	3005A			268706	10/14/15 11:36	CMM	TAL BUF
Total/NA	Analysis	6010C		1	269022	10/15/15 10:52	AMH	TAL BUF
Total/NA	Prep	351.2			268749	10/14/15 12:41	DCB	TAL BUF
Total/NA	Analysis	351.2		1	268997	10/15/15 11:50	ELR	TAL BUF
Total/NA	Analysis	353.2		1	268786	10/14/15 12:13	NCH	TAL BUF
Total/NA	Prep	9012B			270977	10/25/15 09:26	EKB	TAL BUF
Total/NA	Analysis	9012B		1	271154	10/26/15 13:04	JJK	TAL BUF
Total/NA	Analysis	D516-90, 02		1	269719	10/19/15 20:09	LED	TAL BUF
Total/NA	Analysis	SM 2320B		1	268869	10/14/15 14:01	CDC	TAL BUF
Total/NA	Analysis	SM 3500 FE D		1	269068	10/14/15 14:17	ELR	TAL BUF
Total/NA	Analysis	SM 4500 Cl- E		1	269299	10/16/15 12:23	CEA	TAL BUF
Total/NA	Analysis	SM 4500 S2 F		1	269882	10/20/15 10:20	LAW	TAL BUF

Client Sample ID: MW-15-1015

Date Collected: 10/13/15 09:55
Date Received: 10/14/15 02:00

Lab Sample ID: 480-89015-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	270546	10/23/15 00:36	GTG	TAL BUF
Total/NA	Analysis	8260C	DL	8	270597	10/23/15 11:39	GVF	TAL BUF
Total/NA	Prep	3510C			268913	10/15/15 08:08	RJS	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		1	270150	10/21/15 21:19	PJQ	TAL BUF
Total/NA	Prep	3510C	DL		268913	10/15/15 08:08	RJS	TAL BUF
Total/NA	Analysis	8270D_LL_PAH	DL	4	270929	10/25/15 09:27	PJQ	TAL BUF
Total/NA	Analysis	RSK-175		1	96007	10/24/15 16:13	ERT	TAL BUR
Total/NA	Analysis	RSK-175		10	268948	10/15/15 13:11	JMO	TAL BUF
Total/NA	Analysis	RSK-175	DL	50	268948	10/15/15 15:13	JMO	TAL BUF
Total/NA	Prep	3005A			268706	10/14/15 11:36	CMM	TAL BUF
Total/NA	Analysis	6010C		1	269022	10/15/15 10:55	AMH	TAL BUF

Lab Chronicle

Client: CDM Smith, Inc.
Project/Site: Johnstown semi-annual GW

TestAmerica Job ID: 480-89015-1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	351.2			268749	10/14/15 12:41	DCB	TAL BUF
Total/NA	Analysis	351.2		1	268997	10/15/15 11:50	ELR	TAL BUF
Total/NA	Analysis	353.2		1	268786	10/14/15 10:49	NCH	TAL BUF
Total/NA	Prep	9012B			271297	10/27/15 02:50	LAW	TAL BUF
Total/NA	Analysis	9012B		5	271434	10/27/15 15:07	JJK	TAL BUF
Total/NA	Analysis	D516-90, 02		3	269719	10/19/15 20:32	LED	TAL BUF
Total/NA	Analysis	SM 2320B		1	268869	10/14/15 14:10	CDC	TAL BUF
Total/NA	Analysis	SM 3500 FE D		1	269068	10/14/15 14:17	ELR	TAL BUF
Total/NA	Analysis	SM 4500 Cl- E		1	269299	10/16/15 12:23	CEA	TAL BUF
Total/NA	Analysis	SM 4500 S2 F		1	269882	10/20/15 10:20	LAW	TAL BUF

