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ANNUAL GROUNDWATER MONITORING REPORT - 2015
FORMER TIDEWATER FACILITY

200 Taft Street
Pawtucket, Rhode Island

April 22, 2016
GZA File No.: 05.0043654.00

PREPARED FOR:
Rhode Island
Department of Environmental Management (RIDEM)
235 Promenade Street, Providence, Rhode Island

GZA GeoEnvironmental, Inc.
530 Broadway | Providence, RI 02909
401-421-4140

www.gza.com

Proactive by Design

GEOTECHNICAL
ENVIRONMENTAL
ECOLOGICAL
WATER
CONSTRUCTION MANAGEMENT

530 Broadway
Providence, RI 02909
T: 401.421.4140
F: 401.751.8613
www.gza.com

April 22, 2016
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Via E-Mail and U.S. Mail

Mr. Joseph Martella
Rhode Island Department of Environmental Management (RIDEM)
Office of Waste Management
235 Promenade Street
Providence, Rhode Island 02908

Re: 2015 Annual Groundwater Monitoring Report
Former Tidewater Facility
200 Taft Street
Pawtucket, Rhode Island
RIDEM Case No. 95-022 / Site Remediation File No. SR-26-0934

Dear Mr. Martella:

On behalf of The Narragansett Electric Company d/b/a National Grid (National Grid), GZA GeoEnvironmental, Inc. (GZA) is pleased to present to the Rhode Island Department of Environmental Management (RIDEM) the attached 2015 *Annual Groundwater Monitoring Report*. This report describes groundwater monitoring activities performed at the above-referenced Site during the 2015 calendar year. These monitoring activities include quarterly groundwater elevation measurements, quarterly Non-Aqueous Phase Liquid (NAPL) gauging and recovery, annual groundwater sampling and analyses, and twice-monthly surface water observations.

Should you have any questions or comments regarding the information presented herein, please do not hesitate to contact the undersigned or Michele Leone from National Grid at (401) 784-7337.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

Margaret S. Kilpatrick, P.E.
Senior Project Manager

James J. Clark, P.E.
Senior Principal

MSK/tlb

Attachment: *2015 Annual Groundwater Monitoring Report*

cc: Michele Leone, National Grid
Jesse Edmands, National Grid

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TABLES

FIGURES

APPENDICES

1.0 INTRODUCTION

On behalf of our client, The Narragansett Electric Company, d/b/a National Grid (National Grid), GZA GeoEnvironmental, Inc. (GZA) is pleased to provide this 2015 *Annual Groundwater Monitoring Report* for the former Tidewater facility located at 200 Taft Street at the terminus of Tidewater and Merry Streets in Pawtucket, Rhode Island ("the Site"). This report summarizes the following Site monitoring activities, which were performed in 2015 consistent with the July 2011 *Remedial Alternative Evaluation (RAE)* submitted to the Rhode Island Department of Environmental Management (RIDEM):

- Twice-monthly surface water observations for sheens;
- Quarterly Non-Aqueous Phase Liquid (NAPL) gauging and recovery;
- Quarterly monitoring well gauging; and
- Annual groundwater sampling and analyses.

The groundwater analytical results were compared to applicable and available Method 1 (or Method 2 as appropriate) Groundwater Objectives (GOs) as established in RIDEM's Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Remediation Regulations, DEM-DSR-01-93, last amended November 2011). Portions of this report include information and data presented in reports prepared by Vanasse Hangen Brustlin, Inc. (VHB), on behalf of National Grid and Atlantic Environmental Services, Inc. (AES), on behalf of predecessors of National Grid and submitted to RIDEM.

This report is subject to the Limitations presented in Appendix A.

1.1 SITE DESCRIPTION

The Site is located at 200 Taft Street at the terminus of Tidewater Street and Merry Street in the City of Pawtucket, Rhode Island. A *Locus Map* is included on Figure 1. The Site was the location of the Tidewater Manufactured Gas Plant (MGP) and the Pawtucket No. 1 Power Station. It is now largely vacant with the exception of an active natural gas regulating station located on the northwest portion and the use of certain areas of the former Power Plant Area as an active switching station and electric substation. The Site is secured with a locked perimeter chain-link fence along the western, northern and southern sides. The Seekonk River borders the eastern side of the Site.

The Site is situated between Taft Street, an extension of Tidewater Street and Thornton Street to the west, the Seekonk River to the east, and consists of approximately 23 acres across seven separate lots. The majority of the Site is owned by National Grid and a small portion of the Site (part of the South Fill Area) is owned by the City of Pawtucket. As described in previous reports, the Site includes the following four areas, as shown on Figures 2A and 2B:

- North Fill Area (NFA) (northern portions of Assessors Plat (A.P.) 54B Lot 826) – Figure 2A;
- Former Gas Plant Area (FGPA) (southern portions of A.P. 54B Lot 826 and A.P. 65B Lot 662) - Figure 2A;
- Former Power Plant Area (FPPA) (A.P. 65B Lot 645) – Figure 2B; and
- South Fill Area (SFA) (A.P. 65B Lots 647 and 649, portions of Lot 648 and portions of A.P. 67B Lot 11) – Figure 2B.

1.2 SITE BACKGROUND

The former MGP operated from the 1880s until 1954 with peak shaving operations continuing until the late 1960s. The former MGP generated gas using the coal carbonization and carbureted water gas processes. Coal was used as the principal fuel to produce coal gas in the coal carbonization process, while coke (enriched with fuel oil) was used to produce carbureted water gas. In the later years of operation (1954 until the late 1960s), the MGP produced gas using oil and propane for peak shaving purposes.

Power plant operations were conducted for approximately 85 years, between sometime in the early 1890s, when construction of the power plant began, until the facility ceased operation in 1975. During this timeframe, the plant used coal and petroleum based products for electricity generation.

GZA prepared and submitted to RIDEM a January 2011 *Site Investigation Data Report* (SIDR) and a July 2011 RAE. These reports served to complete the *Site Investigation Report* (SIR) for the Site consistent with the requirements of Section 7.08 of the Remediation Regulations.

As described in the RAE, groundwater elevation and NAPL gauging and groundwater quality monitoring are anticipated to be part of the final remedy for this Site. The following sections describe shoreline observations, groundwater elevation and NAPL gauging/recovery and groundwater quality monitoring performed in 2015. As described further herein, the results of this 2015 monitoring were generally consistent with previous data and do not alter the information presented or recommendations made in the January 2011 SIDR or the July 2011 RAE.

2.0 SHORELINE OBSERVATIONS

The Site is visited on an at least a twice-monthly basis to record observations of any sheens along the shoreline. The shoreline of the Site is approximately 2,280 feet long and consists largely of manmade bulkheads. Certain portions of the shoreline, primarily the southern extents, consist of natural slopes to the adjacent Seekonk River. Between January 2015 and December 2015, localized sheens on the surface water have been intermittently observed in limited areas of the Seekonk River adjacent to the shoreline of the FGPA and the FPPA. Sheen observations have been limited to the following two general shoreline areas:

- an approximate 10 foot section of the southern shoreline portion of the FGPA near MW-326S and TB-12/MW-3 (refer to Figure 2A); and
- an approximate 10 foot section of the FPPA proximate to the Narragansett Bay Commission (NBC) Combined Sewer Outfall (CSO) near MW-103 (refer to Figure 2B).

Sheens observed in the FGPA near MW-326S and TB-12/MW-3 are bright to dull localized bands less than 2 feet in width located between the shoreline and remnants of wooden sheet piling (associated with a former dock). Sheens observed in the FPPA proximate to the NBC CSO near MW-103 are bright to dull localized spots less than 3 feet in diameter located very close to the shoreline. Sheens at the Site have generally been observed at mid- or low-tide only. Sheen observations are limited in extent and occurrence and could be the result of the existing CSO and other drainage outfalls, subsurface impact or a combination of both.

Sheens observed during 2015 were generally consistent with those documented in the January 2011 SIDR, the July 2011 RAE and previous groundwater monitoring reports. There were no sheens observed proximate to MW-4 where the cap was installed in 2009[1], the SFA or the bulkhead area proximate to the FPPA in 2015. Sheen observations are summarized in Table 1.

3.0 GROUNDWATER AND NAPL MONITORING PROGRAM

The 2015 monitoring program consisted of gauging the entire monitoring well network for groundwater elevation and the presence of NAPL (total of sixty-six (66) wells) and groundwater sampling of select monitoring wells for laboratory analysis of volatile organic compounds (VOCs). Monitoring well groundwater elevation gauging was conducted on a quarterly basis in 2015 (January 22, 2015; April 27, 2015; July 22, 2015; and November 11, 2015). NAPL gauging/recovery was conducted on a quarterly basis in 2015 (January 22, 2015; April 27, 2015; July 22, 2015; and November 13, 2015). Twenty seven (27) monitoring wells are included in the annual groundwater quality sampling round. As described further herein, due to lack of water in two wells, twenty five (25) wells were sampled during the November 2015 groundwater sampling round (performed between November 11 and 13, 2015). All well locations are shown on the attached Figures 2A and 2B, *Exploration Location Plans*. Monitoring wells that were included in the November 2015 groundwater sampling round are highlighted on Figures 2A and 2B.

3.1 OBSERVATIONS OF NAPL

A comprehensive gauging round of the groundwater monitoring well network was completed during each of the quarterly monitoring events. Groundwater elevation and NAPL gauging data are included as Tables 2A and 2B, respectively, for the period from January 2015 through December 2015. A summary of wells exhibiting light Non-Aqueous Phase Liquid (LNAPL) and dense non-aqueous phase liquids (DNAPL) thicknesses since April 2009 are presented in Tables 2C and 2D, respectively. Figures 4A and 4B, *2015 Groundwater Analytical Data,* depict well locations where either measurable LNAPL or DNAPL were observed during the 2015 groundwater monitoring activities. Wells exhibiting LNAPL are observed in the FGPA and FPPA and wells exhibiting DNAPL are observed in the FGPA and SFA. Observations of LNAPL and DNAPL thicknesses within these monitoring wells during 2015 were generally consistent with previous observations, as described below.

During the 2015 monitoring events, in certain wells where measurable levels of NAPL were present, an effort was made to recover NAPL and monitor its rate of return (if any). LNAPL and DNAPL recovery was performed using a peristaltic pump with dedicated tubing positioned below the top of the NAPL surface. The LNAPL and/or DNAPL was extracted from the well until groundwater was observed within the tubing, at which point the pump was deactivated. The recovery was then monitored with an ORS electronic oil/water interface probe. Tables 3A and 3B summarize the results of LNAPL and DNAPL recovery efforts, respectively. Consistent with previous years, GZA removed approximately 8.75 gallons of NAPL/groundwater in 2015. As described further in this section, NAPL recovery was not practical in certain wells due to the viscosity of the material. The NAPL/groundwater was containerized in an appropriately labeled 55-gallon drum which was stored in a secure on-Site location prior to off-Site disposal.

In addition to the NAPL thicknesses shown in Tables 2C and 2D, evidence of sheen was observed on purge water from monitoring wells MW-109, MW-312S, MW-326S, and MW-339D during the November 2015 groundwater sampling event. Purge waters generated from wells MW-109, MW-312S, and MW-326S were observed to exhibit a fuel oil-like odor and

[1] A shoreline cap was installed during 2009 in response to a sheen outbreak in this area. This work is documented in the February 2010 *Short Term Response Action Summary Report* which was prepared by GZA and submitted to the Department.

purge waters from MW-310S, MW-310D, MW-312D, MW-318S, MW-318D, MW-333S, MW-333D, MW-339S, and MW-339D were observed to exhibit a coal-tar like odor during the November 2015 groundwater sampling event. Refer to groundwater sampling logs in Appendix B for additional information.

LNAPL

During the quarterly gauging events in 2015, measurable levels of LNAPL (defined as equal to or greater than 0.01 feet) were detected in only five (5) of the sixty-six (66) monitoring wells gauged: four (4) in the FGPA and one (1) in the FPPA. As presented in Table 2C, LNAPL thicknesses were limited and varied by well location. In the FGPA, MW-3 contained trace[2] amounts to 0.03 feet, MW-210 contained trace amounts to 2.55 feet, MW-312S contained 0.38 to 1.2 feet, and MW-313S contained trace amounts to 0.06 feet of LNAPL; and in the FPPA, M&E MW-5 contained non-detect to 0.41 feet of LNAPL. There have been no new wells exhibiting measureable thicknesses of LNAPL since the January 2011 SIDR. The well locations where LNAPL was detected in the FGPA are in the area of the former MGP processes and the former piping raceway footprint. On the FPPA, LNAPL was detected in the well located in the vicinity of the former service underground storage tanks or USTs (M&E MW-5).

During the quarterly gauging events in 2015, LNAPL recovery evaluations were attempted at three (3) wells: MW-210, MW-312S, and M&E MW-5. Consistent with historic observations, LNAPL appears to recover relatively slowly. In addition, observed LNAPL thicknesses appear to be highly dependent upon the tidal cycle at the time of gauging. As presented in Table 3A, the rate of LNAPL recovery appears to be on the order of 1 to 2 months (or more) (timeframe over which recorded thickness appears to return to original measurement). In general, LNAPL thicknesses and recoverability are consistent with historic observations, as presented in the January 2011 SIDR, the July 2011 RAE and previous groundwater monitoring reports and summarized in Table 2C and 3A, with some minor deviations. LNAPL in monitoring wells MW-103, MW-326S, MW-313S and MW-3 have decreased from measurable thicknesses of several feet in January 2011 to less than 0.10 feet since October 2011, suggesting that only localized LNAPL may have collected in these wells.

DNAPL

During the quarterly gauging events in 2015, measurable levels of DNAPL (defined as equal to or greater than 0.01 feet) were detected in only four (4) of the sixty-six (66) monitoring wells gauged: two (2) in the FGPA and two (2) in the SFA. As presented in Table 2D, DNAPL thicknesses varied by well location. In the FGPA, MW-303 contained 3 to 5.1 feet and MW-341 contained 1.25 to 3 feet of DNAPL; and in the SFA, MW-320S contained 0.05 to 1.7 feet and MW-320D contained 13.2 to 13.9 feet of DNAPL. MW-303 is located proximate to former MGP processes. Monitoring well MW-341 is located downgradient of the former Gasholders No. 7 and 8. It should be noted that monitoring well MW-103 (located on the FPPA), which was the only well on the FPPA where measureable DNAPL was detected during the 2010 Site investigations, has not shown evidence of DNAPL since 2011.

Based on the measurable quantities, physical characteristics of the DNAPL, and results of historic DNAPL recovery attempts, recovery evaluations were attempted at two (2) well locations in 2015 (MW-303 and MW-341 installed on the FGPA portion of the Site[3]). During the 2015 recovery rounds, 1 gallon of DNAPL was recovered each quarter from MW-341. DNAPL recovery at MW-303 was limited to trace amounts due to the viscosity of the DNAPL in this well. In general, DNAPL thicknesses and recoverability rates observed during 2015 are consistent with historic observations.

[2] Trace NAPL is defined herein as less than 0.01 feet of NAPL.

[3] Recovery was not attempted for the DNAPL observed in the SFA due to the viscosity of the DNAPL observed.

DNAPL thickness in MW-320D (located in the SFA) ranged from 1.05 and 10 feet between 2009 and 2013, compared to DNAPL thicknesses ranging from 13.2 and 13.9 feet in 2014 and 2015. Similar to observations of LNAPL, DNAPL is observed in only certain wells suggesting the presence of localized pockets and not a contiguous layer. Based on the results of attempted recovery and the viscous nature of the materials, DNAPL is unlikely to be significantly mobile. In addition, groundwater monitoring wells act as collection points for NAPL and therefore the thicknesses measured within the wells are often significantly greater than what is actually present in the subsurface. This also results in observations of increased thicknesses of NAPL in a monitoring well when recovery is not feasible, such as in the case of MW-320D. GZA has not observed the presence of sheen in the waterfront area adjacent to MW-320D, indicating that the DNAPL in this well may not be particularly mobile.

3.2 GROUNDWATER FLOW DIRECTION

Between April 2009 and November 2015, GZA recorded depth to groundwater readings at Site monitoring wells on a quarterly basis. Depths to groundwater measurements were obtained using an electronic water level/oil water interface probe accurate to within 0.01 feet. The groundwater elevations at each monitoring well were subsequently calculated using the casing and PVC elevations. Table 2A presents the depth to groundwater readings for each well gauged in 2015. The groundwater elevations recorded during the November 11, 2015 gauging round were used to construct the *Shallow Groundwater Contour Plan* presented as Figure 3**.** Groundwater elevations during the 2015 gauging events are generally consistent with those recorded during previous monitoring events. As expected, review of groundwater elevations recorded during the 2015 reporting period indicated that the groundwater beneath the Site generally flows from west to east towards the Seekonk River. In general, the groundwater table was encountered between elevation 0 and 10 feet (NGVD 1929), which is predominantly within the fill unit. As indicated on Figure 3 and consistent with Site topography, groundwater elevations decline steeply from west to east on the northern side of the Site. In general, groundwater elevation contours flatten along the eastern side of the Site closer to the Seekonk River.

3.3 GROUNDWATER SAMPLING TECHNIQUES

Twenty-seven (27) monitoring wells are included in the groundwater sampling program at the Site: four (4) in the NFA (MW-5, MW-7, MW-310S and MW-310D), ten (10) in the FGPA (MW-201, MW-208, MW-312S, MW-312D, MW-326S, MW-326D, MW-333S, MW-333D, MW-339S, and MW-339D), eight (8) in the FPPA (M&E MW-2, MW-6, MW-109, MW-314S, MW-314D, MW-316S, MW-316D, and MW-337) and five (5) in the SFA (MW-107, MW-318S, MW-318D, MW-334S and MW-334D).[4] These well locations were chosen to provide a representative evaluation of overall Site groundwater quality. Figures 2A and 2B, *Exploration Location Plans*, identify the wells included in the November 2015 groundwater sampling round.

Groundwater samples were collected in general accordance with EPA's January 19, 2010 *Low Stress (low flow) Purging and Sampling Procedure* (Low Flow Standard Operating Procedure). Prior to sampling, the depth to static groundwater and NAPL present was measured in each well using an ORS electronic oil/water interface probe. During groundwater sampling, a variable speed peristaltic pump or submersible pump was utilized to control the rate of purging. Dedicated 3/8-inch polyethylene tubing installed in each of the wells was utilized as the intake and discharge tubing for the pump. Pharmaceutical grade (silicone) tubing was utilized as the pump head tubing and connected to the intake and discharge tubing by clamps sufficient to prevent the introduction of air into the sample. If NAPL was noted in the monitoring well prior to sampling, new tubing was installed in the monitoring well. In order to limit the potential for LNAPL to enter the sampling tubing during the collection of the sample, a peristaltic pump was used to force air through the tubing as it

[4] MW-5 and MW-316S are included in the sampling program; however, due to low water levels and insufficient recovery, there was not enough water present within the well to collect samples during the November 2015 monitoring event.

passed through the LNAPL/groundwater interface. If DNAPL was noted in the well, the sampling tubing was installed in these wells carefully so that the DNAPL layer was not intercepted.

During sampling, field readings were recorded for pH, temperature, specific conductance, oxidation reduction potential (ORP) and dissolved oxygen (DO) using a YSI Professional Plus® portable water quality meter with a flow-through cell. A LaMotte Turbidimeter® was used to monitor the turbidity. These field readings are presented in the field sampling logs, attached as Appendix B. As indicated on the logs, the monitoring wells were pumped until field screening parameters were stabilized prior to collecting the samples.[5]

Samples were placed in laboratory-provided, hydrochloric acid-preserved 40 milliliter (mL) glass vials with septa caps for volatile organic compound (VOC) analysis via EPA Method 8260B.[6] Samples were then packed in an ice chest and transported under chain-of-custody protocol to ESS Laboratory located in Cranston, Rhode Island.

3.4 INVESTIGATION-DERIVED WASTE MANAGEMENT

As described previously, NAPL/groundwater that was collected during 2015 NAPL recovery was containerized in a labeled 55-gallon steel drum and stored securely on-Site for subsequent off-Site disposal. One (1) drum of purge water and one (1) drum of oily debris (used personal protective equipment (PPE)) was generated during the November 2015 sampling event. The purge water and oily debris drums were removed from the Site by Clean Harbors Environmental Services, Inc. (CHES) of East Providence, Rhode Island for off-Site disposal. A copy of the disposal manifest is included in Appendix C.

3.5 QUALITY ASSURANCE/QUALITY CONTROL SAMPLING AND ANALYSIS

During the 2015 sampling round, twenty-five (25) groundwater samples, two (2) blind duplicate samples and one (1) trip blank was submitted to ESS Laboratory in Cranston, Rhode Island for analysis. The samples were transported to the laboratory under chain of custody protocol. As indicated on page 2 of each laboratory report, the samples were received intact, within the proper temperature range and appropriately preserved. Analytical results for the trip blank were below the laboratory reporting limit for all 67 targeted compounds.

Naphthalene (laboratory work order 1511324 batch CK51635), ethylbenzene, styrene and xylenes (laboratory work order 1511324 batch CK51643), and acetone (laboratory work order 1511323 batch CH51632) were detected in the laboratory method blanks for select samples. Results were qualified based on these results. Utilizing the qualified quantitation limits (10 times the blank reported value), many of the positive results were qualified as non-detects. Some compounds were detected in excess of the new quantitation limit and were left at the laboratory reported value. The detections of these compounds at low levels does not significantly affect data usability.

Two duplicate sample sets (Set #1 – MW-201 and BD1112151 and Set #2 – MW-107 and BD-111315) were also submitted for VOC analysis to evaluate sample reproducibility. The relative percent difference (RPD) was calculated for each compound. Elevated RPDs (more than 40% difference) were not noted in either duplicate sample set.

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[5] In accordance with the Low Flow Standard Operating Procedure, the groundwater sample was collected from MW-312S after purging for two hours as the field screening parameters did not stabilize.

[6] Previous groundwater sampling rounds have included analysis for VOCs via EPA Method 8260B, total petroleum hydrocarbons (TPH) via EPA Method 8100M, polycyclic aromatic hydrocarbons (PAHs) via EPA Method 8270C, total cyanide and dissolved free cyanide via EPA Method 9014. The 2015 groundwater monitoring program was modified to only include and not include TPH, PAHs, or cyanide to be consistent with the RIDEM-submitted July 2011 RAE.

Elevated RPDs in laboratory control samples were noted for certain VOCs (2-hexanone, acetone, bromomethane, 2-butanone, methylene chloride, carbon disulfide, and 1,4-dioxane). Given the nature of the observed Site impacts, the variability in the results in these samples does not significantly affect data usability.

These results are shown in Tables 4A (VOCs) and 4B (QA/QC Results). Copies of the original laboratory data, laboratory quality assurance/quality control (QA/QC) methods, and chain-of-custody forms are provided in Appendix D.

3.6 GROUNDWATER ANALYTICAL RESULTS

Analytical data from the 2015 sampling event is summarized in Table 4A (VOCs), which includes comparisons to RIDEM Method 1 (or Method 2 as appropriate) GB Groundwater Objectives and Upper Concentration Limits (UCL). A summary of the 2015 data is described below. Historical groundwater quality results by monitoring well dating back to 1996 are presented in Tables 5A through 5AA.

Groundwater quality at the Site is generally characterized by a few isolated exceedances (six (6) wells total) of the GB Groundwater Objectives for benzene, ethylbenzene and naphthalene, primarily in areas of the Site where former MGP features were located. Figures 4A and 4B, *2015 Analytical Groundwater Data,* present the total VOC concentrations detected in groundwater samples during the November 2015 sampling round and highlight wells exhibiting specific analyte GB Groundwater Objective exceedances. As indicated on these figures, exceedances of the standards are limited to sporadic detections of the following compounds: ethylbenzene, benzene and naphthalene.

As indicated in Table 4A, VOCs were detected in twenty-three (23) of the twenty-five (25) groundwater samples submitted for analysis in 2015. The total VOC concentrations detected during the 2015 monitoring event ranged from 0.0002 milligrams per Liter (mg/L) to 16.437 mg/L. Six samples (6/25) exceeded the GB Groundwater Objective for one or more VOCs. Three (3/25) samples exceeded the Method 2 GB Groundwater Objective for naphthalene, five (5/25) samples exceeded the Method 1 GB Groundwater Objective for benzene, and one (1/25) sample exceeded the Method 1 GB Groundwater Objective for ethylbenzene. [7,8]

The presence of these compounds in groundwater samples is typical for former MGP and power plant sites and consistent with historical sampling results for the Tidewater Site. None of the VOCs detected in groundwater in 2015 exceeded UCLs. The following sections discuss the dissolved-phased VOC analytical results for the 2015 sampling event as compared to the Method 1 (or Method 2 as appropriate) objectives by Site area.

NFA (Northern Portions of A.P. 54B Lot 826)

Three (3) groundwater samples (MW-7, MW-310S, and MW-310D) were collected in this area during the 2015 monitoring event and submitted for analysis of VOCs. The groundwater sample from MW-310D exhibited exceedances of the GB Groundwater Objectives for benzene and naphthalene. Benzene was detected in MW-310D at a concentration of 0.739 mg/L, in excess of the GB Groundwater Objective of 0.14 mg/L. Naphthalene was detected in MW-310D at a concentration

[7] The laboratory detection limit for 1,2-dibromo-3-chloropropane is above the GB groundwater objective. However, 1,2-dibromo-3-chloropropane is not a typical contaminant of concern for former MGP or former power plant sites, therefore we do not anticipate that 1,2-dibromo-3-chloropropane is impacting soil or groundwater at the Site.

[8] The sample collected from MW-310D had several constituents (1,1-Dichloroethene, Carbon Tetrachloride, and Vinyl Chloride) with detection limits above the GB groundwater objectives. These compounds are not typical contaminants of concern for former MGP or former power plant sites and were the detection limits were in excess of the GB Groundwater Objective because the laboratory was required to dilute the sample because of the presence of other VOCs at high concentrations.

of 9.75 mg/L, in excess of the Method 2 derived[9] GB Groundwater Objective of 2.67 mg/L. The groundwater samples collected from MW-7 and MW-310S had very low concentrations of VOCs detected, with total VOCs detected in MW-7 of 0.0008 mg/L and in MW-310S of 0.0005 mg/L.

The concentrations of both benzene and naphthalene have exceeded the GB Groundwater Objectives in MW-310D (refer to Table 5D) during the previous sampling rounds (June 2010, July 2011, July 2012, August 2013 and October 2014), consistent with the 2015 monitoring event. This well is located in the historic cove of the NFA and visual/olfactory impacts have been observed in this area.

FGPA (Southern Portions of A.P. 54B Lot 826 and A.P. 65B Lot 662)

Ten (10) groundwater samples (MW-201, MW-208, MW-312S, MW-312D, MW-326S, MW-326D, MW-333S, MW-333D, MW-339S, and MW-339D) were collected in this area during the 2015 monitoring event and submitted for analysis of VOCs. One (1/10) sample (MW-333S) was non-detect for VOCs during the 2015 event. Exceedances of the GB Groundwater Objectives for VOCs were detected in four (4) monitoring wells: MW-312D, MW-326S, MW-333D, and MW-339D. Benzene was detected in nine samples (9/10) at concentrations ranging from 0.0002 mg/L to 5.55 mg/L, with three samples (3/10) exceeding the GB Groundwater Objective of 0.14 mg/L (MW-312D, 5.55 mg/L; MW-326S, 0.516 mg/L; and MW-333D, 0.902 mg/L). Naphthalene was detected in eight samples (8/10) at concentrations ranging from 0.0012 mg/L to 7.68 mg/L, with two samples (2/10) exceeding the GB derived Groundwater Objective of 2.67 mg/L (MW-312D, 7.68 mg/L; and MW-339D, 3.6 mg/L). Ethylbenzene was detected in eight samples (8/10) at concentrations ranging from 0.001 mg/L to 2.13 mg/L, with one sample (1/10) exceeding the GB Groundwater Objective of 1.6 mg/L (MW-312D, 2.13 mg/L).

Analytical VOC results for the FGPA in 2015 were consistent with historic groundwater results, with exceedances of the GB Groundwater Objectives limited to naphthalene, ethylbenzene and benzene. All wells exhibiting GB Groundwater Objective Exceedances are located in the southeastern portion of the FGPA in the vicinity of the former processing houses for the MGP (*i.e.*, MW-312D, MW-326D, MW-333D), with the exception of MW-339D, which is located east of the location of the former Gasholders No. 7 and 8.

FPPA (A.P. 65B Lot 645)

Seven (7) groundwater samples (M&E MW-2, MW-6, MW-109, MW-314S, MW-314D, MW-316D and MW-337) were collected in this area during the 2015 monitoring event and submitted for VOC analysis. One (1/7) sample (M&E MW-2) was non-detect for VOCs during the 2015 event. Exceedances of the GB Groundwater Objectives for VOCs were detected in one (1/7) monitoring well: MW-109. Benzene was detected in three samples (3/7) at concentrations ranging from 0.0039 mg/L to 0.171 mg/L, with one sample (1/7) exceeding the GB Groundwater Objective of 0.14 mg/L (MW-109 at a concentration of 0.171 mg/L). Ethylbenzene was detected in four (4/7) samples at concentrations ranging from 0.0002 mg/L to 0.0038 mg/L, with no exceedances of the GB Groundwater Objective of 1.6 mg/L. Naphthalene was detected in three (3/7) samples at concentrations ranging from 0.0015 mg/L to 0.0228 mg/L, with no exceedances of the GB derived Groundwater Objective of 2.67 mg/L.

Historically, exceedances of the GB Groundwater Objectives have not been detected in the FPPA. As indicated in Table 5Q, benzene was detected between 2006 and 2012 at concentrations ranging from 0.024 mg/L to 0.0402 mg/L, at 0.115 mg/L in 2013, and at 0.135 mg/L in 2014. MW-109 is located near the existing switching station (former power plant building) and a former UST.

[9] Derivation of this Method 2 GB Groundwater Objective can be provided upon request.

SFA (A.P. 65B Lots 647 and 649, portions of A.P. 65B Lot 648 and portions of A.P. 67B Lot 11)

Five (5) groundwater samples were collected from this area during the 2015 sampling event (MW-107, MW-318S, MW-318D, MW-334S, MW-334D) and analyzed for VOCs. The groundwater samples collected from MW-107 and MW-318D had very low concentrations of VOCs detected, with total VOCs detected in MW-107 of 0.0011 mg/L and in MW-318D of 0.0002 mg/L. Benzene was detected in four samples (4/5) at concentrations ranging from 0.0002 mg/L to 0.0408 mg/L, with no exceedances of the GB Groundwater Objective of 0.14 mg/L. Ethylbenzene was detected in two (2/5) samples at concentrations ranging from 0.0002 mg/L to 0.0061 mg/L, with no exceedances of the GB Groundwater Objective of 1.6 mg/L. Naphthalene was detected in three (3/5) samples at concentrations ranging from 0.0096 mg/L to 0.755 mg/L, with no exceedances of the GB derived Groundwater Objective of 2.67 mg/L.

Consistent with historic data, no VOCs were detected in excess of the GB Groundwater Objectives in the SFA during the 2015 sampling event.

4.0 CONCLUSIONS

As part of the annual groundwater monitoring for 2015, twenty-five (25) monitoring wells were sampled in November 2015 for VOCs, all accessible wells were gauged for the elevation of groundwater and the presence of NAPL on a quarterly basis, NAPL recovery was performed at certain well locations, and inspections for sheens in the Seekonk River adjacent to the Site were made at least twice-monthly throughout the year. In general, observations made and the results of analytical testing during 2015 were consistent with historic results as summarized below:

- Sheen observations were consistent with historic observations and were limited to the bulkhead area in the central portion of the shoreline in the FPPA and FGPA. Sheen observations were limited to several localized and immediate areas of the shoreline and were generally observed at mid- or low-tide.
- Measureable NAPL was limited to nine (9) monitoring well locations in 2015. LNAPL was observed in five (5) monitoring wells (4 in the FGPA and 1 in the FPPA) and DNAPL was observed in four (4) monitoring wells (2 in the FGPA and 2 in the SFA). LNAPL thicknesses ranged from trace to 2.55 feet and DNAPL thicknesses ranged from trace to 13.9 feet. Approximately 8.75 gallons of NAPL/groundwater was recovered from Site monitoring wells and was containerized for subsequent off-Site disposal. Observations of both LNAPL and DNAPL continue to be localized and do not indicate the presence of significant contiguous layers in the subsurface. In addition and typical of MGP sites, recovery attempts suggest that observed NAPLs are unlikely to be significantly mobile.
- Exceedances of the GB Groundwater Objectives were limited to six (6/25) wells sampled during the 2015 monitoring round. Compounds detected in excess of the GB Groundwater Objectives were limited to naphthalene, benzene and ethylbenzene. The presence of these compounds in groundwater samples is typical for former MGP and power plant sites. The most significant dissolved phase groundwater impacts were generally detected in the FGPA and NFA, with limited impacts detected in the very northern portion of the FPPA.

The 2016 monitoring program will be performed consistent with the 2015 program.

TABLES

TABLE 1
SUMMARY OF SHEEN OBSERVATIONS

File No. 05.0043654.00
4/22/2016

Former Tidewater Facility
Pawtucket, Rhode Island

Date	Time	Approximate Tidal Stage	Sheen Observation Location	Sheen Characteristics
1/16/2015	12:00	Mid	54" CSO pipe outfall washout adjacent to MW-103	Bright spots of sheens observed inside CSO
1/22/2015	No sheens observed at mid tide.			
2/6/2015	No sheens observed - shoreline is frozen			
2/18/2015	No sheens observed - shoreline is frozen			
3/6/2015	No sheens observed - Limited site walk due to snow and ice			
3/19/2015	No sheens observed at high tide.			
4/1/2015	No sheens observed at high tide.			
4/10/2015	13:43	Mid to High	54" CSO pipe outfall washout adjacent to MW-103	Slight bands of sheen ovserved near CSO
5/6/2015	No sheens observed at high tide.			
5/27/2015	No sheens observed at high tide.			
6/12/2015	12:00	Low	54" CSO pipe outfall washout adjacent to MW-103	Slight to moderate dull bands of sheen observed inside and outsite CSO
			Adjacent to MW-326 S/D and TB-12/MW-3	Moderate bright bands and plates of sheen
6/25/2015	No sheens observed at mid tide.			
7/13/2015	12:15	Low	54" CSO pipe outfall washout adjacent to MW-103	Slight to moderate dull bands of sheen observed inside and outsite CSO
			Adjacent to MW-326 S/D and TB-12/MW-3	Moderate bright bands and plates of sheen
7/29/2015	10:35	Low	54" CSO pipe outfall washout adjacent to MW-103	Slight bright bands of sheen
7/29/2015	12:00	Low	Adjacent to MW-326 S/D and TB-12/MW-3	Slight bright bands of sheen
8/17/2015	No sheens observed at high tide.			
8/27/2015	No sheens observed at high tide.			
9/14/2015	14:00	Mid	54" CSO pipe outfall washout adjacent to MW-103	Bands of bright bands of sheen/moderate inside and outside CSO
9/29/2015	No sheens observed at high tide.			
10/19/2015	No sheens observed at high tide.			
10/29/2015	No sheens observed at high tide.			
11/11/2015	11:00	Low	54" CSO pipe outfall washout adjacent to MW-103	Slight dull sheen
11/24/2015	10:30	Low	54" CSO pipe outfall washout adjacent to MW-103	Slight dull sheen
12/4/2015	No sheens observed at mid tide.			
12/31/2015	No sheens observed at mid to low tide.			

Notes:
1. SFA refers to the South Fill Area.
2. FPPA refers to the Former Power Plant Area.
3. FGPA refers to the Former Gas Plant Area.
4. NFA refers to the North Fill Area.
5. This table shows observations that were made along the Site shoreline. Observations were made at least twice a month.
6. This table shows observations that were made during 2015. The January 2011 SIDR, July 2011 RAE and previous groundwater monitoring reports presents sheen observations between 2009 and 2014.

TABLE 2A
SUMMARY OF GROUNDWATER MEASUREMENTS
Former Tidewater Facility
Pawtucket, Rhode Island

Site Area	Well ID	Measured Well Depth (Feet below Top of PVC)	Top of PVC Elevation (Feet)	Range of LNAPL Observed (feet)	Range of DNAPL Observed (feet)	January 2015 Groundwater Gauging Information						April 2015 Groundwater Gauging Information						July 2015 Groundwater Gauging Information						November 2015 Groundwater Gauging Information					
						Depth To Water (ft)	Total Well Depth (ft)	GW Elevation (feet)	LNAPL Thickness (feet)	DNAPL Thickness (feet)	Corrected Groundwater Elevation (feet)	Depth To Water (ft)	Total Well Depth (ft)	GW Elevation (feet)	LNAPL Thickness (feet)	DNAPL Thickness (feet)	Corrected Groundwater Elevation (feet)	Depth To Water (ft)	Total Well Depth (ft)	GW Elevation (feet)	LNAPL Thickness (feet)	DNAPL Thickness (feet)	Corrected Groundwater Elevation (feet)	Depth To Water (ft)	Total Well Depth (ft)	GW Elevation (feet)	LNAPL Thickness (feet)	DNAPL Thickness (feet)	Corrected Groundwater Elevation (feet)
NFA	MW-5	11.60	32.23	NP	NP	dry	11.7	dry	NP	NP	dry	dry	11.81	dry	NP	NP	dry	dry	12.03	dry	NP	NP	dry	dry	12,1	dry	NP	NP	dry
NFA	MW-7	27.45	31.98	NP	NP	18.85	27.53	13.13	NP	NP	13.13	17.7	27.54	14.28	NP	NP	14.28	20.36	27.53	11.62	NP	NP	11.62	22.18	27.35	9.80	NP	NP	9.80
NFA	MW-204	16.77	9.47	NP	NP	8.52	16.74	0.95	NP	NP	0.95	8.72	16.82	0.75	NP	NP	0.75	7.05	16.91	2.42	NP	NP	2.42	6.87	16.7	2.60	NP	NP	2.60
NFA	MW-205	15.00	12.20	NP	NP	0.56	14.98	11.64	NP	NP	11.64	1.32	14.97	10.88	NP	NP	10.88	Not Accessible						3.17	14.88	9.03	NP	NP	9.03
NFA	MW-206	28.77	37.22	NP	NP	25.96	29.03	11.26	NP	NP	11.26	25.33	29.2	11.89	NP	NP	11.89	26.85	29.1	10.37	NP	NP	10.37	28.14	29.2	9.08	NP	NP	9.08
NFA	MW-310S	17.35	9.59	NP	NP	8.86	16.81	0.73	NP	NP	0.73	8.75	16.49	0.84	NP	NP	0.84	7.08	10.57	2.51	NP	NP	2.51	6.87	17.2	2.72	NP	NP	2.72
NFA	MW-310D	36.20	9.18	NP	NP	8.55	39.12	0.63	NP	NP	0.63	8.52	36.17	0.66	NP	NP	0.66	6.52	36.24	2.66	NP	NP	2.66	6.28	36.3	2.90	NP	NP	2.90
NFA	MW-311	22.00	10.26	NP	NP	9.63	21.82	0.63	NP	NP	0.63	9.22	21.84	1.04	NP	NP	1.04	7.79	21.81	2.47	NP	NP	2.47	7.61	12.8	2.65	NP	NP	2.65
FGPA	MW-201	15.00	13.76	NP	NP	9.12	15	4.64	NP	NP	4.64	8.13	14.97	5.63	NP	NP	5.63	10.14	15.1	3.62	NP	NP	3.62	10.07	15.03	3.69	NP	NP	3.69
FGPA	MW-202	13.80	14.39	NP	NP	3.22	14.06	11.17	NP	NP	11.17	2.32	13.8	12.07	NP	NP	12.07	4.36	13.8	10.03	NP	NP	10.03	5.90	13.70	8.49	NP	NP	8.49
FGPA	MW-203	14.80	10.29	NP	NP	8.69	14.96	1.60	NP	NP	1.60	7.2	14.81	3.09	NP	NP	3.09	8.86	15	1.43	NP	NP	1.43	8.4	14.7	1.89	NP	NP	1.89
FGPA	MW-207 (2)	11.75	14.50	NP	NP	Destroyed						Destroyed						Destroyed						Destroyed					
FGPA	MW-208	21.75	28.23	NP	NP	14.41	21.85	13.82	NP	NP	13.82	13.02	21.78	15.21	NP	NP	15.21	15.89	21.7	12.34	NP	NP	12.34	17.9	21.57	10.33	NP	NP	10.33
FGPA	MW-209	21.05	24.74	NP	NP	11.31	21.11	13.43	NP	NP	13.43	10.1	21.1	14.64	NP	NP	14.64	12.86	21.08	11.88	NP	NP	11.88	14.45	21.1	10.29	NP	NP	10.29
FGPA	MW-210	17.28	11.35	trace-2.54	NP	10.31	17.28	1.04	0.02	NP	1.06	9.76	17.28	1.59	2.55	NP	3.76	9.62	17.45	1.73	0.01	NP	1.74	9.12	17.9	2.23	trace	NP	2.23
FGPA	MW-3	17.00	11.46	trace - 5.57	NP	12.12	17	-0.66	trace	NP	-0.66	10.95	16.74	0.51	trace	NP	0.51	9.52	16.9	1.94	0.03	NP	1.97	8.75	16.95	2.71	trace	NP	2.71
FGPA	MW-4	17.65	10.58	NP	trace - 1.44	12.47	17.65	-1.89	NP	trace	-1.89	10.69	16.17	-0.11	NP	trace	-0.11	9.29	16	1.29	NP	trace	1.29	7.52	15.54	3.06	NP	NP	3.06
FGPA	MW-303	41.85	9.07	NP	trace - 5.59	10.71	41.75	-1.64	NP	3.75	-1.64	9.04	41.95	0.03	NP	3	0.03	6.46	42	2.61	NP	5.1	2.61	6.05	42	3.02	NP	4.9	3.02
FGPA	MW-312S	23.55	10.64	trace - 1.38	trace	9.92	32.11	0.72	0.38	NP	1.04	9.52	23.55	1.12	0.43	NP	1.49	10.28	23.55	0.36	1.2	NP	1.38	8.5	23.5	2.14	0.4	NP	2.48
FGPA	MW-312D	31.90	10.57	NP	trace	11.12	31.9	-0.55	NP	NP	-0.55	10.07	31.93	0.50	NP	NP	0.50	9.14	31.9	1.43	NP	NP	1.43	7.6	31.9	2.97	NP	NP	2.97
FGPA	MW-313S	24.90	11.74	trace - 4.52	trace	12.96	47.3	-1.22	NP	NP	-1.22	11.36	24.68	0.38	0.06	NP	0.43	10.12	24.65	1.62	0.03	NP	1.65	8.7	24.68	3.04	trace	NP	3.04
FGPA	MW-313D	47.35	12.01	NP	NP	13.32	44.09	-1.31	NP	NP	-1.31	11.3	47.47	0.71	NP	NP	0.71	10.16	47.25	1.85	NP	NP	1.85	8.8	47.3	3.21	NP	NP	3.21
FGPA	MW-326S	26.60	12.61	trace - 0.3	NP	13.88	26.6	-1.27	NP	NP	-1.27	12.18	26.52	0.43	NP	NP	0.43	11	26.62	1.61	NP	NP	1.61	9.56	26.54	3.05	trace	NP	3.05
FGPA	MW-326D	45.05	11.91	NP	NP	13.02	45.15	-1.11	NP	NP	-1.11	12.46	45.14	-0.55	NP	NP	-0.55	10.1	45.19	1.81	NP	NP	1.81	8.9	45	3.01	NP	NP	3.01
FGPA	MW-333S	18.30	12.30	NP	NP	12.52	17.5	-0.22	NP	NP	-0.22	11.83	17.67	0.47	NP	NP	0.47	10.3	17.73	2.00	NP	NP	2.00	9	17.4	3.30	NP	NP	3.30
FGPA	MW-333D	45.20	12.30	NP	NP	13.32	44.09	-1.02	NP	NP	-1.02	11.67	4.82	0.63	NP	NP	0.63	10.16	45.02	2.14	NP	NP	2.14	9.1	44.8	3.20	NP	NP	3.20
FGPA	MW-335S	15.75	11.50	NP	NP	10.38	15.72	1.12	NP	NP	1.12	9.37	15.84	2.13	NP	NP	2.13	9.9	15.75	1.60	NP	NP	1.60	9.45	15.5	2.05	NP	NP	2.05
FGPA	MW-335D	36.50	11.96	NP	NP	12.59	35.93	-0.63	NP	NP	-0.63	14.62	35.92	-2.66	NP	NP	-2.66	10	35.95	1.96	NP	NP	1.96	8.87	35.91	3.09	NP	NP	3.09
FGPA	MW-336	15.00	12.73	NP	NP	10.88	15.47	1.85	NP	NP	1.85	10.19	15.01	2.54	NP	NP	2.54	11.53	15.37	1.20	NP	NP	1.20	11.14	15.12	1.59	NP	NP	1.59
FGPA	MW-339S	12.35	15.26	NP	NP	6.13	12.56	9.13	NP	NP	9.13	4.9	12.37	10.36	NP	NP	10.36	6.89	12.3	8.37	NP	NP	8.37	8.21	12.3	7.05	NP	NP	7.05
FGPA	MW-339D	20.95	15.42	NP	trace	5.93	21.29	9.49	NP	trace	9.49	4.8	20.52	10.62	NP	NP	10.62	6.66	20.9	8.76	NP	trace	8.76	8.6	21.15	6.82	NP	trace	6.82
FGPA	MW-341	30.10	19.62	NP	trace - 2.65	8.2	30.15	11.42	NP	2.43	11.42	6.45	30.15	13.17	NP	NP	13.17	9.44	30.15	10.18	NP	3	10.18	10.73	30.15	8.89	NP	2.45	8.89
FPPA	M&E MW-1	15.05	9.36	NP	NP	10.34	17.5	-0.98	NP	NP	-0.98	7.66	15.16	1.70	NP	NP	1.70	7.92	14.70	1.44	NP	NP	1.44	8.93	15.3	0.43	NP	NP	0.43
FPPA	M&E MW-2	13.85	10.81	NP	NP	8.77	13.9	2.04	NP	NP	2.04	10.23	13.66	0.58	NP	NP	0.58	9.6	13.9	1.21	NP	NP	1.21	9.15	13.58	1.66	NP	NP	1.66
FPPA	M&E MW-4 (1)	7.81		NP	NP	Not Found						Not Found						Not Found						Not Found					
FPPA	M&E MW-5 (3)	16.88	8.92	trace - 3.24	NP	8.05	14.64	0.87	0.41	NP	0.87	8.1	14.65	0.82	0.2	NP	0.99	7.93	14.65	0.99	0.03	NP	1.02	7.6	14.59	1.32	NP	NP	1.32
FPPA	MW-6	19.03	13.49	NP	NP	12.22	18.8	1.27	NP	NP	1.27	11.74	19.1	1.75	NP	NP	1.75	12.07	19.1	1.42	NP	NP	1.42	11.9	19.03	1.59	NP	NP	1.59
FPPA	MW-101	16.00	10.94	NP	NP	9.65	16.2	1.29	NP	NP	1.29	10.59	16.08	0.35	NP	NP	0.35	9.78	16.2	1.16	NP	NP	1.16	9.68	16.1	1.26	NP	NP	1.26
FPPA	MW-102	26.80	19.74	NP	NP	18.05	26.75	1.69	NP	NP	1.69	17.98	26.65	1.76	NP	NP	1.76	18.25	26.7	1.49	NP	NP	1.49	18.45	26.6	1.29	NP	NP	1.29
FPPA	MW-103	16.90	11.33	trace - 0.31	trace - 0.08	8.65	17	2.68	NP	NP	2.68	9.92	16.87	1.41	NP	NP	1.41	9.92	17	1.41	NP	NP	1.41	9.64	16.84	1.69	NP	NP	1.69
FPPA	MW-104	14.90	11.77	NP	NP	10.9	13.30	0.87	NP	NP	0.87	9.83	14.84	1.94	NP	NP	1.94	10.37	15.05	1.40	NP	NP	1.40	10.41	14.82	1.36	NP	NP	1.36
FPPA	MW-105	27.55	22.14	NP	NP	20.44	27.6	1.70	NP	NP	1.70	19.83	27.54	2.31	NP	NP	2.31	20.3	27.65	1.84	NP	NP	1.84	20.45	27.4	1.69	NP	NP	1.69
FPPA	MW-109	19.30	14.09	NP	NP	12.15	19.3	1.94	NP	NP	1.94	11.27	19.29	2.82	NP	NP	2.82	11.94	19.35	2.15	NP	NP	2.15	12	19.27	2.09	NP	NP	2.09
FPPA	MW-314S	24.50	10.37	0.01	NP	9.3	24.25	1.07	NP	NP	1.07	9.77	24.43	0.60	NP	NP	0.60	9.66	24.35	0.71	NP	NP	0.71	9.21	24.3	1.16	NP	NP	1.16
FPPA	MW-314D	43.40	10.38	NP	NP	9.46	43.5	0.92	NP	NP	0.92	9.86	43.32	0.52	NP	NP	0.52	9.81	43.4	0.57	NP	NP	0.57	9.31	43.32	1.07	NP	NP	1.07
FPPA	MW-315S	26.40	10.98	NP	NP	7.61	25.6	3.37	NP	NP	3.37	10.62	25.60	0.36	NP	NP	0.36	10.79	25.7	0.19	NP	NP	0.19	10.29	25.46	0.69	NP	NP	0.69
FPPA	MW-315D	41.70	10.69	NP	NP	7.53	41.65	3.16	NP	NP	3.16	10.48	41.55	0.21	NP	NP	0.21	10.73	41.7	-0.04	NP	NP	-0.04	10.17	41.5	0.52	NP	NP	0.52
FPPA	MW-316S	22.30	24.52	NP	NP	22.13	22.53	2.39	NP	NP	2.39	20.87	22.5	3.65	NP	NP	3.65	21.85	22.55	2.67	NP	NP	2.67	22.37	22.46	2.15	NP	NP	2.15
FPPA	MW-316D	31.55	24.68	NP	NP	22.24	31.5	2.44	NP	NP	2.44	21.2	31.46	3.48	NP	NP	3.48	21.97	31.5	2.71	NP	NP	2.71	22.5	31.48	2.18	NP	NP	2.18
FPPA	MW-317S	27.40	25.35	NP	NP	23.68	27.7	1.67	NP	NP	1.67	23.13	27.47	2.22	NP	NP	2.22	23.53	36.2	1.82	NP	NP	1.82	23.68	27.35	1.67	NP	NP	1.67
FPPA	MW-317D	36.20	25.47	NP	NP	21.82	36.2	3.65	NP	NP	3.65	21.75	36.16	3.72	NP	NP	3.72	22.51	36.2	2.96	NP	NP	2.96	23.15	36.1	2.32	NP	NP	2.32
FPPA	MW-337	20.00	13.53	NP	NP	12.15	19.95	1.38	NP	NP	1.38	11.7	19.94	1.83	NP	NP	1.83	12.19	19.95	1.34	NP	NP	1.34	12.12	19.9	1.41	NP	NP	1.41
FPPA	MW-338S	18.45	13.94	NP	NP	12.85	18.5	1.09	NP	NP	1.09	12.96	18.44	0.98	NP	NP	0.98	12.48	18.45	1.46	NP	NP	1.46	12.52	18.38	1.42	NP	NP	1.42
FPPA	MW-338D	39.65	13.48	NP	NP	10.22	39.5	3.26	NP	NP	3.26	12.65	39.65	0.83	NP	NP	0.83	13.31	39.65	0.17	NP	NP	0.17	13.05	39.59	0.43	NP	NP	0.43
FPPA	MW-400 (5)	24.30	29.62	NP	NP	18.03	24.3	11.59	NP	NP	11.59	16.71	24.15	12.91	NP	NP	12.91	18.41	24.3	11.21	NP	NP	11.21	19.75	24.23	9.87	NP	NP	9.87
FPPA	MW-401 (5)	19.30	24.99	NP	NP	13.57	19.35	11.42	NP	NP	11.42	12.1	19.3	12.89	NP	NP	12.89	13.93	19.9	11.06	NP	NP	11.06	15.15	19	9.84	NP	NP	9.84
SFA	MW-1	23.20	19.59	NP	trace - 0.8	18.02	23.4	1.57	NP	trace	1.57	17.55	23.59	2.04	NP	NP	2.04	17.83	23.41	1.76	trace	NP	1.76	17.8	23.1	1.79	trace	NP	1.79
SFA	MW-107	27.35	21.80	NP	NP	20.11	20.9	1.69	NP	NP	1.69	19.45	27.6	2.35	NP	NP	2.35	19.95	27.8	1.85	NP	NP	1.85	20.05	27.7	1.75	NP	NP	1.75
SFA	MW-318S	27.00	18.96	NP	NP	17.1	26.9	1.86	NP	NP	1.86	16.95	26.9	2.01	NP	NP	2.01	18.82	NM	0.14	NP	NP	0.14	17.4	26	1.56	NP	NP	1.56
SFA	MW-318D (4)	43.60	18.70	NP	NP	16.18	32.6	2.52	NP	NP	2.52	17.52	32.72	1.18	NP	NP	1.18	17.4	26.9	1.30	NP	NM	1.30	Well Damaged - Unable to Gauge					
SFA	MW-319S	27.10	19.96	NP	NP	18	20.9	1.96	NP	NP	1.96	18.26	27.08	1.70	NP	NP	1.70	18.61	27.35	1.35	NP	NP	1.35	18.58	27.58	1.38	NP	NP	1.38
SFA	MW-319D	43.85	20.33	NP	NP	16.81	43.75	3.52	NP	NP	3.52	19.12	43.84	1.21	NP	NP	1.21	18.61	27.35	1.72	NP	NP	1.72	20.22	43.62	0.11	NP	NP	0.11
SFA	MW-320S	10.95	7.73	NP	trace - 1.88	6.21	10.95	1.52	NP	9.25	1.52	6.15	10.95	1.58	NP	0.05	1.58	7.13	10.95	0.60	NP	0.15	0.60	5.96	10.95	1.77	NP	1.07	1.77
SFA	MW-320D	25.70	8.69	NP	0.55 - 13.72	5.65	25.7	3.04	NP	NP	3.04	7.67	25.7	1.02	NP	13.2	1.02	8.6	25.7	0.09	NP	13.6	0.09	8.32	25.7	0.37	NP	13.9	0.37
SFA	MW-321S	12.55	6.47	NP	NP	Well Frozen / Obstructed						4.97	12.56	1.50	NP	NP	1.50	5	12.8	1.47	NP	NP	1.47	4.85	12.5	1.62	NP	NP	1.62
SFA	MW-321D	29.10	6.51	NP	NP	Well Frozen / Obstructed						4.76	29.18	1.75	NP	NP	1.75	5.69	29.1	0.82	NP	NP	0.82	5.65	29	0.86	NP	NP	0.86
SFA	MW-334S	28.80	21.34	NP	NP	19.67	28.8	1.67	NP	NP	1.67	19.07	28.74	2.27	NP	NP	2.27	19.49	28.8	1.85	NP	NP	1.85	19.55	28.9	1.79	NP	NP	1.79
SFA	MW-334D	43.20	21.53	NP	NP	18.07	43.15	3.46	NP	trace	3.46	20.35	43.1	1.18	NP	NP	1.18	21.25	42.8	0.28	NP	NP	0.28	21.4	43.1	0.13	NP	NP	0.13

Notes
NFA = North Fill Area
FGPA = Former Gas Plant Area
FPPA = Former Power Plant Area
SFA = South Fill Area
Elevations are relative to NGVD-1929.
NP - Indicates No Product observed. NM = Not Measured
Blanks indicate no measurement collected during the event.
Potentiometric elevations for wells exhibiting LNAPL include 0.85 correction factor.
1. Not found after June 16, 2010.
2. Buried during gasholders Nos. 7 and 8 decommissioning and demolition.
3. Found to have casing broken on December 3, 2010.
4. Well was found to be damaged in April 2014.
5. Well was installed in April 2014.
6. This table presents gauging results from 2015. The January 2011 SIDR, July 2011 RAE and previous Groundwater Monitoring Reports presents historical gauging results collected between 2009 and 2014.