Client Sample ID: MW-16-1015

Date Collected: 10/13/15 07:50
Date Received: 10/14/15 02:00

Lab Sample ID: 480-89015-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	270597	10/23/15 12:07	GVF	TAL BUF
Total/NA	Prep	3510C			268913	10/15/15 08:08	RJS	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		1	270150	10/21/15 21:48	PJQ	TAL BUF
Total/NA	Analysis	RSK-175		1	96007	10/24/15 16:20	ERT	TAL BUR
Total/NA	Analysis	RSK-175		1	268948	10/15/15 13:28	JMO	TAL BUF
Total/NA	Analysis	RSK-175	DL	50	268948	10/15/15 15:31	JMO	TAL BUF
Total/NA	Prep	3005A			268706	10/14/15 11:36	CMM	TAL BUF
Total/NA	Analysis	6010C		1	269022	10/15/15 11:08	AMH	TAL BUF
Total/NA	Prep	351.2			268749	10/14/15 12:41	DCB	TAL BUF
Total/NA	Analysis	351.2		1	268997	10/15/15 11:50	ELR	TAL BUF
Total/NA	Analysis	353.2		1	268786	10/14/15 12:14	NCH	TAL BUF
Total/NA	Prep	9012B			270977	10/25/15 09:26	EKB	TAL BUF
Total/NA	Analysis	9012B		1	271154	10/26/15 13:10	JJK	TAL BUF
Total/NA	Analysis	D516-90, 02		1	269719	10/19/15 19:56	LED	TAL BUF
Total/NA	Analysis	SM 2320B		1	268869	10/14/15 14:18	CDC	TAL BUF
Total/NA	Analysis	SM 3500 FE D		1	269068	10/14/15 14:17	ELR	TAL BUF
Total/NA	Analysis	SM 4500 Cl- E		1	269299	10/16/15 12:03	CEA	TAL BUF
Total/NA	Analysis	SM 4500 S2 F		1	269882	10/20/15 10:20	LAW	TAL BUF

Client Sample ID: FD-1015

Date Collected: 10/13/15 00:00
Date Received: 10/14/15 02:00

Lab Sample ID: 480-89015-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	270546	10/23/15 01:32	GTG	TAL BUF
Total/NA	Prep	3510C			268913	10/15/15 08:08	RJS	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		1	270150	10/21/15 22:16	PJQ	TAL BUF
Total/NA	Analysis	RSK-175		1	96007	10/24/15 16:28	ERT	TAL BUR
Total/NA	Analysis	RSK-175		1	268948	10/15/15 13:46	JMO	TAL BUF

Client Sample ID: FD-1015

Date Collected: 10/13/15 00:00
Date Received: 10/14/15 02:00

Lab Sample ID: 480-89015-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			268706	10/14/15 11:36	CMM	TAL BUF
Total/NA	Analysis	6010C		1	269022	10/15/15 11:11	AMH	TAL BUF
Total/NA	Prep	351.2			268749	10/14/15 12:41	DCB	TAL BUF
Total/NA	Analysis	351.2		1	268997	10/15/15 11:50	ELR	TAL BUF
Total/NA	Analysis	353.2		1	268786	10/14/15 12:15	NCH	TAL BUF
Total/NA	Prep	9012B			270977	10/25/15 09:26	EKB	TAL BUF
Total/NA	Analysis	9012B		1	271154	10/26/15 13:11	JJK	TAL BUF
Total/NA	Analysis	D516-90, 02		1	269719	10/19/15 20:09	LED	TAL BUF
Total/NA	Analysis	SM 2320B		1	268869	10/14/15 14:26	CDC	TAL BUF
Total/NA	Analysis	SM 3500 FE D		1	269068	10/14/15 14:17	ELR	TAL BUF
Total/NA	Analysis	SM 4500 Cl- E		1	269372	10/16/15 20:15	LED	TAL BUF
Total/NA	Analysis	SM 4500 S2 F		1	269882	10/20/15 10:20	LAW	TAL BUF

Client Sample ID: TRIP BLANK

Date Collected: 10/13/15 00:00
Date Received: 10/14/15 02:00

Lab Sample ID: 480-89015-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	270546	10/23/15 01:59	GTG	TAL BUF