TABLE 2B
SUMMARY OF NAPL MEASUREMENTS
Former Tidewater Facility
Pawtucket, Rhode Island

Site Area	Well ID	Measured Well Depth (Feet below Top of PVC)	Top of PVC Elevation (Feet)	Range of LNAPL Observed (feet)	Range of DNAPL Observed (feet)	January 2015					April 2015					July 2015					November 2015				
						Depth to Water (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to DNAPL (feet)	DNAPL Thickness (feet)	Depth to Water (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to DNAPL (feet)	DNAPL Thickness (feet)	Depth to Water (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to DNAPL (feet)	DNAPL Thickness (feet)	Depth to Water (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to DNAPL (feet)	DNAPL Thickness (feet)
NFA	MW-5	11.60	32.23	NP	NP	dry	-	NP	-	NP	dry	-	NP	-	NP	dry	-	NP	-	NP	dry	-	NP	-	NP
NFA	MW-7	27.45	31.98	NP	NP	18.85	-	NP	-	NP	17.70	-	NP	-	NP	20.36	-	NP	-	NP	22.18	-	NP	-	NP
NFA	MW-204	16.77	9.47	NP	NP	8.52	-	NP	-	NP	8.72	-	NP	-	NP	7.05	-	NP	-	NP	6.87	-	NP	-	NP
NFA	MW-205	15.00	12.20	NP	NP	0.56	-	NP	-	NP	1.32	-	NP	-	NP	Not Accessible					3.17	-	NP	-	NP
NFA	MW-206	28.77	37.22	NP	NP	25.96	-	NP	-	NP	25.33	-	NP	-	NP	26.85	-	NP	-	NP	28.14	-	NP	-	NP
NFA	MW-310S	17.35	9.59	NP	NP	8.86	-	NP	-	NP	8.75	-	NP	-	NP	7.08	-	NP	-	NP	6.87	-	NP	-	NP
NFA	MW-310D	36.20	9.18	NP	NP	8.55	-	NP	-	NP	8.52	-	NP	-	NP	6.52	-	NP	-	NP	6.28	-	NP	-	NP
NFA	MW-311	22.00	10.26	NP	NP	9.63	-	NP	-	NP	9.22	-	NP	-	NP	7.79	-	NP	-	NP	7.61	-	NP	-	NP
FGPA	MW-201	15.00	13.76	NP	NP	9.12	-	NP	-	NP	8.13	-	NP	-	NP	10.14	-	NP	-	NP	10.07	-	NP	-	NP
FGPA	MW-202	13.80	14.39	NP	NP	3.22	-	NP	-	NP	2.32	-	NP	-	NP	4.36	-	NP	-	NP	5.90	-	NP	-	NP
FGPA	MW-203	14.80	10.29	NP	NP	8.69	-	NP	-	NP	7.20	-	NP	-	NP	8.86	-	NP	-	NP	8.40	-	NP	-	NP
FGPA	MW-207 (2)	11.75	14.50	NP	NP	Destroyed					Destroyed					Destroyed					Destroyed				
FGPA	MW-208	21.75	28.23	NP	NP	14.41	-	NP	-	NP	13.02	-	NP	-	NP	15.89	-	NP	-	NP	17.90	-	NP	-	NP
FGPA	MW-209	21.05	24.74	NP	NP	11.31	-	NP	-	NP	10.10	-	NP	-	NP	12.86	-	NP	-	NP	14.45	-	NP	-	NP
FGPA	MW-210	17.28	11.35	trace-2.54	NP	10.31	10.29	0.02	-	NP	9.76	7.21	2.55	-	NP	9.62	9.61	0.01	-	NP	9.12	trace	trace	-	NP
FGPA	MW-3	17.00	11.46	trace - 5.57	NP	12.12	trace	trace	-	NP	10.95	trace	trace	-	NP	9.52	9.49	0.03	-	NP	8.75	trace	trace	-	NP
FGPA	MW-4	17.65	10.58	NP	trace - 1.44	12.47	-	NP	trace	trace	10.69	-	NP	trace	trace	9.29	-	NP	trace	trace	7.52	-	NP	-	NP
FGPA	MW-303	41.85	9.07	NP	trace - 5.59	10.71	-	NP	38	3.75	9.04	-	NP	38.95	3	6.46	-	NP	36.9	5.1	6.05	-	NP	37.1	4.9
FGPA	MW-312S	23.55	10.64	trace - 1.38	trace	9.92	9.54	0.38	-	NP	9.52	9.09	0.43	-	NP	10.28	9.08	1.2	-	NP	8.50	8.1	0.4	-	NP
FGPA	MW-312D	31.90	10.57	NP	trace	11.12	-	NP	-	NP	10.07	-	NP	-	NP	9.14	-	NP	-	NP	7.60	-	NP	-	NP
FGPA	MW-313S	24.90	11.74	trace - 4.52	trace	12.74	trace	trace	-	NP	11.36	11.3	0.06	-	NP	10.12	10.09	0.03	-	NP	8.70	trace	trace	-	NP
FGPA	MW-313D	47.35	12.01	NP	NP	12.96	-	NP	-	NP	11.30	-	NP	-	NP	10.16	-	NP	-	NP	8.80	-	NP	-	NP
FGPA	MW-326S	26.60	12.61	trace - 0.3	NP	13.88	-	NP	-	NP	12.18	-	NP	-	NP	11.00	-	NP	-	NP	9.56	trace	trace	-	NP
FGPA	MW-326D	45.05	11.91	NP	NP	13.02	-	NP	-	NP	12.46	-	NP	-	NP	10.10	-	NP	-	NP	8.90	-	NP	-	NP
FGPA	MW-333S	18.30	12.30	NP	NP	12.52	-	NP	-	NP	11.83	-	NP	-	NP	10.30	-	NP	-	NP	9.00	-	NP	-	NP
FGPA	MW-333D	45.20	12.30	NP	NP	13.32	-	NP	-	NP	11.67	-	NP	-	NP	10.16	-	NP	-	NP	9.10	-	NP	-	NP
FGPA	MW-335S	15.75	11.50	NP	NP	10.38	-	NP	-	NP	9.37	-	NP	-	NP	9.90	-	NP	-	NP	9.45	-	NP	-	NP
FGPA	MW-335D	36.50	11.96	NP	NP	12.59	-	NP	-	NP	14.62	-	NP	-	NP	10.00	-	NP	-	NP	8.87	-	NP	-	NP
FGPA	MW-336	15.00	12.73	NP	NP	10.88	-	NP	-	NP	10.19	-	NP	-	NP	11.53	-	NP	-	NP	11.14	-	NP	-	NP
FGPA	MW-339S	12.35	15.26	NP	NP	6.13	-	NP	-	NP	4.90	-	NP	-	NP	6.89	-	NP	-	NP	8.21	-	NP	-	NP
FGPA	MW-339D	20.95	15.42	NP	trace	5.93	-	NP	trace	trace	4.80	-	NP	-	NP	6.66	-	NP	trace	trace	8.60	-	NP	trace	trace
FGPA	MW-341	30.10	19.62	NP	trace - 2.57	8.20	-	NP	27.72	2.43	6.45	-	NP	28.9	1.25	9.44	-	NP	27.15	3	10.73	-	NP	27.7	2.45
FPPA	M&E MW-1	15.05	9.36	NP	NP	10.34	-	NP	-	NP	7.66	-	NP	-	NP	7.92	-	NP	-	NP	8.93	-	NP	-	NP
FPPA	M&E MW-2	13.85	10.81	NP	NP	8.77	-	NP	-	NP	10.23	-	NP	-	NP	9.60	-	NP	-	NP	9.15	-	NP	-	NP
FPPA	M&E MW-4 (1)	7.81		NP	NP	Not Found					Not Found					Not Found					Not Found				
FPPA	M&E MW-5 (3)	16.88	8.92	trace - 3.24	NP	8.05	7.64	0.41	-	NP	8.10	7.9	0.2	-	NP	7.93	7.9	0.03	-	NP	7.60	-	NP	-	NP
FPPA	MW-6	19.03	13.49	NP	NP	12.22	-	NP	-	NP	11.74	-	NP	-	NP	12.07	-	NP	-	NP	11.90	-	NP	-	NP
FPPA	MW-101	16.00	10.94	NP	NP	9.65	-	NP	-	NP	10.59	-	NP	-	NP	9.78	-	NP	-	NP	9.68	-	NP	-	NP
FPPA	MW-102	26.80	19.74	NP	NP	18.05	-	NP	-	NP	17.98	-	NP	-	NP	18.25	-	NP	-	NP	18.45	-	NP	-	NP
FPPA	MW-103	16.90	11.33	trace - 0.31	trace - 0.08	8.65	-	NP	-	NP	9.92	-	NP	-	NP	9.92	-	NP	-	NP	9.64	-	NP	-	NP
FPPA	MW-104	14.90	11.77	NP	NP	10.90	-	NP	-	NP	9.83	-	NP	-	NP	10.37	-	NP	-	NP	10.41	-	NP	-	NP
FPPA	MW-105	27.55	22.14	NP	NP	20.44	-	NP	-	NP	19.83	-	NP	-	NP	20.30	-	NP	-	NP	20.45	-	NP	-	NP
FPPA	MW-109	19.30	14.09	NP	NP	12.15	-	NP	-	NP	11.27	-	NP	-	NP	11.94	-	NP	-	NP	12.00	-	NP	-	NP
FPPA	MW-314S	24.50	10.37	0.01	NP	9.30	-	NP	-	NP	9.77	-	NP	-	NP	9.66	-	NP	-	NP	9.21	-	NP	-	NP
FPPA	MW-314D	43.40	10.38	NP	NP	9.46	-	NP	-	NP	9.86	-	NP	-	NP	9.81	-	NP	-	NP	9.31	-	NP	-	NP
FPPA	MW-315S	26.40	10.98	NP	NP	7.61	-	NP	-	NP	10.62	-	NP	-	NP	10.79	-	NP	-	NP	10.29	-	NP	-	NP
FPPA	MW-315D	41.70	10.69	NP	NP	7.53	-	NP	-	NP	10.48	-	NP	-	NP	10.73	-	NP	-	NP	10.17	-	NP	-	NP
FPPA	MW-316S	22.30	24.52	NP	NP	22.13	-	NP	-	NP	20.87	-	NP	-	NP	21.85	-	NP	-	NP	22.37	-	NP	-	NP
FPPA	MW-316D	31.55	24.68	NP	NP	22.24	-	NP	-	NP	21.20	-	NP	-	NP	21.97	-	NP	-	NP	22.50	-	NP	-	NP
FPPA	MW-317S	27.40	25.35	NP	NP	23.68	-	NP	-	NP	23.13	-	NP	-	NP	23.53	-	NP	-	NP	23.68	-	NP	-	NP
FPPA	MW-317D	36.20	25.47	NP	NP	21.82	-	NP	-	NP	21.75	-	NP	-	NP	22.51	-	NP	-	NP	23.15	-	NP	-	NP
FPPA	MW-337	20.00	13.53	NP	NP	12.15	-	NP	-	NP	11.70	-	NP	-	NP	12.19	-	NP	-	NP	12.12	-	NP	-	NP
FPPA	MW-338S	18.45	13.94	NP	NP	12.85	-	NP	-	NP	12.96	-	NP	-	NP	12.48	-	NP	-	NP	12.52	-	NP	-	NP
FPPA	MW-338D	39.65	13.48	NP	NP	10.22	-	NP	-	NP	12.65	-	NP	-	NP	13.31	-	NP	-	NP	13.05	-	NP	-	NP
FPPA	MW-400 (5)	24.30	29.62	NP	NP	18.03	-	NP	-	NP	16.71	-	NP	-	NP	18.41	-	NP	-	NP	19.75	-	NP	-	NP
FPPA	MW-401 (5)	19.30	24.99	NP	NP	13.57	-	NP	-	NP	12.10	-	NP	-	NP	13.93	-	NP	-	NP	15.15	-	NP	-	NP
SFA	MW-1	23.20	19.59	NP	trace - 0.8	18.02	-	NP	trace	trace	17.55	-	NP	-	NP	17.83	trace	trace	-	NP	17.80	trace	trace	-	NP
SFA	MW-107	27.35	21.80	NP	NP	20.11	-	NP	-	NP	19.45	-	NP	-	NP	19.95	-	NP	-	NP	20.05	-	NP	-	NP
SFA	MW-318S	27.00	18.96	NP	NP	17.10	-	NP	-	NP	16.95	-	NP	-	NP	18.82	-	NP	-	NP	17.40	-	NP	-	NP
SFA	MW-318D (4)	43.60	18.70	NP	NP	16.18	-	NP	-	NP	17.52	-	NP	-	NM	17.40	-	NP	-	NM	Well Damaged - Unable to Gauge				
SFA	MW-319S	27.10	19.96	NP	NP	18.00	-	NP	-	NP	18.26	-	NP	-	NP	18.61	-	NP	-	NP	18.58	-	NP	-	NP
SFA	MW-319D	43.85	20.33	NP	NP	16.81	-	NP	-	NP	19.12	-	NP	-	NP	20.11	-	NP	-	NP	20.22	-	NP	-	NP
SFA	MW-320S	10.95	7.73	NP	trace - 1.88	6.21	-	NP	9.25	1.7	6.15	-	NP	10.9	0.05	7.13	-	NP	10.8	0.15	5.96	-	NP	9.88	1.07
SFA	MW-320D	25.70	8.69	NP	0.55 - 13.72	5.65	-	NP	12	13.7	7.67	-	NP	12.5	13.2	8.60	-	NP	12.1	13.6	8.32	-	NP	11.82	13.9
SFA	MW-321S	12.55	6.47	NP	NP	Well Frozen / Obstructed					4.97	-	NP	-	NP	5.00	-	NP	-	NP	4.85	-	NP	-	NP
SFA	MW-321D	29.10	6.51	NP	NP	Well Frozen / Obstructed					4.76	-	NP	-	NP	5.69	-	NP	-	NP	5.65	-	NP	-	NP
SFA	MW-334S	28.80	21.34	NP	NP	19.67	-	NP	-	NP	19.07	-	NP	-	NP	19.49	-	NP	-	NP	19.55	-	NP	-	NP
SFA	MW-334D	43.20	21.53	NP	NP	18.02	-	NP	trace	trace	20.35	-	NP	-	NP	21.25	-	NP	-	NP	21.40	-	NP	-	NP

Notes

NFA = North Fill Area
FGPA = Former Gas Plant Area
FPPA = Former Power Plant Area
SFA = South Fill Area

Elevations are relative to NGVD-1929.
NP - Indicates No Product observed. NM = Not Measured
Blanks indicate no measurement collected during the event.

1. Not found after June 16, 2010.
2. Buried during gasholders Nos. 7 and 8 decommissioning and demolition.
3. Found to have casing broken on December 3, 2010.
4. Well was found to be damaged in April 2014.
5. Well was installed in April 2014.
6. This table presents gauging results from 2015. The January 2011 SIDR, July 2011 RAE and previous Groundwater Monitoring Reports presents historical gauging results collected between 2009 and 2014.

TABLE 2C
LIGHT NON-AQUEOUS PHASE LIQUID (LNAPL) WELL GAUGING DATA

Former Tidewater Facility
Pawtucket, Rhode Island

	LNAPL Thickness (feet)																
Date	4/23/2009	6/18/2009	5/17/2010	5/20/2010	6/16/2010	11/2/2010	11/19/2010	12/3/2010	1/24/2011	2/17/2011	3/29/2011	4/26/2011	5/4/2011	6/3/2011	6/29/2011	7/26/2011	10/18/2011
Former Gas Plant Area																	
MW-3 (1) (3)		0.02			trace	trace	**0.05**	trace	**5.57**	**0.80**	**1.71**	**1.64**	**0.27**	**0.80**	**0.03**	**0.15**	**0.05**
MW-4 (2) (3)		NP			NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
MW-210 (3)		0.05			**0.05**	NP		NP	**0.23**	**0.92**	**2.54**	**2.48**	**2.02**	**1.00**	**0.33**	**0.13**	**1.03**
MW-312S				NP	NP	**0.45**	**0.13**	trace	trace	trace	trace	**0.20**	**0.28**	**0.01**	**0.14**	**0.25**	**0.48**
MW-313S			0.10		trace	NP	NP	NP	**4.52**	**0.22**	**0.04**	**0.05**	**0.02**	trace	**0.01**	**0.02**	**0.09**
MW-326S					NP	trace	**0.30**	trace	NP	trace	trace	**0.03**	**0.01**	trace	**0.01**	**0.02**	**0.03**
Former Power Plant Area																	
M&E MW-5 (5)	1.35	0.44			NP	**0.04**	**1.17**				**3.24**	**3.16**	**1.12**	**1.20**	**0.40**	**0.13**	**0.05**
MW-102 (4) (6)	NP	NP			NP	NP		NP	NP			NP				NP	NP
MW-103 (4)	NP	NP			NP	**0.01**	NP	trace	**0.31**	trace	trace	**0.02**	**0.18**	**0.09**	**0.01**	**0.02**	trace
MW-109 (4)	NP	NP			NP	NP		NP		NP		NP				NP	NP
MW-314S			0.01	NP	NP	NP	NP	NP	NP		NP	NP	NP	NP	NP	NP	NP

Notes: Blank cells indicate well was not gauged during the event.
trace - trace amounts of NAPL were found on the probe
NP - No Product was detected
Well is Located in Former Gas Plant Area
Well is Located in Former Power Plant Area

(1) Well was guaged by AES as part of their 1996 Site Investigation activities. Sheens were noted.
(2) Well was gauged by AES as part of their 1996 Site Investigation activities. Floating product was noted.
(3) Well was gauged by VHB as part of their 2006 Site Investigation activities. Inconsistent, but measurable LNAPL was present.
(4) Well was gauged by VHB as part of their 2006 Site Investigation activities. Sheens were noted.
(5) Casing was found broken on December 3, 2010. Repairs were made in March 2011.
(6) Well was not located on January 29, 2013 due to snow.

TABLE 2C
LIGHT NON-AQUEOUS PHASE LIQUID (LNAPL) WELL GAUGING DATA

Former Tidewater Facility
Pawtucket, Rhode Island

	LNAPL Thickness (feet)															
Date	1/19/2012	4/18/2012	7/10/2012	10/15/2012	1/29/2013	4/26/2013	8/6/2013	10/29/2013	1/27/2014	4/24/2014	7/30/2014	10/22/2014	1/22/2015	4/27/2015	7/29/2015	11/11/2015
Former Gas Plant Area																
MW-3 (1) (3)	**0.02**	**0.03**	**0.02**	trace	NP	NP	**0.05**	trace	NP	**0.01**	**0.01**	**0.01**	trace	trace	**0.03**	trace
MW-4 (2) (3)	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
MW-210 (3)	**2.25**	NP	**0.11**	NP	**0.04**	**1.44**	**0.08**	trace	**0.8**	**2.43**	**0.01**	NP	**0.02**	**2.55**	**0.01**	trace
MW-312S	**0.12**	**0.46**	**1.1**	**0.01**	**0.04**	**0.76**	**0.93**	**0.07**	**0.03**	**0.24**	**1.38**	**0.39**	**0.38**	**0.43**	**1.2**	**0.4**
MW-313S	NP	NP	trace	NP	NP	NP	trace	NP	trace	**0.05**	**0.01**	NP	trace	**0.06**	**0.03**	trace
MW-326S	NP	NP	NP	NP	NP	NP	NP	trace	trace	**0.02**	NP	NP	NP	NP	NP	trace
Former Power Plant Area																
M&E MW-5 (5)	**0.08**	**0.04**	**0.05**	**0.29**	**0.02**	**0.14**	**0.01**	**0.33**	trace	**1.97**	**0.05**	**0.04**	**0.41**	**0.2**	**0.03**	NP
MW-102 (4) (6)	NP	NP	NP	NP		NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
MW-103 (4)	**0.02**	trace	trace	trace	trace	trace	trace	trace	NP	NP	NP	trace	NP	NP	NP	NP
MW-109 (4)	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
MW-314S	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP

Notes: Blank cells indicate well was not gauged during the event.
trace - trace amounts of NAPL were found on the probe
NP - No Product was detected
Well is Located in Former Gas Plant Area
Well is Located in Former Power Plant Area

(1) Well was guaged by AES as part of their 1996 Site Investigation activities. Sheens were noted.
(2) Well was gauged by AES as part of their 1996 Site Investigation activities. Floating product was noted.
(3) Well was gauged by VHB as part of their 2006 Site Investigation activities. Inconsistent, but measurable LNAPL was present.
(4) Well was gauged by VHB as part of their 2006 Site Investigation activities. Sheens were noted.
(5) Casing was found broken on December 3, 2010. Repairs were made in March 2011.
(6) Well was not located on January 29, 2013 due to snow.

TABLE 2D
DENSE NON-AQUEOUS PHASE LIQUID (DNAPL) WELL GAUGING DATA

Former Tidewater Facility
Pawtucket, Rhode Island

	DNAPL Thickness (feet)																
Date	4/23/2009	6/18/2009	5/17/2010	5/20/2010	6/16/2010	11/2/2010	11/19/2010	12/3/2010	1/24/2011	2/17/2011	3/29/2011	4/26/2011	5/4/2011	6/3/2011	6/29/2011	7/26/2011	10/18/2011
	Former Gas Plant Area																
MW-4 (1) (4)		NP			trace	trace	trace	trace	**1.15**	trace	trace	trace	trace	trace	trace	trace	trace
MW-303			NP		trace	**2.53**	**0.55**	**0.50**	trace	**0.88**	**0.15**	**0.55**	**0.75**	**0.13**	**0.30**	trace	**0.80**
MW-312S				NP	trace	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
MW-312D				NP	trace	NP		NP	NP		NP	NP	NP	NP	NP	NP	NP
MW-313S			NP		NP	trace	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
MW-339D								NP	NP	NP	trace	trace	NP	NP	NP	NP	trace
MW-341								trace	**1.45**	**1.00**	**1.75**	**1.45**	**1.95**	**1.50**	**1.25**	**0.95**	**1.68**
	Former Power Plant Area																
MW-103	NP	NP			NP	trace	**0.08**	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
	South Fill Area																
MW-1 (2) (3)	**0.29**	**0.80**			trace	trace	NP	**0.50**	trace	NP	**0.40**	**0.67**		**0.15**	**0.60**	trace	trace
MW-320S			**0.18**		NP	**1.88**	NP	**0.20**	trace	trace	trace	trace		trace	trace	trace	**0.98**
MW-320D			**3.70**		**1.10**	**8.98**	**1.50**	**10.00**	**3.20**	**2.15**	**4.15**	**3.38**		**4.50**	**4.50**	**2.50**	**7.05**

Notes: Blank cells indicate well was not gauged during the event.
trace - trace amounts of NAPL were found on the probe
NP - No Product was detected
Well is Located in Former Gas Plant Area
Well is Located in Former Power Plant Area
Well is Located in South Fill Area

(1) Well was gauged by AES as part of their 1996 Site Investigation activities. "Thick tar product" was noted at the bottom of the well.
(2) Well was guaged by AES as part of their 1996 Site Investigation activities. "Tar" was noted on bailer and tubing.
(3) Well was gauged by VHB as part of their 2006 Site Investigation activities. Inconsistent, but measurable DNAPL was present, with thicknesses of up to 2.5 feet.
(4) MW-4 was periodically gauged between October 2009 and January 2010 to assess thickness of DNAPL:

Date	Depth to Water (feet below ground surface)	DNAPL Thickness (feet)
10/30/2009	11.25	**0.2**
11/3/2009	11.29	NP
11/4/2009	11.46	**0.1**
11/12/2009	11.3	**0.27**
1/21/2010	8.75	**0.15**

TABLE 2D
DENSE NON-AQUEOUS PHASE LIQUID (DNAPL) WELL GAUGING DATA

Former Tidewater Facility
Pawtucket, Rhode Island

	DNAPL Thickness (feet)															
Date	1/19/2012	4/18/2012	7/10/2012	10/15/2012	1/29/2013	4/26/2013	8/6/2013	10/29/2013	1/27/2014	4/24/2014	7/30/2014	10/22/2014	1/22/2015	4/27/2015	7/29/2015	11/11/2015
	Former Gas Plant Area															
MW-4 (1) (4)	NP	NP	**0.25**	trace	trace	trace	**0.7**	NP	**2.25**	trace	**0.05**	**0.05**	trace	trace	trace	NP
MW-303	**0.32**	**1.35**	**1.19**	**3.74**	**2.29**	**5.55**	**5.25**	**4.6**	**3.85**	**5.59**	**1.5**	**4.8**	**3.75**	**3**	**5.1**	**4.9**
MW-312S	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
MW-312D	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
MW-313S	NP	trace	NP	trace	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
MW-339D	trace	trace	trace	NP	trace	trace	NP	trace	trace	trace	trace	trace	trace	NP	trace	trace
MW-341	**1.48**	**1.38**	**1.08**	**1.5**	**1.4**	**1.95**	**2.57**	**2**	**1.85**	**1.25**	**3**	**2.65**	**2.43**	**1.25**	**3**	**2.45**
	Former Power Plant Area															
MW-103	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
	South Fill Area															
MW-1 (2) (3)	trace	trace	NP	NP	trace	trace	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
MW-320S	**0.1**	**0.05**	trace	**0.75**	trace	trace	trace	**0.18**	trace	**0.15**	trace	**1.15**	**1.7**	**0.05**	**0.15**	**1.07**
MW-320D	**1.1**	**8.67**	**1.05**	**2.56**	**8.45**	**8.15**	**7.85**	**8.14**	**13.72**	**13.9**	**13.7**	**13.4**	**13.7**	**13.2**	**13.6**	**13.9**

Notes: Blank cells indicate well was not gauged during the event.
trace - trace amounts of NAPL were found on the probe
NP - No Product was detected
Well is Located in Former Gas Plant Area
Well is Located in Former Power Plant Area
Well is Located in South Fill Area

(1) Well was gauged by AES as part of their 1996 Site Investigation activities. "Thick tar product" was noted at the bottom of the well.
(2) Well was guaged by AES as part of their 1996 Site Investigation activities. "Tar" was noted on bailer and tubing.
(3) Well was gauged by VHB as part of their 2006 Site Investigation activities. Inconsistent, but measurable DNAPL was present, with thicknesses of up to 2.5 feet.
(4) MW-4 was periodically gauged between October 2009 and January 2010 to assess thickness of DNAPL:

Date	Depth to Water (feet below ground surface)	Thickness (feet)
10/30/2009	11.25	**0.2**
11/3/2009	11.29	NP
11/4/2009	11.46	**0.1**
11/12/2009	11.3	**0.27**
1/21/2010	8.75	**0.15**

TABLE 3A
SUMMARY OF LNAPL RECOVERY
Former Tidewater Facility
Pawtucket, Rhode Island

Well ID	Date	Start Pumping	Depth to LNAPL (feet)	Depth to Water (feet)	Depth to Bottom (feet)	Estimated Volume Purged (gallons)	Tide Condition	Notes
MW-3	11/19/2010	9:22	10.47	10.54	17	0.20	Mid	
	2/17/2011	10:40	9.21	10.01	16.72	0.50	Mid	
	3/29/2011	11:59	10.6	12.31	17.05	0.25	Low	
	5/5/2011	13:31	9.22	9.49	17.1	0.20	Mid	
	6/3/2011	12:37	9.63	10.43	17.1	0.10	Mid	
MW-210	7/2/2010		9.6	9.75	17.3	0.05		
	2/17/2011	12:14	8.42	9.34	17.15	0.5	Low	
	3/29/2011	11:25	7.82	10.36	17.3	0.5	Low	
	5/5/2011	11:10	7.01	9.03	17.3	0.5	High	
	6/3/2011	11:50	8.05	9.05	17.3	0.5	Mid	
	6/29/2011	10:45	8.65	8.98	17.3	0.10	Mid	
	10/20/2011	11:14	7.12	8.22	17.3	1	Mid	
	1/20/2012	11:05	8.14	10.3	17.3	1	Low	
	4/26/2013	13:30	7.88	9.32	17.3	0.75	Low	
	8/8/2013	10:15	9.17	9.25	17.3	0.05	High	
	1/30/2014	12:30	9.48	10.28	17.3	0.50	Low	
	4/24/2014	13:40	6.57	9	17.3	1	High	
	4/27/2015	14:00	7.21	9.76	17.3	1	Low	
MW-312S	7/2/2010		10.02	10.11	23.5	0.05		
	11/2/2010	14:45	10.85	11.25	23.5	0.5	Mid	
	11/19/2010	9:40	9.45	9.58	23.5	0.25	Mid	
	5/5/2011	12:45	8.24	8.52	23.5	0.10	Mid	
	7/27/2011	16:30	10.25	10.35	23.5	0.25	Mid/High	
	10/20/2011	10:21	8.49	8.97	23.5	0.50	Mid	
	1/20/2012	9:40	9.19	9.66	23.5	0.25	Mid	
	4/19/2012	11:09	8.76	9.22	23.5	0.50	Low/Mid	
	7/12/2012	11:18	9.98	10.6	23.5	0.75	Mid	
	4/26/2013	14:30	8.42	9.18	23.5	1.00	Low	
	8/8/2013	10:00	8.4	9.38	23.5	0.75	High	
	4/24/2014	13:20	7.79	8.03	23.5	0.50	High	
	7/30/2014	14:00	8.99	10.37	23.5	1.50	High	
	10/24/2014	13:00	8.61	9	23.5	0.50	Low	
	1/22/2015	12:13	9.54	9.92	23.5	0.15	Low	
	4/27/2015	12:30	9.09	9.52	23.5	0.50	Low	
	7/29/2015	14:00	9.08	10.28	23.5	1.00	Low	
	1/22/2015	14:00	9.54	9.92	23.5	0.25	Low	
	4/29/2015	15:00	9.09	9.52	23.5	0.50	Low	
	7/29/2015	14:00	9.08	10.28	23.5	1.00	Low	
	11/13/2015	12:00	8.1	8.5	23.5	1.00	Low	
MW-313S	2/17/2011	11:56	9.59	9.81	24.76	0.10	Low	
	10/20/2011	12:35	8.85	8.9	24.76	0.10	Mid/High	
MW-326S	11/19/2010	9:20	11.61	11.91	26.6	0.25	Mid	
M&E MW-5	7/2/2010		6.43	6.6	14.6	0.05		
	11/19/2010	11:20	8.03	9.2	14.6	0.35	Low	
	3/29/2011	15:28	10.29	13.53	16.88	0.75	Mid	elevations adjusted for broken PVC
	5/5/2011	9:32	9.63	10.75	16.88	0.50	High	elevations adjusted for broken PVC
	6/3/2011	14:15	7.20	8.4	14.65	0.50	Low	elevations adjusted for broken PVC
	6/29/2011	13:05	8.00	8.4	14.65	0.50	Low	elevations adjusted for broken PVC
	10/20/2011	9:22	7.33	7.75	14.65	0.25	Low	elevations adjusted for broken PVC
	1/20/2012	8:12	6.73	6.95	14.65	0.10	Mid	elevations adjusted for broken PVC
	10/24/2012	14:27	8.05	8.22	14.65	0.20	Mid	elevations adjusted for broken PVC
	4/26/2013	13:00	6.99	7.13	14.65	0.25	Low	elevations adjusted for broken PVC
	10/30/2013	8:00	7.97	8.30	14.65	0.50	Mid	elevations adjusted for broken PVC
	4/24/2014	14:00	7.58	9.55	14.65	1.50	High	elevations adjusted for broken PVC
	1/22/2015	12:30	7.64	8.05	14.64	0.50	Low	elevations adjusted for broken PVC
	4/27/2015	12:00	7.9	8.10	14.64	0.50	Low	elevations adjusted for broken PVC
MW-103	7/2/2010		10.31	10.32	16.82	trace		
	11/19/2010	12:00	10.35	10.36	16.85	trace	Low	Blebs in purge water

Notes:

Depth to bottom in this table are from 11/2/2010 gauging round, if not recorded

Well is located in Former Gas Plant Area

Well is located in Former Power Plant Area

TABLE 3B
SUMMARY OF DNAPL RECOVERY
Former Tidewater Facility
Pawtucket, Rhode Island

Well ID	Date	Start Pumping	Depth to Water (feet)	Depth to DNAPL (feet)	Depth to Bottom (feet)	Estimated Volume Purged (gallons)	Tide Condition	Notes
MW-4	7/2/2010		10.85	trace	15.5	0.05		
	11/19/2010	10:12	10.73	trace	15.95		Mid	
MW-303	7/2/2010		8.8	41.18	42	Trace		
	11/2/2010	14:10	10.12	39.32	42	0.75	Mid	Measured thickness of DNAPL from probe, was not able to get to bottom, so estimate by probe
	11/19/2010	10:15	8.74	41.6	42	0.10	Low	DNAPL is very viscous
	2/17/2011	12:44	6.99	40.97	42.02	0.10	Low	DNAPL is very viscous
	5/5/2011	10:32	6.12	41.1	41.7	0.05	High	DNAPL is very viscous
	6/29/2011	10:02	7.1	41.55	41.7	Trace	Mid	Was not able to recover any DNAPL due to extreme viscosity
	10/20/2011	11:00	6.78	40.94	41.8	Trace	Mid	Was not able to recover any DNAPL due to extreme viscosity
	1/20/2012	10:42	7.69	41.37	41.8	Trace	Low	Was not able to recover any DNAPL due to extreme viscosity
	4/19/2012	10:45	6.54	40.65	41.8	0.15	Low/Mid	DNAPL is very viscous
	8/8/2013	11:30	6.43	36.7	41.8	0.25	High	Pumped for approximately 30 minutes. Was not able to recover all the DNAPL due to extreme viscosity.
	10/30/2013	10:00	9.10	35.2	41.8	Trace	Mid	Pumped for approximately 20 minutes. Was not able to recover all the DNAPL due to extreme viscosity.
	4/24/2014	12:00	5.64	36.31	41.9	<0.1 gallons	High	Pumped for approximately 20 minutes. Was not able to recover all the DNAPL due to extreme viscosity.
	7/29/2015	14:00	6.46	36.9	42	Trace	Low	Was not able to recover all the DNAPL due to extreme viscosity.
MW-312D	7/2/2010		10.37	trace	31.87	Trace		
MW-313S	7/2/2010		dry		24.8	Trace		
	11/19/2010	9:30	10.86	trace	24.9		Mid	Did not pump
MW-341	3/29/2011	10:38	6.88	28.35	30.15	0.25	Low	
	5/5/2011	10:27	8.45	28.15	30.15	0.5	High	
	6/3/2011	10:54	7.28	28.6	30.15	0.5	High	
	6/17/2011	9:50	7.56	28.55	30.15	0.1	High	
	6/29/2011	9:24	8.1	28.85	30.15	0.5	Mid/High	
	7/25/2011	15:00				0.5	High	Did not gauge, recover only.
	7/27/2011	17:07	8.93	29.15	30.15	1	High	
	7/28/2011	15:00	9.11	29.15	30.15	0.5	Mid	
	10/20/2011	10:05	7.77	29	30.15	0.5	Low/Mid	
	1/20/2012	9:18	7.21	28.82	30.15	0.5	Low/Mid	
	4/19/2012	10:38	9.26	28.77	30.15	0.5	Low/Mid	
	7/12/2012	11:50		28.72	30.15	1	Mid	
	10/24/2012	15:02	10.45	28.45	30.15	0.75	Mid	
	1/30/2013	12:45	6.79	28.75	30.15	1.5	Low/Mid	
	4/26/2013	15:15	7.1	28.2	30.15	1.5	Low	
	8/8/2013	11:00	8.08	27.58	30.15	1.25	High	
	10/30/2013	9:30	10.10	28.15	30.15	1	Mid	
	1/30/2014	12:00	10.15	28.3	30.15	1	Low	
	4/24/2014	13:00	6.08	28.24	30.15	1	High	
	7/30/2014	13:30	9.10	28.05	30.15	0.5	High	
	10/24/2014	13:30	11.18	27.51	30.15	1	Low	
	1/22/2015	16:00	8.2	27.72	30.15	1	Low	
	4/27/2015	14:00	6.45	28.9	30.15	1	Low	
	7/29/2015	14:00	9.44	27.15	30.15	1	Low	
	11/13/2015	12:00	10.73	27.7	30.15	1	Low	
MW-1	7/2/2010		17.99	22.9	22.72	0.25		
	11/19/2010	12:30	17.86	trace	22.75		Low	DNAPL on probe (0.25")
MW-320S	7/2/2010		6.4	9.23	10.8	Trace		
	11/19/2010	13:00	6.28	9.68	10.9		Low	Did not pump due to viscosity of DNAPL.
MW-320D	7/2/2010		8.15	15.6	23.2	0.25		
	11/2/2010	15:20	8.77	16.72	23.3		Mid	Was not able to recover any DNAPL due to extreme viscosity
	11/19/2010	13:15	10	24.2	26.4	0.1	Low	Measured from top of casing, DNAPL is very viscous

Notes:

Depth to bottom in this table are from 11/2/2010 gauging round, if not recorded
Well is located in Former Gas Plant Area
Well is located in South Fill Area

TABLE 4A
SUMMARY OF GROUNDWATER VOC ANALYTICAL RESULTS
Former Tidewater Facility
Pawtucket, Rhode Island

File No. 05.0043654.00
4/22/2016

		Units	RIDEM GB Groundwater UCL	RIDEM GB Groundwater Objective	MW-7 11/13/2015 1511323-04 Aqueous	MW-310S 11/13/2015 1511324-09 Aqueous	MW-310D 11/13/2015 1511324-05 Aqueous	MW-201 11/13/2015 1511324-17 Aqueous	MW-208 11/13/2015 1511324-04 Aqueous	MW-312S 11/13/2015 1511323-01 Aqueous	MW-312D 11/13/2015 1511324-16 Aqueous	MW-326S 11/13/2015 1511324-08 Aqueous	MW-326D 11/13/2015 1511324-07 Aqueous	MW-333S 11/13/2015 1511324-11 Aqueous	MW-333D 11/13/2015 1511324-10 Aqueous	MW-339S 11/13/2015 1511323-02 Aqueous	MW-339D 11/13/2015 1511323-03 Aqueous	M and E MW-2 11/13/2015 1511324-13 Aqueous	MW-6 11/13/2015 1511323-06 Aqueous	MW-109 11/13/2015 1511324-15 Aqueous	MW-314S 11/13/2015 1511324-14 Aqueous
EPA 8260	VOLATILE ORGANICS																				
	1,1,1,2-Tetrachloroethane	mg/L	NE	NE	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	1,1,1-Trichloroethane	mg/L	68	3.1	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	1,1,2,2-Tetrachloroethane	mg/L	NE	NE	<0.0005	<0.0005	<0.0500	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	1,1,2-Trichloroethane	mg/L	NE	NE	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	1,1-Dichloroethane	mg/L	NE	NE	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	1,1-Dichloroethene	mg/L	23	0.007	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	1,1-Dichloropropene	mg/L	NE	NE	<0.002	<0.0020	<0.200	<0.002	<0.002	<0.002	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.002	<0.002	<0.0020	<0.0020	<0.0020	<0.0020
	1,2,3-Trichlorobenzene	mg/L	NE	NE	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	1,2,3-Trichloropropane	mg/L	NE	NE	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	1,2,4-Trichlorobenzene	mg/L	NE	NE	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	1,2,4-Trimethylbenzene	mg/L	NE	NE	<0.001	<0.0010	**0.577**	**0.0219**	**0.0012**	**0.093**	**0.321**	**0.0113**	<0.0010	<0.0010	**0.076**	**0.0035**	**0.48**	<0.0010	J 0.0001	**0.0259**	<0.0010
	1,2-Dibromo-3-Chloropropane	mg/L	NE	0.002	<0.005	<0.0050	<0.500	<0.005	<0.005	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050
	1,2-Dibromoethane	mg/L	NE	NE	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	1,2-Dichlorobenzene	mg/L	NE	NE	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	1,2-Dichloroethane	mg/L	670	0.11	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	1,2-Dichloropropane	mg/L	140	3	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	1,3,5-Trimethylbenzene	mg/L	NE	NE	<0.001	<0.0010	**0.148**	**0.0012**	J 0.0003	**0.0177**	**0.0272**	**0.0044**	<0.0010	<0.0010	J 0.001	**0.0012**	**0.113**	<0.0010	**0.0053**	J 0.0004	<0.0010
	1,3-Dichlorobenzene	mg/L	NE	NE	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	1,3-Dichloropropane	mg/L	NE	NE	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	1,4-Dichlorobenzene	mg/L	NE	NE	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	1,4-Dioxane - Screen	mg/L	NE	NE	<0.5	<0.500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.500	<0.500	<0.500	<0.500	<0.5	<0.5	<0.500	<0.500	<0.500	<0.500
	1-Chlorohexane	mg/L	NE	NE	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	2,2-Dichloropropane	mg/L	NE	NE	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	2-Butanone	mg/L	NE	NE	<0.01	<0.0100	<1.00	<0.01	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100
	2-Chlorotoluene	mg/L	NE	NE	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	2-Hexanone	mg/L	NE	NE	<0.01	<0.0100	<1.00	<0.01	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100
	4-Chlorotoluene	mg/L	NE	NE	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	4-Isopropyltoluene	mg/L	NE	NE	<0.001	<0.0010	**0.015**	J 0.0007	J 0.0003	**0.0036**	**0.0097**	J 0.0004	<0.0010	<0.0010	J 0.0008	<0.001	**0.0117**	<0.0010	<0.0010	J 0.0004	<0.0010
	4-Methyl-2-Pentanone	mg/L	NE	NE	<0.025	<0.0250	<2.50	<0.025	<0.025	<0.025	<0.025	<0.0250	<0.0250	<0.0250	<0.0250	<0.025	<0.025	<0.0250	<0.0250	<0.0250	<0.0250
	Acetone	mg/L	NE	NE	<0.01	<0.0100	<1.00	**0.0239**	J 0.0080	J 0.0031	**0.0216**	<0.0100	<0.0100	<0.0100	J 0.0038	J 0.0051	J 0.0042	<0.0100	B <0.035	J 0.0037	<0.0100
	Benzene	mg/L	18	0.14	<0.001	J 0.0005	**0.739**	**0.133**	**0.0032**	**0.0295**	**5.55**	**0.516**	**0.002**	<0.0010	**0.902**	J 0.0002	**0.0186**	<0.0010	**0.0095**	**0.171**	<0.0010
	Bromobenzene	mg/L	NE	NE	<0.002	<0.0020	<0.200	<0.002	<0.002	<0.002	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.002	<0.002	<0.0020	<0.0020	<0.0020	<0.0020
	Bromochloromethane	mg/L	NE	NE	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	Bromodichloromethane	mg/L	NE	NE	<0.0006	<0.0006	<0.0600	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006
	Bromoform	mg/L	NE	NE	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	Bromomethane	mg/L	NE	NE	<0.002	<0.0020	<0.200	<0.002	<0.002	<0.002	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.002	<0.002	<0.0020	<0.0020	<0.0020	<0.0020
	Carbon Disulfide	mg/L	NE	NE	<0.001	<0.0010	<0.100	**0.0019**	<0.001	<0.0010	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	Carbon Tetrachloride	mg/L	NE	0.07	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	Chlorobenzene	mg/L	56	3.2	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	Chloroethane	mg/L	NE	NE	<0.002	<0.0020	<0.200	<0.002	<0.002	<0.002	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.002	<0.002	<0.0020	<0.0020	<0.0020	<0.0020
	Chloroform	mg/L	NE	NE	J 0.0005	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	**0.0021**	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	Chloromethane	mg/L	NE	NE	<0.002	<0.0020	<0.200	<0.002	<0.002	<0.002	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.002	<0.002	<0.0020	<0.0020	<0.0020	<0.0020
	cis-1,2-Dichloroethene	mg/L	69	2.4	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	cis-1,3-Dichloropropene	mg/L	NE	NE	<0.0004	<0.0004	<0.0400	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
	Dibromochloromethane	mg/L	NE	NE	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	Dibromomethane	mg/L	NE	NE	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	Dichlorodifluoromethane	mg/L	NE	NE	<0.002	<0.0020	<0.200	<0.002	<0.002	<0.002	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.002	<0.002	<0.0020	<0.0020	<0.0020	<0.0020
	Diethyl Ether	mg/L	NE	NE	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	Di-isopropyl ether	mg/L	NE	NE	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	Ethyl tertiary-butyl ether	mg/L	NE	NE	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	Ethylbenzene	mg/L	16	1.6	<0.001	<0.0010	**0.975**	**0.0346**	**0.0012**	**0.606**	**2.13**	**0.0544**	**0.001**	<0.0010	**0.233**	<0.001	**0.155**	<0.0010	**0.0055**	**0.0338**	J 0.0002
	Hexachlorobutadiene	mg/L	NE	NE	<0.0006	<0.0006	<0.0600	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006
	Hexachloroethane	mg/L	NE	NE	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	Isopropylbenzene	mg/L	NE	NE	<0.001	<0.0010	**E 0.108**	**0.0252**	J 0.0004	**0.0333**	**E 0.102**	**0.034**	<0.0010	<0.0010	**0.0517**	<0.001	**0.0744**	<0.0010	J 0.0010	**0.0233**	J 0.0004
	Methyl tert-Butyl Ether	mg/L	NE	5	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	Methylene Chloride	mg/L	NE	NE	<0.002	<0.0020	<0.200	<0.002	<0.002	<0.002	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.002	J 0.0003	<0.0020	<0.0020	<0.0020	<0.0020
	Naphthalene	mg/L	NE	2.67	<0.001	B <0.0020	**9.75**	**0.0198**	**0.0187**	**1.93**	**7.68**	**0.012**	B <0.0020	<0.0010	**0.861**	**0.235**	**3.6**	<0.0010	**0.0015**	**0.0288**	<0.001
	n-Butylbenzene	mg/L	NE	NE	<0.001	<0.0010	<0.100	**0.007**	<0.001	**0.005**	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	J 0.0006	**0.0067**	<0.0010
	n-Propylbenzene	mg/L	NE	NE	<0.001	<0.0010	**0.0438**	**0.02**	<0.001	**0.0133**	**0.0389**	**0.0103**	<0.0010	<0.0010	**0.0165**	<0.001	**0.0424**	<0.0010	J 0.0007	**0.0124**	<0.0010
	sec-Butylbenzene	mg/L	NE	NE	<0.001	<0.0010	**0.0019**	**0.0024**	**0.0024**	**0.0018**	**0.0013**	J 0.0007	<0.0010	<0.0010	J 0.0009	<0.001	**0.0019**	<0.0010	J 0.0001	**0.0024**	<0.0010
	Styrene	mg/L	50	2.2	<0.001	<0.0010	**0.0235**	**0.0042**	J 0.0001	**0.0018**	B <0.0020	J 0.0002	<0.0010	<0.0010	B <0.0020	J 0.0001	**0.018**	<0.0010	<0.0010	B <0.0020	<0.0010

TABLE 4A
SUMMARY OF GROUNDWATER VOC ANALYTICAL RESULTS
Former Tidewater Facility
Pawtucket, Rhode Island

		Units	RIDEM GB Groundwater UCL	RIDEM GB Groundwater Objective	MW-7 11/13/2015 1511323-04 Aqueous	MW-310S 11/13/2015 1511324-09 Aqueous	MW-310D 11/13/2015 1511324-05 Aqueous	MW-201 11/13/2015 1511324-17 Aqueous	MW-208 11/13/2015 1511324-04 Aqueous	MW-312S 11/13/2015 1511323-01 Aqueous	MW-312D 11/13/2015 1511324-16 Aqueous	MW-326S 11/13/2015 1511324-08 Aqueous	MW-326D 11/13/2015 1511324-07 Aqueous	MW-333S 11/13/2015 1511324-11 Aqueous	MW-333D 11/13/2015 1511324-10 Aqueous	MW-339S 11/13/2015 1511323-02 Aqueous	MW-339D 11/13/2015 1511323-03 Aqueous	M and E MW-2 11/13/2015 1511324-13 Aqueous	MW-6 11/13/2015 1511323-06 Aqueous	MW-109 11/13/2015 1511324-15 Aqueous	MW-314S 11/13/2015 1511324-14 Aqueous
EPA 8260	VOLATILE ORGANICS																				
	tert-Butylbenzene	mg/L	NE	NE	<0.001	<0.0010	<0.100	J 0.0003	<0.001	J 0.0002	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	J 0.0002	<0.0010	<0.0010	J 0.0004	<0.0010
	Tertiary-amyl methyl ether	mg/L	NE	NE	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	Tetrachloroethene	mg/L	NE	0.15	J 0.0003	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	Tetrahydrofuran	mg/L	NE	NE	<0.005	<0.0050	<0.500	<0.005	<0.005	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050
	Toluene	mg/L	21	1.7	<0.001	<0.0010	**0.213**	**0.0026**	J 0.0004	**0.0057**	**0.0093**	**0.0012**	<0.0010	<0.0010	**0.0015**	J 0.0003	**0.0448**	<0.0010	J 0.0005	**0.0033**	<0.0010
	trans-1,2-Dichloroethene	mg/L	79	2.8	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	trans-1,3-Dichloropropene	mg/L	NE	NE	<0.0004	<0.0004	<0.0400	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
	Trichloroethene	mg/L	87	0.54	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	Trichlorofluoromethane	mg/L	NE	NE	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	Trihalomethanes (Total)	mg/L	NE	NE	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	Vinyl Acetate	mg/L	NE	NE	<0.005	<0.0050	<0.500	<0.005	<0.005	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050
	Vinyl Chloride	mg/L	NE	0.002	<0.001	<0.0010	<0.100	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010
	Xylene O	mg/L	NE	NE	<0.001	<0.0010	**0.64**	**0.0239**	**0.001**	**0.088**	**0.494**	**0.0071**	<0.0010	<0.0010	**0.0419**	J 0.0003	**0.354**	<0.0010	**0.0057**	**0.0176**	J 0.0003
	Xylene P,M	mg/L	NE	NE	<0.002	<0.0020	**0.709**	B <0.0040	J 0.0011	**0.0285**	**0.052**	**0.005**	<0.0020	<0.0020	**0.0429**	J 0.0005	**0.362**	<0.0020	J 0.0009	B <0.0040	<0.0020
	Xylenes (Total)	mg/L	NE	NE	<0.002	<0.0020	**1.35**	**0.0239**	**0.0021**	**0.117**	**0.546**	**0.0121**	<0.0020	<0.0020	**0.0848**	<0.002	**0.716**	<0.0020	**0.0065**	**0.021**	<0.0020
	Total VOCs	mg/L	NE	NE	**0.0008**	**0.0005**	**13.9432**	**0.3226**	**0.0383**	**2.8605**	**16.437**	**0.657**	**0.003**	<0.6415	**2.233**	**0.2504**	**5.2805**	<0.6415	**0.0357**	**0.3306**	**0.0009**

Notes
NE = Not Established
"B" qualifier indicates that the analyte was present in the method blank
"D" qualifier indicates analytes reported from a diluted run of the original analysis.
"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
S = Shallow Screened Well
D = Deep Screened Well
NFA = North Fill Area
FGPA = Former Gas Plant Area
FPPA = Former Power Plant Area
SFA = South Fill Area
Bold values indicate that the concentration was detected above method reporting limits
Blue shaded cells indicate detection limits equal to or exceeds the GB Groundwater Objective.
Gray shaded cells indicate the concentration exceeds the GB Groundwater Objective.
Underlined concentrations exceed the RIDEM GB Groundwater Upper Concentration Limit
Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
This table presents analytical results from 2015. The January 2011 SIDR, the July 2011 RAE and previous groundwater monitoring reports presents historical analytical results.

TABLE 4A
SUMMARY OF GROUNDWATER VOC ANALYTICAL RESULTS
Former Tidewater Facility
Pawtucket, Rhode Island

		Units	RIDEM GB Groundwater UCL	RIDEM GB Groundwater Objective	MW-314D 11/13/2015 1511324-12 Aqueous	MW-316D 11/13/2015 1511323-05 Aqueous	MW-337 11/13/2015 1511324-06 Aqueous	MW-107 11/13/2015 1511324-01 Aqueous	MW-318S 11/13/2015 1511324-02 Aqueous	MW-318D 11/13/2015 1511324-03 Aqueous	MW-334S 11/13/2015 1511323-08 Aqueous	MW-334D 11/13/2015 1511323-07 Aqueous
EPA 8260	VOLATILE ORGANICS											
	1,1,1,2-Tetrachloroethane	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,1,1-Trichloroethane	mg/L	68	3.1	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,1,2,2-Tetrachloroethane	mg/L	NE	NE	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	1,1,2-Trichloroethane	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,1-Dichloroethane	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,1-Dichloroethene	mg/L	23	0.007	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,1-Dichloropropene	mg/L	NE	NE	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	1,2,3-Trichlorobenzene	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,2,3-Trichloropropane	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,2,4-Trichlorobenzene	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,2,4-Trimethylbenzene	mg/L	NE	NE	<0.0010	<0.0010	J 0.0004	<0.0010	**0.0255**	<0.0010	J 0.0005	J 0.0002
	1,2-Dibromo-3-Chloropropane	mg/L	NE	0.002	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	1,2-Dibromoethane	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,2-Dichlorobenzene	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,2-Dichloroethane	mg/L	670	0.11	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,2-Dichloropropane	mg/L	140	3	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,3,5-Trimethylbenzene	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	**0.0108**	<0.0010	J 0.0002	<0.0010
	1,3-Dichlorobenzene	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,3-Dichloropropane	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,4-Dichlorobenzene	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,4-Dioxane - Screen	mg/L	NE	NE	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
	1-Chlorohexane	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	2,2-Dichloropropane	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	2-Butanone	mg/L	NE	NE	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
	2-Chlorotoluene	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	2-Hexanone	mg/L	NE	NE	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
	4-Chlorotoluene	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	4-Isopropyltoluene	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	J 0.0008	<0.0010	<0.0010	<0.0010
	4-Methyl-2-Pentanone	mg/L	NE	NE	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250
	Acetone	mg/L	NE	NE	<0.0100	J 0.0033	<0.0100	<0.0100	J 0.0033	<0.0100	J 0.0032	<0.0100
	Benzene	mg/L	18	0.14	<0.0010	<0.0010	**0.0039**	J 0.0002	**0.0408**	<0.0010	**0.0019**	**0.0012**
	Bromobenzene	mg/L	NE	NE	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Bromochloromethane	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bromodichloromethane	mg/L	NE	NE	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006
	Bromoform	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bromomethane	mg/L	NE	NE	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Carbon Disulfide	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Carbon Tetrachloride	mg/L	NE	0.07	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Chlorobenzene	mg/L	56	3.2	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Chloroethane	mg/L	NE	NE	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Chloroform	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	J 0.0003	<0.0010	<0.0010	<0.0010	<0.0010
	Chloromethane	mg/L	NE	NE	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	cis-1,2-Dichloroethene	mg/L	69	2.4	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	J 0.0007
	cis-1,3-Dichloropropene	mg/L	NE	NE	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
	Dibromochloromethane	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Dibromomethane	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Dichlorodifluoromethane	mg/L	NE	NE	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Diethyl Ether	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Di-isopropyl ether	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Ethyl tertiary-butyl ether	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Ethylbenzene	mg/L	16	1.6	B <0.0020	<0.0010	J 0.0008	<0.0010	**0.0061**	<0.0010	J 0.0002	<0.0010
	Hexachlorobutadiene	mg/L	NE	NE	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006
	Hexachloroethane	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Isopropylbenzene	mg/L	NE	NE	<0.0010	<0.0010	J 0.0003	<0.0010	J 0.0007	<0.0010	<0.0010	<0.0010
	Methyl tert-Butyl Ether	mg/L	NE	5	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Methylene Chloride	mg/L	NE	NE	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Naphthalene	mg/L	NE	2.67	<0.0010	<0.0010	**0.0033**	<0.0010	**0.755**	<0.0010	**0.0246**	**0.0096**
	n-Butylbenzene	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	**0.0016**	<0.0010	<0.0010	<0.0010
	n-Propylbenzene	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	**0.0013**	<0.0010	<0.0010	<0.0010
	sec-Butylbenzene	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	J 0.0003	<0.0010	<0.0010	<0.0010
	Styrene	mg/L	50	2.2	B <0.0020	<0.0010	<0.0010	<0.0010	**0.0025**	<0.0010	<0.0010	<0.0010

TABLE 4A
SUMMARY OF GROUNDWATER VOC ANALYTICAL RESULTS
Former Tidewater Facility
Pawtucket, Rhode Island

		Units	RIDEM GB Groundwater UCL	RIDEM GB Groundwater Objective	MW-314D 11/13/2015 1511324-12 Aqueous	MW-316D 11/13/2015 1511323-05 Aqueous	MW-337 11/13/2015 1511324-06 Aqueous	MW-107 11/13/2015 1511324-01 Aqueous	MW-318S 11/13/2015 1511324-02 Aqueous	MW-318D 11/13/2015 1511324-03 Aqueous	MW-334S 11/13/2015 1511323-08 Aqueous	MW-334D 11/13/2015 1511323-07 Aqueous
EPA 8260	VOLATILE ORGANICS											
	tert-Butylbenzene	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Tertiary-amyl methyl ether	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Tetrachloroethene	mg/L	NE	0.15	<0.0010	<0.0010	<0.0010	J 0.0002	<0.0010	J 0.0002	<0.0010	<0.0010
	Tetrahydrofuran	mg/L	NE	NE	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Toluene	mg/L	21	1.7	J 0.0003	<0.0010	J 0.0001	<0.0010	**0.037**	<0.0010	J 0.0009	J 0.0004
	trans-1,2-Dichloroethene	mg/L	79	2.8	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	trans-1,3-Dichloropropene	mg/L	NE	NE	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
	Trichloroethene	mg/L	87	0.54	<0.0010	<0.0010	<0.0010	J 0.0004	<0.0010	<0.0010	<0.0010	**0.0015**
	Trichlorofluoromethane	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Trihalomethanes (Total)	mg/L	NE	NE	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Vinyl Acetate	mg/L	NE	NE	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vinyl Chloride	mg/L	NE	0.002	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Xylene O	mg/L	NE	NE	<0.0010	<0.0010	J 0.0002	<0.0010	**0.022**	<0.0010	J 0.0004	J 0.0001
	Xylene P,M	mg/L	NE	NE	B <0.0040	<0.0020	<0.0020	<0.0020	**0.0486**	<0.0020	J 0.0008	J 0.0002
	Xylenes (Total)	mg/L	NE	NE	<0.0020	<0.0020	<0.0020	<0.0020	**0.0706**	<0.0020	<0.0020	<0.0020
	Total VOCs	mg/L	NE	NE	**0.0003**	**0.0033**	**0.0057**	**0.0011**	**0.9563**	**0.0002**	**0.0327**	**0.0139**

Notes
NE = Not Established
"B" qualifier indicates that the analyte was present in the method blank
"D" qualifier indicates analytes reported from a diluted run of the original analysis.
"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
S = Shallow Screened Well
D = Deep Screened Well
NFA = North Fill Area
FGPA = Former Gas Plant Area
FPPA = Former Power Plant Area
SFA = South Fill Area
Bold values indicate that the concentration was detected above method reporting limits
Blue shaded cells indicate detection limits equal to or exceeds the GB Groundwater Objective.
Gray shaded cells indicate the concentration exceeds the GB Groundwater Objective.
Underlined concentrations exceed the RIDEM GB Groundwater Upper Concentration Limit
Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
This table presents analytical results from 2015. The January 2011 SIDR, the July 2011 RAE and previous groundwater monitoring reports presents historical analytical results.

TABLE 4B
SUMMARY OF GROUNDWATER VOC QA/QC ANALYTICAL RESULTS
Former Tidewater Facility
Pawtucket, Rhode Island

		Units	RIDEM GB Groundwater UCL	RIDEM GB Groundwater Objective	Trip Blank 11/12/2015 1511323-11 Aqueous	MW-201 11/12/2015 1511324-17 Aqueous	BD111215-1 11/12/2015 1511323-09 Aqueous	MW-107 11/12/2015 1511324-01 Aqueous	BD111315 11/12/2015 1511323-10 Aqueous
EPA 8260	VOLATILE ORGANICS								
	1,1,1,2-Tetrachloroethane	mg/L	NE	NE	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	1,1,1-Trichloroethane	mg/L	68	3.1	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	1,1,2,2-Tetrachloroethane	mg/L	NE	NE	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	1,1,2-Trichloroethane	mg/L	NE	NE	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	1,1-Dichloroethane	mg/L	NE	NE	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	1,1-Dichloroethene	mg/L	23	0.007	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	1,1-Dichloropropene	mg/L	NE	NE	<0.0020	<0.002	<0.002	<0.0020	<0.0020
	1,2,3-Trichlorobenzene	mg/L	NE	NE	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	1,2,3-Trichloropropane	mg/L	NE	NE	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	1,2,4-Trichlorobenzene	mg/L	NE	NE	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	1,2,4-Trimethylbenzene	mg/L	NE	NE	<0.0010	**0.0219**	**0.0201**	<0.0010	<0.0010
	1,2-Dibromo-3-Chloropropane	mg/L	NE	0.002	<0.0050	<0.005	<0.005	<0.0050	<0.0050
	1,2-Dibromoethane	mg/L	NE	NE	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	1,2-Dichlorobenzene	mg/L	NE	NE	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	1,2-Dichloroethane	mg/L	670	0.11	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	1,2-Dichloropropane	mg/L	140	3	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	1,3,5-Trimethylbenzene	mg/L	NE	NE	<0.0010	**0.0012**	J 0.0008	<0.0010	<0.0010
	1,3-Dichlorobenzene	mg/L	NE	NE	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	1,3-Dichloropropane	mg/L	NE	NE	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	1,4-Dichlorobenzene	mg/L	NE	NE	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	1,4-Dioxane - Screen	mg/L	NE	NE	<0.500	<0.5	<0.5	<0.500	<0.500
	1-Chlorohexane	mg/L	NE	NE	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	2,2-Dichloropropane	mg/L	NE	NE	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	2-Butanone	mg/L	NE	NE	<0.0100	<0.01	<0.01	<0.0100	<0.0100
	2-Chlorotoluene	mg/L	NE	NE	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	2-Hexanone	mg/L	NE	NE	<0.0100	<0.01	<0.01	<0.0100	<0.0100
	4-Chlorotoluene	mg/L	NE	NE	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	4-Isopropyltoluene	mg/L	NE	NE	<0.0010	J 0.0007	J 0.0005	<0.0010	<0.0010
	4-Methyl-2-Pentanone	mg/L	NE	NE	<0.0250	<0.025	<0.025	<0.0250	<0.0250
	Acetone	mg/L	NE	NE	<0.0100	**0.0239**	B <0.035	<0.0100	B <0.035
	Benzene	mg/L	18	0.14	<0.0010	**0.133**	**0.118**	J 0.002	J 0.0001
	Bromobenzene	mg/L	NE	NE	<0.0020	<0.002	<0.002	<0.0020	<0.0020
	Bromochloromethane	mg/L	NE	NE	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	Bromodichloromethane	mg/L	NE	NE	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006
	Bromoform	mg/L	NE	NE	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	Bromomethane	mg/L	NE	NE	<0.0020	<0.002	<0.002	<0.0020	<0.0020
	Carbon Disulfide	mg/L	NE	NE	<0.0010	**0.0019**	<0.001	<0.0010	<0.0010
	Carbon Tetrachloride	mg/L	NE	0.07	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	Chlorobenzene	mg/L	56	3.2	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	Chloroethane	mg/L	NE	NE	<0.0020	<0.002	<0.002	<0.0020	<0.0020
	Chloroform	mg/L	NE	NE	<0.0010	<0.001	<0.0010	J 0.0003	J 0.0002
	Chloromethane	mg/L	NE	NE	<0.0020	<0.002	<0.002	<0.0020	<0.0020
	cis-1,2-Dichloroethene	mg/L	69	2.4	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	cis-1,3-Dichloropropene	mg/L	NE	NE	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
	Dibromochloromethane	mg/L	NE	NE	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	Dibromomethane	mg/L	NE	NE	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	Dichlorodifluoromethane	mg/L	NE	NE	<0.0020	<0.002	<0.002	<0.0020	<0.0020
	Diethyl Ether	mg/L	NE	NE	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	Di-isopropyl ether	mg/L	NE	NE	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	Ethyl tertiary-butyl ether	mg/L	NE	NE	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	Ethylbenzene	mg/L	16	1.6	<0.0010	**0.0346**	**0.0312**	<0.0010	<0.0010
	Hexachlorobutadiene	mg/L	NE	NE	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006
	Hexachloroethane	mg/L	NE	NE	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	Isopropylbenzene	mg/L	NE	NE	<0.0010	**0.0252**	**0.0188**	<0.0010	<0.0010
	Methyl tert-Butyl Ether	mg/L	NE	5	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	Methylene Chloride	mg/L	NE	NE	<0.0020	<0.002	<0.002	<0.0020	<0.0020
	Naphthalene	mg/L	NE	2.67	<0.0010	**0.0198**	**0.0142**	<0.0010	<0.0010
	n-Butylbenzene	mg/L	NE	NE	<0.0010	**0.007**	**0.0056**	<0.0010	<0.0010
	n-Propylbenzene	mg/L	NE	NE	<0.0010	**0.02**	**0.0152**	<0.0010	<0.0010
	sec-Butylbenzene	mg/L	NE	NE	<0.0010	**0.0024**	**0.0019**	<0.0010	<0.0010
	Styrene	mg/L	50	2.2	<0.0010	**0.0042**	**0.0032**	<0.0010	<0.0010

TABLE 4B
SUMMARY OF GROUNDWATER VOC QA/QC ANALYTICAL RESULTS
Former Tidewater Facility
Pawtucket, Rhode Island

		Units	RIDEM GB Groundwater UCL	RIDEM GB Groundwater Objective	Trip Blank 11/12/2015 1511323-11 Aqueous	MW-201 11/12/2015 1511324-17 Aqueous	BD111215-1 11/12/2015 1511323-09 Aqueous	MW-107 11/12/2015 1511324-01 Aqueous	BD111315 11/12/2015 1511323-10 Aqueous
EPA 8260	VOLATILE ORGANICS								
	tert-Butylbenzene	mg/L	NE	NE	<0.0010	J 0.0003	J 0.0002	<0.0010	<0.0010
	Tertiary-amyl methyl ether	mg/L	NE	NE	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	Tetrachloroethene	mg/L	NE	0.15	<0.0010	<0.001	<0.001	J 0.0002	<0.0010
	Tetrahydrofuran	mg/L	NE	NE	<0.0050	<0.005	<0.005	<0.0050	<0.0050
	Toluene	mg/L	21	1.7	<0.0010	**0.0026**	**0.0016**	<0.0010	<0.0010
	trans-1,2-Dichloroethene	mg/L	79	2.8	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	trans-1,3-Dichloropropene	mg/L	NE	NE	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
	Trichloroethene	mg/L	87	0.54	<0.0010	<0.001	<0.001	J 0.0004	J 0.0004
	Trichlorofluoromethane	mg/L	NE	NE	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	Trihalomethanes (Total)	mg/L	NE	NE	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	Vinyl Acetate	mg/L	NE	NE	<0.0050	<0.005	<0.005	<0.0050	<0.0050
	Vinyl Chloride	mg/L	NE	0.002	<0.0010	<0.001	<0.001	<0.0010	<0.0010
	Xylene O	mg/L	NE	NE	<0.0010	**0.0239**	**0.0227**	<0.0010	<0.0010
	Xylene P,M	mg/L	NE	NE	<0.0020	**B 0.0026**	J 0.0014	<0.0020	<0.0020
	Xylenes (Total)	mg/L	NE	NE	<0.0020	**0.0265**	**0.0242**	<0.0020	<0.0020
	Total VOCs	mg/L	NE	NE	<0.6415	**0.3226**	**0.2554**	**0.0011**	**0.0037**

Notes
NE = Not Established
"B" qualifier indicates that the analyte was present in the method blank
"D" qualifier indicates analytes reported from a diluted run of the original analysis.
"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
S = Shallow Screened Well
D = Deep Screened Well
NFA = North Fill Area
FGPA = Former Gas Plant Area
FPPA = Former Power Plant Area
SFA = South Fill Area
Bold values indicate that the concentration was detected above method reporting limits
Blue shaded cells indicate detection limits equal to or exceeds the GB Groundwater Objective.
Gray shaded cells indicate the concentration exceeds the GB Groundwater Objective.
Underlined concentrations exceed the RIDEM GB Groundwater Upper Concentration Limit
Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
Blind Duplicate sample BD111215-1 was collected from MW-201
Blind Duplicate sample BD111315 was collected from MW-107

TABLE 5A
GROUNDWATER MONITORING DATA
North Fill Area
Former Tidewater Facility
Pawtucket, Rhode Island

ANALYTICAL	Sample ID:		MW-5												
	Collected By:		AES	VHB	GZA		GZA		GZA		GZA	GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		July 2010		Dec 2010		July 2011	July 2012	Aug 2013	Oct 2014	Nov 2015
	RIDEM GB GW UCL	RIDEM GB GW-O	Note (5)	Note (5)			Note (2)		Note (6)		Note (2)	Note (2)	Note (2)	Note (2)	Note (2)
VOCs (ppm)					Result	DL									
1,1,1,2-Tetrachloroethane	NE	NE			<	0.001									
1,1-Dichloroethene	23	0.007			<	0.001									
1,2,4-Trimethylbenzene	NE	NE			<	0.001									
1,2-Dibromo-3-Chloropropane	NE	0.002			<	0.005									
1,3,5-Trimethylbenzene	NE	NE			<	0.001									
4-Isopropyltoluene	NE	NE													
Acetone	NE	NE			<	0.025									
Benzene	18	0.14			<	0.001									
Carbon Disulfide	NE	NE													
Carbon Tetrachloride	NE	0.07			<	0.001									
Chloroform	NE	NE			<	0.001									
cis-1,2-Dichloroethene	69	2.4			<	0.001									
Ethylbenzene	16	1.6			<	0.001									
Isopropylbenzene	NE	NE			<	0.001									
Methyl tert-Butyl Ether	NE	5			<	0.001									
Methylene Chloride	NE	NE			<	0.002									
Naphthalene	NE	2.67			<	0.002									
n-Butylbenzene	NE	NE			<	0.001									
n-Propylbenzene	NE	NE			<	0.001									
sec-Butylbenzene	NE	NE			<	0.001									
Styrene	50	2.2			<	0.001									
tert-Butylbenzene	NE	NE			<	0.001									
Tertiary-amyl methyl ether	NE	NE			<	0.001									
Tetrachloroethene	NE	0.15			<	0.001									
Toluene	21	1.7			<	0.001									
Trichloroethene	87	0.54			<	0.001									
Vinyl Chloride	NE	0.002			<	0.001									
Xylene O	NE	NE			<	0.001									
Xylene P,M	NE	NE			<	0.002									
Xylenes (Total)	NE	NE			<	0.003									
Total VOCs	NE	NE			<	0.122									
TOTAL PETROLEUM HYDROCARBON (ppm)															
Hydrocarbon Content	NE	NE			<	0.2									
PAHS BY GCMS (ppm)															
2-Methylnaphthalene	NE	NE			<	0.002									
Acenaphthene	NE	NE			<	0.002									
Acenaphthylene	NE	NE			<	0.002									
Anthracene	NE	NE			<	0.002									
Benzo [a] Anthracene	NE	NE			<	0.002									
Benzo [a] Pyrene	NE	NE			<	0.002									
Benzo [b] Fluoranthene	NE	NE			<	0.002									
Benzo [g,h,i] Perylene	NE	NE			<	0.002									
Benzo [k] Fluoranthene	NE	NE			<	0.002									
Chrysene	NE	NE			<	0.002									
Dibenzo [a,h] Anthracene	NE	NE			<	0.002									
Fluoranthene	NE	NE			<	0.002									
Fluorene	NE	NE			<	0.002									
Indeno [1,2,3-cd] Pyrene	NE	NE			<	0.002									
Naphthalene	NE	2.67			<	0.002									
Phenanthrene	NE	NE			<	0.002									
Pyrene	NE	NE			<	0.002									
INORGANICS (ppm)															
Total Cyanide	NE	NE			**0.020**	0.010									
Dissolved Free Cyanide	NE	NE			<	0.010									
Physiologically Available Cyanide	NE	NE													
Arsenic	NE	NE													
Beryllium	NE	NE													
Chromium	NE	NE													
Copper	NE	NE													
Lead	NE	NE													
Nickel	NE	NE													
Zinc	NE	NE													
Dissolved Arsenic	NE	NE													
Dissolved Beryllium	NE	NE													
Dissolved Chromium	NE	NE													
Dissolved Copper	NE	NE													
Dissolved Lead	NE	NE													
Dissolved Nickel	NE	NE													
Dissolved Zinc	NE	NE													

Notes:

	Blank cells indicate that the parameter was not analyzed during this sampling round
D	"D" qualifier indicates analytes reported from a diluted run of the original analysis.
E	"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
J	"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
B	"B" qualifier indicates that the analyte was present in the method blank
NE	Regulatory Limit is not established
Bold Value	= concentration detected above the Method Reporting Limit.
	= concentration equals or exceeds the RIDEM GB Groundwater Objective (RIDEM GB GW Objectives)
	=detection limit equals or exceeds the RIDEM GB Groundwater Objective
(1)	Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
(2)	Well was not sampled because there was limited water
(3)	NAPL was noted to be present
(4)	Well was not sampled because it had not been installed yet.
(5)	Well was not sampled because of an unknown reason
(6)	Well was not included in this sampling round

Please note that this table only includes compounds that have been detected or have detection limits that exceeded the RIDEM GB Groundwater Objective during groundwater monitoring at the Site between 1996 and present.

TABLE 5B
GROUNDWATER MONITORING DATA
North Fill Area
Former Tidewater Facility
Pawtucket, Rhode Island

ANALYTICAL	Sample ID:		MW-7												
	Collected By:		AES	VHB	GZA		GZA		GZA	GZA		GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		July 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015
	RIDEM GB GW UCL	RIDEM GB GW-O							Note (6)						
VOCs (ppm)			Result	Result	Result	DL	Result	DL		Result	DL	Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	23	0.007			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
1,2,4-Trimethylbenzene	NE	NE	<0.02	<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dibromo-3-Chloropropane	NE	0.002			<	0.005	<	0.002		<	0.002	<0.005	<0.005	<0.005	<0.005
1,3,5-Trimethylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
4-Isopropyltoluene	NE	NE										<0.001	<0.001	<0.001	<0.001
Acetone	NE	NE			<	0.025	<	0.010		<	0.010	<0.01	<0.01	<0.01	<0.01
Benzene	18	0.14	<0.02	<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
Carbon Disulfide	NE	NE								<	0.001	<0.001	<0.001	<0.001	<0.001
Carbon Tetrachloride	NE	0.07			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
Chloroform	NE	NE		**0.0048**	<	0.001	<	0.001		<	0.001	<0.001	**0.0018**	<0.001	J 0.0005
cis-1,2-Dichloroethene	69	2.4			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
Ethylbenzene	16	1.6	<0.02	<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
Isopropylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
Methyl tert-Butyl Ether	NE	5		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
Methylene Chloride	NE	NE			<	0.002	<	0.002		<	0.002	<0.002	<0.002	<0.002	<0.002
Naphthalene	NE	2.67		<0.001	<	0.002	**0.0035**	0.002		<	0.002	<0.001	<0.001	<0.001	<0.001
n-Butylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
n-Propylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
sec-Butylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
Styrene	50	2.2	<0.02		<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
tert-Butylbenzene	NE	NE			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
Tertiary-amyl methyl ether	NE	NE										<0.001	<0.001	<0.001	<0.001
Tetrachloroethene	NE	0.15			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	J 0.0003
Toluene	21	1.7	<0.02		<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethene	87	0.54			<	0.001	<	0.001		<	0.001	<0.001	0.0003 J	<0.001	<0.001
Vinyl Chloride	NE	0.002			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
Xylene O	NE	NE	<0.02	<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
Xylene P,M	NE	NE	<0.02	<0.002	<	0.002	<	0.002		<	0.002	<0.002	<0.002	<0.002	<0.002
Xylenes (Total)	NE	NE	<0.04	<0.03	<	0.003	<	0.003		<	0.003	<0.003	<0.002	<0.003	<0.002
Total VOCs	NE	NE	<0.14	**0.0048**	<	0.122	**0.0035**			<	0.122	<0.6415	**0.0021**	<0.6415	**0.0008**
TOTAL PETROLEUM HYDROCARBON (ppm)															
Hydrocarbon Content	NE	NE			<	0.2	<	0.2		<	0.2	<0.2	<0.19	<0.19	
PAHS BY GCMS (ppm)															
2-Methylnaphthalene	NE	NE	<0.02	<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Acenaphthene	NE	NE	<0.02	<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Acenaphthylene	NE	NE	<0.02	<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Anthracene	NE	NE	<0.02	<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Benzo [a] Anthracene	NE	NE	<0.02	<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Benzo [a] Pyrene	NE	NE	<0.02	<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Benzo [b] Fluoranthene	NE	NE	<0.02	<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Benzo [g,h,i] Perylene	NE	NE	<0.02	<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Benzo [k] Fluoranthene	NE	NE	<0.02	<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Chrysene	NE	NE	<0.02	<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Dibenzo [a,h] Anthracene	NE	NE	<0.02	<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Fluoranthene	NE	NE	<0.02	<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Fluorene	NE	NE	<0.02	<0.0003	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Indeno [1,2,3-cd] Pyrene	NE	NE	<0.02	<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Naphthalene	NE	2.67	<0.02	<0.0003	<	0.002	<	0.002		<	0.002	**0.001**	**0.0004**	**0.0012**	
Phenanthrene	NE	NE	<0.02	<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Pyrene	NE	NE	<0.02	<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
INORGANICS (ppm)															
Total Cyanide	NE	NE	<0.02	<0.05	<	0.010	<	0.010		**0.02**	0.010	**0.0205**	**0.0316**	**0.0454**	
Dissolved Free Cyanide	NE	NE		<0.05	<	0.010	<	0.010		<	0.010	<0.005	**0.0239**	**0.02**	
Physiologically Available Cyanide	NE	NE		<0.05											
Arsenic	NE	NE	<0.002	<0.0025											
Beryllium	NE	NE	<0.002	<0.0005											
Chromium	NE	NE	<0.024	<0.010											
Copper	NE	NE	<0.024	<0.010											
Lead	NE	NE	<0.05	<0.0025											
Nickel	NE	NE	<0.024	<0.025											
Zinc	NE	NE	**0.023**	<0.025											
Dissolved Arsenic	NE	NE		<0.0025											
Dissolved Beryllium	NE	NE		<0.0005											
Dissolved Chromium	NE	NE		<0.010											
Dissolved Copper	NE	NE		<0.010											
Dissolved Lead	NE	NE		<0.0025											
Dissolved Nickel	NE	NE		<0.025											
Dissolved Zinc	NE	NE		<0.025											

Notes:

	Blank cells indicate that the parameter was not analyzed during this sampling round
D	"D" qualifier indicates analytes reported from a diluted run of the original analysis.
E	"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
J	"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
B	"B" qualifier indicates that the analyte was present in the method blank
NE	Regulatory Limit is not established
Bold Value	= concentration detected above the Method Reporting Limit.
	= concentration equals or exceeds the RIDEM GB Groundwater Objective (RIDEM GB GW Objectives)
	=detection limit equals or exceeds the RIDEM GB Groundwater Objective
(1)	Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
(2)	Well was not sampled because there was limited water
(3)	NAPL was noted to be present
(4)	Well was not sampled because it had not been installed yet.
(5)	Well was not sampled because of an unknown reason
(6)	Well was not included in this sampling round

Please note that this table only includes compounds that have been detected or have detection limits that exceeded the RIDEM GB Groundwater Objective during groundwater monitoring at the Site between 1996 and present.

TABLE 5C
GROUNDWATER MONITORING DATA
North Fill Area
Former Tidewater Facility
Pawtucket, Rhode Island

ANALYTICAL	Sample ID:		MW-310S													
	Collected By:		AES	VHB	GZA		GZA		GZA	GZA			GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010		Dec 2010	July 2011			July 2012	Aug 2013	Oct 2014	Nov 2015
	RIDEM GB GW UCL	RIDEM GB GW-O	Note (4)	Note (4)	Note (4)				Note (6)							
VOCs (ppm)							Result	DL		Result	DL		Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE					<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007					<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE					<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010
1,2-Dibromo-3-Chloropropane	NE	0.002					<	0.002		<	0.002		<0.005	<0.005	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE					<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010
4-Isopropyltoluene	NE	NE											<0.001	<0.001	<0.0010	<0.0010
Acetone	NE	NE					<	0.01		<	0.01		<0.01	<0.01	<0.0100	<0.0100
Benzene	18	0.14					<	0.001		<	0.001		**0.0029**	**0.0035**	**0.002**	J 0.0005
Carbon Disulfide	NE	NE								<	0.001		<0.001	<0.001	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07					<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010
Chloroform	NE	NE					<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4					<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010
Ethylbenzene	16	1.6					<	0.001		<	0.001		**0.0012**	0.0004 J	<0.0010	<0.0010
Isopropylbenzene	NE	NE					<	0.001		<	0.001		<0.001	0.0004 J	<0.0010	<0.0010
Methyl tert-Butyl Ether	NE	5					<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010
Methylene Chloride	NE	NE					<	0.002		<	0.002		<0.0020	<0.0020	<0.0020	<0.0020
Naphthalene	NE	2.67					<	0.002		<	0.002		<0.001	<0.001	<0.0010	B <0.0020
n-Butylbenzene	NE	NE					<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010
n-Propylbenzene	NE	NE					<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010
sec-Butylbenzene	NE	NE					<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010
Styrene	50	2.2					<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010
tert-Butylbenzene	NE	NE					<	0.001		<	0.001		<0.0010	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE											<0.001	<0.001	<0.0010	<0.0010
Tetrachloroethene	NE	0.15					<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010
Toluene	21	1.7					<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010
Trichloroethene	87	0.54					<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010
Vinyl Chloride	NE	0.002					<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010
Xylene O	NE	NE					<	0.001		<	0.001		<0.001	0.0006 J	<0.0010	<0.0010
Xylene P,M	NE	NE					<	0.002		<	0.002		<0.002	<0.002	<0.0020	<0.0020
Xylenes (Total)	NE	NE					<	0.003		<	0.003		<0.003	0.0006 J	<0.003	<0.0020
Total VOCs	NE	NE					<	0.122		<	0.122		**0.0041**	**0.0049**	**0.0033**	**0.0005**
TOTAL PETROLEUM HYDROCARBON (ppm)																
Hydrocarbon Content	NE	NE					**0.41**	0.2		<	0.2		<0.2	<0.19	<0.19	
PAHS BY GCMS (ppm)																
2-Methylnaphthalene	NE	NE					<	0.002		<	0.002		<0.0002	<0.0002	<0.0002	
Acenaphthene	NE	NE					<	0.002		<	0.002		**0.0004**	**0.0008**	**0.0021**	
Acenaphthylene	NE	NE					<	0.002		<	0.002		<0.0002	<0.0002	**0.0003**	
Anthracene	NE	NE					<	0.002		<	0.002		<0.0002	<0.0002	<0.0002	
Benzo [a] Anthracene	NE	NE					<	0.002		<	0.002		<0.0002	<0.00005	<0.00005	
Benzo [a] Pyrene	NE	NE					<	0.002		<	0.002		<0.0002	<0.00005	<0.00005	
Benzo [b] Fluoranthene	NE	NE					<	0.002		<	0.002		<0.0002	<0.00005	<0.00005	
Benzo [g,h,i] Perylene	NE	NE					<	0.002		<	0.002		<0.0002	<0.0002	<0.0002	
Benzo [k] Fluoranthene	NE	NE					<	0.002		<	0.002		<0.0002	<0.00005	<0.00005	
Chrysene	NE	NE					<	0.002		<	0.002		<0.0002	<0.00005	<0.00005	
Dibenzo [a,h] Anthracene	NE	NE					<	0.002		<	0.002		<0.0002	<0.00005	<0.00005	
Fluoranthene	NE	NE					<	0.002		<	0.002		<0.0002	<0.0002	<0.0002	
Fluorene	NE	NE					<	0.002		<	0.002		<0.0002	**0.0002**	**0.0006**	
Indeno [1,2,3-cd] Pyrene	NE	NE					<	0.002		<	0.002		<0.0002	<0.00005	<0.00005	
Naphthalene	NE	2.67					<	0.002		<	0.002		**0.0004**	**0.0002**	**0.0002**	
Phenanthrene	NE	NE					<	0.002		<	0.002		<0.0002	<0.0002	<0.0002	
Pyrene	NE	NE					<	0.002		<	0.002		<0.0002	<0.0002	<0.0002	
INORGANICS (ppm)																
Total Cyanide	NE	NE					**0.090**	0.010		**0.06**	0.010		**0.0531**	**0.0548**	**0.069**	
Dissolved Free Cyanide	NE	NE					<	0.010		<	0.010		<0.005	**0.0414**	**0.0685**	
Physiologically Available Cyanide	NE	NE														
Arsenic	NE	NE														
Beryllium	NE	NE														
Chromium	NE	NE														
Copper	NE	NE														
Lead	NE	NE														
Nickel	NE	NE														
Zinc	NE	NE														
Dissolved Arsenic	NE	NE														
Dissolved Beryllium	NE	NE														
Dissolved Chromium	NE	NE														
Dissolved Copper	NE	NE														
Dissolved Lead	NE	NE														
Dissolved Nickel	NE	NE														
Dissolved Zinc	NE	NE														

Notes:

	Blank cells indicate that the parameter was not analyzed during this sampling round
D	"D" qualifier indicates analytes reported from a diluted run of the original analysis.
E	"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
J	"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
B	"B" qualifier indicates that the analyte was present in the method blank
NE	Regulatory Limit is not established
Bold Value	= concentration detected above the Method Reporting Limit.
	= concentration equals or exceeds the RIDEM GB Groundwater Objective (RIDEM GB GW Objectives)
	=detection limit equals or exceeds the RIDEM GB Groundwater Objective
(1)	Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
(2)	Well was not sampled because there was limited water
(3)	NAPL was noted to be present
(4)	Well was not sampled because it had not been installed yet.
(5)	Well was not sampled because of an unknown reason
(6)	Well was not included in this sampling round

Please note that this table only includes compounds that have been detected or have detection limits that exceeded the RIDEM GB Groundwater Objective during groundwater monitoring at the Site between 1996 and present.

TABLE 5D
GROUNDWATER MONITORING DATA
North Fill Area
Former Tidewater Facility
Pawtucket, Rhode Island

ANALYTICAL	Sample ID:		MW-310D													
	Collected By:		AES	VHB	GZA		GZA		GZA	GZA			GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010		Dec 2010	July 2011			July 2012	Aug 2013	Oct 2014	Nov 2015
	RIDEM GB GW UCL	RIDEM GB GW-O	Note (4)	Note (4)	Note (4)				Note (6)							
VOCs (ppm)							Result	DL		Result	DL		Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE					<	0.025		<	0.05		<0.001	**0.13 D**	<0.100	<0.100
1,1-Dichloroethene	23	0.007					<	0.025		<	0.05		<0.001	<0.1 D	<0.100	<0.100
1,2,4-Trimethylbenzene	NE	NE					**0.32**	0.025		**0.64**	0.05		**0.712**	**0.473 D**	**0.652**	**0.577**
1,2-Dibromo-3-Chloropropane	NE	0.002					<	0.050		<	0.10		<0.005	<0.5 D	<0.500	<0.500
1,3,5-Trimethylbenzene	NE	NE					**0.84**	0.025		**0.17**	0.05		**0.18**	**0.102 D**	**0.162**	**0.148**
4-Isopropyltoluene	NE	NE											**0.017**	<0.1 D	<0.100	**0.015**
Acetone	NE	NE					<	0.250		<	0.50		<0.01	<1 D	<1.00	<1.00
Benzene	18	0.14					**0.29**	0.025		**0.65**	0.05		**0.618**	**0.678 D**	**0.652**	**0.739**
Carbon Disulfide	NE	NE								<	0.05		<0.001	<0.1 D	<0.100	<0.100
Carbon Tetrachloride	NE	0.07					<	0.025		<	0.05		<0.001	<0.1 D	<0.100	<0.100
Chloroform	NE	NE					<	0.025		<	0.05		<0.001	<0.1 D	<0.100	<0.100
cis-1,2-Dichloroethene	69	2.4					<	0.025		<	0.05		<0.001	<0.1 D	<0.100	<0.100
Ethylbenzene	16	1.6					**0.4**	0.025		**0.92**	0.05		**1.07**	**0.72 D**	**0.918**	**0.975**
Isopropylbenzene	NE	NE					**0.05**	0.025		**0.092**	0.05		**0.101**	**0.063 J D**	<0.100	**E 0.108**
Methyl tert-Butyl Ether	NE	5					<	0.025		<	0.05		<0.001	<0.1 D	<0.100	<0.100
Methylene Chloride	NE	NE					<	0.050		<	0.10		<0.002	<0.2 D	<0.200	<0.200
Naphthalene	NE	2.67					**3.9**	0.050		**6.8**	0.10		**9.8**	**6.6 D**	**8.96**	**9.75**
n-Butylbenzene	NE	NE					<	0.025		<	0.05		<0.001	<0.1 D	<0.100	<0.100
n-Propylbenzene	NE	NE					<	0.025		<	0.05		**0.0524**	<0.1 D	<0.100	**0.0438**
sec-Butylbenzene	NE	NE					<	0.025		<	0.05		**0.005**	<0.1 D	<0.100	**0.0019**
Styrene	50	2.2					<	0.025		<	0.05		<0.001	<0.1 D	<0.100	**0.0235**
tert-Butylbenzene	NE	NE					<	0.025		<	0.05		<0.100	<0.1 D	<0.100	<0.100
Tertiary-amyl methyl ether	NE	NE											<0.001	<0.1 D	<0.100	<0.100
Tetrachloroethene	NE	0.15					<	0.025		<	0.05		<0.001	<0.1 D	<0.100	<0.100
Toluene	21	1.7					**0.061**	0.025		**0.19**	0.05		**0.198**	**0.174 D**	**0.173**	**0.213**
Trichloroethene	87	0.54					<	0.025		<	0.05		<0.001	<0.1 D	<0.100	<0.100
Vinyl Chloride	NE	0.002					<	0.025		<	0.05		<0.001	<0.1 D	<0.100	<0.100
Xylene O	NE	NE					**0.33**	0.025		**0.66**	0.05		**0.735**	**0.489 D**	**0.646**	**0.64**
Xylene P,M	NE	NE					**0.29**	0.050		**0.67**	0.10		**0.775**	**0.478 D**	**0.659**	**0.709**
Xylenes (Total)	NE	NE					**0.62**	0.075		**1.33**	0.15		**1.51**	**0.967 D**	**1.3**	**1.35**
Total VOCs	NE	NE					**6.48**			**10.79**			**14.26**	**9.907**	**12.822**	**13.9432**
TOTAL PETROLEUM HYDROCARBON (ppm)																
Hydrocarbon Content	NE	NE					**6.8**	1		**8.7**	0.2		**11.6**	**13.5**	**11.6**	
PAHS BY GCMS (ppm)																
2-Methylnaphthalene	NE	NE					**0.17 D**	0.05		**0.2**	0.01		**0.394**	**0.403 D**	**0.319**	
Acenaphthene	NE	NE					**0.088**	0.002		**0.054**	0.002		**0.158**	**0.0914 D**	**0.115**	
Acenaphthylene	NE	NE					**0.027**	0.002		**0.023**	0.002		**0.064**	**0.0454 D**	**0.0436**	
Anthracene	NE	NE					**0.010**	0.002		<	0.002		<0.02	**0.0024 D**	<0.0093	
Benzo [a] Anthracene	NE	NE					<	0.002		<	0.002		<0.02	<0.0005 D	<0.0023	
Benzo [a] Pyrene	NE	NE					<	0.002		<	0.002		<0.02	<0.0005 D	<0.0023	
Benzo [b] Fluoranthene	NE	NE					<	0.002		<	0.002		<0.02	<0.0005 D	<0.0023	
Benzo [g,h,i] Perylene	NE	NE					<	0.002		<	0.002		<0.02	<0.0019 D	<0.0093	
Benzo [k] Fluoranthene	NE	NE					<	0.002		<	0.002		<0.02	<0.0005 D	<0.0023	
Chrysene	NE	NE					<	0.002		<	0.002		<0.02	<0.0005 D	<0.0023	
Dibenzo [a,h] Anthracene	NE	NE					<	0.002		<	0.002		<0.02	<0.0005 D	<0.0023	
Fluoranthene	NE	NE					<	0.002		<	0.002		<0.02	<0.0019 D	<0.0093	
Fluorene	NE	NE					**0.022**	0.002		**0.018**	0.002		**0.047**	**0.0311 D**	**0.0354**	
Indeno [1,2,3-cd] Pyrene	NE	NE					<	0.002		<	0.002		<0.02	<0.0005 D	<0.0023	
Naphthalene	NE	2.67					**2.2 D**	0.05		**2.5**	0.04		**5.76**	**4.57 D**	**4.87**	
Phenanthrene	NE	NE					**0.010**	0.002		**0.012**	0.002		**0.029**	**0.0207 D**	**0.0205**	
Pyrene	NE	NE					<	0.002		<	0.002		<0.02	<0.0019 D	<0.0093	
INORGANICS (ppm)																
Total Cyanide	NE	NE					**0.18**	0.010		**0.12**	0.010		**0.132**	**0.139**	**0.136**	
Dissolved Free Cyanide	NE	NE					**0.070**	0.010		**0.15**	0.010		**0.0293**	**0.133**	**0.135**	
Physiologically Available Cyanide	NE	NE														
Arsenic	NE	NE														
Beryllium	NE	NE														
Chromium	NE	NE														
Copper	NE	NE														
Lead	NE	NE														
Nickel	NE	NE														
Zinc	NE	NE														
Dissolved Arsenic	NE	NE														
Dissolved Beryllium	NE	NE														
Dissolved Chromium	NE	NE														
Dissolved Copper	NE	NE														
Dissolved Lead	NE	NE														
Dissolved Nickel	NE	NE														
Dissolved Zinc	NE	NE														

Notes:

	Blank cells indicate that the parameter was not analyzed during this sampling round
D	"D" qualifier indicates analytes reported from a diluted run of the original analysis.
E	"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
J	"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
B	"B" qualifier indicates that the analyte was present in the method blank
NE	Regulatory Limit is not established
Bold Value	= concentration detected above the Method Reporting Limit.
	= concentration equals or exceeds the RIDEM GB Groundwater Objective (RIDEM GB GW Objectives)
	=detection limit equals or exceeds the RIDEM GB Groundwater Objective
(1)	Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
(2)	Well was not sampled because there was limited water
(3)	NAPL was noted to be present
(4)	Well was not sampled because it had not been installed yet.
(5)	Well was not sampled because of an unknown reason
(6)	Well was not included in this sampling round

Please note that this table only includes compounds that have been detected or have detection limits that exceeded the RIDEM GB Groundwater Objective during groundwater monitoring at the Site between 1996 and present.

TABLE 5E
GROUNDWATER MONITORING DATA
Former Gas Plant Area
Former Tidewater Facility
Pawtucket, Rhode Island

ANALYTICAL	Sample ID:		MW-201												
	Collected By:		AES	VHB	GZA		GZA		GZA	GZA		GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015
	RIDEM GB GW UCL	RIDEM GB GW-O	Note (4)						Note (6)						
VOCs (ppm)				Result	Result	DL	Result	DL		Result	DL	Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	23	0.007			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
1,2,4-Trimethylbenzene	NE	NE		**0.0907**	**0.017**	0.001	**0.0094**	0.001		**0.0047**	0.001	**0.0019**	**0.0248**	**0.0066**	**0.0219**
1,2-Dibromo-3-Chloropropane	NE	0.002			<	0.005	<	0.005		<	0.005	<0.005	<0.005	<0.005	<0.005
1,3,5-Trimethylbenzene	NE	NE		**0.0024**	<	0.001	<	0.001		<	0.001	<0.001	**0.0024**	<0.001	**0.0012**
4-Isopropyltoluene	NE	NE										<0.001	<0.001	<0.001	J 0.0007
Acetone	NE	NE			<	0.025	<	0.025		<	0.025	<0.01	<0.01	<0.01	**0.0239**
Benzene	18	0.14		**0.0047**	**0.032**	0.001	**0.050**	0.001		**0.050**	0.001	**0.0397**	**0.0948 D**	**0.133**	**0.133**
Carbon Disulfide	NE	NE								<	0.001	<0.001	<0.001	**0.0094**	**0.0019**
Carbon Tetrachloride	NE	0.07			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
Chloroform	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
cis-1,2-Dichloroethene	69	2.4			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
Ethylbenzene	16	1.6		**0.0228**	**0.055**	0.001	**0.064**	0.001		**0.035**	0.001	**0.0163**	**0.0658**	**0.0166**	**0.0346**
Isopropylbenzene	NE	NE		**0.0164**	**0.025**	0.001	**0.020**	0.001		**0.017**	0.001	**0.0129**	**0.0274**	**0.0172**	**0.0252**
Methyl tert-Butyl Ether	NE	5		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
Methylene Chloride	NE	NE			<	0.002	<	0.002		<	0.002	<0.002	<0.002	<0.002	<0.002
Naphthalene	NE	2.67		**0.0028**	**0.019**	0.002	**0.020**	0.002		**0.010**	0.002	**0.0032**	**0.0781**	**0.0115**	**0.0198**
n-Butylbenzene	NE	NE		<0.001	**0.0067**	0.001	**0.0062**	0.001		**0.0056**	0.001	**0.0056**	**0.0068**	**0.0048**	**0.007**
n-Propylbenzene	NE	NE		**0.0149**	**0.018**	0.001	**0.018**	0.001		**0.015**	0.001	**0.0124**	**0.0227**	**0.0142**	**0.02**
sec-Butylbenzene	NE	NE		**0.0031**	**0.0024**	0.001	**0.0024**	0.001		**0.0021**	0.001	**0.0018**	**0.0026**	**0.0016**	**0.0024**
Styrene	50	2.2			<	0.001	<	0.001		<	0.001	<0.001	**0.0043**	**0.0015**	**0.0042**
tert-Butylbenzene	NE	NE			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	J 0.0003
Tertiary-amyl methyl ether	NE	NE										<0.001	<0.001	<0.001	<0.001
Tetrachloroethene	NE	0.15			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
Toluene	21	1.7		**0.0018**	<	0.001	**0.0024**	0.001		<	0.001	<0.001	<0.001	**0.0012**	**0.0026**
Trichloroethene	87	0.54			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Chloride	NE	0.002			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
Xylene O	NE	NE		**0.0113**	**0.021**	0.001	**0.0062**	0.001		**0.0053**	0.001	**0.0021**	**0.0252**	**0.0056**	**0.0239**
Xylene P,M	NE	NE		**0.0024**	<	0.002	<	0.002		<	0.002	<0.002	**0.0051**	<0.002	B <0.0040
Xylenes (Total)	NE	NE		**0.0137**	**0.021**	0.003	**0.0062**	0.003		**0.0053**	0.003	**0.0021**	**0.0303**	**0.0056**	**0.0265**
Total VOCs	NE	NE		**0.1733**	**0.1961**		**0.1986**			**0.1447**		**0.0959**	**0.3987**	**0.2232**	**0.3226**
TOTAL PETROLEUM HYDROCARBON (ppm)															
Hydrocarbon Content	NE	NE			**0.66**	0.2	<	0.2		**0.6**	0.2	**1.77**	**1.86**	**1.65**	
PAHS BY GCMS (ppm)															
2-Methylnaphthalene	NE	NE		**0.00076**	<	0.002	**0.0068**	0.002		<	0.002	<0.0002	**0.0004**	**0.0002**	
Acenaphthene	NE	NE		**0.0088**	**0.0052**	0.002	<	0.002		**0.0053 D**	0.002	**0.006**	**0.0061**	**0.0052**	
Acenaphthylene	NE	NE		**0.00209**	<	0.002	<	0.002		<	0.002	**0.002**	**0.0019**	**0.0011**	
Anthracene	NE	NE		**0.0035**	<	0.002	<	0.002		<	0.002	**0.004**	**0.003**	**0.0025**	
Benzo [a] Anthracene	NE	NE		**0.00102**	<	0.002	<	0.002		<	0.002	**0.0004**	**0.0005**	**0.0003**	
Benzo [a] Pyrene	NE	NE		**0.00085**	<	0.002	<	0.002		<	0.002	**0.0003**	**0.0003**	**0.0001**	
Benzo [b] Fluoranthene	NE	NE		**0.00051**	<	0.002	<	0.002		<	0.002	**0.0003**	**0.0003**	**0.0001**	
Benzo [g,h,i] Perylene	NE	NE		**0.00035**	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Benzo [k] Fluoranthene	NE	NE		**0.00063**	<	0.002	<	0.002		<	0.002	<0.0002	**0.0001**	<0.00005	
Chrysene	NE	NE		**0.00112**	<	0.002	<	0.002		<	0.002	**0.0004**	**0.0005**	**0.0002**	
Dibenzo [a,h] Anthracene	NE	NE		**0.00023**	<	0.002	<	0.002		<	0.002	<0.0002	**0.00006**	<0.00005	
Fluoranthene	NE	NE		**0.00503**	<	0.002	<	0.002		<	0.002	**0.002**	**0.0014**	**0.0015**	
Fluorene	NE	NE		**0.014**	**0.011**	0.002	<	0.002		**0.011 D**	0.002	**0.012**	**0.0108**	**0.0103**	
Indeno [1,2,3-cd] Pyrene	NE	NE		**0.00039**	<	0.002	<	0.002		<	0.002	<0.0002	**0.0002**	**0.00008**	
Naphthalene	NE	2.67		**0.012**	**0.0069**	0.002	<	0.002		**0.0042 D**	0.002	**0.002**	**0.0306 D**	**0.0065**	
Phenanthrene	NE	NE		**0.012**	**0.085**	0.002	<	0.002		**0.086 D**	0.002	**0.012**	**0.0094**	**0.0075**	
Pyrene	NE	NE		**0.00356**	<	0.002	<	0.002		<	0.002	**0.003**	**0.0024**	**0.0019**	
INORGANICS (ppm)															
Total Cyanide	NE	NE		**2.52**	**4.1**	0.010	**3.5**	0.010		**4.0**	0.010	**0.0075**	**3.68 D**	**1.16**	
Dissolved Free Cyanide	NE	NE		<0.05	**0.020**	0.010	**0.15**	0.010		**0.13**	0.010	**0.0067**	**2.37 D**	**1**	
Physiologically Available Cyanide	NE	NE		**0.215**											
Arsenic	NE	NE		<0.0050											
Beryllium	NE	NE		<0.001											
Chromium	NE	NE		<0.020											
Copper	NE	NE		<0.020											
Lead	NE	NE		**0.0181**											
Nickel	NE	NE		<0.050											
Zinc	NE	NE		<0.050											
Dissolved Arsenic	NE	NE		<0.0050											
Dissolved Beryllium	NE	NE		<0.001											
Dissolved Chromium	NE	NE		<0.020											
Dissolved Copper	NE	NE		<0.020											
Dissolved Lead	NE	NE		<0.0050											
Dissolved Nickel	NE	NE		<0.050											
Dissolved Zinc	NE	NE		<0.050											

Notes:

	Blank cells indicate that the parameter was not analyzed during this sampling round
D	"D" qualifier indicates analytes reported from a diluted run of the original analysis.
E	"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
J	"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
B	"B" qualifier indicates that the analyte was present in the method blank
NE	Regulatory Limit is not established
Bold Value	= concentration detected above the Method Reporting Limit.
	= concentration equals or exceeds the RIDEM GB Groundwater Objective (RIDEM GB GW Objectives)
	=detection limit equals or exceeds the RIDEM GB Groundwater Objective
(1)	Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
(2)	Well was not sampled because there was limited water
(3)	NAPL was noted to be present
(4)	Well was not sampled because it had not been installed yet.
(5)	Well was not sampled because of an unknown reason
(6)	Well was not included in this sampling round

Please note that this table only includes compounds that have been detected or have detection limits that exceeded the RIDEM GB Groundwater Objective during groundwater monitoring at the Site between 1996 and present.

TABLE 5F
GROUNDWATER MONITORING DATA
Former Gas Plant Area
Former Tidewater Facility
Pawtucket, Rhode Island

ANALYTICAL	Sample ID:		MW-208												
	Collected By:		AES	VHB	GZA		GZA		GZA	GZA		GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015
	RIDEM GB GW UCL	RIDEM GB GW-O	Note (4)						Note (6)						
VOCs (ppm)				Result	Result	DL	Result	DL		Result	DL	Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	23	0.007			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
1,2,4-Trimethylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	**0.0012**
1,2-Dibromo-3-Chloropropane	NE	0.002			<	0.002	<	0.002		<	0.002	<0.005	<0.005	<0.005	<0.005
1,3,5-Trimethylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	J 0.0003
4-Isopropyltoluene	NE	NE										<0.001	0.0009 J	<0.001	J 0.0003
Acetone	NE	NE			<	0.025	<	0.01		<	0.01	<0.01	<0.01	<0.01	J 0.0080
Benzene	18	0.14		**0.0016**	**0.004**	0.001	<	0.001		<	0.001	**0.0017**	0.0006 J	**0.0016**	**0.0032**
Carbon Disulfide	NE	NE			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
Carbon Tetrachloride	NE	0.07			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
Chloroform	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
cis-1,2-Dichloroethene	69	2.4			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
Ethylbenzene	16	1.6		**0.0012**	**0.0033**	0.001	<	0.001		**0.0037**	0.001	**0.005**	**0.0096**	<0.001	**0.0012**
Isopropylbenzene	NE	NE		**0.0126**	**0.011**	0.001	<	0.001		**0.0037**	0.001	**0.0037**	**0.0027**	<0.001	J 0.0004
Methyl tert-Butyl Ether	NE	5		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
Methylene Chloride	NE	NE													<0.002
Naphthalene	NE	2.67		**0.0014**	**0.0023**	0.002	<	0.002		**0.0021**	0.002	**0.0028**	<0.001	<0.001	**0.0187**
n-Butylbenzene	NE	NE		<0.001	**0.015**	0.001	**0.0012**	0.001		**0.0076**	0.001	**0.0154**	**0.0132**	<0.001	<0.001
n-Propylbenzene	NE	NE		**0.0075**	**0.0090**	0.001	<	0.001		**0.0021**	0.001	**0.0019**	**0.0012**	<0.001	<0.001
sec-Butylbenzene	NE	NE		**0.0092**	**0.0074**	0.001	<	0.001		**0.0068**	0.001	**0.0077**	**0.0066**	**0.0032**	**0.0024**
Styrene	50	2.2			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	J 0.0001
tert-Butylbenzene	NE	NE			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
Tertiary-amyl methyl ether	NE	NE										<0.001	<0.001	<0.001	<0.001
Tetrachloroethene	NE	0.15			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
Toluene	21	1.7		<0.001	**0.0017**	0.001	<	0.001		<	0.001	<0.001	0.0004 J	<0.001	J 0.0004
Trichloroethene	87	0.54			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Chloride	NE	0.002			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001
Xylene O	NE	NE		**0.0036**	**0.0025**	0.001	<	0.001		**0.002**	0.001	**0.0039**	**0.0044**	<0.001	**0.001**
Xylene P,M	NE	NE		<0.002	<	0.002	<	0.002		<	0.002	<0.002	0.0009 J	<0.002	J 0.0011
Xylenes (Total)	NE	NE		**0.0036**	**0.0025**	0.003	<	0.003		**0.002**	0.003	**0.0039**	**0.0053**	<0.003	**0.0021**
Total VOCs	NE	NE		**0.0371**	**0.056**		**0.0012**			**0.028**		**0.0421**	**0.0405**	**0.0048**	**0.0383**
TOTAL PETROLEUM HYDROCARBON (ppm)															
Hydrocarbon Content	NE	NE			**0.57**	0.2	**0.8**	0.2		**0.31**	0.2	**1**	**0.9**	**0.48**	
PAHS BY GCMS (ppm)															
2-Methylnaphthalene	NE	NE		<0.0002	<	0.002	**0.033**	0.002		<	0.002	<0.0002	<0.0002	**0.0002**	
Acenaphthene	NE	NE		**0.00156**	<	0.002	**0.0067**	0.002		<	0.002	**0.003**	**0.0023**	**0.0014**	
Acenaphthylene	NE	NE		**0.0013**	<	0.002	<	0.002		<	0.002	**0.002**	**0.002**	**0.0005**	
Anthracene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	**0.0005**	**0.0005**	**0.0002**	
Benzo [a] Anthracene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Benzo [a] Pyrene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Benzo [b] Fluoranthene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Benzo [g,h,i] Perylene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Benzo [k] Fluoranthene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Chrysene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Dibenzo [a,h] Anthracene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Fluoranthene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	**0.0003**	**0.0002**	<0.0002	
Fluorene	NE	NE		**0.00139**	<	0.002	**0.011**	0.002		<	0.002	**0.002**	**0.0015**	**0.002**	
Indeno [1,2,3-cd] Pyrene	NE	NE		<0.0003	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Naphthalene	NE	2.67		**0.00094**	<	0.002	**0.0076**	0.002		<	0.002	**0.002**	**0.0013**	**0.0047**	
Phenanthrene	NE	NE		**0.00074**	<	0.002	**0.01**	0.002		<	0.002	**0.002**	**0.002**	**0.0012**	
Pyrene	NE	NE		**0.00027**	<	0.002	<	0.002		<	0.002	**0.0005**	**0.0003**	**0.0002**	
INORGANICS (ppm)															
Total Cyanide	NE	NE		**0.17**	**0.010**	0.010	**0.050**	0.010		**0.030**	0.010	**0.0299**	**0.0302**	**0.108**	
Dissolved Free Cyanide	NE	NE		<0.06	<	0.010	<	0.010		<	0.010	<0.005	**0.0237**	**0.09**	
Physiologically Available Cyanide	NE	NE		**0.073**											
Arsenic	NE	NE		**0.0155**											
Beryllium	NE	NE		<0.001											
Chromium	NE	NE		<0.020											
Copper	NE	NE		<0.020											
Lead	NE	NE		<0.0050											
Nickel	NE	NE		<0.050											
Zinc	NE	NE		<0.050											
Dissolved Arsenic	NE	NE		<0.0050											
Dissolved Beryllium	NE	NE		<0.001											
Dissolved Chromium	NE	NE		<0.020											
Dissolved Copper	NE	NE		<0.020											
Dissolved Lead	NE	NE		<0.0050											
Dissolved Nickel	NE	NE		<0.050											
Dissolved Zinc	NE	NE		<0.050											

Notes:

	Blank cells indicate that the parameter was not analyzed during this sampling round
D	"D" qualifier indicates analytes reported from a diluted run of the original analysis.
E	"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
J	"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
B	"B" qualifier indicates that the analyte was present in the method blank
NE	Regulatory Limit is not established
Bold Value	= concentration detected above the Method Reporting Limit.
	= concentration equals or exceeds the RIDEM GB Groundwater Objective (RIDEM GB GW Objectives)
	=detection limit equals or exceeds the RIDEM GB Groundwater Objective
(1)	Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
(2)	Well was not sampled because there was limited water
(3)	NAPL was noted to be present
(4)	Well was not sampled because it had not been installed yet.
(5)	Well was not sampled because of an unknown reason
(6)	Well was not included in this sampling round

Please note that this table only includes compounds that have been detected or have detection limits that exceeded the RIDEM GB Groundwater Objective during groundwater monitoring at the Site between 1996 and present.