Client Sample ID: MW-4-1015

Date Collected: 10/14/15 10:50
Date Received: 10/15/15 02:45

Lab Sample ID: 480-89119-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	270546	10/23/15 04:45	GTG	TAL BUF
Total/NA	Prep	3510C			268913	10/15/15 08:08	RJS	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		1	270150	10/21/15 22:45	PJQ	TAL BUF
Total/NA	Analysis	RSK-175		1	96007	10/24/15 16:39	ERT	TAL BUR
Total/NA	Analysis	RSK-175		1	269186	10/16/15 12:44	JMO	TAL BUF
Total/NA	Prep	3005A			268970	10/15/15 12:10	CMM	TAL BUF
Total/NA	Analysis	6010C		1	269140	10/16/15 01:01	AMH	TAL BUF
Total/NA	Prep	351.2			269037	10/15/15 15:13	DCB	TAL BUF
Total/NA	Analysis	351.2		1	269363	10/16/15 15:46	CLT	TAL BUF
Total/NA	Analysis	353.2		1	269007	10/15/15 12:32	CEA	TAL BUF
Total/NA	Prep	9012B			270993	10/26/15 02:50	LAW	TAL BUF
Total/NA	Analysis	9012B		1	271154	10/26/15 13:56	JJK	TAL BUF
Total/NA	Analysis	D516-90, 02		2	270260	10/21/15 19:34	LED	TAL BUF
Total/NA	Analysis	SM 2320B		1	269213	10/15/15 22:29	KMF	TAL BUF
Total/NA	Analysis	SM 3500 FE D		1	269035	10/15/15 12:13	CEA	TAL BUF
Total/NA	Analysis	SM 4500 Cl- E		10	269976	10/20/15 17:56	LED	TAL BUF
Total/NA	Analysis	SM 4500 S2 F		1	269882	10/20/15 10:20	LAW	TAL BUF

Lab Chronicle

Client: CDM Smith, Inc.
Project/Site: Johnstown semi-annual GW

TestAmerica Job ID: 480-89015-1

Client Sample ID: MW-7-1015

Date Collected: 10/14/15 08:05
Date Received: 10/15/15 02:45

Lab Sample ID: 480-89119-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	271049	10/26/15 15:10	GVF	TAL BUF
Total/NA	Prep	3510C			268913	10/15/15 08:08	RJS	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		1	270150	10/21/15 23:14	PJQ	TAL BUF
Total/NA	Analysis	RSK-175		1	96007	10/24/15 16:46	ERT	TAL BUR
Total/NA	Analysis	RSK-175		1	269186	10/16/15 13:02	JMO	TAL BUF
Total/NA	Prep	3005A			268970	10/15/15 12:10	CMM	TAL BUF
Total/NA	Analysis	6010C		1	269140	10/16/15 01:05	AMH	TAL BUF
Total/NA	Prep	351.2			269037	10/15/15 15:13	DCB	TAL BUF
Total/NA	Analysis	351.2		1	269363	10/16/15 15:46	CLT	TAL BUF
Total/NA	Analysis	353.2		1	269007	10/15/15 10:45	CEA	TAL BUF
Total/NA	Prep	9012B			270993	10/26/15 02:50	LAW	TAL BUF
Total/NA	Analysis	9012B		1	271154	10/26/15 13:57	JJK	TAL BUF
Total/NA	Analysis	D516-90, 02		15	269962	10/20/15 20:07	LED	TAL BUF
Total/NA	Analysis	SM 2320B		1	269213	10/15/15 22:59	KMF	TAL BUF
Total/NA	Analysis	SM 3500 FE D		1	269035	10/15/15 12:13	CEA	TAL BUF
Total/NA	Analysis	SM 4500 Cl- E		2	269976	10/20/15 17:55	LED	TAL BUF
Total/NA	Analysis	SM 4500 S2 F		1	269882	10/20/15 10:20	LAW	TAL BUF

Client Sample ID: MW-12-1015

Date Collected: 10/14/15 09:00
Date Received: 10/15/15 02:45

Lab Sample ID: 480-89119-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	270597	10/23/15 18:33	GVF	TAL BUF
Total/NA	Prep	3510C			268913	10/15/15 08:08	RJS	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		1	270150	10/21/15 23:43	PJQ	TAL BUF
Total/NA	Analysis	RSK-175		1	96007	10/24/15 16:55	ERT	TAL BUR
Total/NA	Analysis	RSK-175		1	269186	10/16/15 13:19	JMO	TAL BUF
Total/NA	Prep	3005A			268970	10/15/15 12:10	CMM	TAL BUF
Total/NA	Analysis	6010C		1	269140	10/16/15 01:08	AMH	TAL BUF
Total/NA	Prep	351.2			269037	10/15/15 15:13	DCB	TAL BUF
Total/NA	Analysis	351.2		1	269363	10/16/15 15:46	CLT	TAL BUF
Total/NA	Analysis	353.2		1	269007	10/15/15 12:33	CEA	TAL BUF
Total/NA	Prep	9012B			270993	10/26/15 02:50	LAW	TAL BUF
Total/NA	Analysis	9012B		1	271154	10/26/15 14:00	JJK	TAL BUF
Total/NA	Analysis	D516-90, 02		3	269962	10/20/15 20:21	LED	TAL BUF
Total/NA	Analysis	SM 2320B		1	269213	10/15/15 23:07	KMF	TAL BUF
Total/NA	Analysis	SM 3500 FE D		1	269035	10/15/15 12:13	CEA	TAL BUF
Total/NA	Analysis	SM 4500 Cl- E		15	269976	10/20/15 18:45	LED	TAL BUF
Total/NA	Analysis	SM 4500 S2 F		1	269882	10/20/15 10:20	LAW	TAL BUF

Lab Chronicle

Client: CDM Smith, Inc.
Project/Site: Johnstown semi-annual GW

TestAmerica Job ID: 480-89015-1

Client Sample ID: TRIP BLANK
Date Collected: 10/14/15 00:00
Date Received: 10/15/15 02:45

Lab Sample ID: 480-89119-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	270597	10/23/15 19:00	GVF	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Certification Summary

Client: CDM Smith, Inc.
Project/Site: Johnstown semi-annual GW

TestAmerica Job ID: 480-89015-1

Laboratory: TestAmerica Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	10026	03-31-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
SM 3500 FE D		Water	Ferrous Iron

Laboratory: TestAmerica Burlington

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program	1	PH-0751	09-30-15 *
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	NA	02-13-16
Florida	NELAP	4	E87467	06-30-16
L-A-B	DoD ELAP		L2336	02-26-17
Maine	State Program	1	VT00008	04-17-17
Minnesota	NELAP	5	050-999-436	12-31-15
New Hampshire	NELAP	1	2006	12-18-15
New Jersey	NELAP	2	VT972	10-30-15 *
Pennsylvania	NELAP	3	68-00489	04-30-16
Rhode Island	State Program	1	LAO00298	12-30-15
US Fish & Wildlife	Federal		LE-058448-0	02-28-16
USDA	Federal		P330-11-00093	10-28-16
Vermont	State Program	1	VT-4000	12-31-15
Virginia	NELAP	3	460209	12-14-15

* Certification renewal pending - certification considered valid.