TABLE 5G
GROUNDWATER MONITORING DATA
Former Gas Plant Area
Former Tidewater Facility
Pawtucket, Rhode Island

ANALYTICAL	Sample ID:		MW-312S												
	Collected By:		AES	VHB	GZA		GZA		GZA	GZA		GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		July 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015
	RIDEM GB GW UCL	RIDEM GB GW-O	Note (4)	Note (4)	Note (4)		Note (3)		Note (6)	Note (3)		Note (3)	Note (3)	Note (3)	Note (3)
VOCs (ppm)							Result	DL		Result	DL	Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE					<	0.025		<	0.05	<0.05	<0.1 D	<0.001	<0.001
1,1-Dichloroethene	23	0.007					<	0.025		<	0.05	<0.05	<0.1 D	<0.001	<0.001
1,2,4-Trimethylbenzene	NE	NE					**0.18**	0.025		**0.26**	0.05	**0.186**	**0.104 D**	**0.114**	**0.093**
1,2-Dibromo-3-Chloropropane	NE	0.002					<	0.050		<	0.10	<0.1	<0.5 D	<0.005	<0.005
1,3,5-Trimethylbenzene	NE	NE					**0.05**	0.025		**0.063**	0.05	<0.05	**0.024 J D**	**0.0131**	**0.0177**
4-Isopropyltoluene	NE	NE										<0.05	<0.1 D	**0.0026**	**0.0036**
Acetone	NE	NE					<	0.250		<	0.50	<0.5	<1 D	**0.0347**	J 0.0031
Benzene	18	0.14					**0.052**	0.025		**0.13**	0.05	**0.0685**	<0.1 D	**0.0437**	**0.0295**
Carbon Disulfide	NE	NE								<	0.05	<0.05	<0.1 D	**0.0097**	<0.0010
Carbon Tetrachloride	NE	0.07					<	0.025		<	0.05	<0.05	<0.1 D	<0.001	<0.001
Chloroform	NE	NE					<	0.025		<	0.05	<0.05	<0.1 D	<0.001	<0.001
cis-1,2-Dichloroethene	69	2.4					<	0.025		<	0.05	<0.05	<0.1 D	<0.001	<0.001
Ethylbenzene	16	1.6					**0.84**	0.025		**1.1**	0.05	**0.856**	**0.546 D**	**0.588**	**0.606**
Isopropylbenzene	NE	NE					**0.04**	0.025		**0.053**	0.05	<0.05	**0.022 J D**	**0.0235**	**0.0333**
Methyl tert-Butyl Ether	NE	5					<	0.025		<	0.05	<0.05	<0.1 D	<0.001	<0.001
Methylene Chloride	NE	NE					<	0.025		<	0.05	<0.05	<0.1 D	<0.002	<0.002
Naphthalene	NE	2.67					**2.8**	0.050		**4.3**	0.10	**2.85**	**2.03 D**	**2.03**	**1.93**
n-Butylbenzene	NE	NE					<	0.025		<	0.05	<0.05	<0.1 D	<0.001	**0.005**
n-Propylbenzene	NE	NE					<	0.025		<	0.05	<0.05	<0.1 D	**0.0102**	**0.0133**
sec-Butylbenzene	NE	NE					<	0.025		<	0.05	<0.05	<0.1 D	**0.0013**	**0.0018**
Styrene	50	2.2					<	0.025		<	0.05	<0.05	<0.1 D	<0.001	**0.0018**
tert-Butylbenzene	NE	NE					<	0.025		<	0.05	<0.1	<0.1 D	<0.001	J 0.0002
Tertiary-amyl methyl ether	NE	NE										<0.1	<0.1 D	<0.001	<0.001
Tetrachloroethene	NE	0.15					<	0.025		<	0.05	<0.05	<0.1 D	<0.001	<0.001
Toluene	21	1.7					<	0.025		<	0.05	<0.05	<0.1 D	**0.0069**	**0.0057**
Trichloroethene	87	0.54					<	0.025		<	0.05	<0.05	<0.1 D	<0.001	<0.001
Vinyl Chloride	NE	0.002					<	0.025		<	0.05	<0.05	<0.1 D	<0.001	<0.001
Xylene O	NE	NE					**0.22**	0.025		**0.24**	0.05	**0.119**	**0.088 J D**	**0.0935**	**0.088**
Xylene P,M	NE	NE					<	0.050		<	0.10	<0.1	**0.027 J D**	**0.0263**	**0.0285**
Xylenes (Total)	NE	NE					**0.22**	0.750		**0.24**	0.150	**0.119**	**0.115 J D**	**0.12**	**0.117**
Total VOCs	NE	NE					**4.18**			**6.15**		**4.0795**	**2.841**	**2.9975**	**2.8605**
TOTAL PETROLEUM HYDROCARBON (ppm)															
Hydrocarbon Content	NE	NE					**5.2**	1		**48**	0.2	**8.61**	**8.84**	**6.22**	
PAHS BY GCMS (ppm)															
2-Methylnaphthalene	NE	NE					**0.11**	0.002		**3.1 D**	0.2	**0.068**	**0.101 D**	**0.0309**	
Acenaphthene	NE	NE					**0.094**	0.002		**3.9 D**	0.2	**0.214**	**0.221 D**	**0.134**	
Acenaphthylene	NE	NE					**0.028**	0.002		**0.4 D**	0.2	**0.026**	**0.0336 D**	**0.0087**	
Anthracene	NE	NE					**0.025**	0.002		**1.7 D**	0.2	**0.032**	**0.0377 D**	**0.0207**	
Benzo [a] Anthracene	NE	NE					**0.0091**	0.002		**0.8 D**	0.2	<0.02	**0.0145 D**	**0.0056**	
Benzo [a] Pyrene	NE	NE					**0.0073**	0.002		**0.45 D**	0.2	<0.02	**0.0123 D**	**0.0044**	
Benzo [b] Fluoranthene	NE	NE					**0.006**	0.002		**0.41 D**	0.2	<0.02	**0.009 D**	**0.0032**	
Benzo [g,h,i] Perylene	NE	NE					**0.0027**	0.002		<	0.2	<0.02	**0.0043 D**	**0.002**	
Benzo [k] Fluoranthene	NE	NE					<	0.002		<	0.2	<0.02	**0.0033 D**	**0.0011**	
Chrysene	NE	NE					**0.009**	0.002		**0.64 D**	0.2	<0.02	**0.0137 D**	**0.0051**	
Dibenzo [a,h] Anthracene	NE	NE					<	0.002		<	0.2	<0.02	**0.0012 D**	**0.0005**	
Fluoranthene	NE	NE					**0.026**	0.002		**1.8 D**	0.2	**0.022**	**0.0327 D**	**0.0128**	
Fluorene	NE	NE					**0.047**	0.002		**2 D**	0.2	**0.078**	**0.0811 D**	**0.0443**	
Indeno [1,2,3-cd] Pyrene	NE	NE					**0.0025**	0.002		<	0.2	<0.02	**0.0045 D**	**0.002**	
Naphthalene	NE	2.67					**1 D**	0.02		**10 D**	0.2	**2.58**	**1.78 D**	**0.742**	
Phenanthrene	NE	NE					**0.088**	0.002		**5.6 D**	0.2	**0.115**	**0.114 D**	**0.0817**	
Pyrene	NE	NE					**0.035**	0.002		**2.5 D**	0.2	**0.031**	**0.0439 D**	**0.0186**	
INORGANICS (ppm)															
Total Cyanide	NE	NE					**0.51**	0.010		**0.33**	0.010	**0.319**	**0.307 D**	**0.638**	
Dissolved Free Cyanide	NE	NE					<	0.010		**0.040**	0.010	<0.005	**0.3 D**	**0.5**	
Physiologically Available Cyanide	NE	NE													
Arsenic	NE	NE													
Beryllium	NE	NE													
Chromium	NE	NE													
Copper	NE	NE													
Lead	NE	NE													
Nickel	NE	NE													
Zinc	NE	NE													
Dissolved Arsenic	NE	NE													
Dissolved Beryllium	NE	NE													
Dissolved Chromium	NE	NE													
Dissolved Copper	NE	NE													
Dissolved Lead	NE	NE													
Dissolved Nickel	NE	NE													
Dissolved Zinc	NE	NE													

Notes:

	Blank cells indicate that the parameter was not analyzed during this sampling round
D	"D" qualifier indicates analytes reported from a diluted run of the original analysis.
E	"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
J	"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
B	"B" qualifier indicates that the analyte was present in the method blank
NE	Regulatory Limit is not established
Bold Value	= concentration detected above the Method Reporting Limit.
	= concentration equals or exceeds the RIDEM GB Groundwater Objective (RIDEM GB GW Objectives)
	=detection limit equals or exceeds the RIDEM GB Groundwater Objective
(1)	Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
(2)	Well was not sampled because there was limited water
(3)	NAPL was noted to be present
(4)	Well was not sampled because it had not been installed yet.
(5)	Well was not sampled because of an unknown reason
(6)	Well was not included in this sampling round

Please note that this table only includes compounds that have been detected or have detection limits that exceeded the RIDEM GB Groundwater Objective during groundwater monitoring at the Site between 1996 and present.

TABLE 5H
GROUNDWATER MONITORING DATA
Former Gas Plant Area
Former Tidewater Facility
Pawtucket, Rhode Island

ANALYTICAL	Sample ID:		MW-312D												
	Collected By:		AES	VHB	GZA		GZA		GZA	GZA		GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		July 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015
	RIDEM GB GW UCL	RIDEM GB GW-O	Note (4)	Note (4)	Note (4)				Note (6)						
VOCs (ppm)							Result	DL		Result	DL	Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE					<	0.025		<	0.05	<0.1	<0.1 D	<0.001	<0.001
1,1-Dichloroethene	23	0.007					<	0.025		<	0.05	<0.1	<0.1 D	<0.001	<0.001
1,2,4-Trimethylbenzene	NE	NE					**0.31**	0.025		**0.42**	0.05	**0.432**	<0.1 D	**0.378**	**0.321**
1,2-Dibromo-3-Chloropropane	NE	0.002					<	0.050		<	0.10	<0.5	<0.5 D	<0.005	<0.005
1,3,5-Trimethylbenzene	NE	NE					**0.055**	0.025		<	0.05	<0.1	**0.026 J D**	**0.0182**	**0.0272**
4-Isopropyltoluene	NE	NE										<0.1	<0.1 D	**0.0063**	**0.0097**
Acetone	NE	NE					<	0.250		<	0.50	<1	<1 D	<0.01	**0.0216**
Benzene	18	0.14					**2.5**	0.025		**2.8**	0.05	**2.29**	**3.56 D**	**5.98**	**5.55**
Carbon Disulfide	NE	NE								<	0.05	<0.1	<0.1 D	<0.001	<0.001
Carbon Tetrachloride	NE	0.07					<	0.025		<	0.05	<0.1	<0.1 D	<0.001	<0.001
Chloroform	NE	NE					<	0.025		<	0.05	<0.1	<0.1 D	<0.001	<0.001
cis-1,2-Dichloroethene	69	2.4					<	0.025		<	0.05	<0.1	<0.1 D	<0.001	<0.001
Ethylbenzene	16	1.6					**1.2**	0.025		**1.5**	0.05	**1.63**	**1.26 D**	**1.93**	**2.13**
Isopropylbenzene	NE	NE					**0.062**	0.025		**0.085**	0.05	<0.1	**0.054 J D**	**0.056**	**E 0.102**
Methyl tert-Butyl Ether	NE	5					<	0.025		<	0.05	<0.1	<0.1 D	<0.001	<0.001
Methylene Chloride	NE	NE					<	0.025		<	0.05	<0.1	<0.1 D	<0.002	<0.002
Naphthalene	NE	2.67					**3.4**	0.050		**5.3**	0.10	**6.75**	**4.3 D**	**8.17**	**7.68**
n-Butylbenzene	NE	NE					<	0.025		<	0.05	<0.1	<0.1 D	<0.001	<0.001
n-Propylbenzene	NE	NE					<	0.025		<	0.05	<0.1	**0.022 J D**	**0.0219**	**0.0389**
sec-Butylbenzene	NE	NE					<	0.025		<	0.05	<0.1	<0.1 D	<0.001	**0.0013**
Styrene	50	2.2					<	0.025		<	0.05	<0.1	<0.1 D	**0.0015**	B <0.0020
tert-Butylbenzene	NE	NE					<	0.025		<	0.05	<0.1	<0.1 D	<0.001	<0.001
Tertiary-amyl methyl ether	NE	NE										<0.1	<0.1 D	<0.001	<0.001
Tetrachloroethene	NE	0.15					<	0.025		<	0.05	<0.1	<0.1 D	<0.001	<0.001
Toluene	21	1.7					<	0.025		<	0.05	<0.1	<0.1 D	**0.0088**	**0.0093**
Trichloroethene	87	0.54					<	0.025		<	0.05	<0.1	<0.1 D	<0.001	<0.001
Vinyl Chloride	NE	0.002					<	0.025		<	0.05	<0.1	<0.1 D	<0.001	<0.001
Xylene O	NE	NE					**0.3**	0.025		**0.41**	0.05	**0.422**	**0.309 D**	**0.515**	**0.494**
Xylene P,M	NE	NE					<	0.050		<	0.10	<0.2	**0.03 J D**	**0.0448**	**0.052**
Xylenes (Total)	NE	NE					**0.3**	0.750		**0.41**	0.150	**0.422**	**0.339 D**	**0.56**	**0.546**
Total VOCs	NE	NE					**7.8**			**10.52**		**11.524**	**9.561**	**17.1305**	**16.437**
TOTAL PETROLEUM HYDROCARBON (ppm)															
Hydrocarbon Content	NE	NE					**4.6**	2.0		**6.5**	0.2	**10.7**	**9.42**	**8.39**	
PAHS BY GCMS (ppm)															
2-Methylnaphthalene	NE	NE					**0.14**	0.002		**0.091**	0.002	**0.172**	**0.189 D**	**0.13**	
Acenaphthene	NE	NE					**0.07**	0.002		**0.051**	0.002	**0.108**	**0.0771 D**	**0.0905**	
Acenaphthylene	NE	NE					**0.0075**	0.002		<	0.002	<0.02	**0.0033 D**	<0.0095	
Anthracene	NE	NE					**0.0064**	0.002		**0.0035**	0.002	<0.02	**0.005 D**	**0.0219**	
Benzo [a] Anthracene	NE	NE					<	0.002		<	0.002	<0.02	<0.0005 D	<0.0024	
Benzo [a] Pyrene	NE	NE					<	0.002		<	0.002	<0.02	<0.0005 D	<0.0024	
Benzo [b] Fluoranthene	NE	NE					<	0.002		<	0.002	<0.02	<0.0005 D	<0.0024	
Benzo [g,h,i] Perylene	NE	NE					<	0.002		<	0.002	<0.02	<0.0019 D	<0.0095	
Benzo [k] Fluoranthene	NE	NE					<	0.002		<	0.002	<0.02	<0.0005 D	<0.0024	
Chrysene	NE	NE					<	0.002		<	0.002	<0.02	<0.0005 D	<0.0024	
Dibenzo [a,h] Anthracene	NE	NE					<	0.002		<	0.002	<0.02	<0.0005 D	<0.0024	
Fluoranthene	NE	NE					**0.003**	0.002		**0.0024**	0.002	<0.02	**0.0023 D**	<0.0095	
Fluorene	NE	NE					**0.025**	0.002		**0.019**	0.002	**0.031**	**0.0255 D**	**0.0233**	
Indeno [1,2,3-cd] Pyrene	NE	NE					<	0.002		<	0.002	<0.02	<0.0005 D	<0.0024	
Naphthalene	NE	2.67					**2 D**	0.05		**0.9**	0.02	**2.98**	**2.98 D**	**3.02**	
Phenanthrene	NE	NE					**0.032**	0.002		**0.018**	0.002	**0.033**	**0.0246 D**	**0.0218**	
Pyrene	NE	NE					**0.0036**	0.002		**0.003**	0.002	<0.02	**0.0028 D**	<0.0095	
INORGANICS (ppm)															
Total Cyanide	NE	NE					**0.62**	0.010		**0.74**	0.010	**0.48**	**0.531 D**	**0.875**	
Dissolved Free Cyanide	NE	NE					<	0.010		**0.020**	0.010	<0.005	**0.523 D**	**0.8**	
Physiologically Available Cyanide	NE	NE													
Arsenic	NE	NE													
Beryllium	NE	NE													
Chromium	NE	NE													
Copper	NE	NE													
Lead	NE	NE													
Nickel	NE	NE													
Zinc	NE	NE													
Dissolved Arsenic	NE	NE													
Dissolved Beryllium	NE	NE													
Dissolved Chromium	NE	NE													
Dissolved Copper	NE	NE													
Dissolved Lead	NE	NE													
Dissolved Nickel	NE	NE													
Dissolved Zinc	NE	NE													

Notes:

	Blank cells indicate that the parameter was not analyzed during this sampling round
D	"D" qualifier indicates analytes reported from a diluted run of the original analysis.
E	"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
J	"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
B	"B" qualifier indicates that the analyte was present in the method blank
NE	Regulatory Limit is not established
Bold Value	= concentration detected above the Method Reporting Limit.
	= concentration equals or exceeds the RIDEM GB Groundwater Objective (RIDEM GB GW Objectives)
	=detection limit equals or exceeds the RIDEM GB Groundwater Objective
(1)	Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
(2)	Well was not sampled because there was limited water
(3)	NAPL was noted to be present
(4)	Well was not sampled because it had not been installed yet.
(5)	Well was not sampled because of an unknown reason
(6)	Well was not included in this sampling round

Please note that this table only includes compounds that have been detected or have detection limits that exceeded the RIDEM GB Groundwater Objective during groundwater monitoring at the Site between 1996 and present.

TABLE 5I
GROUNDWATER MONITORING DATA
Former Gas Plant Area
Former Tidewater Facility
Pawtucket, Rhode Island

ANALYTICAL	Sample ID:		MW-326S												
	Collected By:		AES	VHB	GZA		GZA		GZA	GZA		GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015
	RIDEM GB GW UCL	RIDEM GB GW-O	Note (4)	Note (4)	Note (4)				Note (6)	Note (3)					
VOCs (ppm)							Result	DL		Result	DL	Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE					<	0.005		<	0.005	<0.001	<0.001	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007					<	0.005		<	0.005	<0.001	<0.001	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE					**0.073**	0.005		**0.140**	0.005	**0.0674**	**0.0478**	**0.0183**	**0.0113**
1,2-Dibromo-3-Chloropropane	NE	0.002					<	0.010		<	0.010	<0.005	<0.005	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE					**0.012**	0.005		**0.022**	0.005	**0.0098**	**0.0112**	**0.0082**	**0.0044**
4-Isopropyltoluene	NE	NE										**0.0019**	<0.001	<0.0010	J 0.0004
Acetone	NE	NE					<	0.050		<	0.050	<0.01	<0.01	<0.0100	<0.0100
Benzene	18	0.14					**0.36**	0.005		**0.47**	0.005	**0.368**	**0.444 D**	**0.352**	**0.516**
Carbon Disulfide	NE	NE								<	0.005	<0.001	<0.001	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07					<	0.005		<	0.005	<0.001	<0.001	<0.0010	<0.0010
Chloroform	NE	NE					<	0.005		<	0.005	<0.001	<0.001	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4					<	0.005		<	0.005	<0.001	<0.001	<0.0010	<0.0010
Ethylbenzene	16	1.6					**0.2**	0.005		**0.3**	0.005	**0.186**	**0.154 D**	**0.0574**	**0.0544**
Isopropylbenzene	NE	NE					**0.026**	0.005		**0.051**	0.005	**0.0419**	**0.037**	**0.0287**	**0.034**
Methyl tert-Butyl Ether	NE	5					<	0.005		<	0.005	<0.001	<0.001	<0.0010	<0.0010
Methylene Chloride	NE	NE					<	0.005		<	0.005	<0.001	<0.0020	<0.0020	<0.0020
Naphthalene	NE	2.67					**0.27**	0.010		**0.13**	0.010	**0.0474**	**0.0516**	**0.0239**	**0.012**
n-Butylbenzene	NE	NE					<	0.005		<	0.005	<0.001	<0.001	<0.0010	<0.0010
n-Propylbenzene	NE	NE					**0.007**	0.005		**0.018**	0.005	**0.0152**	**0.0128**	**0.0098**	**0.0103**
sec-Butylbenzene	NE	NE					<	0.005		<	0.005	**0.0015**	<0.001	<0.0010	J 0.0007
Styrene	50	2.2					<	0.005		<	0.005	<0.001	**0.0018**	<0.0010	J 0.0002
tert-Butylbenzene	NE	NE					<	0.005		<	0.005	<0.0010	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.001	<0.001	<0.0010	<0.0010
Tetrachloroethene	NE	0.15					<	0.005		<	0.005	<0.001	<0.001	<0.0010	<0.0010
Toluene	21	1.7					<	0.005		**0.006**	0.005	**0.0022**	**0.0025**	**0.0011**	**0.0012**
Trichloroethene	87	0.54					<	0.005		<	0.005	<0.001	<0.001	<0.0010	<0.0010
Vinyl Chloride	NE	0.002					<	0.005		<	0.005	<0.001	<0.001	<0.0010	<0.0010
Xylene O	NE	NE					**0.13**	0.005		**0.16**	0.005	**0.0735**	**0.0509**	**0.0126**	**0.0071**
Xylene P,M	NE	NE					**0.015**	0.010		**0.021**	0.010	**0.012**	**0.0132**	**0.0059**	**0.005**
Xylenes (Total)	NE	NE					**0.145**	0.015		**0.181**	0.015	**0.0855**	**0.0641**	**0.0186**	**0.0121**
Total VOCs	NE	NE					**1.093**			**1.318**		**0.8268**	**0.8268**	**0.5179**	**0.657**
TOTAL PETROLEUM HYDROCARBON (ppm)															
Hydrocarbon Content	NE	NE					**2.7**	0.2		**2.3**	0.2	**6.43**	**11.1**	**5.85**	
PAHS BY GCMS (ppm)															
2-Methylnaphthalene	NE	NE					**0.023**	0.002		**0.017**	0.002	**0.024**	**0.0407 D**	**0.0205**	
Acenaphthene	NE	NE					**0.029**	0.002		**0.025**	0.002	**0.038**	**0.0545 D**	**0.0447**	
Acenaphthylene	NE	NE					<	0.002		<	0.002	**0.0008**	**0.0006**	**0.0003**	
Anthracene	NE	NE					<	0.002		<	0.002	**0.001**	**0.0018**	**0.0009**	
Benzo [a] Anthracene	NE	NE					<	0.002		<	0.002	**0.0003**	**0.0014**	**0.0006**	
Benzo [a] Pyrene	NE	NE					<	0.002		<	0.002	**0.0003**	**0.0012**	**0.0008**	
Benzo [b] Fluoranthene	NE	NE					<	0.002		<	0.002	**0.0003**	**0.0009**	**0.0006**	
Benzo [g,h,i] Perylene	NE	NE					<	0.002		<	0.002	<0.0002	**0.0006**	**0.0005**	
Benzo [k] Fluoranthene	NE	NE					<	0.002		<	0.002	<0.0002	**0.0009**	**0.0002**	
Chrysene	NE	NE					<	0.002		<	0.002	**0.0003**	**0.0013**	**0.0007**	
Dibenzo [a,h] Anthracene	NE	NE					<	0.002		<	0.002	<0.0002	**0.0002**	**0.0001**	
Fluoranthene	NE	NE					<	0.002		<	0.002	**0.001**	**0.0027**	**0.0013**	
Fluorene	NE	NE					**0.0054**	0.002		**0.0043**	0.002	**0.006**	**0.0058**	**0.004**	
Indeno [1,2,3-cd] Pyrene	NE	NE					<	0.002		<	0.002	<0.0002	**0.0006**	**0.0004**	
Naphthalene	NE	2.67					**0.099**	0.002		**0.026**	0.002	**0.008**	**0.0068**	**0.0042**	
Phenanthrene	NE	NE					**0.0037**	0.002		<	0.002	**0.002**	**0.0031**	**0.0021**	
Pyrene	NE	NE					<	0.002		<	0.002	**0.002**	**0.0037**	**0.0025**	
INORGANICS (ppm)															
Total Cyanide	NE	NE					**0.69**	0.010		**0.49**	0.010	**0.297**	**0.339 D**	**0.338**	
Dissolved Free Cyanide	NE	NE					**0.010**	0.010		<	0.010	<0.005	**0.337 D**	**0.3**	
Physiologically Available Cyanide	NE	NE													
Arsenic	NE	NE													
Beryllium	NE	NE													
Chromium	NE	NE													
Copper	NE	NE													
Lead	NE	NE													
Nickel	NE	NE													
Zinc	NE	NE													
Dissolved Arsenic	NE	NE													
Dissolved Beryllium	NE	NE													
Dissolved Chromium	NE	NE													
Dissolved Copper	NE	NE													
Dissolved Lead	NE	NE													
Dissolved Nickel	NE	NE													
Dissolved Zinc	NE	NE													

Notes:

	Blank cells indicate that the parameter was not analyzed during this sampling round
D	"D" qualifier indicates analytes reported from a diluted run of the original analysis.
E	"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
J	"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
B	"B" qualifier indicates that the analyte was present in the method blank
NE	Regulatory Limit is not established
Bold Value	= concentration detected above the Method Reporting Limit.
	= concentration equals or exceeds the RIDEM GB Groundwater Objective (RIDEM GB GW Objectives)
	=detection limit equals or exceeds the RIDEM GB Groundwater Objective
(1)	Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
(2)	Well was not sampled because there was limited water
(3)	NAPL was noted to be present
(4)	Well was not sampled because it had not been installed yet.
(5)	Well was not sampled because of an unknown reason
(6)	Well was not included in this sampling round

Please note that this table only includes compounds that have been detected or have detection limits that exceeded the RIDEM GB Groundwater Objective during groundwater monitoring at the Site between 1996 and present.

TABLE 5J
GROUNDWATER MONITORING DATA
Former Gas Plant Area
Former Tidewater Facility
Pawtucket, Rhode Island

ANALYTICAL	Sample ID:		MW-326D												
	Collected By:		AES	VHB	GZA		GZA		GZA	GZA		GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015
	RIDEM GB GW UCL	RIDEM GB GW-O	Note (4)	Note (4)	Note (4)				Note (6)						
VOCs (ppm)							Result	DL		Result	DL	Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE					<	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007					<	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE					**0.022**	0.0025		**0.0027**	0.001	**0.0023**	**0.0086**	<0.0010	<0.0010
1,2-Dibromo-3-Chloropropane	NE	0.002					<	0.0050		<	0.002	<0.005	<0.005	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE					**0.0073**	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010
4-Isopropyltoluene	NE	NE										<0.001	<0.001	<0.0010	<0.0010
Acetone	NE	NE					<	0.0250		<	0.010	<0.01	<0.01	<0.0010	<0.0100
Benzene	18	0.14					**0.26**	0.0025		**0.057**	0.001	**0.0588**	**0.0809**	**0.0049**	**0.002**
Carbon Disulfide	NE	NE								<	0.001	<0.001	<0.001	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07					<	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Chloroform	NE	NE					<	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4					<	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Ethylbenzene	16	1.6					**0.13**	0.0025		**0.017**	0.001	**0.0201**	**0.0401**	**0.0012**	**0.001**
Isopropylbenzene	NE	NE					**0.016**	0.0025		**0.0038**	0.001	**0.0022**	**0.0026**	<0.0010	<0.0010
Methyl tert-Butyl Ether	NE	5					<	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Methylene Chloride	NE	NE					<	0.0025		<	0.001	<0.0020	<0.0020	<0.0020	<0.0020
Naphthalene	NE	2.67					**0.32**	0.0050		**0.052**	0.002	**0.0448**	**0.123 D**	**0.0026**	B <0.0020
n-Butylbenzene	NE	NE					<	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010
n-Propylbenzene	NE	NE					**0.0051**	0.0025		**0.0014**	0.001	<0.001	<0.001	<0.0010	<0.0010
sec-Butylbenzene	NE	NE					<	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Styrene	50	2.2					<	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010
tert-Butylbenzene	NE	NE					<	0.0025		<	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.001	<0.001	<0.0010	<0.0010
Tetrachloroethene	NE	0.15					<	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Toluene	21	1.7					<	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Trichloroethene	87	0.54					<	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Vinyl Chloride	NE	0.002					<	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Xylene O	NE	NE					**0.034**	0.0025		**0.0029**	0.001	**0.0038**	**0.01**	<0.0010	<0.0010
Xylene P,M	NE	NE					**0.0068**	0.0050		<	0.002	<0.002	<0.002	<0.0020	<0.0020
Xylenes (Total)	NE	NE					**0.0408**	0.0075		**0.0029**	0.003	**0.0038**	**0.01**	<0.0030	<0.0020
Total VOCs	NE	NE					**0.8012**			**0.1368**		**0.132**	**0.2652**	**0.0087**	**0.003**
TOTAL PETROLEUM HYDROCARBON (ppm)															
Hydrocarbon Content	NE	NE					**1.2**	0.2		**0.27**	0.2	**0.45**	**0.66**	<0.19	
PAHS BY GCMS (ppm)															
2-Methylnaphthalene	NE	NE					**0.0038**	0.002		<	0.002	<0.0002	**0.0009**	<0.0002	
Acenaphthene	NE	NE					**0.0063**	0.002		**0.0022**	0.002	**0.001**	**0.0016**	<0.0002	
Acenaphthylene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Anthracene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Benzo [a] Anthracene	NE	NE					<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Benzo [a] Pyrene	NE	NE					<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Benzo [b] Fluoranthene	NE	NE					<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Benzo [g,h,i] Perylene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Benzo [k] Fluoranthene	NE	NE					<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Chrysene	NE	NE					<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Dibenzo [a,h] Anthracene	NE	NE					<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Fluoranthene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Fluorene	NE	NE					<	0.002		<	0.002	**0.0002**	<0.0002	<0.0002	
Indeno [1,2,3-cd] Pyrene	NE	NE					<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Naphthalene	NE	2.67					**0.042**	0.002		**0.02**	0.002	**0.012**	**0.0644 D**	**0.0003**	
Phenanthrene	NE	NE					**0.0026**	0.002		<	0.002	**0.0004**	<0.0002	<0.0002	
Pyrene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
INORGANICS (ppm)															
Total Cyanide	NE	NE					**0.54**	0.010		**0.67**	0.010	**0.665**	**0.808 D**	**0.709**	
Dissolved Free Cyanide	NE	NE					**0.080**	0.010		**0.010**	0.010	<0.005	**0.766 D**	**0.71**	
Physiologically Available Cyanide	NE	NE													
Arsenic	NE	NE													
Beryllium	NE	NE													
Chromium	NE	NE													
Copper	NE	NE													
Lead	NE	NE													
Nickel	NE	NE													
Zinc	NE	NE													
Dissolved Arsenic	NE	NE													
Dissolved Beryllium	NE	NE													
Dissolved Chromium	NE	NE													
Dissolved Copper	NE	NE													
Dissolved Lead	NE	NE													
Dissolved Nickel	NE	NE													
Dissolved Zinc	NE	NE													

Notes:

	Blank cells indicate that the parameter was not analyzed during this sampling round
D	"D" qualifier indicates analytes reported from a diluted run of the original analysis.
E	"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
J	"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
B	"B" qualifier indicates that the analyte was present in the method blank
NE	Regulatory Limit is not established
Bold Value	= concentration detected above the Method Reporting Limit.
	= concentration equals or exceeds the RIDEM GB Groundwater Objective (RIDEM GB GW Objectives)
	=detection limit equals or exceeds the RIDEM GB Groundwater Objective
(1)	Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
(2)	Well was not sampled because there was limited water
(3)	NAPL was noted to be present
(4)	Well was not sampled because it had not been installed yet.
(5)	Well was not sampled because of an unknown reason
(6)	Well was not included in this sampling round

Please note that this table only includes compounds that have been detected or have detection limits that exceeded the RIDEM GB Groundwater Objective during groundwater monitoring at the Site between 1996 and present.

TABLE 5K
GROUNDWATER MONITORING DATA
Former Gas Plant Area
Former Tidewater Facility
Pawtucket, Rhode Island

ANALYTICAL	Sample ID:		MW-333S													
	Collected By:		AES	VHB	GZA		GZA	GZA		GZA		GZA	GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010	Dec 2010		July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015	
	RIDEM GB GW UCL	RIDEM GB GW-O	Note (4)	Note (4)	Note (4)		Note (4)									
VOCs (ppm)								Result	DL	Result	DL	Result	Result	Result	Result	
1,1,1,2-Tetrachloroethane	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	
1,1-Dichloroethene	23	0.007						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	
1,2,4-Trimethylbenzene	NE	NE						<	0.001	**0.0097**	0.001	**0.0136**	<0.001	<0.0010	<0.0010	
1,2-Dibromo-3-Chloropropane	NE	0.002						<	0.002	<	0.002	<0.005	<0.005	<0.0050	<0.0050	
1,3,5-Trimethylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	
4-Isopropyltoluene	NE	NE										<0.001	<0.001	<0.0010	<0.0010	
Acetone	NE	NE						<	0.010	<	0.010	<0.01	<0.01	<0.0100	<0.0100	
Benzene	18	0.14						<	0.001	**0.039**	0.001	**0.0287**	<0.001	<0.0010	<0.0010	
Carbon Disulfide	NE	NE								<	0.001	<0.001	<0.001	**0.0071**	<0.0010	
Carbon Tetrachloride	NE	0.07						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	
Chloroform	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	
cis-1,2-Dichloroethene	69	2.4						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	
Ethylbenzene	16	1.6						<	0.001	**0.13**	0.001	**0.212**	<0.001	<0.0010	<0.0010	
Isopropylbenzene	NE	NE						<	0.001	**0.005**	0.001	**0.0068**	<0.001	<0.0010	<0.0010	
Methyl tert-Butyl Ether	NE	5						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	
Methylene Chloride	NE	NE						<	0.002	<	0.002	<0.0020	<0.0020	<0.0020	<0.0020	
Naphthalene	NE	2.67						<	0.002	**0.042**	0.002	**0.0122**	<0.001	<0.0010	<0.0010	
n-Butylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	
n-Propylbenzene	NE	NE						<	0.001	**0.0015**	0.001	**0.0024**	<0.001	<0.0010	<0.0010	
sec-Butylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	
Styrene	50	2.2						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	
tert-Butylbenzene	NE	NE						<	0.001	<	0.001	<0.0010	<0.0010	<0.0010	<0.0010	
Tertiary-amyl methyl ether	NE	NE										<0.001	<0.001	<0.0010	<0.0010	
Tetrachloroethene	NE	0.15						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	
Toluene	21	1.7						<	0.001	**0.0026**	0.001	**0.0014**	<0.001	<0.0010	<0.0010	
Trichloroethene	87	0.54						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	
Vinyl Chloride	NE	0.002						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	
Xylene O	NE	NE						<	0.001	**0.024**	0.001	**0.0144**	<0.001	<0.0010	<0.0010	
Xylene P,M	NE	NE						<	0.002	**0.0048**	0.002	**0.0023**	<0.002	<0.0020	<0.0020	
Xylenes (Total)	NE	NE						<	0	**0.029**	0.003	**0.0167**	<0.003	<0.0030	<0.0020	
Total VOCs	NE	NE						<	0.12	**0.2586**		**0.2938**	<0.6415	**0.0071**	<0.6415	
TOTAL PETROLEUM HYDROCARBON (ppm)																
Hydrocarbon Content	NE	NE						**0.31**	0.2	**0.32**	0.2	**1.07**	<0.19	<0.19		
PAHS BY GCMS (ppm)																
2-Methylnaphthalene	NE	NE						<	0.002	<	0.002	<0.0002	<0.0002	<0.0002		
Acenaphthene	NE	NE						<	0.002	<	0.002	**0.002**	<0.0002	**0.0005**		
Acenaphthylene	NE	NE						<	0.002	<	0.002	**0.001**	<0.0002	**0.0003**		
Anthracene	NE	NE						<	0.002	<	0.002	**0.0002**	<0.0002	<0.0002		
Benzo [a] Anthracene	NE	NE						<	0.002	<	0.002	<0.0002	<0.00005	<0.00005		
Benzo [a] Pyrene	NE	NE						<	0.002	<	0.002	<0.0002	<0.00005	<0.00005		
Benzo [b] Fluoranthene	NE	NE						<	0.002	<	0.002	<0.0002	<0.00005	<0.00005		
Benzo [g,h,i] Perylene	NE	NE						<	0.002	<	0.002	<0.0002	<0.0002	<0.0002		
Benzo [k] Fluoranthene	NE	NE						<	0.002	<	0.002	<0.0002	<0.00005	<0.00005		
Chrysene	NE	NE						<	0.002	<	0.002	<0.0002	<0.00005	<0.00005		
Dibenzo [a,h] Anthracene	NE	NE						<	0.002	<	0.002	<0.0002	<0.00005	<0.00005		
Fluoranthene	NE	NE						<	0.002	<	0.002	**0.0002**	<0.0002	<0.0002		
Fluorene	NE	NE						<	0.002	<	0.002	**0.0006**	<0.0002	<0.0002		
Indeno [1,2,3-cd] Pyrene	NE	NE						<	0.002	<	0.002	<0.0002	<0.00005	<0.00005		
Naphthalene	NE	2.67						<	0.002	**0.013**	0.002	**0.005**	**0.0012**	**0.0002**		
Phenanthrene	NE	NE						<	0.002	<	0.002	**0.0005**	<0.0002	<0.0002		
Pyrene	NE	NE						<	0.002	<	0.002	**0.0003**	<0.0002	<0.0002		
INORGANICS (ppm)																
Total Cyanide	NE	NE						**0.050**	0.01	**0.150**	0.01	**0.0815**	**0.014**	**0.028**		
Dissolved Free Cyanide	NE	NE						<	0.01	**0.010**	0.01	<0.005	**0.0137**	**0.02**		
Physiologically Available Cyanide	NE	NE														
Arsenic	NE	NE														
Beryllium	NE	NE														
Chromium	NE	NE														
Copper	NE	NE														
Lead	NE	NE														
Nickel	NE	NE														
Zinc	NE	NE														
Dissolved Arsenic	NE	NE														
Dissolved Beryllium	NE	NE														
Dissolved Chromium	NE	NE														
Dissolved Copper	NE	NE														
Dissolved Lead	NE	NE														
Dissolved Nickel	NE	NE														
Dissolved Zinc	NE	NE														

Notes:

	Blank cells indicate that the parameter was not analyzed during this sampling round
D	"D" qualifier indicates analytes reported from a diluted run of the original analysis.
E	"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
J	"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
B	"B" qualifier indicates that the analyte was present in the method blank
NE	Regulatory Limit is not established
Bold Value	= concentration detected above the Method Reporting Limit.
	= concentration equals or exceeds the RIDEM GB Groundwater Objective (RIDEM GB GW Objectives)
	=detection limit equals or exceeds the RIDEM GB Groundwater Objective
(1)	Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
(2)	Well was not sampled because there was limited water
(3)	NAPL was noted to be present
(4)	Well was not sampled because it had not been installed yet.
(5)	Well was not sampled because of an unknown reason
(6)	Well was not included in this sampling round

Please note that this table only includes compounds that have been detected or have detection limits that exceeded the RIDEM GB Groundwater Objective during groundwater monitoring at the Site between 1996 and present.

TABLE 5L
GROUNDWATER MONITORING DATA
Former Gas Plant Area
Former Tidewater Facility
Pawtucket, Rhode Island

ANALYTICAL	Sample ID:		MW-333D													
	Collected By:		AES	VHB	GZA		GZA	GZA		GZA		GZA	GZA	GZA	GZA	
	Sample Date:		1996	2006	Jan 2010		June 2010	Dec 2010		July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015	
	RIDEM GB GW UCL	RIDEM GB GW-O	Note (4)	Note (4)	Note (4)		Note (4)									
VOCs (ppm)								Result	DL	Result	DL	Result	Result	Result	Result	
1,1,1,2-Tetrachloroethane	NE	NE						<	0.025	<	0.025	<0.1	<0.001	<0.0010	<0.0010	
1,1-Dichloroethene	23	0.007						<	0.025	<	0.025	<0.1	<0.001	<0.0010	<0.0010	
1,2,4-Trimethylbenzene	NE	NE						**0.19**	0.025	**0.43**	0.025	**0.344**	**0.353 D**	**0.155**	**0.076**	
1,2-Dibromo-3-Chloropropane	NE	0.002						<	0.050	<	0.050	<0.5	<0.005	<0.0050	<0.0050	
1,3,5-Trimethylbenzene	NE	NE						<	0.025	<	0.025	<0.1	<0.001	**0.0024**	J 0.001	
4-Isopropyltoluene	NE	NE										<0.1	<0.001	**0.0022**	J 0.0008	
Acetone	NE	NE						<	0.250	<	0.250	<1	<0.01	<0.0100	J 0.0038	
Benzene	18	0.14						**1.2**	0.025	**1.6**	0.025	**1.77**	**2.67 D**	**1.76**	**0.902**	
Carbon Disulfide	NE	NE								<	0.025	<0.1	<0.001	<0.0010	<0.0010	
Carbon Tetrachloride	NE	0.07						<	0.025	<	0.025	<0.1	<0.001	<0.0010	<0.0010	
Chloroform	NE	NE						<	0.025	<	0.025	<0.1	<0.001	<0.0010	<0.0010	
cis-1,2-Dichloroethene	69	2.4						<	0.025	<	0.025	<0.1	<0.001	<0.0010	<0.0010	
Ethylbenzene	16	1.6						**0.91**	0.025	**0.98**	0.025	**0.981**	**1.14 D**	**0.58**	**0.233**	
Isopropylbenzene	NE	NE						**0.041**	0.025	**0.080**	0.025	<0.1	**0.09**	**0.0647**	**0.0517**	
Methyl tert-Butyl Ether	NE	5						<	0.025	<	0.025	<0.1	<0.001	<0.0010	<0.0010	
Methylene Chloride	NE	NE						<	0.025	<	0.025	<0.0020	<0.0020	<0.0020	<0.0020	
Naphthalene	NE	2.67						**1.8**	0.050	**3**	0.050	**3.55**	**3.96 D**	**2.3**	**0.861**	
n-Butylbenzene	NE	NE						<	0.025	<	0.025	<0.1	<0.001	<0.0010	<0.0010	
n-Propylbenzene	NE	NE						<	0.025	**0.035**	0.025	<0.1	**0.0346**	**0.0226**	**0.0165**	
sec-Butylbenzene	NE	NE						<	0.025	<	0.025	<0.1	<0.001	**0.001**	J 0.0009	
Styrene	50	2.2						<	0.025	<	0.025	<0.1	**0.0039**	**0.0014**	B <0.0020	
tert-Butylbenzene	NE	NE						<	0.025	<	0.025	<0.0010	<0.0010	<0.0010	<0.0010	
Tertiary-amyl methyl ether	NE	NE										<0.1	<0.001	<0.0010	<0.0010	
Tetrachloroethene	NE	0.15						<	0.025	<	0.025	<0.1	<0.001	<0.0010	<0.0010	
Toluene	21	1.7						**0.065**	0.025	<	0.025	<0.1	**0.0152**	**0.0055**	**0.0015**	
Trichloroethene	87	0.54						<	0.025	<	0.025	<0.1	<0.001	<0.0010	<0.0010	
Vinyl Chloride	NE	0.002						<	0.025	<	0.025	<0.1	<0.001	<0.0010	<0.0010	
Xylene O	NE	NE						**0.36**	0.025	**0.34**	0.025	**0.205**	**0.163 D**	**0.089**	**0.0419**	
Xylene P,M	NE	NE						**0.27**	0.050	**0.093**	0.050	<0.2	**0.0393**	**0.0143**	**0.0429**	
Xylenes (Total)	NE	NE						**0.63**	0.08	**0.433**	0.075	**0.205**	**0.202 D**	**0.103**	**0.0848**	
Total VOCs	NE	NE						**4.84**		**6.558**		**6.85**	**8.469**	**4.9981**	**2.233**	
TOTAL PETROLEUM HYDROCARBON (ppm)																
Hydrocarbon Content	NE	NE						**3.5**	0.2	**2**	0.2	**7.82**	**6.6**	**3.54**		
PAHS BY GCMS (ppm)																
2-Methylnaphthalene	NE	NE						**0.13**	0.04	**0.046**	0.002	**0.066**	**0.0755 D**	**0.0145**		
Acenaphthene	NE	NE						**0.059**	0.04	**0.039**	0.002	**0.073**	**0.0584 D**	**0.038**		
Acenaphthylene	NE	NE						<	0.04	<	0.002	<0.02	**0.0024 D**	**0.001**		
Anthracene	NE	NE						<	0.04	**0.0027**	0.002	<0.02	**0.0037 D**	**0.0013**		
Benzo [a] Anthracene	NE	NE						<	0.04	<	0.002	<0.02	<0.0005 D	**0.0003**		
Benzo [a] Pyrene	NE	NE						<	0.04	<	0.002	<0.02	<0.0005 D	**0.0002**		
Benzo [b] Fluoranthene	NE	NE						<	0.04	<	0.002	<0.02	<0.0005 D	**0.0002**		
Benzo [g,h,i] Perylene	NE	NE						<	0.04	<	0.002	<0.02	<0.0021 D	<0.0002		
Benzo [k] Fluoranthene	NE	NE						<	0.04	<	0.002	<0.02	<0.0005 D	**0.00006**		
Chrysene	NE	NE						<	0.04	<	0.002	<0.02	<0.0005 D	**0.0003**		
Dibenzo [a,h] Anthracene	NE	NE						<	0.04	<	0.002	<0.02	<0.0005 D	<0.00005		
Fluoranthene	NE	NE						<	0.04	<	0.002	<0.02	<0.0021 D	**0.001**		
Fluorene	NE	NE						<	0.04	**0.014**	0.002	<0.02	**0.0153 D**	**0.0061**		
Indeno [1,2,3-cd] Pyrene	NE	NE						<	0.04	<	0.002	<0.02	<0.0005 D	**0.0001**		
Naphthalene	NE	2.67						**0.96**	0.04	**0.98**	0.02	**2.07**	**1.98 D**	**0.433**		
Phenanthrene	NE	NE						<	0.04	**0.013**	0.002	**0.022**	**0.0169 D**	**0.0067**		
Pyrene	NE	NE						<	0.04	<	0.002	<0.02	<0.0021 D	**0.0011**		
INORGANICS (ppm)																
Total Cyanide	NE	NE						**0.72**	0.010	**1.1**	0.010	**0.742**	**4.05 D**	**0.725**		
Dissolved Free Cyanide	NE	NE						<	0.010	**0.020**	0.010	<0.005	**3.95 D**	**0.732**		
Physiologically Available Cyanide	NE	NE														
Arsenic	NE	NE														
Beryllium	NE	NE														
Chromium	NE	NE														
Copper	NE	NE														
Lead	NE	NE														
Nickel	NE	NE														
Zinc	NE	NE														
Dissolved Arsenic	NE	NE														
Dissolved Beryllium	NE	NE														
Dissolved Chromium	NE	NE														
Dissolved Copper	NE	NE														
Dissolved Lead	NE	NE														
Dissolved Nickel	NE	NE														
Dissolved Zinc	NE	NE														

Notes:

	Blank cells indicate that the parameter was not analyzed during this sampling round
D	"D" qualifier indicates analytes reported from a diluted run of the original analysis.
E	"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
J	"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
B	"B" qualifier indicates that the analyte was present in the method blank
NE	Regulatory Limit is not established
Bold Value	= concentration detected above the Method Reporting Limit.
	= concentration equals or exceeds the RIDEM GB Groundwater Objective (RIDEM GB GW Objectives)
	=detection limit equals or exceeds the RIDEM GB Groundwater Objective
(1)	Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
(2)	Well was not sampled because there was limited water
(3)	NAPL was noted to be present
(4)	Well was not sampled because it had not been installed yet.
(5)	Well was not sampled because of an unknown reason
(6)	Well was not included in this sampling round

Please note that this table only includes compounds that have been detected or have detection limits that exceeded the RIDEM GB Groundwater Objective during groundwater monitoring at the Site between 1996 and present.

TABLE 5M
GROUNDWATER MONITORING DATA
Former Gas Plant Area
Former Tidewater Facility
Pawtucket, Rhode Island

ANALYTICAL	Sample ID:		MW-339S												
	Collected By:		AES	VHB	GZA		GZA	GZA		GZA		GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010	Dec 2010		July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015
	RIDEM GB GW UCL	RIDEM GB GW-O	Note (4)	Note (4)	Note (4)		Note (4)								
VOCs (ppm)								Result	DL	Result	DL	Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE						<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001
1,1-Dichloroethene	23	0.007						<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001
1,2,4-Trimethylbenzene	NE	NE						**0.41**	0.1	**0.02**	0.005	**0.0092**	**0.0092**	**0.0082**	**0.0035**
1,2-Dibromo-3-Chloropropane	NE	0.002						<	0.2	<	0.010	<0.01	<0.005	<0.005	<0.005
1,3,5-Trimethylbenzene	NE	NE						**0.13**	0.1	**0.0068**	0.005	<0.005	**0.0032**	**0.0026**	**0.0012**
4-Isopropyltoluene	NE	NE										<0.005	<0.001	<0.001	<0.001
Acetone	NE	NE						<	1.0	<	0.050	<0.05	<0.01	**0.0546**	J 0.0051
Benzene	18	0.14						<	0.1	<	0.005	<0.005	**0.0011**	<0.001	J 0.0002
Carbon Disulfide	NE	NE								<	0.005	<0.005	<0.001	<0.001	<0.001
Carbon Tetrachloride	NE	0.07						<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001
Chloroform	NE	NE						<	0.1	<	0.005	<0.005	<0.001	<0.001	**0.0021**
cis-1,2-Dichloroethene	69	2.4						<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001
Ethylbenzene	16	1.6						<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001
Isopropylbenzene	NE	NE						<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001
Methyl tert-Butyl Ether	NE	5						<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001
Methylene Chloride	NE	NE						<	0.1	<	0.005	<0.005	<0.002	<0.002	<0.002
Naphthalene	NE	2.67						**10**	0.2	**0.76**	0.010	**0.35**	**0.286 D**	**0.3**	**0.235**
n-Butylbenzene	NE	NE						<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001
n-Propylbenzene	NE	NE						<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001
sec-Butylbenzene	NE	NE						<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001
Styrene	50	2.2						<	0.1	<	0.005	<0.005	**0.0016**	<0.001	J 0.0001
tert-Butylbenzene	NE	NE						<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001
Tertiary-amyl methyl ether	NE	NE										<0.01	<0.001	<0.001	<0.001
Tetrachloroethene	NE	0.15						<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001
Toluene	21	1.7						<	0.1	<	0.005	<0.005	<0.001	<0.001	J 0.0003
Trichloroethene	87	0.54						<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001
Vinyl Chloride	NE	0.002						<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001
Xylene O	NE	NE						<	0.1	<	0.005	<0.005	**0.0013**	**0.001**	J 0.0003
Xylene P,M	NE	NE						<	0.2	<	0.010	<0.01	**0.0021**	<0.002	J 0.0005
Xylenes (Total)	NE	NE						<	0.3	<	0.015	<0.015	**0.0034**	**0.001**	<0.002
Total VOCs	NE	NE						**10.54**		**0.7868**		**0.3592**	**0.3045**	**0.3664**	**0.2504**
TOTAL PETROLEUM HYDROCARBON (ppm)															
Hydrocarbon Content	NE	NE						**15**	10	**1.1**	0.2	**0.83**	**0.61**	**1.03**	
PAHS BY GCMS (ppm)															
2-Methylnaphthalene	NE	NE						**0.3**	0.04	**0.075**	0.002	**0.066**	**0.0323 D**	**0.0276**	
Acenaphthene	NE	NE						<	0.04	<	0.002	<0.002	**0.0004**	**0.0005**	
Acenaphthylene	NE	NE						<	0.04	<	0.002	<0.002	<0.0002	**0.0006**	
Anthracene	NE	NE						<	0.04	<	0.002	<0.002	**0.0003**	**0.0005**	
Benzo [a] Anthracene	NE	NE						<	0.04	<	0.002	<0.002	<0.00005	**0.0001**	
Benzo [a] Pyrene	NE	NE						<	0.04	<	0.002	<0.002	<0.00005	<0.00005	
Benzo [b] Fluoranthene	NE	NE						<	0.04	<	0.002	<0.002	<0.00005	**0.00007**	
Benzo [g,h,i] Perylene	NE	NE						<	0.04	<	0.002	<0.002	<0.0002	<0.0002	
Benzo [k] Fluoranthene	NE	NE						<	0.04	<	0.002	<0.002	<0.00005	<0.00005	
Chrysene	NE	NE						<	0.04	<	0.002	<0.002	<0.00005	**0.0001**	
Dibenzo [a,h] Anthracene	NE	NE						<	0.04	<	0.002	<0.002	<0.00005	<0.00005	
Fluoranthene	NE	NE						<	0.04	<	0.002	<0.002	**0.0002**	**0.0004**	
Fluorene	NE	NE						<	0.04	**0.0029**	0.002	**0.002**	**0.0009**	**0.0011**	
Indeno [1,2,3-cd] Pyrene	NE	NE						<	0.04	<	0.002	<0.002	<0.00005	<0.00005	
Naphthalene	NE	2.67						**5.5 D**	0.2	**0.35**	0.010	**0.287**	**0.129 D**	**0.101**	
Phenanthrene	NE	NE						<	0.04	**0.005**	0.002	**0.003**	**0.0014**	**0.0014**	
Pyrene	NE	NE						<	0.04	<	0.002	<0.002	**0.0002**	**0.0005**	
INORGANICS (ppm)															
Total Cyanide	NE	NE						**0.84**	0.010	**0.44**	0.010	**0.52**	**0.364 D**	**0.218**	
Dissolved Free Cyanide	NE	NE						<	0.010	**0.080**	0.010	<0.005	**0.335 D**	**0.2**	
Physiologically Available Cyanide	NE	NE													
Arsenic	NE	NE													
Beryllium	NE	NE													
Chromium	NE	NE													
Copper	NE	NE													
Lead	NE	NE													
Nickel	NE	NE													
Zinc	NE	NE													
Dissolved Arsenic	NE	NE													
Dissolved Beryllium	NE	NE													
Dissolved Chromium	NE	NE													
Dissolved Copper	NE	NE													
Dissolved Lead	NE	NE													
Dissolved Nickel	NE	NE													
Dissolved Zinc	NE	NE													

Notes:

	Blank cells indicate that the parameter was not analyzed during this sampling round
D	"D" qualifier indicates analytes reported from a diluted run of the original analysis.
E	"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
J	"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
B	"B" qualifier indicates that the analyte was present in the method blank
NE	Regulatory Limit is not established
Bold Value	= concentration detected above the Method Reporting Limit.
	= concentration equals or exceeds the RIDEM GB Groundwater Objective (RIDEM GB GW Objectives)
	=detection limit equals or exceeds the RIDEM GB Groundwater Objective
(1)	Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
(2)	Well was not sampled because there was limited water
(3)	NAPL was noted to be present
(4)	Well was not sampled because it had not been installed yet.
(5)	Well was not sampled because of an unknown reason
(6)	Well was not included in this sampling round

Please note that this table only includes compounds that have been detected or have detection limits that exceeded the RIDEM GB Groundwater Objective during groundwater monitoring at the Site between 1996 and present.

TABLE 5N
GROUNDWATER MONITORING DATA
Former Gas Plant Area
Former Tidewater Facility
Pawtucket, Rhode Island

ANALYTICAL	Sample ID:		MW-339D													
	Collected By:		AES	VHB	GZA		GZA	GZA		GZA		GZA	GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010	Dec 2010		July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015	
	RIDEM GB GW UCL	RIDEM GB GW-O	Note (4)	Note (4)	Note (4)		Note (4)					Note (3)	Note (3)	Note (3)	Note (3)	
VOCs (ppm)								Result	DL	Result	DL	Result	Result	Result	Result	
1,1,1,2-Tetrachloroethane	NE	NE						<	0.05	<	0.025	<0.05	<0.001	<0.001	<0.001	
1,1-Dichloroethene	23	0.007						<	0.05	<	0.025	<0.05	<0.001	<0.001	<0.001	
1,2,4-Trimethylbenzene	NE	NE						**0.38**	0.05	**0.41**	0.025	**0.449**	**0.437 D**	**0.4**	**0.48**	
1,2-Dibromo-3-Chloropropane	NE	0.002						<	0.10	<	0.050	<0.1	<0.005	<0.005	<0.005	
1,3,5-Trimethylbenzene	NE	NE						**0.11**	0.05	**0.11**	0.025	**0.122**	**0.1 D**	**0.0855**	**0.113**	
4-Isopropyltoluene	NE	NE										<0.05	**0.0087**	**0.0073**	**0.0117**	
Acetone	NE	NE						<	0.50	<	0.250	<0.5	<0.01	<0.01	J 0.0042	
Benzene	18	0.14						<	0.05	**0.036**	0.025	**0.066**	**0.0232**	**0.0265**	**0.0186**	
Carbon Disulfide	NE	NE								<	0.025	<0.05	<0.001	<0.001	<0.001	
Carbon Tetrachloride	NE	0.07						<	0.05	<	0.025	<0.05	<0.001	<0.001	<0.001	
Chloroform	NE	NE						<	0.05	<	0.025	<0.05	<0.001	<0.001	<0.001	
cis-1,2-Dichloroethene	69	2.4						<	0.05	<	0.025	<0.05	<0.001	<0.001	<0.001	
Ethylbenzene	16	1.6						**0.20**	0.05	**0.24**	0.025	**0.26**	**0.19 D**	**0.183**	**0.155**	
Isopropylbenzene	NE	NE						<	0.05	**0.046**	0.025	<0.05	**0.0472**	**0.0437**	**0.0744**	
Methyl tert-Butyl Ether	NE	5						<	0.05	<	0.025	<0.05	<0.001	<0.001	<0.001	
Methylene Chloride	NE	NE						<	0.05	<	0.025	<0.05	<0.001	<0.001	J 0.0003	
Naphthalene	NE	2.67						**3.3**	0.10	**2.7**	0.050	**3.13**	**3.91 D**	**4.29**	**3.6**	
n-Butylbenzene	NE	NE						<	0.05	<	0.025	<0.05	<0.001	<0.001	<0.001	
n-Propylbenzene	NE	NE						<	0.05	**0.034**	0.025	<0.05	**0.034**	**0.026**	**0.0424**	
sec-Butylbenzene	NE	NE						<	0.05	<	0.025	<0.05	<0.001	**0.0013**	**0.0019**	
Styrene	50	2.2						<	0.05	**0.044**	0.025	<0.05	**0.0342**	**0.0158**	**0.018**	
tert-Butylbenzene	NE	NE						<	0.05	<	0.025	<0.05	<0.001	<0.001	J 0.0002	
Tertiary-amyl methyl ether	NE	NE										<0.1	<0.001	<0.001	<0.001	
Tetrachloroethene	NE	0.15						<	0.05	<	0.025	<0.05	<0.001	<0.001	<0.001	
Toluene	21	1.7						**0.058**	0.05	**0.041**	0.025	**0.05**	**0.0471**	**0.0398**	**0.0448**	
Trichloroethene	87	0.54						<	0.05	<	0.025	<0.05	<0.001	<0.001	<0.001	
Vinyl Chloride	NE	0.002						<	0.05	<	0.025	<0.05	<0.001	<0.001	<0.001	
Xylene O	NE	NE						**0.41**	0.05	**0.038**	0.025	**0.418**	**0.344 D**	**0.344**	**0.354**	
Xylene P,M	NE	NE						**0.46**	0.10	**0.047**	0.050	**0.446**	**0.33 D**	**0.317**	**0.362**	
Xylenes (Total)	NE	NE						**0.87**	0.15	**0.085**	0.075	**0.864**	**0.674 D**	**0.661**	**0.716**	
Total VOCs	NE	NE						**4.92**		**3.746**		**4.941**	**5.5054**	**5.7799**	**5.2805**	
TOTAL PETROLEUM HYDROCARBON (ppm)																
Hydrocarbon Content	NE	NE						**10**	2.0	**5.4**	0.2	**8.4**	**9.78**	**7.04**		
PAHS BY GCMS (ppm)																
2-Methylnaphthalene	NE	NE						**0.41**	0.04	**0.23**	0.01	**0.275**	**0.303 D**	**0.19**		
Acenaphthene	NE	NE						**0.042**	0.04	**0.052**	0.002	**0.09**	**0.0591 D**	**0.0564**		
Acenaphthylene	NE	NE						**0.079**	0.04	**0.069**	0.002	**0.105**	**0.0789 D**	**0.0696**		
Anthracene	NE	NE						<	0.04	**0.0029**	0.002	<0.02	**0.0041 D**	**0.0037**		
Benzo [a] Anthracene	NE	NE						<	0.04	<	0.002	<0.02	<0.0005 D	<0.0002		
Benzo [a] Pyrene	NE	NE						<	0.04	<	0.002	<0.02	<0.0005 D	<0.0002		
Benzo [b] Fluoranthene	NE	NE						<	0.04	<	0.002	<0.02	<0.0005 D	<0.0002		
Benzo [g,h,i] Perylene	NE	NE						<	0.04	<	0.002	<0.02	<0.0021 D	<0.0009		
Benzo [k] Fluoranthene	NE	NE						<	0.04	<	0.002	<0.02	<0.0005 D	<0.0002		
Chrysene	NE	NE						<	0.04	<	0.002	<0.02	<0.0005 D	<0.0002		
Dibenzo [a,h] Anthracene	NE	NE						<	0.04	<	0.002	<0.02	<0.0005 D	<0.0002		
Fluoranthene	NE	NE						<	0.04	<	0.002	<0.02	<0.0021 D	**0.001**		
Fluorene	NE	NE						<	0.04	**0.024**	0.002	**0.04**	**0.0314 D**	**0.0287**		
Indeno [1,2,3-cd] Pyrene	NE	NE						<	0.04	<	0.002	<0.02	<0.0005 D	<0.0002		
Naphthalene	NE	2.67						**1.7**	0.04	**1.1**	0.04	**2.13**	**1.63 D**	**1.42**		
Phenanthrene	NE	NE						<	0.04	**0.023**	0.002	**0.041**	**0.0271 D**	**0.0259**		
Pyrene	NE	NE						<	0.04	<	0.002	<0.02	<0.0021 D	**0.0012**		
INORGANICS (ppm)																
Total Cyanide	NE	NE						**0.29**	0.010	**0.13**	0.010	**0.0925**	**0.0777**	**0.09**		
Dissolved Free Cyanide	NE	NE						**0.020**	0.010	**0.010**	0.010	<0.005	**0.0761**	**0.144**		
Physiologically Available Cyanide	NE	NE														
Arsenic	NE	NE														
Beryllium	NE	NE														
Chromium	NE	NE														
Copper	NE	NE														
Lead	NE	NE														
Nickel	NE	NE														
Zinc	NE	NE														
Dissolved Arsenic	NE	NE														
Dissolved Beryllium	NE	NE														
Dissolved Chromium	NE	NE														
Dissolved Copper	NE	NE														
Dissolved Lead	NE	NE														
Dissolved Nickel	NE	NE														
Dissolved Zinc	NE	NE														

Notes:

	Blank cells indicate that the parameter was not analyzed during this sampling round
D	"D" qualifier indicates analytes reported from a diluted run of the original analysis.
E	"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
J	"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
B	"B" qualifier indicates that the analyte was present in the method blank
NE	Regulatory Limit is not established
Bold Value	= concentration detected above the Method Reporting Limit.
	= concentration equals or exceeds the RIDEM GB Groundwater Objective (RIDEM GB GW Objectives)
	=detection limit equals or exceeds the RIDEM GB Groundwater Objective
(1)	Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
(2)	Well was not sampled because there was limited water
(3)	NAPL was noted to be present
(4)	Well was not sampled because it had not been installed yet.
(5)	Well was not sampled because of an unknown reason
(6)	Well was not included in this sampling round

Please note that this table only includes compounds that have been detected or have detection limits that exceeded the RIDEM GB Groundwater Objective during groundwater monitoring at the Site between 1996 and present.

TABLE 5O
GROUNDWATER MONITORING DATA
Former Power Plant Area
Former Tidewater Facility
Pawtucket, Rhode Island

ANALYTICAL	Sample ID:		M&E MW-2												
	Collected By:		AES	VHB	GZA		GZA		GZA	GZA		GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015
	RIDEM GB GW UCL	RIDEM GB GW-O	Note (5)						Note (6)						
VOCs (ppm)				Result	Result	DL	Result	DL		Result	DL	Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
1,2-Dibromo-3-Chloropropane	NE	0.002			<	0.002	<	0.002		<	0.002	<0.002	<0.005	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
4-Isopropyltoluene	NE	NE										<0.001	<0.001	<0.0010	<0.0010
Acetone	NE	NE			<	0.010	<	0.010		<	0.010	<0.01	<0.01	<0.0100	<0.0100
Benzene	18	0.14		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Carbon Disulfide	NE	NE								<	0.001	<0.001	<0.001	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Chloroform	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Ethylbenzene	16	1.6		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Isopropylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Methyl tert-Butyl Ether	NE	5		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Methylene Chloride	NE	NE			<	0.002	<	0.002		<	0.002	<0.0020	<0.0020	<0.0020	<0.0020
Naphthalene	NE	2.67		<0.001	<	0.002	<	0.002		<	0.002	<0.001	<0.001	**0.0112**	<0.0010
n-Butylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
n-Propylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
sec-Butylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Styrene	50	2.2			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
tert-Butylbenzene	NE	NE			<	0.001	<	0.001		<	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.002	<0.001	<0.0010	<0.0010
Tetrachloroethene	NE	0.15			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Toluene	21	1.7			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Trichloroethene	87	0.54			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Vinyl Chloride	NE	0.002			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Xylene O	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Xylene P,M	NE	NE		<0.002	<	0.002	<	0.002		<	0.002	<0.002	<0.002	<0.0020	<0.0020
Xylenes (Total)	NE	NE		<0.003	<	0.003	<	0.003		<	0.003	<0.003	<0.003	<0.0030	<0.0020
Total VOCs	NE	NE		<0.019	<	0.122	<	0.122		<	0.122	<0.6415	<0.6415	**0.0112**	<0.6415
TOTAL PETROLEUM HYDROCARBON (ppm)															
Hydrocarbon Content	NE	NE			<	0.2	<	0.2		<	0.2	**0.27**	<0.19	<0.19	
PAHS BY GCMS (ppm)															
2-Methylnaphthalene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Acenaphthene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Acenaphthylene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Anthracene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Benzo [a] Anthracene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Benzo [a] Pyrene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Benzo [b] Fluoranthene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Benzo [g,h,i] Perylene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Benzo [k] Fluoranthene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Chrysene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Dibenzo [a,h] Anthracene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Fluoranthene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Fluorene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Indeno [1,2,3-cd] Pyrene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Naphthalene	NE	2.67		<0.0002	<	0.002	<	0.002		<	0.002	**0.001**	<0.0002	**0.0003**	
Phenanthrene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Pyrene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
INORGANICS (ppm)															
Total Cyanide	NE	NE		**0.07**	**0.050**	0.010	**0.12**	0.010		**0.010**	0.010	**0.48**	**0.045**	**0.0734**	
Dissolved Free Cyanide	NE	NE		<0.05	<	0.010	<	0.010		<	0.010	<0.005	**0.0395**	**0.058**	
Physiologically Available Cyanide	NE	NE		<0.05											
Arsenic	NE	NE		<0.0050											
Beryllium	NE	NE		<0.001											
Chromium	NE	NE		<0.020											
Copper	NE	NE		<0.020											
Lead	NE	NE		<0.0050											
Nickel	NE	NE		<0.050											
Zinc	NE	NE		<0.050											
Dissolved Arsenic	NE	NE		<0.0060											
Dissolved Beryllium	NE	NE		<0.001											
Dissolved Chromium	NE	NE		<0.020											
Dissolved Copper	NE	NE		<0.020											
Dissolved Lead	NE	NE		<0.0050											
Dissolved Nickel	NE	NE		<0.050											
Dissolved Zinc	NE	NE		<0.050											

Notes:

	Blank cells indicate that the parameter was not analyzed during this sampling round
D	"D" qualifier indicates analytes reported from a diluted run of the original analysis.
E	"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
J	"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
B	"B" qualifier indicates that the analyte was present in the method blank
NE	Regulatory Limit is not established
Bold Value	= concentration detected above the Method Reporting Limit.
	= concentration equals or exceeds the RIDEM GB Groundwater Objective (RIDEM GB GW Objectives)
	=detection limit equals or exceeds the RIDEM GB Groundwater Objective
(1)	Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
(2)	Well was not sampled because there was limited water
(3)	NAPL was noted to be present
(4)	Well was not sampled because it had not been installed yet.
(5)	Well was not sampled because of an unknown reason
(6)	Well was not included in this sampling round

Please note that this table only includes compounds that have been detected or have detection limits that exceeded the RIDEM GB Groundwater Objective during groundwater monitoring at the Site between 1996 and present.

TABLE 5P
GROUNDWATER MONITORING DATA
Former Power Plant Area
Former Tidewater Facility
Pawtucket, Rhode Island

ANALYTICAL	Sample ID:		TB-1 / MW-6												
	Collected By:		AES	VHB	GZA		GZA		GZA	GZA		GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		July 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015
	RIDEM GB GW UCL	RIDEM GB GW-O							Note (6)						
VOCs (ppm)			Result	Result	Result	DL	Result	DL		Result	DL	Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE	0.01 J	**0.0054**	**0.0074**	0.001	**0.0031**	0.001		**0.0032**	0.001	<0.001	**0.0012**	<0.0010	J 0.0001
1,2-Dibromo-3-Chloropropane	NE	0.002			<	0.005	<	0.002		<	0.002	<0.005	<0.005	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE		**0.01**	**0.0046**	0.001	**0.0003**	0.001		<	0.001	<0.001	<0.001	<0.0010	**0.0053**
4-Isopropyltoluene	NE	NE										<0.001	<0.001	<0.0010	<0.0010
Acetone	NE	NE			<	0.025	<	0.010		**0.003**	0.010	<0.01	<0.01	<0.0100	B <0.035
Benzene	18	0.14	**0.02**	**0.0495**	**0.0035**	0.001	**0.0031**	0.001		**0.0034**	0.001	**0.0213**	**0.0263**	**0.0115**	**0.0095**
Carbon Disulfide	NE	NE								<	0.001	<0.001	<0.001	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Chloroform	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Ethylbenzene	16	1.6	**0.03**	**0.0849**	**0.0016**	0.001	**0.068**	0.001		**0.0360**	0.001	**0.0243**	**0.0193**	**0.0079**	**0.0055**
Isopropylbenzene	NE	NE		**0.0074**	<	0.001	**0.008**	0.001		**0.0049**	0.001	**0.0033**	**0.0037**	**0.002**	J 0.0010
Methyl tert-Butyl Ether	NE	5		<0.001	**0.005**	0.001	<	0.002		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Methylene Chloride	NE	NE			<	0.002	<	0.002				<0.0020	<0.0020	<0.0020	<0.0020
Naphthalene	NE	2.67		**0.0328**	**0.00267**	0.002	**0.14**	0.001		**0.011**	0.002	**0.0035**	**0.0045**	**0.0024**	**0.0015**
n-Butylbenzene	NE	NE		**0.0027**	<	0.001	<	0.001		**0.0012**	0.001	<0.001	<0.001	<0.0010	J 0.0006
n-Propylbenzene	NE	NE		**0.0079**	<	0.001	**0.008**	0.001		**0.0043**	0.001	**0.0027**	**0.0027**	**0.001**	J 0.0007
sec-Butylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	J 0.0001
Styrene	50	2.2	<0.02		**0.0022**	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
tert-Butylbenzene	NE	NE			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.001	<0.001	<0.0010	<0.0010
Tetrachloroethene	NE	0.15			**0.00015**	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Toluene	21	1.7	<0.02	**0.0057**	**0.0017**	0.001	**0.004**	0.001		**0.0025**	0.001	**0.0011**	**0.0012**	<0.0010	J 0.0005
Trichloroethene	87	0.54			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Vinyl Chloride	NE	0.002			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Xylene O	NE	NE	**0.02**	**0.082**	<	0.001	**0.079**	0.001		**0.042**	0.001	**0.0212**	**0.0186**	**0.0073**	**0.0057**
Xylene P,M	NE	NE	<0.02	**0.0079**	<	0.002	**0.026**	0.001		**0.0055**	0.002	**0.0028**	**0.0028**	<0.0020	J 0.0009
Xylenes (Total)	NE	NE	**0.02**	**0.0899**	<	0.003	**0.105**	0.002		**0.048**	0.003	**0.024**	**0.0213**	**0.0073**	**0.0065**
Total VOCs	NE	NE	**0.08**	**0.2962**	**0.02882**		**0.340**			**0.117**		**0.0802**	**0.0803**	**0.0321**	**0.0357**
TOTAL PETROLEUM HYDROCARBON (ppm)															
Hydrocarbon Content	NE	NE			**2.6**	0.2	**3.7**	0.2		**1.8**	0.2	**3.65**	**2.98**	**1.47**	
PAHS BY GCMS (ppm)															
2-Methylnaphthalene	NE	NE	**0.04**	<0.0002	<	0.002	**0.034**	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Acenaphthene	NE	NE	**0.004**	**0.0315**	**0.017**	0.002	**0.013**	0.002		**0.0082**	0.002	**0.01**	**0.0067**	**0.0052**	
Acenaphthylene	NE	NE	**0.013**	**0.1435**	**0.071**	0.002	**0.057**	0.002		**0.038**	0.002	**0.057**	**0.0414 D**	**0.0317**	
Anthracene	NE	NE	<0.02	**0.00134**	<	0.002	**0.012**	0.002		<	0.002	**0.0006**	**0.0005**	**0.0003**	
Benzo [a] Anthracene	NE	NE	**0.06**	<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	**0.00006**	
Benzo [a] Pyrene	NE	NE	<0.02	<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Benzo [b] Fluoranthene	NE	NE	<0.02	<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Benzo [g,h,i] Perylene	NE	NE	<0.02	<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Benzo [k] Fluoranthene	NE	NE	<0.02	<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Chrysene	NE	NE	<0.02	<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Dibenzo [a,h] Anthracene	NE	NE	<0.02	<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Fluoranthene	NE	NE	<0.02	**0.00203**	<	0.002	<	0.002		<	0.002	**0.0007**	**0.0004**	**0.0003**	
Fluorene	NE	NE	**0.003**	**0.0364**	**0.019**	0.002	**0.013**	0.002		**0.0081**	0.002	**0.01**	**0.0063**	**0.0058**	
Indeno [1,2,3-cd] Pyrene	NE	NE	<0.02	<0.0003	<	0.002	<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Naphthalene	NE	2.67	<0.02	**0.0269**	**0.0077**	0.002	**0.042**	0.002		**0.0038**	0.002	**0.002**	**0.0018**	**0.0003**	
Phenanthrene	NE	NE	**0.004**	**0.0306**	**0.014**	0.002	**0.012**	0.002		**0.0031**	0.002	**0.007**	**0.0037**	**0.0029**	
Pyrene	NE	NE	0.01 J	**0.00104**	<	0.002	<	0.002		<	0.002	**0.0004**	**0.0003**	**0.0002**	
INORGANICS (ppm)															
Total Cyanide	NE	NE	**0.18**	**0.2**	**0.21**	0.010	**0.13**	0.010		**0.21**	0.010	**0.174**	**0.271 D**	**0.178**	
Dissolved Free Cyanide	NE	NE		<0.05	**0.01**	0.010	<	0.010		**0.040**	0.010	**0.0063**	**0.263 D**	**0.153**	
Physiologically Available Cyanide	NE	NE		<0.05											
Arsenic	NE	NE	<0.002	<0.0025											
Beryllium	NE	NE	<0.002	<0.0005											
Chromium	NE	NE	<0.024	<0.010											
Copper	NE	NE	<0.024	<0.010											
Lead	NE	NE	<0.050	<0.0025											
Nickel	NE	NE	<0.024	<0.025											
Zinc	NE	NE	**0.023**	<0.025											
Dissolved Arsenic	NE	NE		<0.0025											
Dissolved Beryllium	NE	NE		<0.0005											
Dissolved Chromium	NE	NE		<0.010											
Dissolved Copper	NE	NE		<0.010											
Dissolved Lead	NE	NE		<0.0025											
Dissolved Nickel	NE	NE		<0.025											
Dissolved Zinc	NE	NE		**0.025**											

Notes:

	Blank cells indicate that the parameter was not analyzed during this sampling round
D	"D" qualifier indicates analytes reported from a diluted run of the original analysis.
E	"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
J	"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
B	"B" qualifier indicates that the analyte was present in the method blank
NE	Regulatory Limit is not established
Bold Value	= concentration detected above the Method Reporting Limit.
	= concentration equals or exceeds the RIDEM GB Groundwater Objective (RIDEM GB GW Objectives)
	=detection limit equals or exceeds the RIDEM GB Groundwater Objective
(1)	Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
(2)	Well was not sampled because there was limited water
(3)	NAPL was noted to be present
(4)	Well was not sampled because it had not been installed yet.
(5)	Well was not sampled because of an unknown reason
(6)	Well was not included in this sampling round

Please note that this table only includes compounds that have been detected or have detection limits that exceeded the RIDEM GB Groundwater Objective during groundwater monitoring at the Site between 1996 and present.

TABLE 5Q
GROUNDWATER MONITORING DATA
Former Power Plant Area
Former Tidewater Facility
Pawtucket, Rhode Island

ANALYTICAL	Sample ID:		MW-109												
	Collected By:		AES	VHB	GZA		GZA		GZA	GZA		GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		July 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015
	RIDEM GB GW UCL	RIDEM GB GW-O	Note (4)						Note (6)						
VOCs (ppm)				Result	Result	DL	Result	DL		Result	DL	Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE			<	0.0025	<	0.001		<	0.0025	<0.01	<0.001	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007			<	0.0025	<	0.001		<	0.0025	<0.01	<0.001	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE		**0.454**	**0.27**	0.0025	**0.26**	0.010		**0.21**	0.0025	**0.295**	**0.126 D**	**0.14**	**0.0259**
1,2-Dibromo-3-Chloropropane	NE	0.002			<	0.0130	<	0.002		<	0.0050	<0.05	<0.005	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE		**0.047**	**0.017**	0.0025	**0.02**	0.001		**0.0097**	0.0025	**0.0172**	**0.0057**	**0.005**	J 0.0004
4-Isopropyltoluene	NE	NE										**0.0104**	**0.0046**	**0.0037**	J 0.0004
Acetone	NE	NE			<	0.0630	<	0.010		<	0.0250	<0.1	<0.01	<0.0100	J 0.0037
Benzene	18	0.14		**0.0352**	**0.039**	0.0025	**0.024**	0.001		**0.03**	0.0025	**0.0402**	**0.115 D**	**0.135**	**0.171**
Carbon Disulfide	NE	NE								<	0.0025	<0.01	<0.001	**0.0015**	<0.0010
Carbon Tetrachloride	NE	0.07			<	0.0025	<	0.001		<	0.0025	<0.01	<0.001	<0.0010	<0.0010
Chloroform	NE	NE		<0.001	<	0.0025	<	0.001		<	0.0025	<0.01	<0.001	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4			<	0.0025	<	0.001		<	0.0025	<0.01	<0.001	<0.0010	<0.0010
Ethylbenzene	16	1.6		**0.177**	**0.086**	0.0025	<	0.001		**0.057**	0.0025	**0.0928**	**0.0404**	**0.0349**	**0.0338**
Isopropylbenzene	NE	NE		**0.0418**	**0.038**	0.0025	**0.028**	0.001		**0.026**	0.0025	**0.0337**	**0.0194**	**0.022**	**0.0233**
Methyl tert-Butyl Ether	NE	5		<0.001	<	0.0025	<	0.002		<	0.0025	<0.01	<0.001	<0.0010	<0.0010
Methylene Chloride	NE	NE			<	0.0025	<	0.002		<	0.0050	<0.0020	<0.0020	<0.0020	<0.0020
Naphthalene	NE	2.67		**0.724**	**0.41**	0.0050	**0.3**	0.001		**0.3**	0.0050	**0.559**	**0.163 D**	**0.248**	**0.0288**
n-Butylbenzene	NE	NE		<0.001	**0.009**	0.0025	<	0.001		**0.0075**	0.0025	<0.01	<0.001	<0.0010	**0.0067**
n-Propylbenzene	NE	NE		**0.0217**	**0.017**	0.0025	**0.015**	0.001		**0.014**	0.0025	**0.0189**	**0.0101**	**0.0117**	**0.0124**
sec-Butylbenzene	NE	NE		**0.0056**	**0.0025**	0.0025	<	0.001		**0.0025**	0.0025	<0.01	<0.001	**0.0025**	**0.0024**
Styrene	50	2.2			<	0.0025	<	0.001		<	0.0025	<0.01	<0.001	<0.0010	B <0.0020
tert-Butylbenzene	NE	NE			<	0.0025	<	0.001		<	0.0025	<0.01	<0.001	<0.0010	J 0.0004
Tertiary-amyl methyl ether	NE	NE			<	0.0025	<	0.001		<	0.0025	<0.01	<0.001	<0.0010	<0.0010
Tetrachloroethene	NE	0.15			<	0.0025	<	0.001		<	0.0025	<0.01	<0.001	<0.0010	<0.0010
Toluene	21	1.7		**0.0058**	**0.0028**	0.0025	**0.003**	0.001		**0.0025**	0.0025	<0.01	**0.003**	**0.003**	**0.0033**
Trichloroethene	87	0.54			<	0.0025	<	0.001		<	0.0025	<0.01	<0.001	<0.0010	<0.0010
Vinyl Chloride	NE	0.002			<	0.0025	<	0.001		<	0.0025	<0.01	<0.001	<0.0010	<0.0010
Xylene O	NE	NE		**0.0875**	**0.031**	0.0025	**0.033**	0.001		**0.026**	0.0025	**0.0457**	**0.0183**	**0.0185**	**0.0176**
Xylene P,M	NE	NE		**0.0875**	**0.026**	0.0050	**0.034**	0.001		**0.019**	0.0050	**0.0415**	**0.0128**	**0.0082**	B <0.0040
Xylenes (Total)	NE	NE		**0.175**	**0.057**	0.0075	**0.067**	0.002		**0.045**	0.0075	**0.0872**	**0.0311**	**0.0266**	**0.021**
Total VOCs	NE	NE		**1.6871**	**0.9483**		**0.717**			**0.7042**		**1.1544**	**0.5494**	**0.634**	**0.3306**
TOTAL PETROLEUM HYDROCARBON (ppm)															
Hydrocarbon Content	NE	NE			**1.1**	0.2	**1.5**	0.2		**0.66**	0.2	**3.62**	**2.79**	**1.81**	
PAHS BY GCMS (ppm)															
2-Methylnaphthalene	NE	NE		**0.073**	**0.026**	0.002	**0.04**	0.002		**0.021**	0.002	**0.026**	**0.0309 D**	**0.0105**	
Acenaphthene	NE	NE		**0.00583**	**0.0027**	0.002	**0.0028**	0.002		**0.0023**	0.002	**0.004**	**0.0033**	**0.0024**	
Acenaphthylene	NE	NE		**0.00124**	<	0.002	<	0.002		<	0.002	<0.002	**0.0004**	**0.0003**	
Anthracene	NE	NE		**0.00065**	<	0.002	<	0.002		<	0.002	<0.002	**0.0004**	**0.0003**	
Benzo [a] Anthracene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.002	<0.00005	<0.00005	
Benzo [a] Pyrene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.002	<0.00005	<0.00005	
Benzo [b] Fluoranthene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.002	<0.00005	<0.00005	
Benzo [g,h,i] Perylene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.002	<0.0002	<0.0002	
Benzo [k] Fluoranthene	NE	NE		<0.0003	<	0.002	<	0.002		<	0.002	<0.002	<0.00005	<0.00005	
Chrysene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.002	<0.00005	<0.00005	
Dibenzo [a,h] Anthracene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.002	<0.00005	<0.00005	
Fluoranthene	NE	NE		**0.00033**	<	0.002	<	0.002		<	0.002	<0.002	<0.0002	<0.0002	
Fluorene	NE	NE		**0.00336**	<	0.002	<	0.002		<	0.002	**0.002**	**0.0019**	**0.0015**	
Indeno [1,2,3-cd] Pyrene	NE	NE		<0.0003	<	0.002	<	0.002		<	0.002	<0.002	<0.00005	<0.00005	
Naphthalene	NE	2.67		**0.602**	**0.1**	0.002	**0.12**	0.002		**0.096**	0.002	**0.204**	**0.0965 D**	**0.0727**	
Phenanthrene	NE	NE		**0.00317**	<	0.002	<	0.002		<	0.002	**0.002**	**0.0019**	**0.0015**	
Pyrene	NE	NE		**0.00031**	<	0.002	<	0.002		<	0.002	<0.002	**0.0002**	**0.0002**	
INORGANICS (ppm)															
Total Cyanide	NE	NE		**0.222**	**0.28**	0.010	**0.17**	0.010		**0.180**	0.010	**0.235**	**0.143**	**0.212**	
Dissolved Free Cyanide	NE	NE		**0.06**	<	0.010	<	0.010		<	0.010	<0.005	**0.132**	**0.213**	
Physiologically Available Cyanide	NE	NE		<0.05											
Arsenic	NE	NE		**0.0103**											
Beryllium	NE	NE		<0.001											
Chromium	NE	NE		<0.020											
Copper	NE	NE		<0.020											
Lead	NE	NE		<0.0050											
Nickel	NE	NE		<0.050											
Zinc	NE	NE		<0.050											
Dissolved Arsenic	NE	NE		**0.0085**											
Dissolved Beryllium	NE	NE		<0.001											
Dissolved Chromium	NE	NE		<0.020											
Dissolved Copper	NE	NE		<0.020											
Dissolved Lead	NE	NE		<0.0050											
Dissolved Nickel	NE	NE		<0.050											
Dissolved Zinc	NE	NE		**0.051**											

Notes:

	Blank cells indicate that the parameter was not analyzed during this sampling round
D	"D" qualifier indicates analytes reported from a diluted run of the original analysis.
E	"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
J	"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
B	"B" qualifier indicates that the analyte was present in the method blank
NE	Regulatory Limit is not established
Bold Value	= concentration detected above the Method Reporting Limit.
	= concentration equals or exceeds the RIDEM GB Groundwater Objective (RIDEM GB GW Objectives)
	=detection limit equals or exceeds the RIDEM GB Groundwater Objective
(1)	Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
(2)	Well was not sampled because there was limited water
(3)	NAPL was noted to be present
(4)	Well was not sampled because it had not been installed yet.
(5)	Well was not sampled because of an unknown reason
(6)	Well was not included in this sampling round

Please note that this table only includes compounds that have been detected or have detection limits that exceeded the RIDEM GB Groundwater Objective during groundwater monitoring at the Site between 1996 and present.

TABLE 5R
GROUNDWATER MONITORING DATA
Former Power Plant Area
Former Tidewater Facility
Pawtucket, Rhode Island

ANALYTICAL	Sample ID:		MW-314S												
	Collected By:		AES	VHB	GZA		GZA		GZA	GZA		GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015
	RIDEM GB GW UCL	RIDEM GB GW-O	Note (4)	Note (4)	Note (4)				Note (6)						
VOCs (ppm)							Result	DL		Result	DL	Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE					**0.0017**	0.001		<	0.001	**0.0053**	<0.001	<0.0010	<0.0010
1,2-Dibromo-3-Chloropropane	NE	0.002					<	0.002		<	0.002	<0.005	<0.005	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010
4-Isopropyltoluene	NE	NE										<0.0025	<0.001	<0.0010	<0.0010
Acetone	NE	NE					<	0.010		<	0.010	<0.025	<0.01	<0.0100	<0.0100
Benzene	18	0.14					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010
Carbon Disulfide	NE	NE								<	0.001	<0.0025	<0.001	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010
Chloroform	NE	NE					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010
Ethylbenzene	16	1.6					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	J 0.0002
Isopropylbenzene	NE	NE					**0.0016**	0.001		**0.0016**	0.001	**0.0028**	0.0007 J	<0.0010	J 0.0004
Methyl tert-Butyl Ether	NE	5					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010
Methylene Chloride	NE	NE					<	0.002		<	0.002	<0.0025	<0.0020	<0.0020	<0.0020
Naphthalene	NE	2.67					**0.0041**	0.002		<	0.002	**0.0083**	<0.001	**0.0014**	<0.001
n-Butylbenzene	NE	NE					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010
n-Propylbenzene	NE	NE					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010
sec-Butylbenzene	NE	NE					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010
Styrene	50	2.2					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010
tert-Butylbenzene	NE	NE					<	0.001		<	0.001	<0.0025	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.005	<0.001	<0.0010	<0.0010
Tetrachloroethene	NE	0.15					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010
Toluene	21	1.7					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010
Trichloroethene	87	0.54					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010
Vinyl Chloride	NE	0.002					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010
Xylene O	NE	NE					**0.0041**	0.001		<	0.001	**0.0052**	<0.001	<0.0010	J 0.0003
Xylene P,M	NE	NE					<	0.002		<	0.002	<0.005	<0.002	<0.0020	<0.0020
Xylenes (Total)	NE	NE					**0.0041**	0.003		<	0.003	**0.0052**	<0.003	<0.0030	<0.0020
Total VOCs	NE	NE					**0.0115**			**0.0016**		**0.0216**	**0.0007**	**0.0014**	**0.0009**
TOTAL PETROLEUM HYDROCARBON (ppm)															
Hydrocarbon Content	NE	NE					**1.2**	0.2		**1.4**	0.2	**4.65**	**2.08**	**0.57**	
PAHS BY GCMS (ppm)															
2-Methylnaphthalene	NE	NE					<	0.002		<	0.002	**0.0003**	<0.0002	<0.0002	
Acenaphthene	NE	NE					**0.0029**	0.002		<	0.002	**0.003**	**0.0025**	**0.0013**	
Acenaphthylene	NE	NE					<	0.002		<	0.002	**0.0006**	**0.0004**	<0.0002	
Anthracene	NE	NE					<	0.002		<	0.002	**0.0005**	**0.0004**	<0.0002	
Benzo [a] Anthracene	NE	NE					<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Benzo [a] Pyrene	NE	NE					<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Benzo [b] Fluoranthene	NE	NE					<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Benzo [g,h,i] Perylene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Benzo [k] Fluoranthene	NE	NE					<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Chrysene	NE	NE					<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Dibenzo [a,h] Anthracene	NE	NE					<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Fluoranthene	NE	NE					<	0.002		<	0.002	**0.0002**	**0.0003**	<0.0002	
Fluorene	NE	NE					<	0.002		<	0.002	**0.001**	**0.0008**	**0.0003**	
Indeno [1,2,3-cd] Pyrene	NE	NE					<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Naphthalene	NE	2.67					<	0.002		<	0.002	**0.004**	**0.0003**	<0.0002	
Phenanthrene	NE	NE					<	0.002		<	0.002	**0.0005**	<0.0002	<0.0002	
Pyrene	NE	NE					<	0.002		<	0.002	**0.0003**	**0.0004**	**0.0003**	
INORGANICS (ppm)															
Total Cyanide	NE	NE					**0.20**	0.010		**0.10**	0.010	**0.0637**	**0.0902**	**0.176**	
Dissolved Free Cyanide	NE	NE					<	0.010		**0.010**	0.010	<0.005	**0.0894**	**0.128**	
Physiologically Available Cyanide	NE	NE													
Arsenic	NE	NE													
Beryllium	NE	NE													
Chromium	NE	NE													
Copper	NE	NE													
Lead	NE	NE													
Nickel	NE	NE													
Zinc	NE	NE													
Dissolved Arsenic	NE	NE													
Dissolved Beryllium	NE	NE													
Dissolved Chromium	NE	NE													
Dissolved Copper	NE	NE													
Dissolved Lead	NE	NE													
Dissolved Nickel	NE	NE													
Dissolved Zinc	NE	NE													

Notes:

	Blank cells indicate that the parameter was not analyzed during this sampling round
D	"D" qualifier indicates analytes reported from a diluted run of the original analysis.
E	"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
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NE	Regulatory Limit is not established
Bold Value	= concentration detected above the Method Reporting Limit.
	= concentration equals or exceeds the RIDEM GB Groundwater Objective (RIDEM GB GW Objectives)
	=detection limit equals or exceeds the RIDEM GB Groundwater Objective
(1)	Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
(2)	Well was not sampled because there was limited water
(3)	NAPL was noted to be present
(4)	Well was not sampled because it had not been installed yet.
(5)	Well was not sampled because of an unknown reason
(6)	Well was not included in this sampling round

Please note that this table only includes compounds that have been detected or have detection limits that exceeded the RIDEM GB Groundwater Objective during groundwater monitoring at the Site between 1996 and present.

TABLE 5S
GROUNDWATER MONITORING DATA
Former Power Plant Area
Former Tidewater Facility
Pawtucket, Rhode Island

ANALYTICAL	Sample ID:		MW-314D												
	Collected By:		AES	VHB	GZA		GZA		GZA	GZA		GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015
	RIDEM GB GW UCL	RIDEM GB GW-O	Note (4)	Note (4)	Note (4)				Note (6)						
VOCs (ppm)							Result	DL		Result	DL	Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
1,2-Dibromo-3-Chloropropane	NE	0.002					<	0.002		<	0.002	<0.002	<0.005	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
4-Isopropyltoluene	NE	NE										<0.001	<0.001	<0.0010	<0.0010
Acetone	NE	NE					<	0.010		<	0.010	<0.01	<0.01	<0.0100	<0.0100
Benzene	18	0.14					**0.0016**	0.001		**0.001**	0.001	<0.001	<0.001	<0.0010	<0.0010
Carbon Disulfide	NE	NE								<	0.001	<0.001	<0.001	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Chloroform	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Ethylbenzene	16	1.6					<	0.001		<	0.001	<0.001	<0.001	<0.0010	B <0.0020
Isopropylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Methyl tert-Butyl Ether	NE	5					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Methylene Chloride	NE	NE					<	0.002		<	0.002	<0.0020	<0.0020	<0.0020	<0.0020
Naphthalene	NE	2.67					**0.0023**	0.002		<	0.002	<0.001	<0.001	<0.0010	<0.0010
n-Butylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
n-Propylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
sec-Butylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Styrene	50	2.2					<	0.001		<	0.001	<0.001	<0.001	<0.0010	B <0.0020
tert-Butylbenzene	NE	NE					<	0.001		<	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.002	0.0004 J	<0.0010	<0.0010
Tetrachloroethene	NE	0.15					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Toluene	21	1.7					<	0.001		<	0.001	<0.001	<0.001	<0.0010	J 0.0003
Trichloroethene	87	0.54					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Vinyl Chloride	NE	0.002					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Xylene O	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Xylene P,M	NE	NE					<	0.002		<	0.002	<0.002	<0.002	<0.0020	B <0.0040
Xylenes (Total)	NE	NE					<	0.003		<	0.003	<0.003	<0.003	<0.0030	<0.0020
Total VOCs	NE	NE					**0.0039**			**0.001**		<0.6415	**0.0004**	<0.6415	**0.0003**
TOTAL PETROLEUM HYDROCARBON (ppm)															
Hydrocarbon Content	NE	NE					<	0.2		**0.33**	0.2	**1.69**	**0.53**	**0.37**	
PAHS BY GCMS (ppm)															
2-Methylnaphthalene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Acenaphthene	NE	NE					**0.0037**	0.002		**0.0027**	0.002	**0.003**	**0.0031**	**0.0013**	
Acenaphthylene	NE	NE					<	0.002		<	0.002	**0.0003**	**0.0002**	<0.0002	
Anthracene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Benzo [a] Anthracene	NE	NE					<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Benzo [a] Pyrene	NE	NE					<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Benzo [b] Fluoranthene	NE	NE					<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Benzo [g,h,i] Perylene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0002	<0.0002	
Benzo [k] Fluoranthene	NE	NE					<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Chrysene	NE	NE					<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Dibenzo [a,h] Anthracene	NE	NE					<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Fluoranthene	NE	NE					<	0.002		<	0.002	**0.0002**	<0.0002	<0.0002	
Fluorene	NE	NE					<	0.002		<	0.002	**0.0004**	<0.0002	<0.0002	
Indeno [1,2,3-cd] Pyrene	NE	NE					<	0.002		<	0.002	<0.0002	<0.00005	<0.00005	
Naphthalene	NE	2.67					<	0.002		<	0.002	**0.004**	**0.0004**	<0.0002	
Phenanthrene	NE	NE					**0.002**	0.002		<	0.002	**0.0002**	<0.0002	<0.0002	
Pyrene	NE	NE					<	0.002		<	0.002	**0.0003**	**0.0002**	<0.0002	
INORGANICS (ppm)															
Total Cyanide	NE	NE					**0.46**	0.010		**0.32**	0.010	**0.144**	**0.317 D**	**0.16**	
Dissolved Free Cyanide	NE	NE					<	0.010		**0.050**	0.010	<0.005	**0.154**	**0.162**	
Physiologically Available Cyanide	NE	NE													
Arsenic	NE	NE													
Beryllium	NE	NE													
Chromium	NE	NE													
Copper	NE	NE													
Lead	NE	NE													
Nickel	NE	NE													
Zinc	NE	NE													
Dissolved Arsenic	NE	NE													
Dissolved Beryllium	NE	NE													
Dissolved Chromium	NE	NE													
Dissolved Copper	NE	NE													
Dissolved Lead	NE	NE													
Dissolved Nickel	NE	NE													
Dissolved Zinc	NE	NE													

Notes:

	Blank cells indicate that the parameter was not analyzed during this sampling round
D	"D" qualifier indicates analytes reported from a diluted run of the original analysis.
E	"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
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B	"B" qualifier indicates that the analyte was present in the method blank
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Bold Value	= concentration detected above the Method Reporting Limit.
	= concentration equals or exceeds the RIDEM GB Groundwater Objective (RIDEM GB GW Objectives)
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(1)	Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
(2)	Well was not sampled because there was limited water
(3)	NAPL was noted to be present
(4)	Well was not sampled because it had not been installed yet.
(5)	Well was not sampled because of an unknown reason
(6)	Well was not included in this sampling round

Please note that this table only includes compounds that have been detected or have detection limits that exceeded the RIDEM GB Groundwater Objective during groundwater monitoring at the Site between 1996 and present.

TABLE 5T
GROUNDWATER MONITORING DATA
Former Power Plant Area
Former Tidewater Facility
Pawtucket, Rhode Island

ANALYTICAL	Sample ID:		MW-316S												
	Collected By:		AES	VHB	GZA		GZA		GZA	GZA		GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015
	RIDEM GB GW UCL	RIDEM GB GW-O	Note (4)	Note (4)	Note (4)				Note (6)					Note (2)	Note (2)
VOCs (ppm)							Result	DL		Result	DL	Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE								<	0.001	<0.001	<0.001		
1,1-Dichloroethene	23	0.007								<	0.001	<0.001	<0.001		
1,2,4-Trimethylbenzene	NE	NE								<	0.001	<0.001	<0.001		
1,2-Dibromo-3-Chloropropane	NE	0.002								<	0.002	<0.005	<0.005		
1,3,5-Trimethylbenzene	NE	NE								<	0.001	<0.001	<0.001		
4-Isopropyltoluene	NE	NE										<0.001	<0.001		
Acetone	NE	NE								**0.012**	0.010	<0.01	<0.01		
Benzene	18	0.14								<	0.001	<0.001	<0.001		
Carbon Disulfide	NE	NE								<	0.001	<0.001	<0.001		
Carbon Tetrachloride	NE	0.07								<	0.001	<0.001	<0.001		
Chloroform	NE	NE								<	0.001	<0.001	<0.001		
cis-1,2-Dichloroethene	69	2.4								<	0.001	<0.001	<0.001		
Ethylbenzene	16	1.6								<	0.001	<0.001	<0.001		
Isopropylbenzene	NE	NE								<	0.001	<0.001	<0.001		
Methyl tert-Butyl Ether	NE	5								<	0.001	<0.001	<0.001		
Methylene Chloride	NE	NE								<	0.002	<0.002	<0.002		
Naphthalene	NE	2.67								<	0.002	<0.001	<0.001		
n-Butylbenzene	NE	NE								<	0.001	<0.001	<0.001		
n-Propylbenzene	NE	NE								<	0.001	<0.001	<0.001		
sec-Butylbenzene	NE	NE								<	0.001	<0.001	<0.001		
Styrene	50	2.2								<	0.001	<0.001	<0.001		
tert-Butylbenzene	NE	NE								<	0.001	<0.001	<0.001		
Tertiary-amyl methyl ether	NE	NE										<0.001	<0.001		
Tetrachloroethene	NE	0.15								<	0.001	<0.001	<0.001		
Toluene	21	1.7								<	0.001	<0.001	<0.001		
Trichloroethene	87	0.54								<	0.001	<0.001	<0.001		
Vinyl Chloride	NE	0.002								<	0.001	<0.001	<0.001		
Xylene O	NE	NE								<	0.001	<0.001	<0.001		
Xylene P,M	NE	NE								<	0.002	<0.002	<0.002		
Xylenes (Total)	NE	NE								<	0.003	<0.003	<0.003		
Total VOCs	NE	NE								**0.012**		<0.6415	<0.6415		
TOTAL PETROLEUM HYDROCARBON (ppm)															
Hydrocarbon Content	NE	NE													
PAHS BY GCMS (ppm)															
2-Methylnaphthalene	NE	NE													
Acenaphthene	NE	NE													
Acenaphthylene	NE	NE													
Anthracene	NE	NE													
Benzo [a] Anthracene	NE	NE													
Benzo [a] Pyrene	NE	NE													
Benzo [b] Fluoranthene	NE	NE													
Benzo [g,h,i] Perylene	NE	NE													
Benzo [k] Fluoranthene	NE	NE													
Chrysene	NE	NE													
Dibenzo [a,h] Anthracene	NE	NE													
Fluoranthene	NE	NE													
Fluorene	NE	NE													
Indeno [1,2,3-cd] Pyrene	NE	NE													
Naphthalene	NE	2.67													
Phenanthrene	NE	NE													
Pyrene	NE	NE													
INORGANICS (ppm)															
Total Cyanide	NE	NE													
Dissolved Free Cyanide	NE	NE					**0.11**	0.010							
Physiologically Available Cyanide	NE	NE													
Arsenic	NE	NE													
Beryllium	NE	NE													
Chromium	NE	NE													
Copper	NE	NE													
Lead	NE	NE													
Nickel	NE	NE													
Zinc	NE	NE													
Dissolved Arsenic	NE	NE													
Dissolved Beryllium	NE	NE													
Dissolved Chromium	NE	NE													
Dissolved Copper	NE	NE													
Dissolved Lead	NE	NE													
Dissolved Nickel	NE	NE													
Dissolved Zinc	NE	NE													

Notes:

	Blank cells indicate that the parameter was not analyzed during this sampling round
D	"D" qualifier indicates analytes reported from a diluted run of the original analysis.
E	"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
J	"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
B	"B" qualifier indicates that the analyte was present in the method blank
NE	Regulatory Limit is not established
Bold Value	= concentration detected above the Method Reporting Limit.
	= concentration equals or exceeds the RIDEM GB Groundwater Objective (RIDEM GB GW Objectives)
	=detection limit equals or exceeds the RIDEM GB Groundwater Objective
(1)	Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
(2)	Well was not sampled because there was limited water
(3)	NAPL was noted to be present
(4)	Well was not sampled because it had not been installed yet.
(5)	Well was not sampled because of an unknown reason
(6)	Well was not included in this sampling round

Please note that this table only includes compounds that have been detected or have detection limits that exceeded the RIDEM GB Groundwater Objective during groundwater monitoring at the Site between 1996 and present.

TABLE 5U
GROUNDWATER MONITORING DATA
Former Power Plant Area
Former Tidewater Facility
Pawtucket, Rhode Island

ANALYTICAL	Sample ID:		MW-316D												
	Collected By:		AES	VHB	GZA		GZA		GZA	GZA		GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015
	RIDEM GB GW UCL	RIDEM GB GW-O	Note (4)	Note (4)	Note (4)				Note (6)						
VOCs (ppm)							Result	DL		Result	DL	Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
1,2-Dibromo-3-Chloropropane	NE	0.002					<	0.002		<	0.002	<0.005	<0.005	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
4-Isopropyltoluene	NE	NE										<0.001	<0.001	<0.0010	<0.0010
Acetone	NE	NE					<	0.010		<	0.010	<0.01	<0.01	<0.0100	J 0.0033
Benzene	18	0.14					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Carbon Disulfide	NE	NE								<	0.001	<0.001	<0.001	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Chloroform	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Ethylbenzene	16	1.6					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Isopropylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Methyl tert-Butyl Ether	NE	5					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Methylene Chloride	NE	NE					<	0.002		<	0.002	<0.0020	<0.0020	<0.0020	<0.0020
Naphthalene	NE	2.67					<	0.002		<	0.002	<0.001	<0.001	<0.0010	<0.0010
n-Butylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
n-Propylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
sec-Butylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Styrene	50	2.2					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
tert-Butylbenzene	NE	NE					<	0.001		<	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.001	<0.001	<0.0010	<0.0010
Tetrachloroethene	NE	0.15					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Toluene	21	1.7					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Trichloroethene	87	0.54					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Vinyl Chloride	NE	0.002					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Xylene O	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Xylene P,M	NE	NE					<	0.002		<	0.002	<0.002	<0.002	<0.0020	<0.0020
Xylenes (Total)	NE	NE					<	0.003		<	0.003	<0.003	<0.003	<0.0030	<0.0020
Total VOCs	NE	NE					<	0.122		<	0.122	<0.122	<0.6415	<0.6415	**0.0033**
TOTAL PETROLEUM HYDROCARBON (ppm)															
Hydrocarbon Content	NE	NE					<	0.2		<	0.2	<0.2	<0.19	<0.19	
PAHS BY GCMS (ppm)															
2-Methylnaphthalene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0009 D	<0.0002	
Acenaphthene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0009 D	<0.0002	
Acenaphthylene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0009 D	<0.0002	
Anthracene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0009 D	<0.0002	
Benzo [a] Anthracene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0002 D	<0.00005	
Benzo [a] Pyrene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0002 D	<0.00005	
Benzo [b] Fluoranthene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0002 D	<0.00005	
Benzo [g,h,i] Perylene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0009 D	<0.0002	
Benzo [k] Fluoranthene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0002 D	<0.00005	
Chrysene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0002 D	<0.00005	
Dibenzo [a,h] Anthracene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0002 D	<0.00005	
Fluoranthene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0009 D	<0.0002	
Fluorene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0009 D	<0.0002	
Indeno [1,2,3-cd] Pyrene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0002 D	<0.00005	
Naphthalene	NE	2.67					<	0.002		<	0.002	**0.0004**	<0.0009 D	<0.0002	
Phenanthrene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0009 D	<0.0002	
Pyrene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0009 D	<0.0002	
INORGANICS (ppm)															
Total Cyanide	NE	NE					**0.020**	0.010		**0.010**	0.010	**0.0083**	**0.0129**	**0.011**	
Dissolved Free Cyanide	NE	NE					<	0.010		<	0.010	<0.005	**0.0129**	<0.005	
Physiologically Available Cyanide	NE	NE													
Arsenic	NE	NE													
Beryllium	NE	NE													
Chromium	NE	NE													
Copper	NE	NE													
Lead	NE	NE													
Nickel	NE	NE													
Zinc	NE	NE													
Dissolved Arsenic	NE	NE													
Dissolved Beryllium	NE	NE													
Dissolved Chromium	NE	NE													
Dissolved Copper	NE	NE													
Dissolved Lead	NE	NE													
Dissolved Nickel	NE	NE													
Dissolved Zinc	NE	NE													

Notes:

	Blank cells indicate that the parameter was not analyzed during this sampling round
D	"D" qualifier indicates analytes reported from a diluted run of the original analysis.
E	"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
J	"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
B	"B" qualifier indicates that the analyte was present in the method blank
NE	Regulatory Limit is not established
Bold Value	= concentration detected above the Method Reporting Limit.
	= concentration equals or exceeds the RIDEM GB Groundwater Objective (RIDEM GB GW Objectives)
	=detection limit equals or exceeds the RIDEM GB Groundwater Objective
(1)	Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
(2)	Well was not sampled because there was limited water
(3)	NAPL was noted to be present
(4)	Well was not sampled because it had not been installed yet.
(5)	Well was not sampled because of an unknown reason
(6)	Well was not included in this sampling round

Please note that this table only includes compounds that have been detected or have detection limits that exceeded the RIDEM GB Groundwater Objective during groundwater monitoring at the Site between 1996 and present.

TABLE 5V
GROUNDWATER MONITORING DATA
Former Power Plant Area
Former Tidewater Facility
Pawtucket, Rhode Island

ANALYTICAL	Sample ID:		MW-337												
	Collected By:		AES	VHB	GZA		GZA	GZA		GZA		GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010	Dec 2010		July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015
	RIDEM GB GW UCL	RIDEM GB GW-O	Note (4)	Note (4)	Note (4)		Note (4)								
VOCs (ppm)								Result	DL	Result	DL	Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	J 0.0004
1,2-Dibromo-3-Chloropropane	NE	0.002						<	0.002	<	0.002	<0.005	<0.005	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
4-Isopropyltoluene	NE	NE										<0.001	<0.001	<0.0010	<0.0010
Acetone	NE	NE						<	0.010	<	0.010	<0.01	<0.01	<0.0100	<0.0100
Benzene	18	0.14						<	0.001	<	0.001	<0.001	<0.001	**0.0036**	**0.0039**
Carbon Disulfide	NE	NE								<	0.001	<0.001	<0.001	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
Chloroform	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
Ethylbenzene	16	1.6						<	0.001	<	0.001	<0.001	<0.001	<0.0010	J 0.0008
Isopropylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	J 0.0003
Methyl tert-Butyl Ether	NE	5						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
Methylene Chloride	NE	NE						<	0.002	<	0.002	<0.0020	<0.0020	<0.0020	<0.0020
Naphthalene	NE	2.67						<	0.002	<	0.002	<0.001	<0.001	<0.0010	**0.0033**
n-Butylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
n-Propylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
sec-Butylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
Styrene	50	2.2						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
tert-Butylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.001	<0.001	<0.0010	<0.0010
Tetrachloroethene	NE	0.15						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
Toluene	21	1.7						<	0.001	<	0.001	<0.001	<0.001	<0.0010	J 0.0001
Trichloroethene	87	0.54						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
Vinyl Chloride	NE	0.002						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
Xylene O	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	J 0.0002
Xylene P,M	NE	NE						<	0.002	<	0.002	<0.002	<0.002	<0.0020	<0.0020
Xylenes (Total)	NE	NE						<	0	<	0.003	<0.003	<0.003	<0.0030	<0.0020
Total VOCs	NE	NE						<	0.12	<	0.122	<0.122	<0.6415	**0.0036**	**0.0057**
TOTAL PETROLEUM HYDROCARBON (ppm)															
Hydrocarbon Content	NE	NE						**0.69**	0.2	**0.46**	0.2	**0.91**	**1.36**	**1.32**	
PAHS BY GCMS (ppm)															
2-Methylnaphthalene	NE	NE						<	0.002	<	0.002	<0.0002	<0.0009 D	<0.0002	
Acenaphthene	NE	NE						<	0.002	<	0.002	**0.0004**	<0.0009 D	**0.0015**	
Acenaphthylene	NE	NE						<	0.002	<	0.002	**0.0004**	<0.001 D	**0.0021**	
Anthracene	NE	NE						<	0.002	<	0.002	<0.0002	<0.0009 D	<0.0002	
Benzo [a] Anthracene	NE	NE						<	0.002	<	0.002	<0.0002	<0.0002 D	**0.00007**	
Benzo [a] Pyrene	NE	NE						<	0.002	<	0.002	<0.0002	<0.0002 D	<0.00005	
Benzo [b] Fluoranthene	NE	NE						<	0.002	<	0.002	<0.0002	<0.0002 D	<0.00005	
Benzo [g,h,i] Perylene	NE	NE						<	0.002	<	0.002	<0.0002	<0.0009 D	<0.0002	
Benzo [k] Fluoranthene	NE	NE						<	0.002	<	0.002	<0.0002	<0.0002 D	<0.00005	
Chrysene	NE	NE						<	0.002	<	0.002	<0.0002	<0.0002 D	**0.00006**	
Dibenzo [a,h] Anthracene	NE	NE						<	0.002	<	0.002	<0.0002	<0.0002 D	<0.00005	
Fluoranthene	NE	NE						<	0.002	<	0.002	**0.001**	**0.0012 D**	**0.0011**	
Fluorene	NE	NE						<	0.002	<	0.002	**0.0009**	**0.0016 D**	**0.0021**	
Indeno [1,2,3-cd] Pyrene	NE	NE						<	0.002	<	0.002	<0.0002	<0.0002 D	<0.00005	
Naphthalene	NE	2.67						<	0.002	<	0.002	**0.0002**	**0.0014 D**	**0.0003**	
Phenanthrene	NE	NE						<	0.002	<	0.002	<0.0002	<0.0009 D	<0.0002	
Pyrene	NE	NE						<	0.002	<	0.002	**0.001**	**0.0012 D**	**0.0012**	
INORGANICS (ppm)															
Total Cyanide	NE	NE						**0.20**	0.010	**0.19**	0.010	**0.127**	**0.282 D**	**0.328**	
Dissolved Free Cyanide	NE	NE						<	0.010	<	0.010	**0.0099**	**0.267 D**	**0.237**	
Physiologically Available Cyanide	NE	NE													
Arsenic	NE	NE													
Beryllium	NE	NE													
Chromium	NE	NE													
Copper	NE	NE													
Lead	NE	NE													
Nickel	NE	NE													
Zinc	NE	NE													
Dissolved Arsenic	NE	NE													
Dissolved Beryllium	NE	NE													
Dissolved Chromium	NE	NE													
Dissolved Copper	NE	NE													
Dissolved Lead	NE	NE													
Dissolved Nickel	NE	NE													
Dissolved Zinc	NE	NE													

Notes:

	Blank cells indicate that the parameter was not analyzed during this sampling round
D	"D" qualifier indicates analytes reported from a diluted run of the original analysis.
E	"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
J	"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
B	"B" qualifier indicates that the analyte was present in the method blank
NE	Regulatory Limit is not established
Bold Value	= concentration detected above the Method Reporting Limit.
	= concentration equals or exceeds the RIDEM GB Groundwater Objective (RIDEM GB GW Objectives)
	=detection limit equals or exceeds the RIDEM GB Groundwater Objective
(1)	Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
(2)	Well was not sampled because there was limited water
(3)	NAPL was noted to be present
(4)	Well was not sampled because it had not been installed yet.
(5)	Well was not sampled because of an unknown reason
(6)	Well was not included in this sampling round

Please note that this table only includes compounds that have been detected or have detection limits that exceeded the RIDEM GB Groundwater Objective during groundwater monitoring at the Site between 1996 and present.