Method Summary

Client: CDM Smith, Inc.
Project/Site: Johnstown semi-annual GW

TestAmerica Job ID: 480-89015-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
8270D_LL_PAH	Semivolatile Organic Compounds (GC/MS) Low level PAH	SW846	TAL BUF
RSK-175	Dissolved Gases (GC)	RSK	TAL BUR
RSK-175	Dissolved Gases (GC)	RSK	TAL BUF
6010C	Metals (ICP)	SW846	TAL BUF
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL BUF
353.2	Nitrate	EPA	TAL BUF
9012B	Cyanide, Total andor Amenable	SW846	TAL BUF
D516-90, 02	Sulfate	ASTM	TAL BUF
SM 2320B	Alkalinity	SM	TAL BUF
SM 3500 FE D	Iron, Ferrous and Ferric	SM	TAL BUF
SM 4500 Cl- E	Chloride, Total	SM	TAL BUF
SM 4500 S2 F	Sulfide, Total	SM	TAL BUF

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: CDM Smith, Inc.
Project/Site: Johnstown semi-annual GW

TestAmerica Job ID: 480-89015-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-89015-1	MW-10-1015	Water	10/13/15 12:05	10/14/15 02:00
480-89015-2	MW-13-1015	Water	10/13/15 10:50	10/14/15 02:00
480-89015-3	MW-14-1015	Water	10/13/15 08:45	10/14/15 02:00
480-89015-4	MW-15-1015	Water	10/13/15 09:55	10/14/15 02:00
480-89015-5	MW-16-1015	Water	10/13/15 07:50	10/14/15 02:00
480-89015-6	FD-1015	Water	10/13/15 00:00	10/14/15 02:00
480-89015-7	TRIP BLANK	Water	10/13/15 00:00	10/14/15 02:00
480-89119-1	MW-4-1015	Water	10/14/15 10:50	10/15/15 02:45
480-89119-2	MW-7-1015	Water	10/14/15 08:05	10/15/15 02:45
480-89119-3	MW-12-1015	Water	10/14/15 09:00	10/15/15 02:45
480-89119-4	TRIP BLANK	Water	10/14/15 00:00	10/15/15 02:45

TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Fax (716) 691-7991

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: E Rosenzweig	Lab PM: Mason, Becky C	Carrier Tracking No(s):	COC No: 480-72273-16327.1
Client Contact: Timothy Beaumont	Phone: 203-727-6524	E-Mail: becky.mason@testamericainc.com		Page: Page 1 of 2
Company: CDM Smith, Inc.		Analysis Requested		Job #:
Address: 6800 Old Collamer Road Suite 3	Due Date Requested:			
City: East Syracuse	TAT Requested (days): standard			
State, Zip: NY, 13057	PO #: 36380.110154			
Phone:	WO #:			
Email: beaumonttj@cdmsmith.com				
Project Name: Johnstown semi-annual GW	Project #: 48011229			
Site:	SSOW#:			

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	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	8270D_LL_PAH - PAH low level SemiVolatiles	351.2 - Total Kjeldahl Nitrogen	6010C - Metals Pb/Mn	RSK_175 - Methane/Ethane/Ethene	8260C - BTEX - 8260	SM4500_S2_F - Sulfide	9012B - 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	Spe
			Preservation Code:				N	N	S	D	A	A	CB	B	N	N	N				
MW-4-1015				Water																	
MW-7-1015				Water																	
MW-10-1015	10/13/15	1205		Water		MS	X	X	X	X	X	X	X	X	X	X	X				
MW-11-1015				Water																	
MW-12-1015				Water																	
MW-13-1015	10/13/15	1050		Water		MS	X	X	X	X	X	X	X	X	X	X	X				
MW-13-1015 MS	10/13/15	1050		Water																	
MW-13-1015 SD	10/13/15	1050		Water																	
MW-14-1015	10/13/15	1345		Water																	
MW-15-1015	10/13/15	955		Water																	
MW-16-1015	10/13/15	750	G	Water																	

480-89015 Chain of Custody

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	Company	Received by	Date/Time	Company
1		10/13/15 1445	CDMS		10/13/15 14:45	TA-BUF
2		10/13/15 1800	TA-BUF		10-14-15 0700	TMB
3						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
		0.4, 0.6

TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Fax (716) 691-7991

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler:	Lab PM: Mason, Becky C	Carrier Tracking No(s):	COC No: 480-72273-16327.2
Client Contact: Timothy Beaumont	Phone:	E-Mail: becky.mason@testamericainc.com		Page: Page 2 of 2
Company: CDM Smith, Inc.		Analysis Requested		Job #:

Address: 6800 Old Collamer Road Suite 3	Due Date Requested:
City: East Syracuse	TAT Requested (days):
State, Zip: NY, 13057	
Phone:	PO #: 36380.110154
Email: beaumonttj@cdmsmith.com	WO #:
Project Name: Johnstown semi-annual GW	Project #: 48011229
Site:	SSOW#:

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	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	8270D_LL_PAH - PAH low level Semivolatiles	351.2 - Total Kjeldahl Nitrogen	6010C - Metals Pb/Mn	RSK_175 - Methane/Ethane/Ethene	8260C - BTEX - 8260	SM4500_S2_F - Sulfide	9012B - 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-1015	10/13/15	—	G	Water	N	N	X	X	X	X	X	X	X	X	X	X	X				
TRIP BLANK	10/13/15	—	G	Water	N	N						X									
TRIP BLANK				Water																	

10/13/15

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
1		10/13/15 1445	CDMS		10/13/15 14:45	TA-BUF
2		10/13/15 1500	TA-BUF		10-14-15 0700	TAB
3		Date/Time:	Company		Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.4, 0.6

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10/29/2015

TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Fax (716) 691-7991

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Eric Rosenmeier	Lab PM: Mason, Becky C	Carrier Tracking No(s):	COC No: 480-72273-16327.1
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: 6800 Old Collamer Road Suite 3	Due Date Requested:			
City: East Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13057				
Phone:	PO #: 36380.110154			
Email: beaumonttj@cdmsmith.com	WO #:			
Project Name: Johnstown semi-annual GW	Project #: 48011229			
Site:	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	8270D_LL_PAH - PAH low level Semivolatiles	351.2 - Total Kjeldahl Nitrogen	6010C - Metals Pb/Mn	RSK_176 - Methane/Ethane/Ethene	8260C - BTEX - 8260	SM4600_S2_F - Sulfide	8012B - Cyanide, Total	353.2, 353.2_Nitrite, D516, Nitrate_Calc, SM4600_Cl_E	2320B - Alkalinity, Total	3500_FE_D - Ferrous Iron	Total Number of containers
			Preservation Code:				N	N	S	D	A	A	CB	B	N	N	N	
MW-4-1015	10/14/15	1050	G	Water		MW	X	X	X	X	X	X	X	X	X	X	X	
MW-7-1015	10/14/15	805	G	Water		MW	X	X	X	X	X	X	X	X	X	X	X	
MW-10-1015				Water														
MW-11-1015				Water														
MW-12-1015	10/14/15	9.00	G	Water		MW	X	X	X	X	X	X	X	X	X	X	X	
MW-13-1015				Water														
MW-13-1015 MS				Water														
MW-13-1015 SD				Water														
MW-14-1015				Water														
MW-15-1015				Water														
MW-16-1015				Water														

Special Instructions/Note:

480-89119 Chain of Custody

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:	Company	Received by:	Date/Time:	Company
1	E Rosenmeier	10/14/15 1300	CDMS	T. Kolden	10-14-15 1300	TA ALB
2	T. Kolden	10-14-15 1800	TA ALB		10-15-15 0245	TAS
3						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
		0.7 #1

TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Fax (716) 691-7991

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: 480-72273-16327.2
Client Contact: Timothy Beaumont	Phone: 203-727-6524	E-Mail: becky.mason@testamericainc.com		Page: Page 2 of 2
Company: CDM Smith, Inc.		**Analysis Requested**		Job #:
Address: 6800 Old Collamer Road Suite 3	Due Date 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: East Syracuse	TAT Requested (days):			
State, Zip: NY, 13057				
Phone:	PO #: 36380.110154			
Email: beaumonttj@cdmsmith.com	WO #:			Other:
Project Name: Johnstown semi-annual GW	Project #: 48011229			
Site:	SSOW#:			