TABLE 5W
GROUNDWATER MONITORING DATA
South Fill Area
Former Tidewater Facility
Pawtucket, Rhode Island

ANALYTICAL	Sample ID:		MW-107												
	Collected By:		AES	VHB	GZA		GZA		GZA	GZA		GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		July 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015
	RIDEM GB GW UCL	RIDEM GB GW-O	Note (4)						Note (6)						
VOCs (ppm)				Result	Result	DL	Result	DL		Result	DL	Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
1,2-Dibromo-3-Chloropropane	NE	0.002			<	0.005	<	0.002		<	0.002	<0.005	<0.005	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
4-Isopropyltoluene	NE	NE										<0.001	<0.001	<0.0010	<0.0010
Acetone	NE	NE			<	0.025	<	0.010		<	0.010	<0.01	<0.01	<0.0100	<0.0100
Benzene	18	0.14		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	J 0.0002
Carbon Disulfide	NE	NE								<	0.001	<0.001	<0.001	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Chloroform	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	J 0.0003
cis-1,2-Dichloroethene	69	2.4			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Ethylbenzene	16	1.6		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Isopropylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Methyl tert-Butyl Ether	NE	5		<0.001	<	0.001	<	0.002		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Methylene Chloride	NE	NE			<	0.002	<	0.002		<	0.002	<0.0020	<0.0020	<0.0020	<0.0020
Naphthalene	NE	2.67		<0.001	<	0.002	<	0.002		<	0.002	<0.001	<0.001	<0.0010	<0.0010
n-Butylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
n-Propylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
sec-Butylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Styrene	50	2.2			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
tert-Butylbenzene	NE	NE			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.001	<0.001	<0.0010	<0.0010
Tetrachloroethene	NE	0.15			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	J 0.0002
Toluene	21	1.7		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Trichloroethene	87	0.54			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	J 0.0004
Vinyl Chloride	NE	0.002			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Xylene O	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Xylene P,M	NE	NE		<0.002	<	0.002	<	0.001		<	0.002	<0.002	<0.002	<0.0020	<0.0020
Xylenes (Total)	NE	NE		<0.003	<	0.003	<	0.002		<	0.003	<0.003	<0.003	<0.0030	<0.0020
Total VOCs	NE	NE		<0.02	<	0.122	<	0.122		<	0.122	<0.6415	<0.6415	<0.6415	**0.0011**
TOTAL PETROLEUM HYDROCARBON (ppm)															
Hydrocarbon Content	NE	NE			<	0.2	<	0.2		<	0.2	<0.21	<0.19	<0.19	
PAHS BY GCMS (ppm)															
2-Methylnaphthalene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0009 D	<0.0002	
Acenaphthene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0009 D	<0.0002	
Acenaphthylene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0009 D	<0.0002	
Anthracene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0009 D	<0.0002	
Benzo [a] Anthracene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002 D	<0.00005	
Benzo [a] Pyrene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002 D	<0.00005	
Benzo [b] Fluoranthene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002 D	<0.00005	
Benzo [g,h,i] Perylene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0009 D	<0.0002	
Benzo [k] Fluoranthene	NE	NE		<0.0003	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002 D	<0.00005	
Chrysene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002 D	<0.00005	
Dibenzo [a,h] Anthracene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002 D	<0.00005	
Fluoranthene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0009 D	<0.0002	
Fluorene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0009 D	<0.0002	
Indeno [1,2,3-cd] Pyrene	NE	NE		<0.0003	<	0.002	<	0.002		<	0.002	<0.0002	<0.0002 D	<0.00005	
Naphthalene	NE	2.67		<0.0002	<	0.002	<	0.002		<	0.002	**0.002**	<0.0009 D	<0.0002	
Phenanthrene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0009 D	<0.0002	
Pyrene	NE	NE		<0.0002	<	0.002	<	0.002		<	0.002	<0.0002	<0.0009 D	<0.0002	
INORGANICS (ppm)															
Total Cyanide	NE	NE		**0.07**	**0.020**	0.010	**0.052**	0.010		**0.040**	0.010	**0.0306**	**0.0472**	**0.0458**	
Dissolved Free Cyanide	NE	NE		<0.05	<	0.010	<	0.010		<	0.010	<0.005	**0.0445**	**0.031**	
Physiologically Available Cyanide	NE	NE		<0.05											
Arsenic	NE	NE		<0.0050											
Beryllium	NE	NE		**0.003**											
Chromium	NE	NE		**0.038**											
Copper	NE	NE		**0.12**											
Lead	NE	NE		**0.0075**											
Nickel	NE	NE		**0.092**											
Zinc	NE	NE		**0.255**											
Dissolved Arsenic	NE	NE		<0.0050											
Dissolved Beryllium	NE	NE		**0.003**											
Dissolved Chromium	NE	NE		**0.037**											
Dissolved Copper	NE	NE		**0.119**											
Dissolved Lead	NE	NE		**0.0075**											
Dissolved Nickel	NE	NE		**0.093**											
Dissolved Zinc	NE	NE		**0.259**											

Notes:

	Blank cells indicate that the parameter was not analyzed during this sampling round
D	"D" qualifier indicates analytes reported from a diluted run of the original analysis.
E	"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
J	"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
B	"B" qualifier indicates that the analyte was present in the method blank
NE	Regulatory Limit is not established
Bold Value	= concentration detected above the Method Reporting Limit.
	= concentration equals or exceeds the RIDEM GB Groundwater Objective (RIDEM GB GW Objectives)
	=detection limit equals or exceeds the RIDEM GB Groundwater Objective
(1)	Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
(2)	Well was not sampled because there was limited water
(3)	NAPL was noted to be present
(4)	Well was not sampled because it had not been installed yet.
(5)	Well was not sampled because of an unknown reason
(6)	Well was not included in this sampling round

Please note that this table only includes compounds that have been detected or have detection limits that exceeded the RIDEM GB Groundwater Objective during groundwater monitoring at the Site between 1996 and present.

TABLE 5X
GROUNDWATER MONITORING DATA
South Fill Area
Former Tidewater Facility
Pawtucket, Rhode Island

ANALYTICAL	Sample ID:		MW-318S												
	Collected By:		AES	VHB	GZA		GZA		GZA	GZA		GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015
	RIDEM GB GW UCL	RIDEM GB GW-O	Note (4)	Note (4)	Note (4)				Note (6)						
VOCs (ppm)							Result	DL		Result	DL	Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE					<	0.01		<	0.01	<0.05	<0.001	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007					<	0.01		<	0.01	<0.05	<0.001	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE					**0.052**	0.01		**0.04**	0.01	<0.05	**0.043**	**0.0303**	**0.0255**
1,2-Dibromo-3-Chloropropane	NE	0.002					<	0.02		<	0.02	<0.25	<0.005	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE					**0.023**	0.01		**0.017**	0.01	<0.05	**0.0177**	**0.0124**	**0.0108**
4-Isopropyltoluene	NE	NE										<0.05	**0.0012**	<0.0010	J 0.0008
Acetone	NE	NE					<	0.10		<	0.10	<0.5	<0.01	<0.0100	J 0.0033
Benzene	18	0.14					**0.088**	0.01		**0.089**	0.01	**0.063**	**0.0733**	**0.0516**	**0.0408**
Carbon Disulfide	NE	NE								<	0.01	<0.05	<0.001	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07					<	0.01		<	0.01	<0.05	<0.001	<0.0010	<0.0010
Chloroform	NE	NE					<	0.01		<	0.01	<0.05	<0.001	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4					<	0.01		<	0.01	<0.05	<0.001	<0.0010	<0.0010
Ethylbenzene	16	1.6					**0.012**	0.01		**0.01**	0.01	<0.05	**0.0099**	**0.0062**	**0.0061**
Isopropylbenzene	NE	NE					<	0.01		<	0.01	<0.05	<0.001	<0.0010	J 0.0007
Methyl tert-Butyl Ether	NE	5					<	0.01		<	0.01	<0.05	<0.001	<0.0010	<0.0010
Methylene Chloride	NE	NE					<	0.01		<	0.01	<0.05	<0.0020	<0.0020	<0.0020
Naphthalene	NE	2.67					**1.2**	0.02		**1.1**	0.02	**1.22**	**0.988 D**	**0.883**	**0.755**
n-Butylbenzene	NE	NE					<	0.01		<	0.01	<0.05	<0.001	<0.0010	**0.0016**
n-Propylbenzene	NE	NE					<	0.01		<	0.01	<0.05	**0.002**	**0.0012**	**0.0013**
sec-Butylbenzene	NE	NE					<	0.01		<	0.01	<0.05	<0.001	<0.0010	J 0.0003
Styrene	50	2.2					<	0.01		<	0.01	<0.05	**0.0051**	**0.0024**	**0.0025**
tert-Butylbenzene	NE	NE					<	0.01		<	0.01	<0.05	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.05	<0.001	<0.0010	<0.0010
Tetrachloroethene	NE	0.15					<	0.01		<	0.01	<0.05	<0.001	<0.0010	<0.0010
Toluene	21	1.7					**0.076**	0.01		**0.072**	0.01	**0.0575**	**0.0659**	**0.0441**	**0.037**
Trichloroethene	87	0.54					<	0.01		<	0.01	<0.05	<0.001	<0.0010	<0.0010
Vinyl Chloride	NE	0.002					<	0.01		<	0.01	<0.05	<0.001	<0.0010	<0.0010
Xylene O	NE	NE					**0.046**	0.01		**0.039**	0.01	<0.05	**0.0374**	**0.0253**	**0.022**
Xylene P,M	NE	NE					**0.11**	0.02		**0.082**	0.02	<0.1	**0.083**	**0.0556**	**0.0486**
Xylenes (Total)	NE	NE					**0.156**	0.03		**0.121**	0.03	<0.15	**0.12**	**0.0809**	**0.0706**
Total VOCs	NE	NE					**1.61**			**1.449**		**1.3405**	**1.3265**	**1.1121**	**0.9563**
TOTAL PETROLEUM HYDROCARBON (ppm)															
Hydrocarbon Content	NE	NE					**1**	1.0		**2.9**	0.2	**4.13**	**3.42**	**1.51**	
PAHS BY GCMS (ppm)															
2-Methylnaphthalene	NE	NE					**0.048**	0.002		**0.044**	0.01	**0.06**	**0.0397 D**	**0.0544**	
Acenaphthene	NE	NE					**0.006**	0.002		<	0.01	**0.009**	**0.0046 D**	**0.0057**	
Acenaphthylene	NE	NE					**0.021**	0.002		**0.014**	0.01	**0.024**	**0.0129 D**	**0.022**	
Anthracene	NE	NE					**0.019**	0.002		<	0.01	**0.007**	**0.0036 D**	**0.005**	
Benzo [a] Anthracene	NE	NE					<	0.002		<	0.01	<0.002	<0.0002 D	**0.0006**	
Benzo [a] Pyrene	NE	NE					<	0.002		<	0.01	<0.002	<0.0002 D	**0.0006**	
Benzo [b] Fluoranthene	NE	NE					<	0.002		<	0.01	<0.002	<0.0002 D	**0.0007**	
Benzo [g,h,i] Perylene	NE	NE					<	0.002		<	0.01	<0.002	<0.0009 D	**0.0004**	
Benzo [k] Fluoranthene	NE	NE					<	0.002		<	0.01	<0.002	<0.0002 D	**0.0003**	
Chrysene	NE	NE					<	0.002		<	0.01	<0.002	<0.0002 D	**0.0005**	
Dibenzo [a,h] Anthracene	NE	NE					<	0.002		<	0.01	<0.002	<0.0002 D	**0.00009**	
Fluoranthene	NE	NE					**0.004**	0.002		<	0.01	<0.002	**0.001 D**	**0.0027**	
Fluorene	NE	NE					**0.014**	0.002		**0.012**	0.01	**0.02**	**0.0111 D**	**0.0228**	
Indeno [1,2,3-cd] Pyrene	NE	NE					<	0.002		<	0.01	<0.002	<0.0002 D	**0.0005**	
Naphthalene	NE	2.67					**0.21**	0.002		**0.38**	0.01	**0.753**	**0.351 D**	**0.43**	
Phenanthrene	NE	NE					**0.018**	0.002		<	0.01	**0.019**	**0.0106 D**	**0.0235**	
Pyrene	NE	NE					**0.003**	0.002		<	0.01	<0.002	<0.0009 D	**0.0017**	
INORGANICS (ppm)															
Total Cyanide	NE	NE					**0.50**	0.010		**0.01**	0.010	**0.0359**	**0.0125**	**0.027**	
Dissolved Free Cyanide	NE	NE					**0.020**	0.010		**0.01**	0.010	<0.005	**0.0119**	**0.01**	
Physiologically Available Cyanide	NE	NE													
Arsenic	NE	NE													
Beryllium	NE	NE													
Chromium	NE	NE													
Copper	NE	NE													
Lead	NE	NE													
Nickel	NE	NE													
Zinc	NE	NE													
Dissolved Arsenic	NE	NE													
Dissolved Beryllium	NE	NE													
Dissolved Chromium	NE	NE													
Dissolved Copper	NE	NE													
Dissolved Lead	NE	NE													
Dissolved Nickel	NE	NE													
Dissolved Zinc	NE	NE													

Notes:

	Blank cells indicate that the parameter was not analyzed during this sampling round
D	"D" qualifier indicates analytes reported from a diluted run of the original analysis.
E	"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
J	"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
B	"B" qualifier indicates that the analyte was present in the method blank
NE	Regulatory Limit is not established
Bold Value	= concentration detected above the Method Reporting Limit.
	= concentration equals or exceeds the RIDEM GB Groundwater Objective (RIDEM GB GW Objectives)
	=detection limit equals or exceeds the RIDEM GB Groundwater Objective
(1)	Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
(2)	Well was not sampled because there was limited water
(3)	NAPL was noted to be present
(4)	Well was not sampled because it had not been installed yet.
(5)	Well was not sampled because of an unknown reason
(6)	Well was not included in this sampling round

Please note that this table only includes compounds that have been detected or have detection limits that exceeded the RIDEM GB Groundwater Objective during groundwater monitoring at the Site between 1996 and present.

TABLE 5Y
GROUNDWATER MONITORING DATA
South Fill Area
Former Tidewater Facility
Pawtucket, Rhode Island

ANALYTICAL	Sample ID:		MW-318D												
	Collected By:		AES	VHB	GZA		GZA		GZA	GZA		GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015
	RIDEM GB GW UCL	RIDEM GB GW-O	Note (4)	Note (4)	Note (4)				Note (6)						
VOCs (ppm)							Result	DL		Result	DL	Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
1,2-Dibromo-3-Chloropropane	NE	0.002					<	0.002		<	0.002	<0.005	<0.005	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
4-Isopropyltoluene	NE	NE										<0.001	<0.001	<0.0010	<0.0010
Acetone	NE	NE					<	0.010		<	0.010	<0.01	<0.01	<0.0100	<0.0100
Benzene	18	0.14					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Carbon Disulfide	NE	NE								<	0.001	<0.001	<0.001	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Chloroform	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Ethylbenzene	16	1.6					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Isopropylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Methyl tert-Butyl Ether	NE	5					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Methylene Chloride	NE	NE					<	0.002		<	0.002	<0.0020	<0.0020	<0.0020	<0.0020
Naphthalene	NE	2.67					**0.0043**	0.002		<	0.002	<0.001	<0.001	**0.0013**	<0.0010
n-Butylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
n-Propylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
sec-Butylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Styrene	50	2.2					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
tert-Butylbenzene	NE	NE					<	0.001		<	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.001	<0.001	<0.0010	<0.0010
Tetrachloroethene	NE	0.15					<	0.001		<	0.001	<0.001	<0.001	<0.0010	J 0.0002
Toluene	21	1.7					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Trichloroethene	87	0.54					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Vinyl Chloride	NE	0.002					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Xylene O	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010
Xylene P,M	NE	NE					<	0.002		<	0.002	<0.002	<0.002	<0.0020	<0.0020
Xylenes (Total)	NE	NE					<	0.003		<	0.003	<0.003	<0.003	<0.0030	<0.0020
Total VOCs	NE	NE					<	0.122		<	0.122	<0.041	<0.6451	**0.0013**	**0.0002**
TOTAL PETROLEUM HYDROCARBON (ppm)															
Hydrocarbon Content	NE	NE					<	0.2		<	0.2	<0.21	<0.19	<0.19	
PAHS BY GCMS (ppm)															
2-Methylnaphthalene	NE	NE					<	0.002		<	0.002	**0.0008**	<0.0009 D	<0.0002	
Acenaphthene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0009 D	<0.0002	
Acenaphthylene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0009 D	<0.0002	
Anthracene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0009 D	<0.0002	
Benzo [a] Anthracene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0002 D	<0.00005	
Benzo [a] Pyrene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0002 D	<0.00005	
Benzo [b] Fluoranthene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0002 D	<0.00005	
Benzo [g,h,i] Perylene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0009 D	<0.0002	
Benzo [k] Fluoranthene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0002 D	<0.00005	
Chrysene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0002 D	<0.00005	
Dibenzo [a,h] Anthracene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0002 D	<0.00005	
Fluoranthene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0009 D	<0.0002	
Fluorene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0009 D	<0.0002	
Indeno [1,2,3-cd] Pyrene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0002 D	<0.00005	
Naphthalene	NE	2.67					<	0.002		<	0.002	**0.01**	<0.0009 D	<0.0002	
Phenanthrene	NE	NE					**0.002**	0.002		<	0.002	<0.0002	<0.0009 D	<0.0002	
Pyrene	NE	NE					<	0.002		<	0.002	<0.0002	<0.0009 D	<0.0002	
INORGANICS (ppm)															
Total Cyanide	NE	NE					<	0.010		<	0.010	<0.005	**0.0163**	**0.0234**	
Dissolved Free Cyanide	NE	NE					<	0.010		<	0.010	<0.005	**0.0138**	**0.015**	
Physiologically Available Cyanide	NE	NE													
Arsenic	NE	NE													
Beryllium	NE	NE													
Chromium	NE	NE													
Copper	NE	NE													
Lead	NE	NE													
Nickel	NE	NE													
Zinc	NE	NE													
Dissolved Arsenic	NE	NE													
Dissolved Beryllium	NE	NE													
Dissolved Chromium	NE	NE													
Dissolved Copper	NE	NE													
Dissolved Lead	NE	NE													
Dissolved Nickel	NE	NE													
Dissolved Zinc	NE	NE													

Notes:

	Blank cells indicate that the parameter was not analyzed during this sampling round
D	"D" qualifier indicates analytes reported from a diluted run of the original analysis.
E	"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
J	"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
B	"B" qualifier indicates that the analyte was present in the method blank
NE	Regulatory Limit is not established
Bold Value	= concentration detected above the Method Reporting Limit.
	= concentration equals or exceeds the RIDEM GB Groundwater Objective (RIDEM GB GW Objectives)
	=detection limit equals or exceeds the RIDEM GB Groundwater Objective
(1)	Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
(2)	Well was not sampled because there was limited water
(3)	NAPL was noted to be present
(4)	Well was not sampled because it had not been installed yet.
(5)	Well was not sampled because of an unknown reason
(6)	Well was not included in this sampling round

Please note that this table only includes compounds that have been detected or have detection limits that exceeded the RIDEM GB Groundwater Objective during groundwater monitoring at the Site between 1996 and present.

TABLE 5Z
GROUNDWATER MONITORING DATA
South Fill Area
Former Tidewater Facility
Pawtucket, Rhode Island

ANALYTICAL	Sample ID:		MW-334S											
	Collected By:		AES	VHB	GZA		GZA		GZA		GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010	Dec 2010		July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015
	RIDEM GB GW UCL	RIDEM GB GW-O	Note (4)	Note (4)	Note (4)		Note (4)								
VOCs (ppm)								Result	DL	Result	DL	Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE						**0.0034**	0.001	<	0.001	**0.0016**	**0.0011**	**0.0015**	J 0.0005
1,2-Dibromo-3-Chloropropane	NE	0.002						<	0.002	<	0.002	<0.005	<0.005	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE						**0.0013**	0.001	<	0.001	<0.001	<0.001	<0.0010	J 0.0002
4-Isopropyltoluene	NE	NE										<0.001	<0.001	<0.0010	<0.0010
Acetone	NE	NE						<	0.010	<	0.010	<0.01	<0.01	<0.0100	J 0.0032
Benzene	18	0.14						**0.0032**	0.001	**0.001**	0.001	**0.0021**	**0.002**	**0.0032**	**0.0019**
Carbon Disulfide	NE	NE								<	0.001	<0.001	<0.001	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
Chloroform	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
Ethylbenzene	16	1.6						<	0.001	<	0.001	<0.001	<0.001	<0.0010	J 0.0002
Isopropylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
Methyl tert-Butyl Ether	NE	5						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
Methylene Chloride	NE	NE						<	0.002	<	0.002	<0.0020	<0.0020	<0.0020	<0.0020
Naphthalene	NE	2.67						**0.071**	0.002	**0.014**	0.002	**0.0429**	**0.0334**	**0.0692**	**0.0246**
n-Butylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
n-Propylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
sec-Butylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
Styrene	50	2.2						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
tert-Butylbenzene	NE	NE						<	0.001	<	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.001	<0.001	<0.0010	<0.0010
Tetrachloroethene	NE	0.15						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
Toluene	21	1.7						**0.0018**	0.001	**0.0011**	0.001	**0.0012**	**0.001**	**0.0016**	J 0.0009
Trichloroethene	87	0.54						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
Vinyl Chloride	NE	0.002						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
Xylene O	NE	NE						**0.0025**	0.001	<	0.001	**0.0013**	<0.001	**0.0013**	J 0.0004
Xylene P,M	NE	NE						**0.0042**	0.002	<	0.002	<0.002	<0.002	**0.0022**	J 0.0008
Xylenes (Total)	NE	NE						**0.0067**	0	<	0.003	**0.0013**	<0.003	**0.0035**	<0.0020
Total VOCs	NE	NE						**0.0874**		**0.0161**		**0.0491**	**0.0375**	**0.079**	**0.0327**
TOTAL PETROLEUM HYDROCARBON (ppm)															
Hydrocarbon Content	NE	NE						**0.5**	0.2	**0.22**	0.2	**0.55**	**0.52**	<0.19	
PAHS BY GCMS (ppm)															
2-Methylnaphthalene	NE	NE						**0.0028**	0.002	<	0.002	**0.003**	**0.0019 D**	**0.0007**	
Acenaphthene	NE	NE						<	0.002	<	0.002	**0.001**	<0.001 D	**0.0004**	
Acenaphthylene	NE	NE						<	0.002	<	0.002	**0.0002**	<0.001 D	<0.0002	
Anthracene	NE	NE						<	0.002	<	0.002	**0.0005**	<0.001 D	**0.0004**	
Benzo [a] Anthracene	NE	NE						<	0.002	<	0.002	<0.0002	<0.0002 D	**0.00006**	
Benzo [a] Pyrene	NE	NE						<	0.002	<	0.002	<0.0002	<0.0002 D	<0.00005	
Benzo [b] Fluoranthene	NE	NE						<	0.002	<	0.002	<0.0002	<0.0002 D	<0.00005	
Benzo [g,h,i] Perylene	NE	NE						<	0.002	<	0.002	<0.0002	<0.001 D	<0.0002	
Benzo [k] Fluoranthene	NE	NE						<	0.002	<	0.002	<0.0002	<0.0002 D	<0.00005	
Chrysene	NE	NE						<	0.002	<	0.002	<0.0002	<0.0002 D	<0.00005	
Dibenzo [a,h] Anthracene	NE	NE						<	0.002	<	0.002	<0.0002	<0.0002 D	<0.00005	
Fluoranthene	NE	NE						<	0.002	<	0.002	**0.0006**	<0.001 D	**0.0005**	
Fluorene	NE	NE						<	0.002	<	0.002	**0.001**	<0.001 D	**0.0006**	
Indeno [1,2,3-cd] Pyrene	NE	NE						<	0.002	<	0.002	<0.0002	<0.0002 D	<0.00005	
Naphthalene	NE	2.67						**0.018**	0.002	**0.0075**	0.002	**0.023**	**0.0142 D**	**0.0044**	
Phenanthrene	NE	NE						**0.0021**	0.002	<	0.002	**0.003**	**0.0027 D**	**0.0027**	
Pyrene	NE	NE						<	0.002	<	0.002	**0.0004**	<0.001 D	**0.0004**	
INORGANICS (ppm)															
Total Cyanide	NE	NE						**0.040**	0.010	**0.02**	0.010	**0.0564**	**0.0352**	**0.0127**	
Dissolved Free Cyanide	NE	NE						<	0.010	<	0.010	<0.005	**0.0286**	**0.011**	
Physiologically Available Cyanide	NE	NE													
Arsenic	NE	NE													
Beryllium	NE	NE													
Chromium	NE	NE													
Copper	NE	NE													
Lead	NE	NE													
Nickel	NE	NE													
Zinc	NE	NE													
Dissolved Arsenic	NE	NE													
Dissolved Beryllium	NE	NE													
Dissolved Chromium	NE	NE													
Dissolved Copper	NE	NE													
Dissolved Lead	NE	NE													
Dissolved Nickel	NE	NE													
Dissolved Zinc	NE	NE													

Notes:

	Blank cells indicate that the parameter was not analyzed during this sampling round
D	"D" qualifier indicates analytes reported from a diluted run of the original analysis.
E	"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
J	"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
B	"B" qualifier indicates that the analyte was present in the method blank
NE	Regulatory Limit is not established
Bold Value	= concentration detected above the Method Reporting Limit.
	= concentration equals or exceeds the RIDEM GB Groundwater Objective (RIDEM GB GW Objectives)
	=detection limit equals or exceeds the RIDEM GB Groundwater Objective
(1)	Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
(2)	Well was not sampled because there was limited water
(3)	NAPL was noted to be present
(4)	Well was not sampled because it had not been installed yet.
(5)	Well was not sampled because of an unknown reason
(6)	Well was not included in this sampling round

Please note that this table only includes compounds that have been detected or have detection limits that exceeded the RIDEM GB Groundwater Objective during groundwater monitoring at the Site between 1996 and present.

TABLE 5AA
GROUNDWATER MONITORING DATA
South Fill Area
Former Tidewater Facility
Pawtucket, Rhode Island

ANALYTICAL	Sample ID:		MW-334D													
	Collected By:		AES	VHB	GZA		GZA		GZA		GZA	GZA	GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010		Dec 2010		July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015
	RIDEM GB GW UCL	RIDEM GB GW-O	Note (4)	Note (4)	Note (4)		Note (4)									
VOCs (ppm)									Result	DL	Result	DL	Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE							<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007							<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE							**0.0042**	0.001	<	0.001	<0.001	<0.001	<0.0010	J 0.0002
1,2-Dibromo-3-Chloropropane	NE	0.002							<	0.002	<	0.002	<0.005	<0.005	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE							**0.0014**	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
4-Isopropyltoluene	NE	NE											<0.001	<0.001	<0.0010	<0.0010
Acetone	NE	NE							<	0.010	<	0.010	<0.01	<0.01	<0.0100	<0.0100
Benzene	18	0.14							**0.0030**	0.001	**0.0013**	0.001	**0.0013**	**0.0015**	**0.0084**	**0.0012**
Carbon Disulfide	NE	NE									<	0.001	<0.001	<0.001	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07							<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
Chloroform	NE	NE							<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4							**0.0024**	0.001	**0.0011**	0.001	**0.0012**	**0.0012**	**0.0013**	J 0.0007
Ethylbenzene	16	1.6							**0.0011**	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
Isopropylbenzene	NE	NE							<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
Methyl tert-Butyl Ether	NE	5							<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
Methylene Chloride	NE	NE							<	0.002	<	0.002	<0.0020	<0.0020	<0.0020	<0.0020
Naphthalene	NE	2.67							**0.11**	0.002	**0.0097**	0.002	**0.0213**	**0.0132**	**0.0178**	**0.0096**
n-Butylbenzene	NE	NE							<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
n-Propylbenzene	NE	NE							<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
sec-Butylbenzene	NE	NE							<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
Styrene	50	2.2							<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
tert-Butylbenzene	NE	NE							<	0.001	<	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE											<0.001	<0.001	<0.0010	<0.0010
Tetrachloroethene	NE	0.15							<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
Toluene	21	1.7							**0.0018**	0.001	<	0.001	<0.001	<0.001	**0.0012**	J 0.0004
Trichloroethene	87	0.54							**0.0045**	0.001	**0.0014**	0.001	**0.0023**	**0.0021**	**0.0024**	**0.0015**
Vinyl Chloride	NE	0.002							<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010
Xylene O	NE	NE							**0.0036**	0.001	<	0.001	<0.001	<0.001	<0.0010	J 0.0001
Xylene P,M	NE	NE							**0.0040**	0.002	<	0.002	<0.002	<0.002	<0.0020	J 0.0002
Xylenes (Total)	NE	NE							**0.0076**	0	<	0.003	<0.003	<0.003	<0.0030	<0.0020
Total VOCs	NE	NE							**0.136**		**0.0135**		**0.0261**	**0.018**	**0.0311**	**0.0139**
TOTAL PETROLEUM HYDROCARBON (ppm)																
Hydrocarbon Content	NE	NE							**0.47**	0.2	<	0.2	**0.45**	**0.33**	**0.2**	
PAHS BY GCMS (ppm)																
2-Methylnaphthalene	NE	NE							**0.0099**	0.002	<	0.002	**0.002**	**0.0013 D**	**0.0007**	
Acenaphthene	NE	NE							<	0.002	<	0.002	**0.0008**	<0.0009 D	**0.0004**	
Acenaphthylene	NE	NE							<	0.002	<	0.002	<0.0002	<0.0009 D	<0.0002	
Anthracene	NE	NE							<	0.002	<	0.002	**0.0005**	<0.0009 D	**0.0004**	
Benzo [a] Anthracene	NE	NE							<	0.002	<	0.002	<0.0002	<0.0002 D	**0.00006**	
Benzo [a] Pyrene	NE	NE							<	0.002	<	0.002	<0.0002	<0.0002 D	<0.00005	
Benzo [b] Fluoranthene	NE	NE							<	0.002	<	0.002	<0.0002	<0.0002 D	<0.00005	
Benzo [g,h,i] Perylene	NE	NE							<	0.002	<	0.002	<0.0002	<0.0009 D	<0.0002	
Benzo [k] Fluoranthene	NE	NE							<	0.002	<	0.002	<0.0002	<0.0002 D	<0.00005	
Chrysene	NE	NE							<	0.002	<	0.002	<0.0002	<0.0002 D	<0.00005	
Dibenzo [a,h] Anthracene	NE	NE							<	0.002	<	0.002	<0.0002	<0.0002 D	<0.00005	
Fluoranthene	NE	NE							<	0.002	<	0.002	**0.0007**	<0.0009 D	**0.0005**	
Fluorene	NE	NE							<	0.002	<	0.002	**0.001**	<0.0009 D	**0.0006**	
Indeno [1,2,3-cd] Pyrene	NE	NE							<	0.002	<	0.002	<0.0002	<0.0002 D	<0.00005	
Naphthalene	NE	2.67							<	0.002	**0.0036**	0.002	**0.008**	**0.0067 D**	**0.0044**	
Phenanthrene	NE	NE							**0.002**	0.002	<	0.002	**0.003**	**0.0029 D**	**0.0027**	
Pyrene	NE	NE							<	0.002	<	0.002	**0.0005**	<0.0009 D	**0.0004**	
INORGANICS (ppm)																
Total Cyanide	NE	NE							**0.35**	0.010	**0.02**	0.010	**0.0326**	**0.0256**	**0.0229**	
Dissolved Free Cyanide	NE	NE							**0.060**	0.010	<	0.010	<0.005	**0.0245**	**0.013**	
Physiologically Available Cyanide	NE	NE														
Arsenic	NE	NE														
Beryllium	NE	NE														
Chromium	NE	NE														
Copper	NE	NE														
Lead	NE	NE														
Nickel	NE	NE														
Zinc	NE	NE														
Dissolved Arsenic	NE	NE														
Dissolved Beryllium	NE	NE														
Dissolved Chromium	NE	NE														
Dissolved Copper	NE	NE														
Dissolved Lead	NE	NE														
Dissolved Nickel	NE	NE														
Dissolved Zinc	NE	NE														

Notes:

	Blank cells indicate that the parameter was not analyzed during this sampling round
D	"D" qualifier indicates analytes reported from a diluted run of the original analysis.
E	"E" qualifier indicates that the analyte was reported above the quantitation limit; Estimated value
J	"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.
B	"B" qualifier indicates that the analyte was present in the method blank
NE	Regulatory Limit is not established
Bold Value	= concentration detected above the Method Reporting Limit.
	= concentration equals or exceeds the RIDEM GB Groundwater Objective (RIDEM GB GW Objectives)
	=detection limit equals or exceeds the RIDEM GB Groundwater Objective
(1)	Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
(2)	Well was not sampled because there was limited water
(3)	NAPL was noted to be present
(4)	Well was not sampled because it had not been installed yet.
(5)	Well was not sampled because of an unknown reason
(6)	Well was not included in this sampling round

Please note that this table only includes compounds that have been detected or have detection limits that exceeded the RIDEM GB Groundwater Objective during groundwater monitoring at the Site between 1996 and present.

FIGURES

GROUNDWATER MONITORING REPORT
NATIONAL GRID
FORMER TIDEWATER FACILITY
PAWTUCKET, RHODE ISLAND

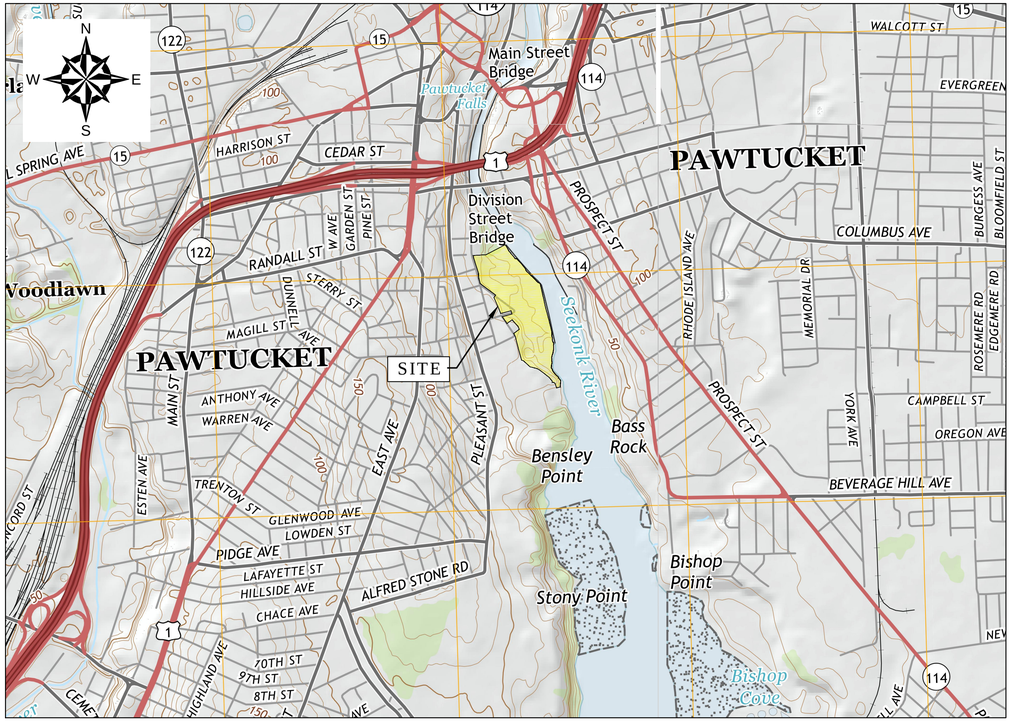
APRIL 2016

PREPARED FOR:

nationalgrid

PREPARED BY:

GZA
GeoEnvironmental, Inc.
Engineers and Scientists
530 Broadway
Providence, Rhode Island 02909

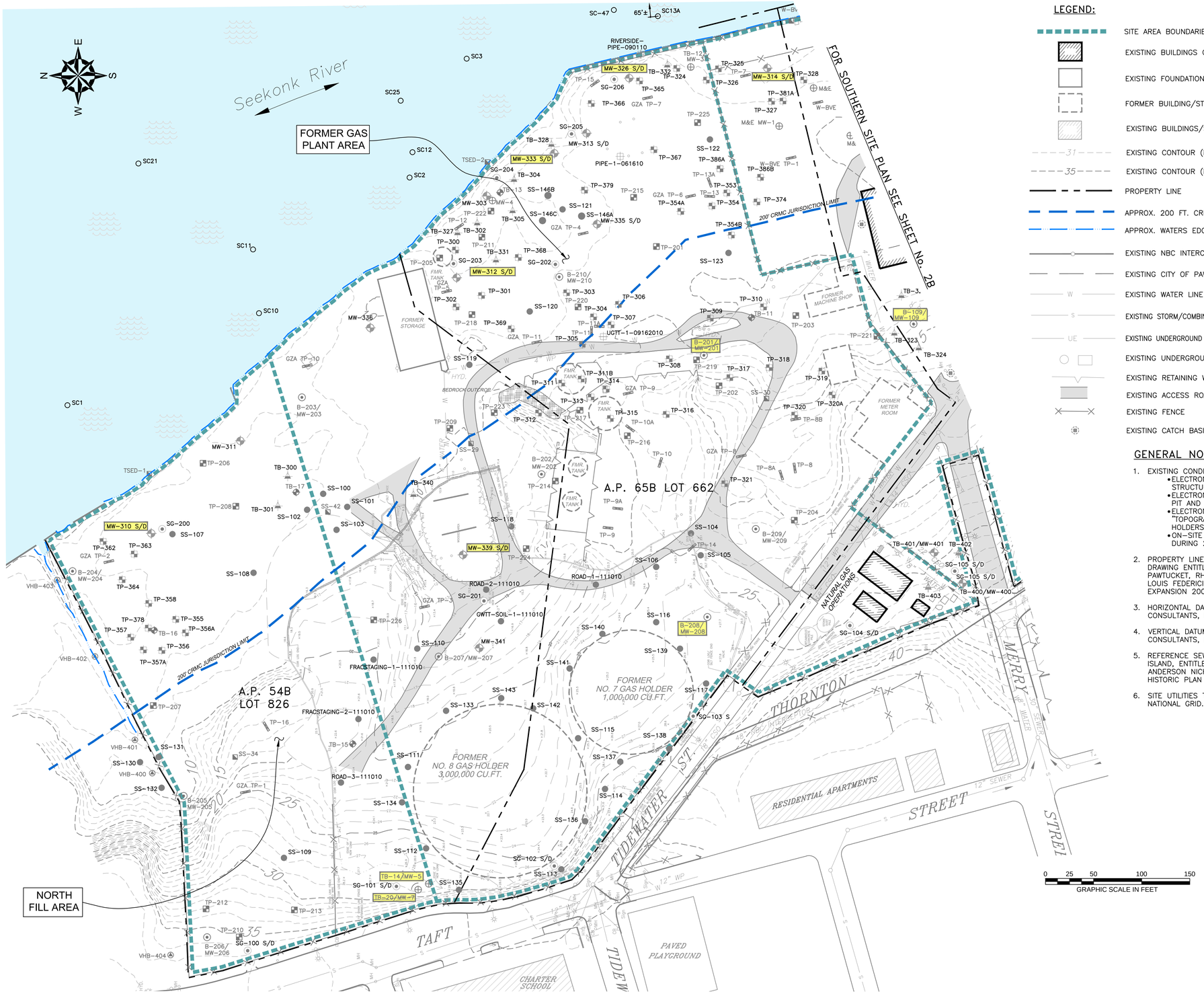


PROJECT LOCUS MAP

SOURCE: USGSSTORE.GOV

0 500' 1000' 2000' 3000'
SCALE IN FEET

INDEX OF DRAWINGS



LEGEND:

- SITE AREA BOUNDARIES
- EXISTING BUILDINGS ON-SITE
- EXISTING FOUNDATION/PAD ON-SITE
- FORMER BUILDING/STRUCTURE
- EXISTING BUILDINGS/STRUCTURES OFF-SITE
- EXISTING CONTOUR (MINOR 1 FOOT INTERVAL)
- EXISTING CONTOUR (MAJOR 5 FOOT INTERVAL)
- PROPERTY LINE
- APPROX. 200 FT. CRMC JURISDICTION LIMIT
- APPROX. WATERS EDGE
- EXISTING NBC INTERCEPTOR SANITARY SEWER
- EXISTING CITY OF PAWTUCKET STORM DRAIN
- EXISTING WATER LINE
- EXISTING STORM/COMBINED SAN. SEWER OVERFLOW
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- EXISTING UNDERGROUND ELECTRIC MH/STRUCTURE
- EXISTING RETAINING WALLS
- EXISTING ACCESS ROAD
- EXISTING FENCE
- EXISTING CATCH BASIN LOCATIONS

SAMPLE LEGEND

SS-9	ATLANTIC SURFACE SOIL SAMPLE LOCATION
TSED-6	ATLANTIC SEDIMENT SAMPLE LOCATION
W-BVE SS-3	WESTON/BLACKSTONE VALLEY ELECTRIC SEDIMENT SAMPLE LOCATION
RIDEM SS-3	RIDEM SURFACE SOIL SAMPLE LOCATION
B-109/ MW-109	MONITORING WELL/BORING (VHB) SURVEYED
TP-3A	ATLANTIC TEST PIT LOCATION
W-BVE	WESTON/BLACKSTONE VALLEY ELECTRIC TEST PIT LOCATION
GZA TP-8	GZA/VALLEY GAS TEST PIT LOCATION
TB-15	ATLANTIC SOIL BORING LOCATION
MW-3	ATLANTIC MONITORING WELL LOCATION
M&E MW-1	METCALF & EDDY MONITORING WELL LOCATION
VHB-400	VHB SURFACE SOIL SAMPLE LOCATION NON-SURVEYED
TP-204	VHB TEST PIT (2006)
GZ-01	GZA TEST PIT (2009)
TB-300	GZA TEST BORING LOCATION (2010-2011)
MW-320 S/D	GZA MONITORING WELL LOCATION (2010-2011)
TP-306	GZA TEST PIT LOCATION (2010)
SS-100	GZA SURFACE SOIL SAMPLE LOCATION (2010)
SC31	ARCADIS SEDIMENT SAMPLE LOCATION (2008)
PIPE-1-061610	GZA RESIDUAL MATERIAL SAMPLE (2010)
SG-200	INTERIOR SOIL GAS SAMPLING LOCATION
SG-100	PERIMETER SOIL GAS SAMPLING LOCATION
TB-400	GZA BORING LOCATION (2014)
MW-400	GZA MONITORING WELL LOCATION (2014)

INDICATES THAT MONITORING WELL WAS SAMPLED AS PART OF THE 2015 GROUNDWATER MONITORING PROGRAM

GENERAL NOTES:

1. EXISTING CONDITIONS BASE MAP DEVELOPED FROM THE FOLLOWING:
   - ELECTRONIC FILES FROM GEI CONSULTANTS, INC. (FORMERLY AES) ENTITLED "HISTORIC STRUCTURES AND SAMPLE LOCATIONS", ORIGINAL SCALE 1"=80', DATED JULY 1999
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   - ON-SITE INVESTIGATIONS AND SURVEYS BY GZA PERSONNEL DURING VARIOUS SITE VISITS DURING 2009 AND 2010.
2. PROPERTY LINES AND LOT INFORMATION ESTABLISHED FROM INFORMATION PROVIDED ON A DRAWING ENTITLED "PERIMETER SURVEY OF LAND AT THE TIDEWATER FORMER MGP SITE IN PAWTUCKET, RHODE ISLAND FOR ATLANTIC ENVIRONMENTAL SERVICES INC." DEVELOPED BY LOUIS FEDERICI AND ASSOCIATES AND AN AUTO CAD FILE ENTITLED "MAX READ FIELD TRACK EXPANSION 2007" PROVIDED BY THE CITY OF PAWTUCKET.
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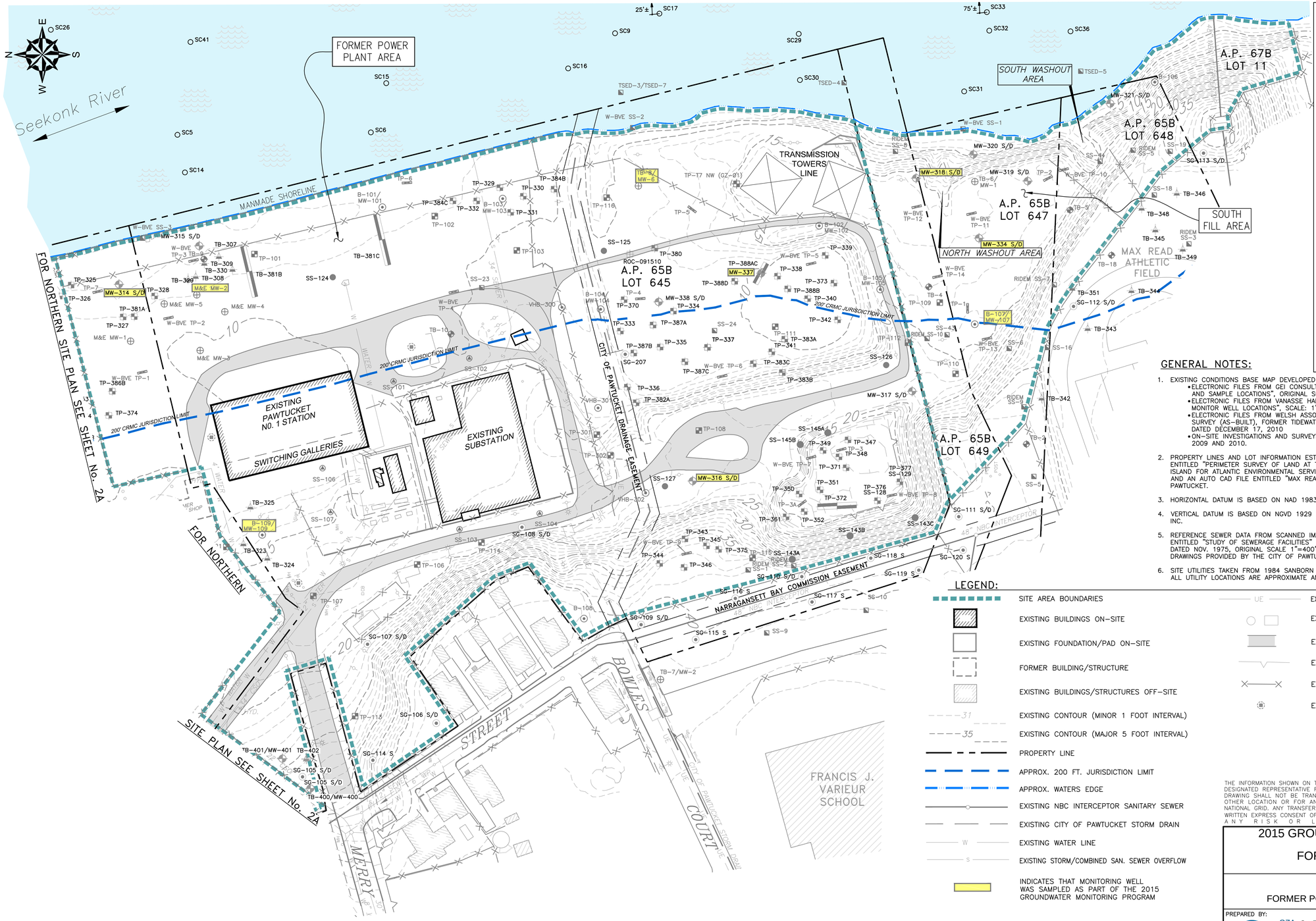
2015 GROUNDWATER MONITORING REPORT
NATIONAL GRID
FORMER TIDEWATER FACILITY
PAWTUCKET, RHODE ISLAND

EXPLORATION LOCATION PLAN
NORTH FILL AREA AND FORMER GAS PLANT AREA

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists, 530 BROADWAY, PROVIDENCE, RHODE ISLAND 02909, (401) 421-4140		PREPARED FOR: nationalgrid	
PROJ MGR: MSK	REVIEWED BY: SDN	CHECKED BY: SDN	FIGURE 2A
DESIGNED BY: SFD	DRAWN BY: CRD	SCALE: AS NOTED	
DATE: APRIL 2016	PROJECT NO.: 43654.00	REVISION NO.: 0	SHEET NO. 2 OF 6



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MW-320 S/D	GZA MONITORING WELL LOCATION (2010-2011)
TP-306	GZA TEST PIT LOCATION (2010)
SS-100	GZA SURFACE SOIL SAMPLE LOCATION (2010)
SC31	ARCADIS SEDIMENT SAMPLE LOCATION (2008)
PIPE-1-06161	GZA RESIDUAL MATERIAL SAMPLE (2010)
SG-200	INTERIOR SOIL GAS SAMPLING LOCATION
SG-100	PERIMETER SOIL GAS SAMPLING LOCATION
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GENERAL NOTES:

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- SITE AREA BOUNDARIES
- EXISTING BUILDINGS ON-SITE
- EXISTING FOUNDATION/PAD ON-SITE
- FORMER BUILDING/STRUCTURE
- EXISTING BUILDINGS/STRUCTURES OFF-SITE
- EXISTING CONTOUR (MINOR 1 FOOT INTERVAL)
- EXISTING CONTOUR (MAJOR 5 FOOT INTERVAL)
- PROPERTY LINE
- APPROX. 200 FT. JURISDICTION LIMIT
- APPROX. WATERS EDGE
- EXISTING NBC INTERCEPTOR SANITARY SEWER
- EXISTING CITY OF PAWTUCKET STORM DRAIN
- EXISTING WATER LINE
- EXISTING STORM/COMBINED SAN. SEWER OVERFLOW
- INDICATES THAT MONITORING WELL WAS SAMPLED AS PART OF THE 2015 GROUNDWATER MONITORING PROGRAM
- EXISTING UNDERGROUND ELECTRIC CABLE IN CONDUIT
- EXISTING UNDERGROUND ELECTRIC MH/STRUCTURE
- EXISTING ACCESS ROAD
- EXISTING RETAINING WALLS
- EXISTING FENCE
- EXISTING CATCH BASIN LOCATIONS

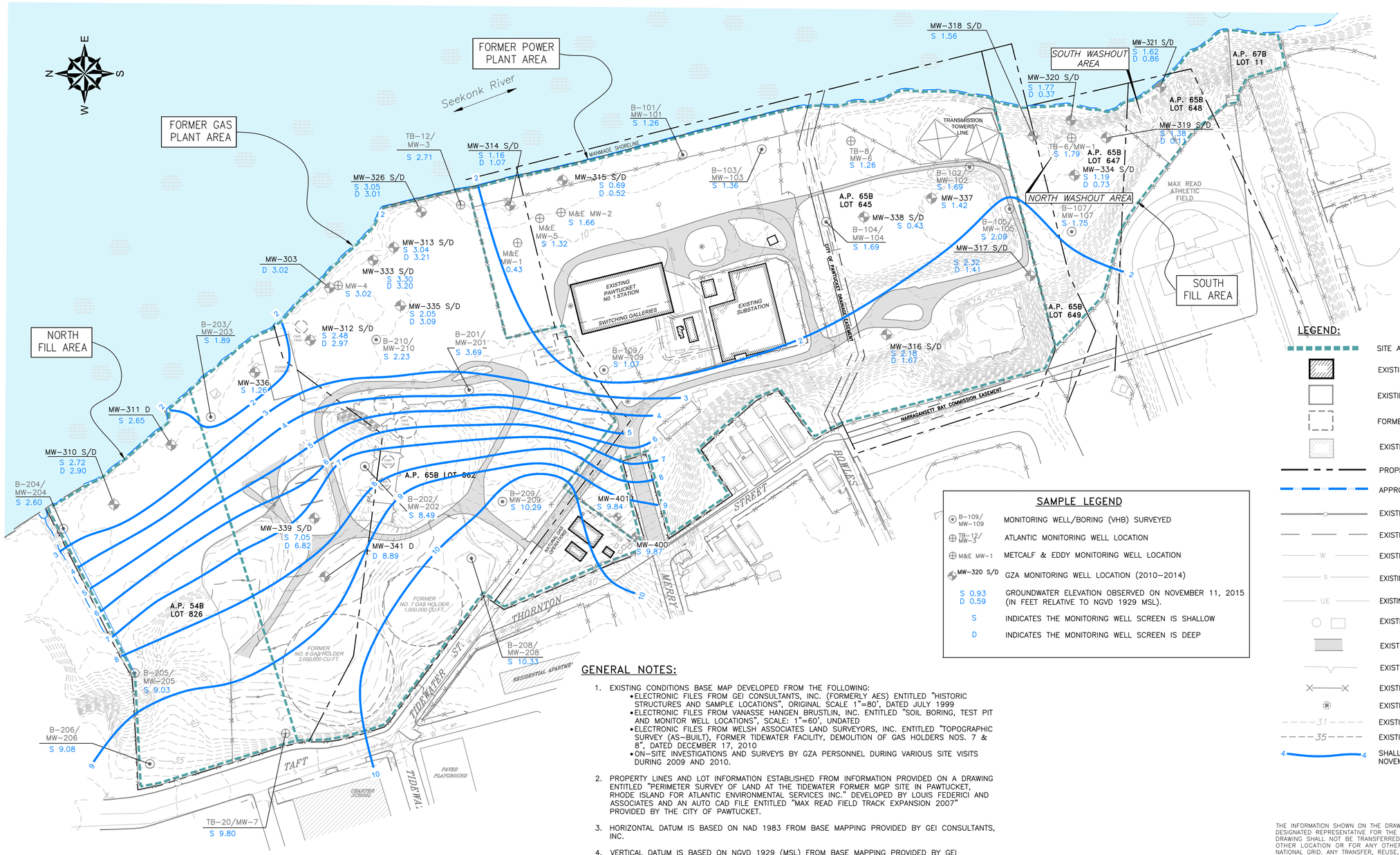
2015 GROUNDWATER MONITORING REPORT
NATIONAL GRID
FORMER TIDEWATER FACILITY
PAWTUCKET, RHODE ISLAND

EXPLORATION LOCATION PLAN
FORMER POWER PLANT AREA AND SOUTH FILL AREA

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
530 BROADWAY
PROVIDENCE, RHODE ISLAND 02909
(401) 421-4140

PREPARED FOR: nationalgrid

PROJ MGR: MSK	REVIEWED BY: SDN	CHECKED BY: SDN	FIGURE 2B
DESIGNED BY: SFD	DRAWN BY: CRD	SCALE: AS NOTED	
DATE: APRIL 2016	PROJECT NO.: 43654.00	REVISION NO.: 0	SHEET NO. 3 OF 6



SAMPLE LEGEND

B-109/ MW-109	MONITORING WELL/BORING (VHB) SURVEYED
TB-12/ MW-3	ATLANTIC MONITORING WELL LOCATION
M&E MW-1	METCALF & EDDY MONITORING WELL LOCATION
MW-320 S/D	GZA MONITORING WELL LOCATION (2010-2014)
S 0.93 D 0.59	GROUNDWATER ELEVATION OBSERVED ON NOVEMBER 11, 2015 (IN FEET RELATIVE TO NGVD 1929 MSL).
S	INDICATES THE MONITORING WELL SCREEN IS SHALLOW
D	INDICATES THE MONITORING WELL SCREEN IS DEEP

LEGEND:

- SITE AREA BOUNDARIES
- EXISTING BUILDINGS ON-SITE
- EXISTING FOUNDATION/PAD ON-SITE
- FORMER BUILDING/STRUCTURE
- EXISTING BUILDINGS/STRUCTURES OFF-SITE
- PROPERTY LINE
- APPROX. WATERS EDGE
- EXISTING NBC INTERCEPTOR SANITARY SEWER
- EXISTING CITY OF PAWTUCKET STORM DRAIN
- W — EXISTING WATER LINE
- S — EXISTING STORM/COMBINED SAN. SEWER OVERFLOW
- UE — EXISTING UNDERGROUND ELECTRIC CABLE IN CONDUIT
- EXISTING UNDERGROUND ELECTRIC MH/STRUCTURE
- EXISTING ACCESS ROAD
- EXISTING RETAINING WALLS
- EXISTING FENCE
- EXISTING CATCH BASIN LOCATIONS
- 31 — EXISTING CONTOUR (MINOR 1 FOOT INTERVAL)
- 35 — EXISTING CONTOUR (MAJOR 5 FOOT INTERVAL)
- 4 — 4 SHALLOW GROUNDWATER ELEVATION CONTOUR ON NOVEMBER 11, 2015

GENERAL NOTES:

1. EXISTING CONDITIONS BASE MAP DEVELOPED FROM THE FOLLOWING:
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6. SITE UTILITIES TAKEN FROM 1984 SANBORN MAP AND HISTORIC FIGURES PROVIDED BY NATIONAL GRID. ALL UTILITY LOCATIONS ARE APPROXIMATE AND SHOWN FOR REFERENCE ONLY.
7. SHALLOW GROUNDWATER CONTOURS (NGVD 1929 MSL) ARE BASED ON DATA FROM WIDELY SPACED EXPLORATIONS AND MAY NOT REFLECT ACTUAL SUBSURFACE CONDITIONS. WATER LEVEL READINGS WERE ON NOVEMBER 12, 2015.
8. WATER LEVEL READINGS HAVE BEEN MADE IN THE MONITORING WELLS AT THE TIMES AND UNDER THE CONDITIONS STATED ON THE SAMPLING LOGS. THESE DATA HAVE BEEN REVIEWED AND INTERPRETATIONS MADE IN THE TEXT OF THIS REPORT. HOWEVER, FLUCTUATIONS IN THE LEVEL OF THE GROUNDWATER MAY OCCUR DUE TO VARIATIONS IN RAINFALL, TEMPERATURE AND OTHER FACTORS.

0 40 80 160 240
GRAPHIC SCALE IN FEET

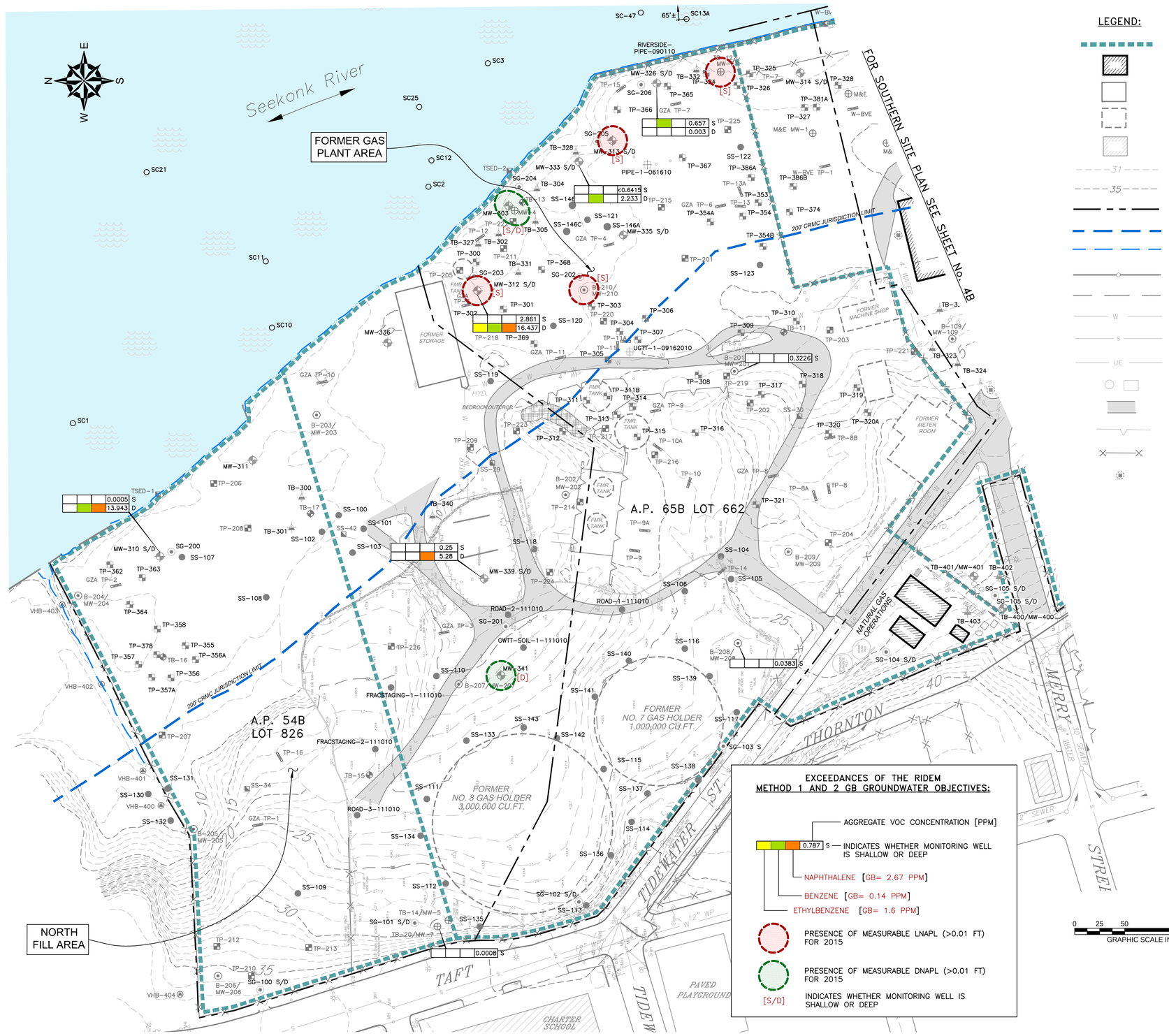
2015 GROUNDWATER MONITORING REPORT
NATIONAL GRID
FORMER TIDEWATER FACILITY
PAWTUCKET, RHODE ISLAND

SHALLOW GROUNDWATER CONTOUR PLAN
NOVEMBER 11, 2015

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
530 BROADWAY
PROVIDENCE, RHODE ISLAND 02909
(401) 421-4140

PREPARED FOR: nationalgrid

PROJ MGR: MSK	REVIEWED BY: SDN	CHECKED BY: SDN	FIGURE 3
DESIGNED BY: SFD	DRAWN BY: CRD	SCALE: AS NOTED	
DATE APRIL 2016	PROJECT NO. 43654.00	REVISION NO. 0	SHEET NO. 4 OF 6



LEGEND:

- SITE AREA BOUNDARIES
- EXISTING BUILDINGS ON-SITE
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- EXISTING CATCH BASIN LOCATIONS

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TSED-6	ATLANTIC SEDIMENT SAMPLE LOCATION
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GZA TP-8	GZA/VALLEY GAS TEST PIT LOCATION
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MW-3	ATLANTIC MONITORING WELL LOCATION
M&E MW-1	METCALF & EDDY MONITORING WELL LOCATION
VHB-400	VHB SURFACE SOIL SAMPLE LOCATION NON-SURVEYED
TP-204	VHB TEST PIT (2006)
GZ-01	GZA TEST PIT (2009)
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PIPE-1-061610	GZA RESIDUAL MATERIAL SAMPLE (2010)
SG-200	INTERIOR SOIL GAS SAMPLING LOCATION
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7. CONCENTRATIONS SHOWN ARE THE 2015 ANALYTICAL RESULTS.

EXCEEDANCES OF THE RIDEM METHOD 1 AND 2 GB GROUNDWATER OBJECTIVES:

0.787 S — AGGREGATE VOC CONCENTRATION [PPM]; INDICATES WHETHER MONITORING WELL IS SHALLOW OR DEEP

- NAPHTHALENE [GB= 2.67 PPM]
- BENZENE [GB= 0.14 PPM]
- ETHYLBENZENE [GB= 1.6 PPM]

PRESENCE OF MEASURABLE LNAPL (>0.01 FT) FOR 2015

PRESENCE OF MEASURABLE DNAPL (>0.01 FT) FOR 2015

[S/D] INDICATES WHETHER MONITORING WELL IS SHALLOW OR DEEP

0 25 50 100 150
GRAPHIC SCALE IN FEET

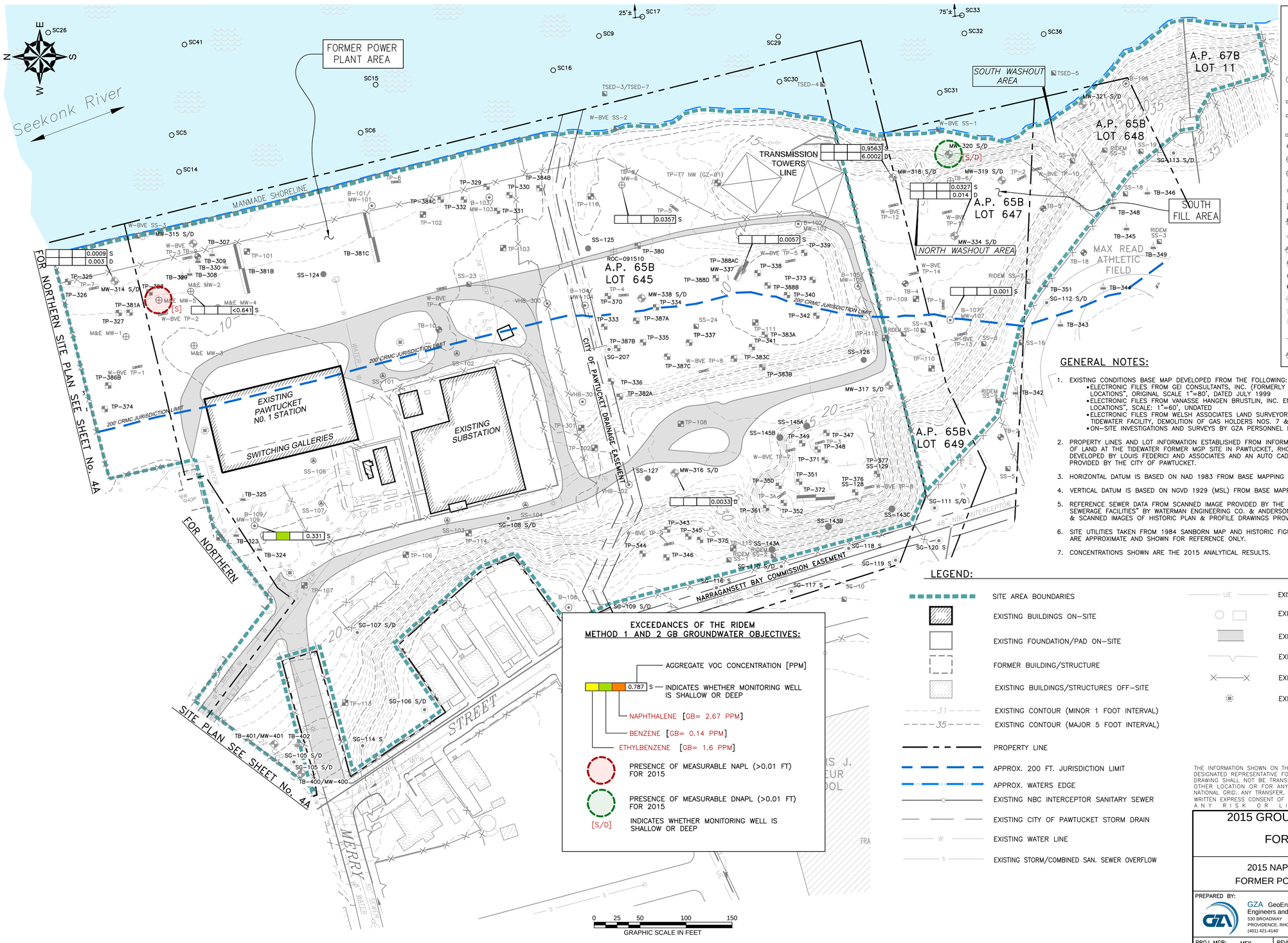
2015 GROUNDWATER MONITORING REPORT
NATIONAL GRID
FORMER TIDEWATER FACILITY
PAWTUCKET, RHODE ISLAND

2015 NAPL & ANALYTICAL GROUNDWATER DATA
NORTH FILL AREA AND FORMER GAS PLANT AREA

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
530 BROADWAY
PROVIDENCE, RHODE ISLAND 02909
(401) 421-4140

PREPARED FOR: nationalgrid

PROJ MGR: MSK	REVIEWED BY: SDN	CHECKED BY: SDN	FIGURE 4A
DESIGNED BY: SFD	DRAWN BY: CRD	SCALE: AS NOTED	
DATE: APRIL 2016	PROJECT NO. 43654.00	REVISION NO. 0	SHEET NO. 5 OF 6



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TSED-6	ATLANTIC SEDIMENT SAMPLE LOCATION
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GZ-01	GZA TEST PIT (2009)
TB-300	GZA TEST BORING LOCATION (2010-2011)
MW-320 S/D	GZA MONITORING WELL LOCATION (2010-2011)
TP-306	GZA TEST PIT LOCATION (2010)
SS-100	GZA SURFACE SOIL SAMPLE LOCATION (2010)
SC31	ARCADIS SEDIMENT SAMPLE LOCATION (2008)
PIPE-1-061610	GZA RESIDUAL MATERIAL SAMPLE (2010)
SG-200	INTERIOR SOIL GAS SAMPLING LOCATION
SG-100	PERIMETER SOIL GAS SAMPLING LOCATION
TB-400	GZA BORING LOCATION (2014)
MW-400	GZA MONITORING WELL LOCATION (2014)

GENERAL NOTES:

1. EXISTING CONDITIONS BASE MAP DEVELOPED FROM THE FOLLOWING:
   - ELECTRONIC FILES FROM GEI CONSULTANTS, INC. (FORMERLY AES) ENTITLED "HISTORIC STRUCTURES AND SAMPLE LOCATIONS", ORIGINAL SCALE 1"=80', DATED JULY 1999
   - ELECTRONIC FILES FROM VANASSE HANGEN BRUSTLIN, INC. ENTITLED "SOIL BORING, TEST PIT AND MONITOR WELL LOCATIONS", SCALE: 1"=60', UNDATED
   - ELECTRONIC FILES FROM WELSH ASSOCIATES LAND SURVEYORS, INC. ENTITLED "TOPOGRAPHIC SURVEY (AS-BUILT), FORMER TIDEWATER FACILITY, DEMOLITION OF GAS HOLDERS NOS. 7 & 8", DATED DECEMBER 17, 2010
   - ON-SITE INVESTIGATIONS AND SURVEYS BY GZA PERSONNEL DURING VARIOUS SITE VISITS DURING 2009 AND 2010.
2. PROPERTY LINES AND LOT INFORMATION ESTABLISHED FROM INFORMATION PROVIDED ON A DRAWING ENTITLED "PERIMETER SURVEY OF LAND AT THE TIDEWATER FORMER MGP SITE IN PAWTUCKET, RHODE ISLAND FOR ATLANTIC ENVIRONMENTAL SERVICES INC." DEVELOPED BY LOUIS FEDERICI AND ASSOCIATES AND AN AUTO CAD FILE ENTITLED "MAX READ FIELD TRACK EXPANSION 2007" PROVIDED BY THE CITY OF PAWTUCKET.
3. HORIZONTAL DATUM IS BASED ON NAD 1983 FROM BASE MAPPING PROVIDED BY GEI CONSULTANTS, INC.
4. VERTICAL DATUM IS BASED ON NGVD 1929 (MSL) FROM BASE MAPPING PROVIDED BY GEI CONSULTANTS, INC.
5. REFERENCE SEWER DATA FROM SCANNED IMAGE PROVIDED BY THE CITY OF PAWTUCKET, RHODE ISLAND, ENTITLED "STUDY OF SEWERAGE FACILITIES" BY WATERMAN ENGINEERING CO. & ANDERSON NICHOLS CO. DATED NOV. 1975, ORIGINAL SCALE 1"=400' & SCANNED IMAGES OF HISTORIC PLAN & PROFILE DRAWINGS PROVIDED BY THE CITY OF PAWTUCKET, RHODE ISLAND.
6. SITE UTILITIES TAKEN FROM 1984 SANBORN MAP AND HISTORIC FIGURES PROVIDED BY NATIONAL GRID. ALL UTILITY LOCATIONS ARE APPROXIMATE AND SHOWN FOR REFERENCE ONLY.
7. CONCENTRATIONS SHOWN ARE THE 2015 ANALYTICAL RESULTS.

EXCEEDANCES OF THE RIDEM METHOD 1 AND 2 GB GROUNDWATER OBJECTIVES:

- 0.787 S — AGGREGATE VOC CONCENTRATION [PPM]; INDICATES WHETHER MONITORING WELL IS SHALLOW OR DEEP
- NAPHTHALENE [GB= 2.67 PPM]
- BENZENE [GB= 0.14 PPM]
- ETHYLBENZENE [GB= 1.6 PPM]
- PRESENCE OF MEASURABLE NAPL (>0.01 FT) FOR 2015
- PRESENCE OF MEASURABLE DNAPL (>0.01 FT) FOR 2015
- [S/D] INDICATES WHETHER MONITORING WELL IS SHALLOW OR DEEP

LEGEND:

- SITE AREA BOUNDARIES
- EXISTING BUILDINGS ON-SITE
- EXISTING FOUNDATION/PAD ON-SITE
- FORMER BUILDING/STRUCTURE
- EXISTING BUILDINGS/STRUCTURES OFF-SITE
- EXISTING CONTOUR (MINOR 1 FOOT INTERVAL)
- EXISTING CONTOUR (MAJOR 5 FOOT INTERVAL)
- PROPERTY LINE
- APPROX. 200 FT. JURISDICTION LIMIT
- APPROX. WATERS EDGE
- EXISTING NBC INTERCEPTOR SANITARY SEWER
- EXISTING CITY OF PAWTUCKET STORM DRAIN
- W — EXISTING WATER LINE
- S — EXISTING STORM/COMBINED SAN. SEWER OVERFLOW
- UE — EXISTING UNDERGROUND ELECTRIC CABLE IN CONDUIT
- EXISTING UNDERGROUND ELECTRIC MH/STRUCTURE
- EXISTING ACCESS ROAD
- EXISTING RETAINING WALLS
- EXISTING FENCE
- EXISTING CATCH BASIN LOCATIONS

2015 GROUNDWATER MONITORING REPORT
NATIONAL GRID
FORMER TIDEWATER FACILITY
PAWTUCKET, RHODE ISLAND

2015 NAPL & ANALYTICAL GROUNDWATER DATA
FORMER POWER PLANT AREA AND SOUTH FILL AREA

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
530 BROADWAY
PROVIDENCE, RHODE ISLAND 02909
(401) 421-4140

PREPARED FOR: nationalgrid

PROJ MGR: MSK	REVIEWED BY: SDN	CHECKED BY: SDN	FIGURE 4B
DESIGNED BY: SFD	DRAWN BY: CRD	SCALE: AS NOTED	
DATE: APRIL 2016	PROJECT NO.: 43654.00	REVISION NO.: 0	SHEET NO. 6 OF 6

APPENDIX A

LIMITATIONS

LIMITATIONS

1. This Groundwater Monitoring Report has been prepared on behalf of and for the exclusive use of The Narragansett Electric Company d/b/a National Grid (National Grid), solely for use in summarizing field activities and findings from an groundwater monitoring event completed at the Former Tidewater MGP and Power Plant Site ("Site") under the applicable provisions of the State of Rhode Island Department of Environmental Management Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Remediation Regulations). This report and the findings contained herein shall not, in whole or in part, be disseminated or conveyed to any other party, nor used by any other party in whole or in part, without the prior written consent of GZA GeoEnvironmental, Inc.(GZA) or National Grid.

2. GZA's work was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographical area, and GZA observed that degree of care and skill generally exercised by other consultants under similar circumstances and conditions. GZA's findings and conclusions must be considered not as scientific certainties, but rather as our professional opinion concerning the significance of the limited data gathered during the course of the study. No other warranty, express or implied is made. Specifically, GZA does not and cannot represent that the Site contains no hazardous material, oil, or other latent condition beyond that observed by GZA during the work described herein.

3. The observations described in this report were made under the conditions stated therein. The conclusions presented in the report were based upon services performed and observations made by GZA.

4. In the event that National Grid or others authorized to use this report obtain information on environmental or hazardous waste issues at the Site not contained in this report, such information shall be brought to GZA's attention forthwith. GZA will evaluate such information and, on the basis of this evaluation, may modify the conclusions stated in this report.

5. The conclusions and recommendations contained in this report are based in part upon the data obtained from environmental samples obtained from relatively widely spread subsurface explorations. The nature and extent of variations between these explorations may not become evident until further exploration. If variations or other latent conditions then appear evident, it will be necessary to reevaluate the conclusions and recommendations of this report.

6. The generalized soil profile described in the text is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized

and have been developed by interpretations of widely spaced explorations and samples; actual soil transitions are probably more gradual. For specific information, refer to the boring logs.

7. In the event this work included the collection of water level data, these readings have been made in the test pits, borings and/or observation wells at times and under conditions stated on the exploration logs. These data have been reviewed and interpretations have been made in the text of this report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall and other factors different from those prevailing at the time measurements were made.

8. The conclusions contained in this report are based in part upon various types of chemical data and are contingent upon their validity. These data have been reviewed and interpretations made in the report. Moreover, it should be noted that variations in the types and concentrations of contaminants and variations in their flow paths may occur due to seasonal water table fluctuations, past disposal practices, the passage of time, and other factors. Should additional chemical data become available in the future, these data should be reviewed by GZA and the conclusions and recommendations presented herein modified accordingly.

APPENDIX B

LOW FLOW LOGS

GROUNDWATER SAMPLING DATA SHEET

File No. 43654.00 Task 42
Project: Tidewater Former MGP
Location: City: Pawtucket State: R.I.
Weather: Cloudy 50's

Well ID: M & E MW-2
Sample Date: 11/11/2015
Sampler's Name: SN

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 11/11/2015 10:40

Point of Measurement: PVC Riser [X] Steel Casing [ ] Ground [ ]

Total Well Depth (feet):	13.58	Standing Water in Well (feet):	4.43
Depth to LNAPL (feet):	-	Well Diameter (in.)	2
Depth to Water (feet):	9.15	Sample Depth (feet BGS):	9
Depth to DNAPL (feet):	-	Standpipe: TPVC to Ground Surface (feet)	-
Well Screened Interval (feet BGS):	Unknown	Roadbox: TPVC to Ground Surface (feet)	-

Well Condition: **Protective Casing-** [ ] Poor [X] Good **Lock-** [X] Yes [ ] No **Expansion Cap-** [ ] Yes [X] No **Well ID-** [X] Yes [ ] No **Concrete Collar-** [X] Yes [ ] No **Well-** [ ] Poor [X] Good

EQUIPMENT

Sample Method: [ ] Bail [X] Pump / [X] Low Flow

Pump Type: Peristaltic Pump No. 4 **Flow-Thru Cell Vol (mL):** 250

Meter Type: YSI & Lamotte No. 1

INSTRUMENT MEASUREMENTS:

Start time: 13:25 **Stop time:** 15:00

		1	2	3	4	5	6	7	8
Time: (start)	Depth to Water (ft) (drawdown <0.3 or stable)	ORP (mvolts) (± 10)	pH (s.u.) (± 0.1)	Spec. Cond. (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rdgs <0.5)	Temperature (ºC) (±3%)	Turbidity (ntu) (±10% or <5ntu)	Flow (ml/min) (<500 ml/min)	Notes
1429	9.61	74.1	7.18	14559	3.99	15	4	200	
1434	9.61	73.7	7.2	14491	3.72	13.9	4	200	
1438	9.61	73.9	7.22	14288	3.59	14	4	200	
1442	9.61	74.2	7.2	14443	3.68	14	4	200	

SAMPLE TESTING INFORMATION:

SAMPLE TIME: 15:00

Analysis	Method	No. Bottles	Bottle Type	Volume	Preservation	Handling
VOC's	8260B	3	VOA	40ml	HCl	None

Sample observations:

Color: None Odor: None Clarity: Clear

Total Purge Volume: 3 Gallons **Tubing Volume:** 0.1 Gallons

2" WELL = 0.163 GAL /FT = 0.617 LITERS/FT
1" WELL = 0.013 GAL /FT = 0.0492 LITERS/FT
3/8" TUBING - 0.0057 GAL/FT - 0.0217 LITERS/FT
1/4" TUBING - 0.0025 GAL/FT - 0.0096 LITERS/FT

Notes:

GROUNDWATER SAMPLING DATA SHEET

File No. 43654.00 Task 42
Project: Tidewater Former MGP
Location: City: Pawtucket State: R.I.
Weather:

Well ID: MW-6
Sample Date: 11/12/2015
Sampler's Name: SH

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 11/11/15 11:30

Point of Measurement: PVC Riser [X] Steel Casing [ ] Ground [ ]
Total Well Depth (feet): 19.03
Depth to LNAPL (feet):
Depth to Water (feet): 11.9
Depth to DNAPL (feet):
Well Screened Interval (feet BGS): 5.5 to 15.5

Standing Water in Well (feet): 7.13
Well Diameter (in.) 2
Sample Depth (feet BGS): 10
Standpipe: TPVC to Ground Surface (feet)
Roadbox: TPVC to Ground Surface (feet)

Well Condition: **Protective Casing-** [ ] Poor [X] Good **Lock-** [ ] Yes [ ] No **Expansion Cap-** [X] Yes [ ] No **Well ID-** [X] Yes [ ] No **Concrete Collar-** [X] Yes [ ] No **Well-** [ ] Poor [X] Good

EQUIPMENT

Sample Method: [ ] Bail [X] Pump / [ ] Low Flow

Pump Type: Peristaltic No.
Flow-Thru Cell Vol (mL): 250

Meter Type: YSI & Lamotte No. 3

INSTRUMENT MEASUREMENTS:

Start time: 14:45 **Stop time:** 16:10

		1	2	3	4	5	6	7	8
Time: (start)	Depth to Water (ft) (drawdown <0.3 or stable)	ORP (mvolts) (± 10)	pH (s.u.) (± 0.1)	Spec. Cond. (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rdgs <0.5)	Temperature (ºC) (±3%)	Turbidity (ntu) (±10% or <5ntu)	Flow (ml/min) (<500 ml/min)	Notes
15:32	11.71	58.8	6.19	12280	1.81	12.7	<5	<500	
15:35	11.71	56.8	6.21	12447	1.63	12.7	<5	<500	
15:38	11.71	59.1	6.22	12602	1.57	12.8	<5	<500	
15:41	11.71	49.5	6.22	12721	1.36	12.8	<5	<500	
15:46	11.71	41.8	6.21	12914	1.27	12.8	<5	<500	
15:54	11.71	28.5	6.2	13135	1.1	12.9	<5	<500	
15:59	11.71	24.5	6.2	13200	1.07	12.8	<5	<500	
16:02	11.71	23.9	6.2	13290	1.13	12.9	<5	<500	

SAMPLE TESTING INFORMATION:

SAMPLE TIME: 16:10

Analysis	Method	No. Bottles	Bottle Type	Volume	Preservation	Handling
VOC's	8260B	3	VOA	40ml	HCl	None

Sample observations:

Color: None Odor: None Clarity: Clear

Total Purge Volume: 3 Gallons

Tubing Volume: 0.15 Gallons

2" WELL = 0.163 GAL /FT = 0.617 LITERS/FT
1" WELL = 0.013 GAL /FT = 0.0492 LITERS/FT
3/8" TUBING - 0.0057 GAL/FT - 0.0217 LITERS/FT
1/4" TUBING - 0.0025 GAL/FT - 0.0096 LITERS/FT

Notes:

GROUNDWATER SAMPLING DATA SHEET

File No. 43654.00 Task 42
Project: Tidewater Former MGP
Location: City: Pawtucket State: R.I.
Weather: Cloudy 50's

Well ID: MW-7
Sample Date: 11/12/2015
Sampler's Name: SH

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 11/11/2015 9:35

Point of Measurement: PVC Riser [X] Steel Casing [ ] Ground [ ]
Total Well Depth (feet): 27.35
Depth to LNAPL (feet): -
Depth to Water (feet): 22.18
Depth to DNAPL (feet): -
Well Screened Interval (feet BGS): 19.5 to 29.5

Standing Water in Well (feet): 5.17
Well Diameter (in.) 2
Sample Depth (feet BGS): 26
Standpipe: TPVC to Ground Surface (feet) -
Roadbox: TPVC to Ground Surface (feet) -

Well Condition: **Protective Casing-** [ ] Poor [X] Good **Lock-** [ ] Yes [X] No **Expansion Cap-** [X] Yes [ ] No **Well ID-** [X] Yes [ ] No **Concrete Collar-** [X] Yes [X] No **Well-** [ ] Poor [X] Good

EQUIPMENT

Sample Method: [ ] Bail [X] Pump / [X] Low Flow

Pump Type: Dedicated Submersible No.
Flow-Thru Cell Vol (mL): 250

Meter Type: YSI & Lamotte No. 3

INSTRUMENT MEASUREMENTS:

Start time: 13:20 **Stop time:** 13:55

		1	2	3	4	5	6	7	8
Time: (start)	Depth to Water (ft) (drawdown <0.3 or stable)	ORP (mvolts) (± 10)	pH (s.u.) (± 0.1)	Spec. Cond. (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rdgs <0.5)	Temperature (ºC) (±3%)	Turbidity (ntu) (±10% or <5ntu)	Flow (ml/min) (<500 ml/min)	Notes
13:33	22.25	151.8	6.21	1763	5.24	13	<5	<500	
13:36	22.25	158.6	6.21	1774	5.15	13	<5	<500	
13:39	22.25	164.8	6.22	1774	5.08	13	<5	<500	
13:42	22.25	169.7	6.22	1777	5.09	13.1	<5	<500	
13:45	22.25	174.1	6.22	1782	5.08	13.1	<5	<500	
13:48	22.25	176.9	6.22	1787	5.06	13.1	<5	<500	
13:51	22.25	181.5	6.22	1787	5.1	13.2	<5	<500	

SAMPLE TESTING INFORMATION:

SAMPLE TIME: 13:55

Analysis	Method	No. Bottles	Bottle Type	Volume	Preservation	Handling
VOC's	8260B	3	VOA	40ml	HCl	None

Sample observations:

Color: None Odor: None Clarity: Clear

Total Purge Volume: 2 Gallons

Tubing Volume: 0.3 Gallons

2" WELL = 0.163 GAL /FT = 0.617 LITERS/FT
1" WELL = 0.013 GAL /FT = 0.0492 LITERS/FT
3/8" TUBING - 0.0057 GAL/FT - 0.0217 LITERS/FT
1/4" TUBING - 0.0025 GAL/FT - 0.0096 LITERS/FT

Notes:

GROUNDWATER SAMPLING DATA SHEET

File No. 43654.00 Task 42
Project: Tidewater Former MGP
Location: City: Pawtucket State: R.I.
Weather: Sunny 50's

Well ID: MW-107
Sample Date: 11/13/2015
Sampler's Name: SN &SD

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 11/11/2015 12:05

Point of Measurement: PVC Riser [X] Steel Casing [ ] Ground [ ]

Total Well Depth (feet):	27.7	Standing Water in Well (feet):	7.65
Depth to LNAPL (feet):	-	Well Diameter (in.)	2
Depth to Water (feet):	20.05	Sample Depth (feet BGS):	21
Depth to DNAPL (feet):	-	Standpipe: TPVC to Ground Surface (feet)	-
Well Screened Interval (feet BGS):	16 to 26	Roadbox: TPVC to Ground Surface (feet)	-

Well Condition: **Protective Casing-** [ ] Poor [X] Good **Lock-** [X] Yes [ ] No **Expansion Cap-** [X] Yes [ ] No **Well ID-** [X] Yes [ ] No **Concrete Collar-** [X] Yes [ ] No **Well-** [ ] Poor [X] Good

EQUIPMENT

Sample Method: [ ] Bail [X] Pump / [X] Low Flow

Pump Type: Peristaltic Pump No. 1
Flow-Thru Cell Vol (mL): 250

Meter Type: YSI & Lamotte No. 1

INSTRUMENT MEASUREMENTS:

Start time: 8:45 **Stop time:** 9:15

		1	2	3	4	5	6	7	8
Time: (start)	Depth to Water (ft) (drawdown <0.3 or stable)	ORP (mvolts) (± 10)	pH (s.u.) (± 0.1)	Spec. Cond. (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rdgs <0.5)	Temperature (ºC) (±3%)	Turbidity (ntu) (±10% or <5ntu)	Flow (ml/min) (<500 ml/min)	Notes
8:57	19.90	309	3.4	620	0.67	13.4	4	<500	
9:00	19.90	306.7	3.48	617	0.57	13.4	3	<500	
9:03	19.90	304.2	3.58	618	0.5	13.4	4	<500	
9:06	19.90	302.6	3.62	621	0.47	13.5	4	<500	
9:09	19.90	299.8	3.68	623	0.44	13.5	4	<500	

SAMPLE TESTING INFORMATION:

SAMPLE TIME: 9:15

Analysis	Method	No. Bottles	Bottle Type	Volume	Preservation	Handling
VOC's	8260B	3	VOA	40ml	HCl	None

Sample observations:

Color: None Odor: None Clarity: Clear

Total Purge Volume: 1 Gals. **Tubing Volume:** 0.2 Gallons

2" WELL = 0.163 GAL /FT = 0.617 LITERS/FT
1" WELL = 0.013 GAL /FT = 0.0492 LITERS/FT
3/8" TUBING - 0.0057 GAL/FT - 0.0217 LITERS/FT
1/4" TUBING - 0.0025 GAL/FT - 0.0096 LITERS/FT

Notes:
Collected BD-111315

GROUNDWATER SAMPLING DATA SHEET

File No. 43654.00 Task 42
Project: Tidewater Former MGP
Location: City: Pawtucket State: R.I.
Weather: Cloudy 50's

Well ID: MW-109
Sample Date: 11/11/2015
Sampler's Name: SN

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 11/11/15 / 9:00

Point of Measurement: PVC Riser [X] Steel Casing [ ] Ground [ ]

Total Well Depth (feet):	19.27	Standing Water in Well (feet):	7.27
Depth to LNAPL (feet):	-	Well Diameter (in.)	2
Depth to Water (feet):	12	Sample Depth (feet BGS):	15
Depth to DNAPL (feet):	-	Standpipe: TPVC to Ground Surface (feet)	-
Well Screened Interval (feet BGS):	10 to 20	Roadbox: TPVC to Ground Surface (feet)	-

Well Condition: **Protective Casing-** [ ] Poor [X] Good **Lock-** [ ] Yes [X] No **Expansion Cap-** [X] Yes [ ] No **Well ID-** [X] Yes [ ] No **Concrete Collar-** [X] Yes [ ] No **Well-** [ ] Poor [X] Good

EQUIPMENT

Sample Method: [ ] Bail [X] Pump / [X] Low Flow

Pump Type: Peristaltic Pump No. 2 **Flow-Thru Cell Vol (mL):** 250

Meter Type: YSI & Lamotte No. 3

INSTRUMENT MEASUREMENTS:

Start time: 1500 **Stop time:** 16:50

		1	2	3	4	5	6	7	8
Time: (start)	Depth to Water (ft) (drawdown <0.3 or stable)	ORP (mvolts) (± 10)	pH (s.u.) (± 0.1)	Spec. Cond. (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rdgs <0.5)	Temperature (ºC) (±3%)	Turbidity (ntu) (±10% or <5ntu)	Flow (ml/min) (<500 ml/min)	Notes
1637	12.87	-111	6.51	352	1.12	13.9	4	200	
1641	12.87	-102	6.51	351.1	0.4	14.2	4	200	
1644	12.87	-113.4	6.51	348.6	0.86	14.1	4	200	
1647	12.87	-113.9	6.5	346.1	0.81	14.1	4	200	

SAMPLE TESTING INFORMATION:

SAMPLE TIME: 1650

Analysis	Method	No. Bottles	Bottle Type	Volume	Preservation	Handling
VOC's	8260B	3	VOA	40ml	HCl	None

Sample observations:

Color: None Odor: Slight Fuel/Oil Like Clarity: Clear

Total Purge Volume: 2 Gallons **Tubing Volume: 0.1 Gallons**

2" WELL = 0.163 GAL /FT = 0.617 LITERS/FT
1" WELL = 0.013 GAL /FT = 0.0492 LITERS/FT
3/8" TUBING - 0.0057 GAL/FT - 0.0217 LITERS/FT
1/4" TUBING - 0.0025 GAL/FT - 0.0096 LITERS/FT

Notes:

Slight sheen on purge water.

GROUNDWATER SAMPLING DATA SHEET

File No. 43654.00 Task 42
Project: Tidewater Former MGP
Location: City: Pawtucket State: R.I.
Weather: Coudy 50's

Well ID: MW-201
Sample Date: 11/12/2015
Sampler's Name: SH

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 11/11/15 7:45

Point of Measurement: PVC Riser [X] Steel Casing [ ] Ground [ ]

Total Well Depth (feet):	15.03	Standing Water in Well (feet):	4.96
Depth to LNAPL (feet):	-	Well Diameter (in.)	2
Depth to Water (feet):	10.07	Sample Depth (feet BGS):	9
Depth to DNAPL (feet):	-	Standpipe: TPVC to Ground Surface (feet	-
Well Screened Interval (feet BGS):	2 to 13	Roadbox: TPVC to Ground Surface (feet)	-

Well Condition: **Protective Casing-** [ ] Poor [X] Good **Lock-** [X] Yes [ ] No **Expansion Cap-** [ ] Yes [X] No **Well ID-** [ ] Yes [ ] No **Concrete Colla** [X] Yes [ ] No **Well-** [ ] Poor [X] Good

EQUIPMENT

Sample Method: [ ] Bail [X] Pump / [X] Low Flow

Pump Type: Peristaltic Pump No. 2

Flow-Thru Cell Vol (mL): 250

Meter Type: YSI & Lamotte No. 3

INSTRUMENT MEASUREMENTS:

Start time: 7:40 **Stop time:** 9:00

		1	2	3	4	5	6	7	8
Time: (start)	Depth to Water (ft) (drawdown <0.3 or stable)	ORP (mvolts) (± 10)	pH (s.u.) (± 0.1)	Spec. Cond. (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rdgs <0.5)	Temperature (ºC) (±3%)	Turbidity (ntu) (±10% or <5ntu)	Flow (ml/min) (<500 ml/min)	Notes
8:00	10.83	42	6.71	912	3.2	13.1	<5	<500	
8:18	10.85	-55.6	7	820	2.03	13.1	<5	<500	
8:26	10.85	-77.1	7.05	798	2.3	13.1	<5	<500	
8:44	10.85	-118.7	7.17	759	4.97	13.1	<5	<500	
8:47	10.85	-124.5	7.18	754	5.57	13.2	<5	<500	
8:50	10.85	-133.2	7.21	741	5.71	13	<5	<500	
8:53	10.85	-134.8	7.2	738	5.92	13	<5	<500	
8:56	10.85	-136.6	7.2	736	5.88	13	<5	<500	

SAMPLE TESTING INFORMATION:

SAMPLE TIME: 9:00

Analysis	Method	No. Bottles	Bottle Type	Volume	Preservation	Handling
VOC's	8260B	3	VOA	40ml	HCl	None

Sample observations:

Color: None Odor: None Clarity: Clear

Total Purge Volume: 2.5 Gals.

Tubing Volume: 0.2 Gallons

2" WELL = 0.163 GAL /FT = 0.617 LITERS/FT
1" WELL = 0.013 GAL /FT = 0.0492 LITERS/FT
3/8" TUBING - 0.0057 GAL/FT - 0.0217 LITERS/FT
1/4" TUBING - 0.0025 GAL/FT - 0.0096 LITERS/FT

Notes:
Collected BD-111215-1

GROUNDWATER SAMPLING DATA SHEET

File No. 43654.00 Task 42
Project: Tidewater Former MGP
Location: City: Pawtucket State: R.I.
Weather: Cloudy 50's

Well ID: MW-208
Sample Date: 11/12/2015
Sampler's Name: SN & SD

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 11/11/15 10:05

Point of Measurement: PVC Riser [X] Steel Casing [ ] Ground [ ]

Total Well Depth (feet):	21.57	Standing Water in Well (feet):	3.67
Depth to LNAPL (feet):	-	Well Diameter (in.)	2"
Depth to Water (feet):	17.9	Sample Depth (feet BGS):	18
Depth to DNAPL (feet):	-	Standpipe: TPVC to Ground Surface (feet)	-
Well Screened Interval (feet BGS):	10 to 20	Roadbox: TPVC to Ground Surface (feet)	-

Well Condition: **Protective Casing-** [ ] Poor [X] Good **Lock-** [X] Yes [ ] No **Expansion Cap-** [X] Yes [ ] No **Well ID-** [X] Yes [ ] No **Concrete Collar-** [X] Yes [ ] No **Well-** [ ] Poor [X] Good

EQUIPMENT

Sample Method: [ ] Bail [ ] Pump / [ ] Low Flow

Pump Type: Peristaltic Pump No. 4 **Flow-Thru Cell Vol (mL):** 250

Meter Type: YSI & Lamotte No. 1

INSTRUMENT MEASUREMENTS:

Start time: 12:15 **Stop time: 13:00**

		1	2	3	4	5	6	7	8
Time: (start)	Depth to Water (ft) (drawdown <0.3 or stable)	ORP (mvolts) (± 10)	pH (s.u.) (± 0.1)	Spec. Cond. (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rdgs <0.5)	Temperature (ºC) (±3%)	Turbidity (ntu) (±10% or <5ntu)	Flow (ml/min) (<500 ml/min)	Notes
12:24	17.90	-6.7	6.32	709	1.47	13.6	3	200	
12:29	17.90	-6.5	6.29	712	1.32	13.6	3	200	
12:34	17.90	-9	6.31	721	1.24	13.7	4	200	
12:39	17.90	-11.3	6.35	721	1.18	13.6	3	200	
12:43	17.90	-12.5	6.35	721	1.09	13.6	3	200	
12:46	17.90	-13.6	6.36	721	1.06	13.6	3	200	

SAMPLE TESTING INFORMATION:

SAMPLE TIME: 13:00

Analysis	Method	No. Bottles	Bottle Type	Volume	Preservation	Handling
VOC's	8260B	3	VOA	40ml	HCl	None

Sample observations:

Color: Clear Odor: None - Clarity: Clear -

Total Purge Volume: 1 Gals. **Tubing Volume:** 0.1 Gals

2" WELL = 0.163 GAL /FT = 0.617 LITERS/FT
1" WELL = 0.013 GAL /FT = 0.0492 LITERS/FT
3/8" TUBING - 0.0057 GAL/FT - 0.0217 LITERS/FT
1/4" TUBING - 0.0025 GAL/FT - 0.0096 LITERS/FT

Notes:

Can not sample at midpoint - not enough water in well

GROUNDWATER SAMPLING DATA SHEET

File No. 43654.00 Task 42
Project: Tidewater Former MGP
Location: City: Pawtucket State: R.I.
Weather: Cloudy 50's

Well ID: MW-310D
Sample Date: 11/12/2015
Sampler's Name: SN & SD

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 11/11/15 / 9:00

Point of Measurement: PVC Riser [X] Steel Casing [ ] Ground [ ]

Total Well Depth (feet):	36.3	Standing Water in Well (feet):	30.02
Depth to LNAPL (feet):	-	Well Diameter (in.)	2"
Depth to Water (feet):	6.28	Sample Depth (feet BGS):	27
Depth to DNAPL (feet):	-	Standpipe: TPVC to Ground Surface (feet)	-
Well Screened Interval (feet BGS):	22 to 32	Roadbox: TPVC to Ground Surface (feet)	-

Well Condition: **Protective Casing-** [ ] Poor [X] Good **Lock-** [X] Yes [ ] No **Expansion Cap-** [X] Yes [ ] No **Well ID-** [X] Yes [ ] No **Concrete Collar-** [X] Yes [ ] No **Well-** [ ] Poor [X] Good

EQUIPMENT

Sample Method: [ ] Bail [X] Pump / [X] Low Flow

Pump Type: Peristalic Pump No. 1

Flow-Thru Cell Vol (mL): 250

Meter Type: YSI + Lamotte No. 1

INSTRUMENT MEASUREMENTS:

Start time: 8:30 **Stop time:** 9:30

		1	2	3	4	5	6	7	8
Time: (start)	Depth to Water (ft) (drawdown <0.3 or stable)	ORP (mvolts) (± 10)	pH (s.u.) (± 0.1)	Spec. Cond. (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rdgs <0.5)	Temperature (ºC) (±3%)	Turbidity (ntu) (±10% or <5ntu)	Flow (ml/min) (<500 ml/min)	Notes
8:41	5.15	-57.5	6.97	673	2.01	12	<5	<500	
8:46	5.10	-70.9	7.06	674	1.31	12.3	<5	<500	
8:54	5.10	-77.5	7.1	677	1.43	12.6	<5	<500	
9:04	5.20	-81.3	7.14	678	1.04	12.5	<5	<500	
9:15	5.40	-82.7	7.17	674	0.83	12.5	<5	<500	
9:20	5.44	-83.3	7.27	674	0.8	12.5	<5	<500	
9:23	5.5	-83.3	7.39	672	0.78	12.5	<5	<500	

SAMPLE TESTING INFORMATION:

SAMPLE TIME: 9:30

Analysis	Method	No. Bottles	Bottle Type	Volume	Preservation	Handling
VOC's	8260B	3	VOA	40ml	HCl	None

Sample observations:

Color: None - Odor: Coal Tar Like Clarity: Clear -

Total Purge Volume: 3 Gals.

Tubing Volume: 0.3 Gals

2" WELL = 0.163 GAL /FT = 0.617 LITERS/FT
1" WELL = 0.013 GAL /FT = 0.0492 LITERS/FT
3/8" TUBING - 0.0057 GAL/FT - 0.0217 LITERS/FT
1/4" TUBING - 0.0025 GAL/FT - 0.0096 LITERS/FT

Notes:

GROUNDWATER SAMPLING DATA SHEET

File No. 43654.00 Task 42
Project: Tidewater Former MGP
Location: City: Pawtucket State: R.I.
Weather: Cloudy 50's

Well ID: MW-310S
Sample Date: 11/12/2015
Sampler's Name: SN & SD

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 11/11/15 / 9:00

Point of Measurement: PVC Riser [X] Steel Casing [ ] Ground [ ]
Total Well Depth (feet): 17.2
Depth to LNAPL (feet): -
Depth to Water (feet): 6.87
Depth to DNAPL (feet): -
Well Screened Interval (feet BGS): 5 to 15

Standing Water in Well (feet): 10.33
Well Diameter (in.) 2"
Sample Depth (feet BGS): 10
Standpipe: TPVC to Ground Surface (feet) -
Roadbox: TPVC to Ground Surface (feet) -

Well Condition: **Protective Casing-** [ ] Poor [X] Good **Lock-** [X] Yes [ ] No **Expansion Cap-** [X] Yes [ ] No **Well ID-** [X] Yes [ ] No **Concrete Collar-** [X] Yes [ ] No **Well-** [ ] Poor [X] Good

EQUIPMENT

Sample Method: [ ] Bail [X] Pump / [X] Low Flow

Pump Type: Peristalic Pump No. 4
Flow-Thru Cell Vol (mL): 250

Meter Type: YSI + LAMOTTE No. 3

INSTRUMENT MEASUREMENTS:

Start time: 8:30 **Stop time:** 10:00

		1	2	3	4	5	6	7	8
Time: (start)	Depth to Water (ft) (drawdown <0.3 or stable)	ORP (mvolts) (± 10)	pH (s.u.) (± 0.1)	Spec. Cond. (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rdgs <0.5)	Temperature (ºC) (±3%)	Turbidity (ntu) (±10% or <5ntu)	Flow (ml/min) (<500 ml/min)	Notes
9:32	6.10	-12.4	6.78	561	0.73	13	NM	200	
9:37	6.15	-10.3	6.71	563	0.44	12.9	NM	200	
9:41	6.15	-9.4	6.65	569	0.43	13	NM	200	
9:45	6.10	-8.9	6.63	572	0.46	12.9	10	200	
9:49	6.10	-8.6	6.6	572	0.49	12.8	9.8	200	
9:53	6.2	-8.4	6.57	573	0.5	12.7	9.75	200	

SAMPLE TESTING INFORMATION:

SAMPLE TIME: 10:00

Analysis	Method	No. Bottles	Bottle Type	Volume	Preservation	Handling
VOC's	8260B	3	VOA	40ml	HCl	None

Sample observations:

Color: None - Odor: Coal Tar Like Clarity: Clear -

Total Purge Volume: 3 Gals.

Tubing Volume: 0.1 Gals

2" WELL = 0.163 GAL /FT = 0.617 LITERS/FT
1" WELL = 0.013 GAL /FT = 0.0492 LITERS/FT
3/8" TUBING - 0.0057 GAL/FT - 0.0217 LITERS/FT
1/4" TUBING - 0.0025 GAL/FT - 0.0096 LITERS/FT

Notes:
Very turbid at beginning - mostly cleared up

GROUNDWATER SAMPLING DATA SHEET

File No. 43654.00 Task 42
Project: Tidewater Former MGP
Location: City: Pawtucket State: R.I.
Weather: Cloudy 50's

Well ID: MW-312D
Sample Date: 11/12/2015
Sampler's Name: SH

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 11/11/2015 8:50

Point of Measurement: PVC Riser [X] Steel Casing [ ] Ground [ ]

Total Well Depth (feet):	31.9	Standing Water in Well (feet):	24.3
Depth to LNAPL (feet):	-	Well Diameter (in.)	2
Depth to Water (feet):	7.6	Sample Depth (feet BGS):	26
Depth to DNAPL (feet):	-	Standpipe: TPVC to Ground Surface (feet)	-
Well Screened Interval (feet BGS):	23 to 28	Roadbox: TPVC to Ground Surface (feet)	-

Well Condition: **Protective Casing-** [ ] Poor [X] Good **Lock-** [X] Yes [ ] No **Expansion Cap-** [X] Yes [ ] No **Well ID-** [X] Yes [ ] No **Concrete Collar-** [X] Yes [ ] No **Well-** [ ] Poor [X] Good

EQUIPMENT

Sample Method: [ ] Bail [X] Pump / [X] Low Flow

Pump Type: Peristaltic Pump No.
Flow-Thru Cell Vol (mL): 250

Meter Type: YSI & Lamotte No. 1

INSTRUMENT MEASUREMENTS:

Start time: 8:45
Stop time: 10:00

		1	2	3	4	5	6	7	8
Time: (start)	Depth to Water (ft) (drawdown <0.3 or stable)	ORP (mvolts) (± 10)	pH (s.u.) (± 0.1)	Spec. Cond. (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rdgs <0.5)	Temperature (ºC) (±3%)	Turbidity (ntu) (±10% or <5ntu)	Flow (ml/min) (<500 ml/min)	Notes
9:15	7.25	-98.7	7.6	889	1.98	13.1	<5	<500	
9:21	7.25	-106.3	7.62	894	1.7	13.2	<5	<500	
9:47	7.25	-109.2	7.64	855	1.1	13.2	<5	<500	
9:50	7.30	-108.6	7.64	853	1.17	13.1	<5	<500	
9:53	7.30	-108	7.64	851	1.19	13.1	<5	<500	
9:56	7.30	-107.9	7.64	845	1.18	13.1	<5	<500	

SAMPLE TESTING INFORMATION:

SAMPLE TIME: 10:00

Analysis	Method	No. Bottles	Bottle Type	Volume	Preservation	Handling
VOC's	8260B	3	VOA	40ml	HCl	None

Sample observations:

Color: None Odor: Coal Tar Like Clarity: Clear

Total Purge Volume: 2.5 Gals.

Tubing Volume: 0.2 Gallons

2" WELL = 0.163 GAL /FT = 0.617 LITERS/FT
1" WELL = 0.013 GAL /FT = 0.0492 LITERS/FT
3/8" TUBING - 0.0057 GAL/FT - 0.0217 LITERS/FT
1/4" TUBING - 0.0025 GAL/FT - 0.0096 LITERS/FT

Notes:

GROUNDWATER SAMPLING DATA SHEET

File No. 43654.00 Task 42
Project: Tidewater Former MGP
Location: City: Pawtucket State: R.I.
Weather:

Well ID: MW-312S
Sample Date: 11/12/2015
Sampler's Name: SH

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 11/11/15 8:55

Point of Measurement: PVC Riser [X] Steel Casing [ ] Ground [ ]

Total Well Depth (feet):	23.5	Standing Water in Well (feet):	15
Depth to LNAPL (feet):	8.1	Well Diameter (in.)	2
Depth to Water (feet):	8.5	Sample Depth (feet BGS):	13
Depth to DNAPL (feet):	-	Standpipe: TPVC to Ground Surface (feet)	-
Well Screened Interval (feet BGS):	5 to 20	Roadbox: TPVC to Ground Surface (feet)	-

Well Condition: **Protective Casing-** [ ] Poor [X] Good **Lock-** [X] Yes [ ] No **Expansion Cap-** [X] Yes [ ] No **Well ID-** [X] Yes [ ] No **Concrete Collar-** [X] Yes [ ] No **Well-** [ ] Poor [X] Good

EQUIPMENT

Sample Method: [ ] Bail [X] Pump / [X] Low Flow

Pump Type: Peristaltic Pump No.
Flow-Thru Cell Vol (mL): 250

Meter Type: YSI & Lamotte No. 3

INSTRUMENT MEASUREMENTS:

Start time: 9:30
Stop time: 11:30

		1	2	3	4	5	6	7	8
Time: (start)	Depth to Water (ft) (drawdown <0.3 or stable)	ORP (mvolts) (± 10)	pH (s.u.) (± 0.1)	Spec. Cond. (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rdgs <0.5)	Temperature (ºC) (±3%)	Turbidity (ntu) (±10% or <5ntu)	Flow (ml/min) (<500 ml/min)	Notes
10:05	NM	-164.7	6.75	6270	36	14.6	<5	<500	
10:15	NM	-223.9	6.72	7989	36.08	14.7	<5	<500	
10:19	NM	-227.6	6.69	8243	35.98	14.6	<5	<500	
10:22	NM	-231.6	6.64	8504	35.95	14.6	<5	<500	
10:27	NM	-231.7	6.54	8964	35.6	14.6	<5	<500	
10:31	NM	-239.7	6.46	9418	35.34	14.6	<5	<500	
10:42	NM	-249.9	6.36	10,451	35.12	14.6	<5	<500	
10:50	NM	-256	6.32	11,470	34.37	14.6	<5	<500	
10:57	NM	-258.2	6.28	11,899	36.2	14.6	<5	<500	
11:07	NM	-260	6.26	12,797	34.93	14.6	<5	<500	
11:15	NM	-254.2	6.25	13,342	35.31	14.7	<5	<500	
11:25	NM	-257.2	6.25	13,750	35.08	14.6	<5	<500	

SAMPLE TESTING INFORMATION:

SAMPLE TIME: 11:30

Analysis	Method	No. Bottles	Bottle Type	Volume	Preservation	Handling
VOC's	8260B	3	VOA	40ml	HCl	None

Sample observations:

Color: None Odor: Fuel/Oil Like Clarity: -

Total Purge Volume: 4 Gals.