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	8270D_LL_PAH - PAH low level Semivolatiles	351.2 - Total Kjeldahl Nitrogen	6010C - Metals Pb/Mn	RSK_175 - Methane/Ethane/Ethene	8260C - BTEX - 8260	SM4500_S2_F - Sulfide	9012B - Cyanide, Total	353.2, 353.2_Nitrite, D516, Nitrate_Calc, SM4600_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-1015				Water																	
TRIP BLANK	10/14/15	—	G	Water	N	N						X									
TRIP BLANK				Water																	

10-14-15

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
1		10/14/15 1300	CDM S		10-14-15 1300	TA ALB
2		10-14-15 1800	TA ALB		10-15-15 0245	TAD
3						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.7 #1

10/29/2015

TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Fax (716) 691-7991

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Mason, Becky C	Carrier Tracking No(s):	COC No: 480-26287.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: becky.mason@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 480-89015-1
Address: 30 Community Drive, Suite 11,	Due Date Requested: 10/26/2015			
City: South Burlington	TAT Requested (days):			
State, Zip: VT, 05403				
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:			
Email:	WO #:			
Project Name: Johnstown semi-annual GW	Project #: 48011229			
Site:	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 - Client ID (Lab ID)	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	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-10-1015 (480-89015-1)	10/13/15	12:05 Eastern		Water			X	3	
MW-13-1015 (480-89015-2)	10/13/15	10:50 Eastern		Water			X	3	
MW-13-1015 MS (480-89015-2MS)	10/13/15	10:50 Eastern	MS	Water			X	3	
MW-13-1015 SD (480-89015-2MSD)	10/13/15	10:50 Eastern	MSD	Water			X	3	
MW-14-1015 (480-89015-3)	10/13/15	08:45 Eastern		Water			X	3	
MW-15-1015 (480-89015-4)	10/13/15	09:55 Eastern		Water			X	3	
MW-16-1015 (480-89015-5)	10/13/15	07:50 Eastern		Water			X	3	
FD-1015 (480-89015-6)	10/13/15	Eastern		Water			X	3	

480-89015 Chain of Custody

Possible Hazard Identification
Unconfirmed

Sam ***etained longer than 1 month)***
Return To Client *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
1	[signature]	10/14/15 1100	TAB	[signature]	10/15/15 1015	TAB
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	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:

ORIGIN ID:DKKA (716) 691-2600
CHAR BRONSON
TEST AMERICA
10 HAZELWOOD

AMHERST , NY 14228
UNITED STATES US

SHIP DATE: 14OCT15
ACTWGT: 21.9 LB
CAD: 846654/CAFE2807
DIMS: 22x14x11 IN

BILL RECIPIENT

TO SAMPLE MGT.
TA BURLINGTON
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 660-1990 REF: BURLINGTON
DEPT: SAMPLE CONTROL

FedEx Express

THU - 15 OCT AA
STANDARD OVERNIGHT

TRK# 0201 5657 0119 2033

E6 BTVA

05403
VT - US BTV

Part # 156148-434 RIT2 0

Login Sample Receipt Checklist

Client: CDM Smith, Inc.

Job Number: 480-89015-1

Login Number: 89015
List Number: 1
Creator: Williams, Christopher S

List Source: TestAmerica Buffalo

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	CDM SMITH
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: CDM Smith, Inc.

Job Number: 480-89015-1

Login Number: 89015
List Number: 2
Creator: Lavigne, Scott M

List Source: TestAmerica Burlington
List Creation: 10/15/15 12:26 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	411359
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.1º
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: CDM Smith, Inc.

Job Number: 480-89015-1

Login Number: 89119
List Number: 1
Creator: Williams, Christopher S

List Source: TestAmerica Buffalo

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	CDM SMITH
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: CDM Smith, Inc.

Job Number: 480-89015-1

Login Number: 89119
List Number: 2
Creator: Lavigne III, Scott M

List Source: TestAmerica Burlington
List Creation: 10/16/15 03:08 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	411403
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.3ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	