Tubing Volume: 0.1 Gallons

2" WELL = 0.163 GAL /FT = 0.617 LITERS/FT
1" WELL = 0.013 GAL /FT = 0.0492 LITERS/FT
3/8" TUBING - 0.0057 GAL/FT - 0.0217 LITERS/FT
1/4" TUBING - 0.0025 GAL/FT - 0.0096 LITERS/FT

Notes:

Depth to water was not measured. LNAPL in well and sheen observed in purge water.

Recalibrated DO after sampling, lots of organic matter in purge water at beginning of purging. May have affected DO probe. Well did not stabilize - sample after 2 hours of purging.

GROUNDWATER SAMPLING DATA SHEET

File No. 43654.00 Task 42
Project: Tidewater Former MGP
Location: City: Pawtucket State: R.I.
Weather: Cloudy 50

Well ID: MW-314D
Sample Date: 11/11/2015
Sampler's Name: SH & SD

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 11/11/15 / 9:00

Point of Measurement: PVC Riser [X] Steel Casing [ ] Ground [ ]
Total Well Depth (feet): 43.32
Depth to LNAPL (feet): -
Depth to Water (feet): 9.31
Depth to DNAPL (feet): -
Well Screened Interval (feet BGS): 33 to 43

Standing Water in Well (feet): 34.01
Well Diameter (in.) 2
Sample Depth (feet BGS): 38
Standpipe: TPVC to Ground Surface (feet) -
Roadbox: TPVC to Ground Surface (feet) -

Well Condition: **Protective Casing-** [ ] Poor [X] Good **Lock-** [X] Yes [ ] No **Expansion Cap-** [ ] Yes [X] No **Well ID-** [X] Yes [ ] No **Concrete Collar-** [X] Yes [ ] No **Well-** [ ] Poor [X] Good

EQUIPMENT

Sample Method: [ ] Bail [X] Pump / [X] Low Flow

Pump Type: Peristaltic Pump No. 4
Flow-Thru Cell Vol (mL): 250

Meter Type: YSI & Lamotte No. 3

INSTRUMENT MEASUREMENTS:

Start time: 13:28 **Stop time:** 14:50

		1	2	3	4	5	6	7	8
Time: (start)	Depth to Water (ft) (drawdown <0.3 or stable)	ORP (mvolts) (± 10)	pH (s.u.) (± 0.1)	Spec. Cond. (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rdgs <0.5)	Temperature (ºC) (±3%)	Turbidity (ntu) (±10% or <5ntu)	Flow (ml/min) (<500 ml/min)	Notes
13:33	11.31	214.8	6.27	5242	3.88	12.3	14.2	<500	
13:40	11.31	10.5	6.38	7273	2.83	12.2	<5	<500	
14:20	11.30	-114.4	6.83	5561	1.35	11.7	<5	<500	
14:24	11.30	-114.9	6.82	5488	1.22	11.5	<5	<500	
14:32	11.30	-114.4	6.81	5355	1.13	11.6	<5	<500	
14:35	11.3	-115.7	6.8	5331	1.11	11.6	<5	<500	
14:38	11.3	-116.2	6.8	5282	1.07	11.6	<5	<500	
14:44	11.3	-116.7	6.8	5285	1.05	11.6	<5	<500	

SAMPLE TESTING INFORMATION:

SAMPLE TIME: 14:50

Analysis	Method	No. Bottles	Bottle Type	Volume	Preservation	Handling
VOC's	8260B	3	VOA	40ml	HCl	None

Sample observations:

Color: None Odor: None Clarity: Clear

Total Purge Volume: 4 Gallons

Tubing Volume: 0.3 Gallons

2" WELL = 0.163 GAL /FT = 0.617 LITERS/FT
1" WELL = 0.013 GAL /FT = 0.0492 LITERS/FT
3/8" TUBING - 0.0057 GAL/FT - 0.0217 LITERS/FT
1/4" TUBING - 0.0025 GAL/FT - 0.0096 LITERS/FT

Notes:

GROUNDWATER SAMPLING DATA SHEET

File No. 43654.00 Task 42
Project: Tidewater Former MGP
Location: City: Pawtucket State: R.I.
Weather:

Well ID: MW-314S
Sample Date: 11/11/2015
Sampler's Name: SH & SD

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 11/11/15 10:45

Point of Measurement: PVC Riser [X] Steel Casing [ ] Ground [ ]

Total Well Depth (feet):	24.3	Standing Water in Well (feet):	15.09
Depth to LNAPL (feet):	-	Well Diameter (in.)	2
Depth to Water (feet):	9.21	Sample Depth (feet BGS):	15
Depth to DNAPL (feet):	-	Standpipe: TPVC to Ground Surface (feet)	-
Well Screened Interval (feet BGS):	5 to 25	Roadbox: TPVC to Ground Surface (feet)	-

Well Condition: **Protective Casing-** [ ] Poor [X] Good **Lock-** [X] Yes [ ] No **Expansion Cap-** [ ] Yes [X] No **Well ID-** [X] Yes [ ] No **Concrete Collar-** [X] Yes [ ] No **Well-** [ ] Poor [X] Good

EQUIPMENT

Sample Method: [ ] Bail [X] Pump / [X] Low Flow

Pump Type: Peristaltic Pump No. 3
Flow-Thru Cell Vol (mL): 250

Meter Type: YSI & Lamotte No. 1

INSTRUMENT MEASUREMENTS:

Start time: 13:45 **Stop time:** 15:35

		1	2	3	4	5	6	7	8
Time: (start)	Depth to Water (ft) (drawdown <0.3 or stable)	ORP (mvolts) (± 10)	pH (s.u.) (± 0.1)	Spec. Cond. (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rdgs <0.5)	Temperature (ºC) (±3%)	Turbidity (ntu) (±10% or <5ntu)	Flow (ml/min) (<500 ml/min)	Notes
14:53	10.85	-2.9	6.77	8680	8.9	13.6	<5	<500	
15:05	10.85	-10.7	6.77	8562	9.1	13.1	<5	<500	
15:14	10.85	-8.7	6.8	8578	1.2	13.1	<5	<500	
15:21	10.85	-9.6	6.82	8624	0.77	13.3	<5	<500	
15:27	10.85	-10.5	6.84	8604	0.78	13.1	<5	<500	
15:30	10.85	-10.9	6.84	8632	0.79	13.1	<5	<500	

SAMPLE TESTING INFORMATION:

SAMPLE TIME: 15:35

Analysis	Method	No. Bottles	Bottle Type	Volume	Preservation	Handling
VOC's	8260B	3	VOA	40ml	HCl	None

Sample observations:

Color: None Odor: None Clarity: Clear

Total Purge Volume: 3 Gallons **Tubing Volume: 0.2 Gallons**

2" WELL = 0.163 GAL /FT = 0.617 LITERS/FT
1" WELL = 0.013 GAL /FT = 0.0492 LITERS/FT
3/8" TUBING - 0.0057 GAL/FT - 0.0217 LITERS/FT
1/4" TUBING - 0.0025 GAL/FT - 0.0096 LITERS/FT

Notes:

GROUNDWATER SAMPLING DATA SHEET

File No. 43654.00 Task 42
Project: Tidewater Former MGP
Location: City: Pawtucket State: R.I.
Weather: Cloudy 50's

Well ID: MW-316D
Sample Date: 11/12/2015
Sampler's Name: SH

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 11/11/2015 11:25

Point of Measurement: PVC Riser [X] Steel Casing [ ] Ground [ ]

Total Well Depth (feet):	31.48	Standing Water in Well (feet):	8.98
Depth to LNAPL (feet):	-	Well Diameter (in.)	2
Depth to Water (feet):	22.5	Sample Depth (feet BGS):	24
Depth to DNAPL (feet):	-	Standpipe: TPVC to Ground Surface (feet)	-
Well Screened Interval (feet BGS):	22 to 27	Roadbox: TPVC to Ground Surface (feet)	-

Well Condition: **Protective Casing-** [ ] Poor [X] Good **Lock-** [X] Yes [ ] No **Expansion Cap-** [X] Yes [ ] No **Well ID-** [X] Yes [ ] No **Concrete Collar-** [X] Yes [ ] No **Well-** [ ] Poor [X] Good

EQUIPMENT

Sample Method: [ ] Bail [X] Pump / [X] Low Flow

Pump Type: Dedicated Submersible No.

Flow-Thru Cell Vol (mL): 250

Meter Type: YSI & Lamotte No. 1

INSTRUMENT MEASUREMENTS:

Start time: 14-15 **Stop time:** 15:00

		1	2	3	4	5	6	7	8
Time: (start)	Depth to Water (ft) (drawdown <0.3 or stable)	ORP (mvolts) (± 10)	pH (s.u.) (± 0.1)	Spec. Cond. (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rdgs <0.5)	Temperature (ºC) (±3%)	Turbidity (ntu) (±10% or <5ntu)	Flow (ml/min) (<500 ml/min)	Notes
14:30	22.52	163.4	6.52	1159	3.73	12.4	<5	<500	
14:43	22.52	165.4	6.52	1168	3.67	12.9	<5	<500	
14:46	22.52	164.6	6.5	1163	3.74	12.8	<5	<500	
14:49	22.52	169.9	6.49	1163	3.72	12.9	<5	<500	
14:52	22.52	171.2	6.49	1163	3.72	12.9	<5	<500	
14:55	22.52	169.1	6.49	1164	3.73	12.9	<5	<500	

SAMPLE TESTING INFORMATION:

SAMPLE TIME: 15:00

Analysis	Method	No. Bottles	Bottle Type	Volume	Preservation	Handling
VOC's	8260B	3	VOA	40ml	HCl	None

Sample observations:

Color: None Odor: None Clarity: Clear

Total Purge Volume: 2 Gals.

Tubing Volume: 0.2 Gals

2" WELL = 0.163 GAL /FT = 0.617 LITERS/FT
1" WELL = 0.013 GAL /FT = 0.0492 LITERS/FT
3/8" TUBING - 0.0057 GAL/FT - 0.0217 LITERS/FT
1/4" TUBING - 0.0025 GAL/FT - 0.0096 LITERS/FT

Notes:

GROUNDWATER SAMPLING DATA SHEET

File No. 43654.00 Task 42
Project: Tidewater Former MGP
Location: City: Pawtucket State: R.I.
Weather: Sunny 50's

Well ID: MW-318D
Sample Date: 11/13/2015
Sampler's Name: SN & SD

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 11/11/2015 12:15

Point of Measurement: PVC Riser [X] Steel Casing [ ] Ground [ ]

Total Well Depth (feet):	NM	Standing Water in Well (feet):	NM
Depth to LNAPL (feet):	-	Well Diameter (in.)	2"
Depth to Water (feet):	NM	Sample Depth (feet BGS):	35
Depth to DNAPL (feet):	-	Standpipe: TPVC to Ground Surface (feet)	-
Well Screened Interval (feet BGS):	30 to 40	Roadbox: TPVC to Ground Surface (feet)	-

Well Condition: **Protective Casing-** [ ] Poor [X] Good **Lock-** [X] Yes [ ] No **Expansion Cap-** [X] Yes [ ] No **Well ID-** [X] Yes [ ] No **Concrete Collar-** [X] Yes [ ] No **Well-** [ ] Poor [X] Good

EQUIPMENT

Sample Method: [ ] Bail [X] Pump / [X] Low Flow

Pump Type: Peristaltic Pump No. 1 **Flow-Thru Cell Vol (mL):** 250

Meter Type: YSI & Lamotte No. 1

INSTRUMENT MEASUREMENTS:

Start time: 7:45 **Stop time:** 8:30

		1	2	3	4	5	6	7	8
Time: (start)	Depth to Water (ft) (drawdown <0.3 or stable)	ORP (mvolts) (± 10)	pH (s.u.) (± 0.1)	Spec. Cond. (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rdgs <0.5)	Temperature (ºC) (±3%)	Turbidity (ntu) (±10% or <5ntu)	Flow (ml/min) (<500 ml/min)	Notes
7:52	NM	58.2	6.29	467	2.53	13.6	4	200	
7:56	NM	67.6	6.2	469.5	2.15	13.6	4	200	
8:01	NM	80.6	6.13	463.6	1.82	13.6	4	200	
8:05	NM	89.6	6.11	462.3	1.63	13.6	4	200	
8:08	NM	98.6	6.07	462.1	1.5	13.7	4	200	
8:11	NM	101.6	6.06	462.4	1.44	13.8	4	200	
8:15	NM	106.1	6.01	462.7	1.35	13.8	4	200	

SAMPLE TESTING INFORMATION:

SAMPLE TIME: 8:30

Analysis	Method	No. Bottles	Bottle Type	Volume	Preservation	Handling
VOC's	8260B	3	VOA	40ml	HCl	None

Sample observations:

Color: None Odor: Slight Coal Tar LIke Clarity: Clear

Total Purge Volume: 1 Gals. **Tubing Volume:** 0.3 Gals

2" WELL = 0.163 GAL /FT = 0.617 LITERS/FT
1" WELL = 0.013 GAL /FT = 0.0492 LITERS/FT
3/8" TUBING - 0.0057 GAL/FT - 0.0217 LITERS/FT
1/4" TUBING - 0.0025 GAL/FT - 0.0096 LITERS/FT

Notes:
Well is pinched - can not gauge

GROUNDWATER SAMPLING DATA SHEET

File No. 43654.00 Task 42
Project: Tidewater Former MGP
Location: City: Pawtucket State: R.I.
Weather: Sunny 40's

Well ID: MW-318S
Sample Date: 11/13/2015
Sampler's Name: SN & SD

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 11/11/2015 12:15

Point of Measurement: PVC Riser [X] Steel Casing [ ] Ground [ ]

Total Well Depth (feet):	26	Standing Water in Well (feet):	8.6
Depth to LNAPL (feet):	-	Well Diameter (in.)	2
Depth to Water (feet):	17.4	Sample Depth (feet BGS):	18
Depth to DNAPL (feet):	-	Standpipe: TPVC to Ground Surface (feet)	-
Well Screened Interval (feet BGS):	10 to 25	Roadbox: TPVC to Ground Surface (feet)	-

Well Condition: **Protective Casing-** [ ] Poor [X] Good **Lock-** [X] Yes [ ] No **Expansion Cap-** [X] Yes [ ] No **Well ID-** [X] Yes [ ] No **Concrete Collar-** [X] Yes [ ] No **Well-** [ ] Poor [X] Good

EQUIPMENT

Sample Method: [ ] Bail [X] Pump / [X] Low Flow

Pump Type: Peristaltic Pump No. 3 **Flow-Thru Cell Vol (mL):** 250

Meter Type: YSI & Lamotte No. 3

INSTRUMENT MEASUREMENTS:

Start time: 7:45 **Stop time:** 8:45

		1	2	3	4	5	6	7	8
Time: (start)	Depth to Water (ft) (drawdown <0.3 or stable)	ORP (mvolts) (± 10)	pH (s.u.) (± 0.1)	Spec. Cond. (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rdgs <0.5)	Temperature (ºC) (±3%)	Turbidity (ntu) (±10% or <5ntu)	Flow (ml/min) (<500 ml/min)	Notes
8:24	16.80	314.8	2.4	3393	2.11	13.8	4	200	
8:28	16.80	337.1	2.26	3428	1.61	13.8	4	200	
8:31	16.80	344.2	2.33	3448	1.7	13.7	4	200	
8:34	16.80	349.5	2.38	3454	1.54	13.7	3	200	
8:37	16.80	351.6	2.36	3465	1.54	13.8	3	200	

SAMPLE TESTING INFORMATION:

SAMPLE TIME: 8:45

Analysis	Method	No. Bottles	Bottle Type	Volume	Preservation	Handling
VOC's	8260B	3	VOA	40ml	HCl	None

Sample observations:

Color: None Odor: Slight Coal, Tar Like Clarity: Clear

Total Purge Volume: 2 Gals. **Tubing Volume:** 0.1 Gals

2" WELL = 0.163 GAL /FT = 0.617 LITERS/FT
1" WELL = 0.013 GAL /FT = 0.0492 LITERS/FT
3/8" TUBING - 0.0057 GAL/FT - 0.0217 LITERS/FT
1/4" TUBING - 0.0025 GAL/FT - 0.0096 LITERS/FT

Notes:

GROUNDWATER SAMPLING DATA SHEET

File No. 43654.00 Task 42
Project: Tidewater Former MGP
Location: City: Pawtucket State: R.I.
Weather: Cloudy 50's

Well ID: MW-326D
Sample Date: 11/12/2015
Sampler's Name: SN & SD

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 11/11/15 / 7:55

Point of Measurement: PVC Riser [X] Steel Casing [ ] Ground [ ]

Total Well Depth (feet):	45	Standing Water in Well (feet):	36.1
Depth to LNAPL (feet):	-	Well Diameter (in.)	2"
Depth to Water (feet):	8.9	Sample Depth (feet BGS):	33
Depth to DNAPL (feet):	-	Standpipe: TPVC to Ground Surface (feet)	-
Well Screened Interval (feet BGS):	23 to 43	Roadbox: TPVC to Ground Surface (feet)	-

Well Condition: **Protective Casing-** [ ] Poor [X] Good **Lock-** [X] Yes [ ] No **Expansion Cap-** [X] Yes [ ] No **Well ID-** [X] Yes [ ] No **Concrete Collar-** [X] Yes [ ] No **Well-** [ ] Poor [X] Good

EQUIPMENT

Sample Method: [ ] Bail [X] Pump / [X] Low Flow

Pump Type: Peristaltic Pump No. 4 **Flow-Thru Cell Vol (mL):** 250

Meter Type: YSI + LAMOTTE No. 1

INSTRUMENT MEASUREMENTS:

Start time: 10:25 **Stop time:** 11:30

		1	2	3	4	5	6	7	8
Time: (start)	Depth to Water (ft) (drawdown <0.3 or stable)	ORP (mvolts) (± 10)	pH (s.u.) (± 0.1)	Spec. Cond. (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rdgs <0.5)	Temperature (ºC) (±3%)	Turbidity (ntu) (±10% or <5ntu)	Flow (ml/min) (<500 ml/min)	Notes
10:40	11.12	-90.8	7.36	9092	1.94	13.6	3	150	
10:46	11.70	-91.3	7.41	9109	1.87	13.5	3	150	
10:55	12.25	-92.8	7.54	9095	1.52	13.4	3	150	
11:02	12.60	-94.4	7.63	9082	1.08	13.4	3	150	Slowed Pump
11:08	12.60	-95.8	7.69	8997	1.08	13	3	75	
11:11	12.6	-96	7.7	8996	1.09	13.4	3	75	
11:15	12.4	-96.6	7.7	9016	1.09	13.3	3	75	

SAMPLE TESTING INFORMATION:

SAMPLE TIME: 11:30

Analysis	Method	No. Bottles	Bottle Type	Volume	Preservation	Handling
VOC's	8260B	3	VOA	40ml	HCl	None

Sample observations:

Color: None - Odor: None Clarity: Clear -

Total Purge Volume: 2 Gals. **Tubing Volume:** 0.3 Gals

2" WELL = 0.163 GAL /FT = 0.617 LITERS/FT
1" WELL = 0.013 GAL /FT = 0.0492 LITERS/FT
3/8" TUBING - 0.0057 GAL/FT - 0.0217 LITERS/FT
1/4" TUBING - 0.0025 GAL/FT - 0.0096 LITERS/FT

Notes:

GROUNDWATER SAMPLING DATA SHEET

File No. 43654.00 Task 42
Project: Tidewater Former MGP
Location: City: Pawtucket State: R.I.
Weather: Cloudy 50's

Well ID: MW-326S
Sample Date: 11/12/2015
Sampler's Name: SN & SD

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 11/11/15 / 7:55

Point of Measurement: PVC Riser [X] Steel Casing [ ] Ground [ ]
Total Well Depth (feet): 26.54
Depth to LNAPL (feet): Trace
Depth to Water (feet): 9.56
Depth to DNAPL (feet): -
Well Screened Interval (feet BGS): 5 to 25

Standing Water in Well (feet): 16.98
Well Diameter (in.) 2"
Sample Depth (feet BGS): 15
Standpipe: TPVC to Ground Surface (feet) -
Roadbox: TPVC to Ground Surface (feet) -

Well Condition: **Protective Casing-** [ ] Poor [X] Good **Lock-** [X] Yes [ ] No **Expansion Cap-** [X] Yes [ ] No **Well ID-** [X] Yes [ ] No **Concrete Collar-** [X] Yes [ ] No **Well-** [ ] Poor [X] Good

EQUIPMENT

Sample Method: [ ] Bail [X] Pump / [X] Low Flow

Pump Type: Peristaltic Pump No. 1
Flow-Thru Cell Vol (mL): 250

Meter Type: YSI + LAMOTTE No. 1

INSTRUMENT MEASUREMENTS:

Start time: 10:25 **Stop time:** 11:45

		1	2	3	4	5	6	7	8
Time: (start)	Depth to Water (ft) (drawdown <0.3 or stable)	ORP (mvolts) (± 10)	pH (s.u.) (± 0.1)	Spec. Cond. (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rdgs <0.5)	Temperature (ºC) (±3%)	Turbidity (ntu) (±10% or <5ntu)	Flow (ml/min) (<500 ml/min)	Notes
11:27	NM	-80.8	7.08	1.8	0.44	13.7	3	100	
11:30	NM	-81.3	7.03	1392	0.4	13.7	4	100	
11:33	NM	-81.3	7.02	1392	0.36	13.7	3	100	
11:36	NM	-81.3	7.03	1386	0.35	13.7	3	100	
11:39	NM	-81.6	7.03	1383	0.32	13.7	3	100	

SAMPLE TESTING INFORMATION:

SAMPLE TIME: 11:45

Analysis	Method	No. Bottles	Bottle Type	Volume	Preservation	Handling
VOC's	8260B	3	VOA	40ml	HCI	None

Sample observations:

Color: None Odor: Fuel Oil Like Clarity: Clear

Total Purge Volume: 2 Gals. **Tubing Volume:** 0.1 Gals

2" WELL = 0.163 GAL /FT = 0.617 LITERS/FT
1" WELL = 0.013 GAL /FT = 0.0492 LITERS/FT
3/8" TUBING - 0.0057 GAL/FT - 0.0217 LITERS/FT
1/4" TUBING - 0.0025 GAL/FT - 0.0096 LITERS/FT

Notes:

Sheen on purge water.
Did not measure depth to water due to LNAPL presence

GROUNDWATER SAMPLING DATA SHEET

File No. 43654.00 Task 42
Project: Tidewater Former MGP
Location: City: Pawtucket State: R.I.
Weather: Cloudy 50's

Well ID: MW-333D
Sample Date: 11/12/2015
Sampler's Name: SN & SD

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 11/11/15 / 8:00

Point of Measurement: PVC Riser [X] Steel Casing [ ] Ground [ ]

Total Well Depth (feet):	47.2	Standing Water in Well (feet):	35.4
Depth to LNAPL (feet):	-	Well Diameter (in.)	2"
Depth to Water (feet):	8.8	Sample Depth (feet BGS):	35
Depth to DNAPL (feet):	-	Standpipe: TPVC to Ground Surface (feet)	-
Well Screened Interval (feet BGS):	30 to 40	Roadbox: TPVC to Ground Surface (feet)	-

Well Condition: **Protective Casing-** [ ] Poor [X] Good **Lock-** [X] Yes [ ] No **Expansion Cap-** [X] Yes [ ] No **Well ID-** [X] Yes [ ] No **Concrete Collar-** [X] Yes [ ] No **Well-** [ ] Poor [X] Good

EQUIPMENT

Sample Method: [ ] Bail [X] Pump / [X] Low Flow

Pump Type: Peristaltic Pump No. 1 **Flow-Thru Cell Vol (mL):** 250

Meter Type: YSI + LAMOTTE No. 1

INSTRUMENT MEASUREMENTS: **Start time:** 13:30 **Stop time:** 15:00

		1	2	3	4	5	6	7	8
Time: (start)	Depth to Water (ft) (drawdown <0.3 or stable)	ORP (mvolts) (± 10)	pH (s.u.) (± 0.1)	Spec. Cond. (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rdgs <0.5)	Temperature (ºC) (±3%)	Turbidity (ntu) (±10% or <5ntu)	Flow (ml/min) (<500 ml/min)	Notes
14:26	12.40	-140.8	7.41	4188	0.79	13.2	10	350	
14:31	12.35	-140.8	7.47	4180	0.77	13.3	3	350	
14:36	12.35	-141.1	7.46	4190	0.71	13.2	3	350	
14:43	12.35	-141	7.45	7197	0.66	13.2	2	350	

SAMPLE TESTING INFORMATION: **SAMPLE TIME:** 15:00

Analysis	Method	No. Bottles	Bottle Type	Volume	Preservation	Handling
VOC's	8260B	3	VOA	40ml	HCl	None

Sample observations:

Color: None Odor: Coal Tar Like Clarity: Clear

Total Purge Volume: 3 Gals. **Tubing Volume:** 0.3 Gals

2" WELL = 0.163 GAL /FT = 0.617 LITERS/FT
1" WELL = 0.013 GAL /FT = 0.0492 LITERS/FT
3/8" TUBING - 0.0057 GAL/FT - 0.0217 LITERS/FT
1/4" TUBING - 0.0025 GAL/FT - 0.0096 LITERS/FT

Notes:

GROUNDWATER SAMPLING DATA SHEET

File No. 43654.00 Task 42
Project: Tidewater Former MGP
Location: City: Pawtucket State: R.I.
Weather: Cloudy 50's

Well ID: MW-333S
Sample Date: 11/12/2015
Sampler's Name: SN & SD

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 11/11/15 / 8:10

Point of Measurement: PVC Riser [X] Steel Casing [ ] Ground [ ]

Total Well Depth (feet):	17.4	Standing Water in Well (feet):	8.4
Depth to LNAPL (feet):	-	Well Diameter (in.)	2"
Depth to Water (feet):	9	Sample Depth (feet BGS):	11
Depth to DNAPL (feet):	-	Standpipe: TPVC to Ground Surface (feet)	-
Well Screened Interval (feet BGS):	6 to 16	Roadbox: TPVC to Ground Surface (feet)	-

Well Condition: **Protective Casing-** [ ] Poor [X] Good **Lock-** [X] Yes [ ] No **Expansion Cap-** [X] Yes [ ] No **Well ID-** [X] Yes [ ] No **Concrete Collar-** [X] Yes [ ] No **Well-** [ ] Poor [X] Good

EQUIPMENT

Sample Method: [ ] Bail [X] Pump / [X] Low Flow

Pump Type: Peristaltic Pump No. 2 **Flow-Thru Cell Vol (mL):** 250

Meter Type: YSI & Lamotte No. 1

INSTRUMENT MEASUREMENTS:

Start time: 13:30 **Stop time:** 14:20

		1	2	3	4	5	6	7	8
Time: (start)	Depth to Water (ft) (drawdown <0.3 or stable)	ORP (mvolts) (± 10)	pH (s.u.) (± 0.1)	Spec. Cond. (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rdgs <0.5)	Temperature (ºC) (±3%)	Turbidity (ntu) (±10% or <5ntu)	Flow (ml/min) (<500 ml/min)	Notes
13:38	12.35	-2.6	6.43	15838	2.62	13.8	20	200	
13:43	12.35	-3.4	6.46	15633	2.44	13.9	19	200	
13:52	12.30	-11.9	6.43	15062	1.93	14	18	200	
13:59	12.30	-17.3	6.51	14750	1.68	14	10	200	
14:03	12.20	-21	6.54	14733	1.55	13.7	5	200	
14:07	12.2	-25.4	6.55	14690	1.52	13.7	4	200	
14:11	12.15	-26.6	6.55	14634	1.51	13.6	4	200	

SAMPLE TESTING INFORMATION:

SAMPLE TIME: 14:20

Analysis	Method	No. Bottles	Bottle Type	Volume	Preservation	Handling
VOC's	8260B	3	VOA	40ml	HCl	None

Sample observations:

Color: None - Odor: Coal Tar Like Clarity: Clear -

Total Purge Volume: 3 Gallons

Tubing Volume: 0.1 Gallons

2" WELL = 0.163 GAL /FT = 0.617 LITERS/FT
1" WELL = 0.013 GAL /FT = 0.0492 LITERS/FT
3/8" TUBING - 0.0057 GAL/FT - 0.0217 LITERS/FT
1/4" TUBING - 0.0025 GAL/FT - 0.0096 LITERS/FT

Notes:

GROUNDWATER SAMPLING DATA SHEET

File No. 43654.00 Task 42
Project: Tidewater Former MGP
Location: City: Pawtucket State: R.I.
Weather: Sunny 50's

Well ID: MW-334D
Sample Date: 11/13/2015
Sampler's Name: SH

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 11/11/15 12:10

Point of Measurement: PVC Riser [X] Steel Casing [ ] Ground [ ]

Total Well Depth (feet):	43.1	Standing Water in Well (feet):	21.7
Depth to LNAPL (feet):	-	Well Diameter (in.)	2
Depth to Water (feet):	21.4	Sample Depth (feet BGS):	33
Depth to DNAPL (feet):	-	Standpipe: TPVC to Ground Surface (feet)	-
Well Screened Interval (feet BGS):	28 to 38	Roadbox: TPVC to Ground Surface (feet)	-

Well Condition: **Protective Casing-** [ ] Poor [X] Good **Lock-** [X] Yes [ ] No **Expansion Cap-** [X] Yes [ ] No **Well ID-** [X] Yes [ ] No **Concrete Collar-** [X] Yes [ ] No **Well-** [ ] Poor [X] Good

EQUIPMENT

Sample Method: [ ] Bail [X] Pump / [X] Low Flow

Pump Type: Dedicated Submersible No.

Flow-Thru Cell Vol (mL): 250

Meter Type: YSI & Lamotte No. 1

INSTRUMENT MEASUREMENTS:

Start time: 8:10 **Stop time:** 9:00

		1	2	3	4	5	6	7	8
Time: (start)	Depth to Water (ft) (drawdown <0.3 or stable)	ORP (mvolts) (± 10)	pH (s.u.) (± 0.1)	Spec. Cond. (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rdgs <0.5)	Temperature (ºC) (±3%)	Turbidity (ntu) (±10% or <5ntu)	Flow (ml/min) (<500 ml/min)	Notes
8:26	18.24	485.4	2.4	3811	0.87	13.3	<5	<500	
8:35	18.24	484.9	2.41	3744	0.99	13.2	<5	<500	
8:39	18.24	484.7	2.42	3718	0.73	13.2	<5	<500	
8:43	18.24	484.9	2.42	3712	0.76	13.3	<5	<500	
8:46	18.24	485.2	2.42	3707	0.8	13.2	<5	<500	

SAMPLE TESTING INFORMATION:

SAMPLE TIME: 9:00

Analysis	Method	No. Bottles	Bottle Type	Volume	Preservation	Handling
VOC's	8260B	3	VOA	40ml	HCl	None

Sample observations:

Color: None Odor: None Clarity: Clear

Total Purge Volume: 3 Gallons **Tubing Volume:** 0.3 Gallons

2" WELL = 0.163 GAL /FT = 0.617 LITERS/FT
1" WELL = 0.013 GAL /FT = 0.0492 LITERS/FT
3/8" TUBING - 0.0057 GAL/FT - 0.0217 LITERS/FT
1/4" TUBING - 0.0025 GAL/FT - 0.0096 LITERS/FT

Notes:

GROUNDWATER SAMPLING DATA SHEET

File No. 43654.00 Task 42
Project: Tidewater Former MGP
Location: City: Pawtucket State: R.I.
Weather: Sunny 50's

Well ID: MW-334S
Sample Date: 11/13/2015
Sampler's Name: SH

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 11/11/15 12:10

Point of Measurement: PVC Riser [X] Steel Casing [ ] Ground [ ]

Total Well Depth (feet):	28.9	Standing Water in Well (feet):	9.35
Depth to LNAPL (feet):	-	Well Diameter (in.)	2
Depth to Water (feet):	19.55	Sample Depth (feet BGS):	20
Depth to DNAPL (feet):	-	Standpipe: TPVC to Ground Surface (feet)	-
Well Screened Interval (feet BGS):	14 to 24	Roadbox: TPVC to Ground Surface (feet)	-

Well Condition: **Protective Casing-** [ ] Poor [X] Good **Lock-** [X] Yes [ ] No **Expansion Cap-** [X] Yes [ ] No **Well ID-** [X] Yes [ ] No **Concrete Collar-** [X] Yes [ ] No **Well-** [ ] Poor [X] Good

EQUIPMENT

Sample Method: [ ] Bail [X] Pump / [X] Low Flow

Pump Type: Dedicated Submersible No.

Flow-Thru Cell Vol (mL): 250

Meter Type: YSI & Lamotte No. 3

INSTRUMENT MEASUREMENTS:

Start time: 8:05 **Stop time:** 8:30

		1	2	3	4	5	6	7	8
Time: (start)	Depth to Water (ft) (drawdown <0.3 or stable)	ORP (mvolts) (± 10)	pH (s.u.) (± 0.1)	Spec. Cond. (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rdgs <0.5)	Temperature (ºC) (±3%)	Turbidity (ntu) (±10% or <5ntu)	Flow (ml/min) (<500 ml/min)	Notes
8:06	19.49	504.7	2.16	5426	1.45	13	<5	<500	
8:09	19.49	505	2.16	5468	1.15	13	<5	<500	
8:12	19.49	505.3	2.16	5507	0.81	13	<5	<500	
8:15	19.49	504.8	2.16	5531	0.76	13.1	<5	<500	
8:18	19.49	504.8	2.16	5541	0.78	13.1	<5	<500	
8:21	19.49	504.7	2.16	5551	0.82	13	<5	<500	
						`			

SAMPLE TESTING INFORMATION:

SAMPLE TIME: 8:30

Analysis	Method	No. Bottles	Bottle Type	Volume	Preservation	Handling
VOC's	8260B	3	VOA	40ml	HCl	None

Sample observations:

Color: None Odor: None Clarity: Clear

Total Purge Volume: 3 Gallons **Tubing Volume:** 0.2 Gallons

2" WELL = 0.163 GAL /FT = 0.617 LITERS/FT
1" WELL = 0.013 GAL /FT = 0.0492 LITERS/FT
3/8" TUBING - 0.0057 GAL/FT - 0.0217 LITERS/FT
1/4" TUBING - 0.0025 GAL/FT - 0.0096 LITERS/FT

Notes:

GROUNDWATER SAMPLING DATA SHEET

File No. 43654.00 Task 42
Project: Tidewater Former MGP
Location: City: Pawtucket State: R.I.
Weather: Cloudy 60's

Well ID: MW-337
Sample Date: 11/12/2015
Sampler's Name: SN & SD

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 11/11/2015 11:45

Point of Measurement: PVC Riser [X] Steel Casing [ ] Ground [ ]

Total Well Depth (feet):	19.9	Standing Water in Well (feet):	7.78
Depth to LNAPL (feet):	-	Well Diameter (in.)	2
Depth to Water (feet):	12.12	Sample Depth (feet BGS):	10
Depth to DNAPL (feet):	-	Standpipe: TPVC to Ground Surface (feet)	-
Well Screened Interval (feet BGS):	5 to 15	Roadbox: TPVC to Ground Surface (feet)	-

Well Condition: **Protective Casing-** [ ] Poor [X] Good **Lock-** [X] Yes [ ] No **Expansion Cap-** [X] Yes [ ] No **Well ID-** [X] Yes [ ] No **Concrete Collar-** [X] Yes [ ] No **Well-** [ ] Poor [X] Good

EQUIPMENT

Sample Method: [ ] Bail [X] Pump / [X] Low Flow

Pump Type: Peristaltic Pump No. 3 **Flow-Thru Cell Vol (mL):** 250

Meter Type: YSI + LAMOTTE No. 3

INSTRUMENT MEASUREMENTS: **Start time:** 14:50 **Stop time:** 16:00

		1	2	3	4	5	6	7	8
Time: (start)	Depth to Water (ft) (drawdown <0.3 or stable)	ORP (mvolts) (± 10)	pH (s.u.) (± 0.1)	Spec. Cond. (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rdgs <0.5)	Temperature (ºC) (±3%)	Turbidity (ntu) (±10% or <5ntu)	Flow (ml/min) (<500 ml/min)	Notes
15:33	12.15	-21.8	6.05	1650	1.04	14.1	3	250	
15:36	12.10	-21.6	6.05	1669	0.88	14.1	3	250	
15:39	12.10	-21.9	6	1652	0.82	14.1	3	250	
15:42	12.10	-21.6	6	1665	0.85	14.1	3	250	

SAMPLE TESTING INFORMATION: **SAMPLE TIME:** 16:00

Analysis	Method	No. Bottles	Bottle Type	Volume	Preservation	Handling
VOC's	8260B	3	VOA	40ml	HCl	None

Sample observations:

Color: None Odor: None Clarity: Clear

Total Purge Volume: 3 Gals. **Tubing Volume:** 0.15 Gallons

2" WELL = 0.163 GAL /FT = 0.617 LITERS/FT
1" WELL = 0.013 GAL /FT = 0.0492 LITERS/FT
3/8" TUBING - 0.0057 GAL/FT - 0.0217 LITERS/FT
1/4" TUBING - 0.0025 GAL/FT - 0.0096 LITERS/FT

Notes:

GROUNDWATER SAMPLING DATA SHEET

File No. 43654.00 Task 42
Project: Tidewater Former MGP
Location: City: Pawtucket State: R.I.
Weather: Cloudy 50's

Well ID: MW-339D
Sample Date: 11/12/2015
Sampler's Name: SH

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 11/11/15 9:45

Point of Measurement: PVC Riser [X] Steel Casing [ ] Ground [ ]
Total Well Depth (feet): 21.15
Depth to LNAPL (feet): -
Depth to Water (feet): 8.6
Depth to DNAPL (feet): Trace
Well Screened Interval (feet BGS): 12 to 17

Standing Water in Well (feet): 12.55
Well Diameter (in.) 2
Sample Depth (feet BGS): 15
Standpipe: TPVC to Ground Surface (feet) -
Roadbox: TPVC to Ground Surface (feet) -

Well Condition: **Protective Casing-** [ ] Poor [X] Good **Lock-** [X] Yes [ ] No **Expansion Cap-** [X] Yes [ ] No **Well ID-** [X] Yes [ ] No **Concrete Collar-** [X] Yes [ ] No **Well-** [ ] Poor [X] Good

EQUIPMENT

Sample Method: [ ] Bail [X] Pump / [X] Low Flow

Pump Type: Peristaltic Pump No.
Flow-Thru Cell Vol (mL): 250

Meter Type: YSI & Lamotte No. 1

INSTRUMENT MEASUREMENTS:

Start time: 11:50 **Stop time:** 13:00

		1	2	3	4	5	6	7	8
Time: (start)	Depth to Water (ft) (drawdown <0.3 or stable)	ORP (mvolts) (± 10)	pH (s.u.) (± 0.1)	Spec. Cond. (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rdgs <0.5)	Temperature (ºC) (±3%)	Turbidity (ntu) (±10% or <5ntu)	Flow (ml/min) (<500 ml/min)	Notes
12:33	8.48	-9	6.35	1170	0.6	13	4	200	
12:30	8.48	-7.1	6.44	1127	0.6	13.1	4	200	
12:44	8.48	-29.6	6.46	1124	0.57	13.1	4	200	
12:47	8.48	-33.5	6.49	1161	0.54	13.1	4	200	
12:50	8.48	-39.3	6.5	1100	0.54	13.1	4	200	
12:53	8.48	-43.3	6.52	1099	0.54	13.1	4	200	

SAMPLE TESTING INFORMATION:

SAMPLE TIME: 13:00

Analysis	Method	No. Bottles	Bottle Type	Volume	Preservation	Handling
VOC's	8260B	3	VOA	40ml	HCl	None

Sample observations:

Color: None Odor: Coal Tar Like Clarity: Clear

Total Purge Volume: 3 Gals.

Tubing Volume: 0.2 Gallons

2" WELL = 0.163 GAL /FT = 0.617 LITERS/FT
1" WELL = 0.013 GAL /FT = 0.0492 LITERS/FT
3/8" TUBING - 0.0057 GAL/FT - 0.0217 LITERS/FT
1/4" TUBING - 0.0025 GAL/FT - 0.0096 LITERS/FT

Notes:

Slight plates of sheen on purge water.

GROUNDWATER SAMPLING DATA SHEET

File No. 43654.00 Task 42
Project: Tidewater Former MGP
Location: City: Pawtucket State: R.I.
Weather: Cloudy 50's

Well ID: MW-339S
Sample Date: 11/12/2015
Sampler's Name: SH

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 11/11/15 9:40

Point of Measurement: PVC Riser [X] Steel Casing [ ] Ground [ ]
Total Well Depth (feet): 12.3
Depth to LNAPL (feet): -
Depth to Water (feet): 8.21
Depth to DNAPL (feet): -
Well Screened Interval (feet BGS): 3 to 10

Standing Water in Well (feet): 4.09
Well Diameter (in.) 2
Sample Depth (feet BGS): 8
Standpipe: TPVC to Ground Surface (feet) -
Roadbox: TPVC to Ground Surface (feet) -

Well Condition: **Protective Casing-** [ ] Poor [X] Good **Lock-** [X] Yes [ ] No **Expansion Cap-** [X] Yes [ ] No **Well ID-** [X] Yes [ ] No **Concrete Collar-** [X] Yes [ ] No **Well-** [ ] Poor [X] Good

EQUIPMENT

Sample Method: [ ] Bail [X] Pump / [X] Low Flow

Pump Type: Peristaltic Pump No.
Flow-Thru Cell Vol (mL): 250

Meter Type: YSI & Lamotte No. 3

INSTRUMENT MEASUREMENTS:

Start time: 11:45 **Stop time:** 12:40

		1	2	3	4	5	6	7	8
Time: (start)	Depth to Water (ft) (drawdown <0.3 or stable)	ORP (mvolts) (± 10)	pH (s.u.) (± 0.1)	Spec. Cond. (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rdgs <0.5)	Temperature (ºC) (±3%)	Turbidity (ntu) (±10% or <5ntu)	Flow (ml/min) (<500 ml/min)	Notes
12:00	8.35	475.5	2.86	2354	1.41	13.2	<5	<500	
12:07	8.35	481.7	2.88	2260	1.28	13.3	<5	<500	
12:10	8.35	483.3	2.88	2225	1.24	13.1	<5	<500	
12:13	8.35	482.7	2.91	2153	1.17	13.1	<5	<500	
12:20	8.35	482.5	2.93	2036	0.88	13.2	<5	<500	
12:24	8.35	482.5	2.96	1974	0.73	13.4	<5	<500	
12:30	8.35	481.7	2.97	1937	0.67	13.4	<5	<500	
12:33	8.35	481.1	2.98	1913	0.63	13.4	<5	<500	
12:36	8.35	482.2	2.99	1908	0.61	13.4	<5	<500	

SAMPLE TESTING INFORMATION:

SAMPLE TIME: 12:40

Analysis	Method	No. Bottles	Bottle Type	Volume	Preservation	Handling
VOC's	8260B	3	VOA	40ml	HCl	None

Sample observations:

Color: None Odor: Coal Tar Like Clarity: Clear

Total Purge Volume: 3 Gallons

Tubing Volume: 0.1 Gallons

2" WELL = 0.163 GAL /FT = 0.617 LITERS/FT
1" WELL = 0.013 GAL /FT = 0.0492 LITERS/FT
3/8" TUBING - 0.0057 GAL/FT - 0.0217 LITERS/FT
1/4" TUBING - 0.0025 GAL/FT - 0.0096 LITERS/FT

Notes:

LOW FLOW CALIBRATION SHEET

File No. 43654.00 Task 42 | Page: 1 of 2
Project: Former Tidewater Facility | Date: 11/11/2015
Location: City: Pawtucket State: RI

LOW FLOW CALIBRATION:

Intial Calibration:

Specific Conductance:	Instrument and Number:	YSI #1	Standard Solution:	1000	Reading:	992
pH (s.u.):	Instrument and Number:	YSI #1	Standard Solution:	4/7	Reading:	4/7.01
DO (mg/L):	Instrument and Number:	YSI #1	Standard Solution:	100%	Reading:	100.1
ORP (mvolts:)	Instrument and Number:	YSI #1	Standard Solution:	231	Reading:	231
Turbidity (NTU):	Instrument and Number:	Lamotte #1	Standard Solution:	0/1	Reading:	0/1.1

Bump Check:

Specific Conductance:	Instrument and Number:	YSI #1	Standard Solution:	1000	Reading:	1031
pH (s.u.):	Instrument and Number:	YSI #1	Standard Solution:	4/7	Reading:	3.7/6.9
DO (mg/L):	Instrument and Number:	YSI #1	Standard Solution:	100%	Reading:	92
ORP (mvolts:)	Instrument and Number:	YSI #1	Standard Solution:	231	Reading:	231
Turbidity (NTU):	Instrument and Number:	Lamotte #1	Standard Solution:	0/1	Reading:	0/5.1

LOW FLOW CALIBRATION SHEET

File No. 43654.00 Task 42 | Page: 2 of 2
Project: Former Tidewater Facility | Date: 11/11/2015
Location: City: Pawtucket State: RI

LOW FLOW CALIBRATION:

Intial Calibration:

Specific Conductance:	Instrument and Number:	YSI #3	Standard Solution:	1000	Reading:	1000
pH (s.u.):	Instrument and Number:	YSI #3	Standard Solution:	4/7	Reading:	4/7.01
DO (mg/L):	Instrument and Number:	YSI #3	Standard Solution:	100	Reading:	98
ORP (mvolts:)	Instrument and Number:	YSI #3	Standard Solution:	231	Reading:	231
Turbidity (NTU):	Instrument and Number:	Lamotte #3	Standard Solution:	0/1	Reading:	0/1

Bump Check:

Specific Conductance:	Instrument and Number:	YSI #3	Standard Solution:	1000	Reading:	1010
pH (s.u.):	Instrument and Number:	YSI #3	Standard Solution:	4/7	Reading:	4.11/7.05
DO (mg/L):	Instrument and Number:	YSI #3	Standard Solution:	100	Reading:	91
ORP (mvolts:)	Instrument and Number:	YSI #3	Standard Solution:	231	Reading:	231.5
Turbidity (NTU):	Instrument and Number:	Lamotte #3	Standard Solution:	0/1	Reading:	0/3.3

LOW FLOW CALIBRATION SHEET

File No. 43654.00 Task 42 | Page: 1 of 2
Project: Former Tidewater Facility | Date: 11/12/2015
Location: City: Pawtucket State: RI

LOW FLOW CALIBRATION:

Intial Calibration:

Specific Conductance:	Instrument and Number:	YSI #1	Standard Solution:	1000	Reading:	1000
pH (s.u.):	Instrument and Number:	YSI #1	Standard Solution:	4/7	Reading:	4/7
DO (mg/L):	Instrument and Number:	YSI #1	Standard Solution:	100%	Reading:	100.5
ORP (mvolts:)	Instrument and Number:	YSI #1	Standard Solution:	231	Reading:	231
Turbidity (NTU):	Instrument and Number:	Lamotte #1	Standard Solution:	0/1	Reading:	0/1.1

Bump Check:

Specific Conductance:	Instrument and Number:	YSI #1	Standard Solution:	1000	Reading:	1024
pH (s.u.):	Instrument and Number:	YSI #1	Standard Solution:	4/7	Reading:	4.01/7.3
DO (mg/L):	Instrument and Number:	YSI #1	Standard Solution:	100%	Reading:	101
ORP (mvolts:)	Instrument and Number:	YSI #1	Standard Solution:	231	Reading:	230.1
Turbidity (NTU):	Instrument and Number:	Lamotte #1	Standard Solution:	0/1	Reading:	0.7/4.1

LOW FLOW CALIBRATION SHEET

File No. 43654.00 Task 42 | Page: 2 of 2
Project: Former Tidewater Facility | Date: 11/12/2015
Location: City: Pawtucket State: RI

LOW FLOW CALIBRATION:

Intial Calibration:

Specific Conductance:	Instrument and Number:	YSI #3	Standard Solution:	1000	Reading:	1000
pH (s.u.):	Instrument and Number:	YSI #3	Standard Solution:	4/7	Reading:	4/7.02
DO (mg/L):	Instrument and Number:	YSI #3	Standard Solution:	100	Reading:	100
ORP (mvolts:)	Instrument and Number:	YSI #3	Standard Solution:	231	Reading:	231.1
Turbidity (NTU):	Instrument and Number:	Lamotte #3	Standard Solution:	0/1	Reading:	0/1.2

Bump Check:

Specific Conductance:	Instrument and Number:	YSI #3	Standard Solution:	1000	Reading:	971
pH (s.u.):	Instrument and Number:	YSI #3	Standard Solution:	4/7	Reading:	4.11/7.21
DO (mg/L):	Instrument and Number:	YSI #3	Standard Solution:	100	Reading:	110
ORP (mvolts:)	Instrument and Number:	YSI #3	Standard Solution:	231	Reading:	233.1
Turbidity (NTU):	Instrument and Number:	Lamotte #3	Standard Solution:	0/1	Reading:	0.5/3.6

LOW FLOW CALIBRATION SHEET

File No. 43654.00 Task 42 | Page: 1 of 2
Project: Former Tidewater Facility | Date: 11/13/2015
Location: City: Pawtucket State: RI

LOW FLOW CALIBRATION:

Intial Calibration:

Specific Conductance:	Instrument and Number:	YSI #1	Standard Solution:	1000	Reading:	1000
pH (s.u.):	Instrument and Number:	YSI #1	Standard Solution:	4/7	Reading:	4.01/6.95
DO (mg/L):	Instrument and Number:	YSI #1	Standard Solution:	100%	Reading:	99.1
ORP (mvolts:)	Instrument and Number:	YSI #1	Standard Solution:	231	Reading:	230.9
Turbidity (NTU):	Instrument and Number:	Lamotte #1	Standard Solution:	0/1	Reading:	0.2/1.9

Bump Check:

Specific Conductance:	Instrument and Number:	YSI #1	Standard Solution:	1000	Reading:	1042
pH (s.u.):	Instrument and Number:	YSI #1	Standard Solution:	4/7	Reading:	4.31/6.91
DO (mg/L):	Instrument and Number:	YSI #1	Standard Solution:	100%	Reading:	91
ORP (mvolts:)	Instrument and Number:	YSI #1	Standard Solution:	231	Reading:	230.6
Turbidity (NTU):	Instrument and Number:	Lamotte #1	Standard Solution:	0/1	Reading:	0/4.5

LOW FLOW CALIBRATION SHEET

File No. 43654.00 Task 42 | Page: 2 of 2
Project: Former Tidewater Facility | Date: 11/13/2015
Location: City: Pawtucket State: RI

LOW FLOW CALIBRATION:

Intial Calibration:

Specific Conductance:	Instrument and Number:	YSI #3	Standard Solution:	1000	Reading:	999
pH (s.u.):	Instrument and Number:	YSI #3	Standard Solution:	4/7	Reading:	4/7.02
DO (mg/L):	Instrument and Number:	YSI #3	Standard Solution:	100	Reading:	100.5
ORP (mvolts:)	Instrument and Number:	YSI #3	Standard Solution:	231	Reading:	230.8
Turbidity (NTU):	Instrument and Number:	Lamotte #3	Standard Solution:	0/1	Reading:	0/1.3

Bump Check:

Specific Conductance:	Instrument and Number:	YSI #3	Standard Solution:	1000	Reading:	973
pH (s.u.):	Instrument and Number:	YSI #3	Standard Solution:	4/7	Reading:	4.11/7.41
DO (mg/L):	Instrument and Number:	YSI #3	Standard Solution:	100	Reading:	91.1
ORP (mvolts:)	Instrument and Number:	YSI #3	Standard Solution:	231	Reading:	231.9
Turbidity (NTU):	Instrument and Number:	Lamotte #3	Standard Solution:	0/1	Reading:	1.1/7.6

APPENDIX C

DISPOSAL DOCUMENTATION

TRK# 5181

RI 1503860519-001 SC PPW 9/11/2015

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: RIP000036462
2. Page 1 of: 3 1
3. Emergency Response Phone: (800) 483-3718
4. Manifest Tracking Number: 009024474 FLE

GENERATOR

5. Generator's Name and Mailing Address
Narragansett Electric company
40 Sylvan Road
Waltham, MA 02451
(781) 907-3647 ATTN:Susan Brochu

Generator's Site Address (if different than mailing address)
200 Taft Street
Pawtucket,RI 02862

Generator's Phone:

6. Transporter 1 Company Name: Clean Harbors Environmental Service, Inc.
U.S. EPA ID Number: MAD039322250

7. Transporter 2 Company Name: BOBBIE D. WOOD INC
U.S. EPA ID Number: ACD067138891

8. Designated Facility Name and Site Address
Clean Harbors Grassy Mountain LLC
3 Miles East 7 Miles North of Knolls
Grantsville. UT 84029
Facility's Phone: (435) 884-8900
U.S. EPA ID Number: UTD991301748

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. NON DOT REGULATED MATERIAL, (OILY DEBRIS)	001	DM	40	P.	R015
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.R40179RIR (1x55)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Paul D. Hogan #7060 Agent For Narragansett Electric
Signature: Paul D Hogan
Month 12 Day 04 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Gordon H. Gonia
Signature:
Month 12 Day 4 Year 15
Transporter 2 Printed/Typed Name: DAVID JOHNSON
Signature: David Johnson
Month 12 Day 08 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H132			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
20501314
Printed/Typed Name: Joy Hamilton
Signature:
Month 12 Day 29 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping.

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number	22. Page	23. Manifest Tracking Number
RIP 000036462	2	009024474FLE

24. Generator's Name: Narragansett Electric Co.

25. Transporter 3 Company Name: Clean Harbors Env. Services Inc — U.S. EPA ID Number: MAD039322250

26. Transporter 4 Company Name: CleanHarborsEnvSvcsInc — U.S. EPA ID Number: MAD039322250

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name: As an agent for Clean Harbors Charity Bonapfel — Signature: [signature] — Month 12 Day 10 Year 15

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name: Jessica Eggli — Signature: Jessica Eggli — Month 12 Day 18 Year 15

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number	22. Page	23. Manifest Tracking Number
RIP000036462	3	009024474 FLE

24. Generator's Name: Narragansett Electric Company

25. Transporter 5 Company Name: SLT — U.S. EPA ID Number: AZR000518770

26. Transporter 6 Company Name — U.S. EPA ID Number:

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
	TPO					

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 5 Acknowledgment of Receipt of Materials
Printed/Typed Name: R Hudson — Signature — Month 12 Day 21 Year 15

34. Transporter 6 Acknowledgment of Receipt of Materials
Printed/Typed Name: Haley Lint — Signature — Month 12 Day 22 Year 15

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

TRK#518

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) RI 1503860519-001 SC PPW 9/11/2015 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
RIP000036462	1	(800) 483-3718	009024473 FLE

GENERATOR

5. Generator's Name and Mailing Address
Narragansett Electric company
40 Sylvan Road
Waltham, MA 02451
Generator's Phone: (781) 907-3647 ATTN:Susan Brochu

Generator's Site Address (if different than mailing address)
200 Taft Street
Pawtucket,RI 02862

6. Transporter 1 Company Name: Clean Harbors Environmental Service, Inc.
U.S. EPA ID Number: MAD039322250

7. Transporter 2 Company Name: Robbie D. Wood INC
U.S. EPA ID Number: ACP0671388911

8. Designated Facility Name and Site Address
Clean Harbors Environmental Service, Inc.
2900 Rockefeller Avenue
Cleveland, OH 44115
Facility's Phone: (216) 429-2402
U.S. EPA ID Number: OHD000724153

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
	1. NON DOT REGULATED MATERIAL, (PURGEWATER)	001	DM	45	G	R015		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1.T26781RIR (1X55)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: PAUL D. Hoag #7060 agent For Narragansett Elect. Signature: Paul D Hoag Month: 12 Day: 04 Year: 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: GUSTAVO H. BONILLA Signature: Month: 12 Day: 14 Year: 15

Transporter 2 Printed/Typed Name: DAVID JOHNSON Signature: David Johnson Month: 12 Day: 08 Year: 15

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H070			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: JOHN MERLO Signature: John Merlo Month: 12 Day: 29 Year: 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping.

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number	22. Page	23. Manifest Tracking Number
RIP0000036462	2	009024473FLE

24. Generator's Name: Narragansett Electric Co.

25. Transporter 3 Company Name: Clean Harbors Env. Services Inc — U.S. EPA ID Number: MAD039322250

26. Transporter 4 Company Name: Safety Kleen Systems inc — U.S. EPA ID Number: TXD000838365

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
	TPO					

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name: As an agent for Clean Harbors Charity Bonapfel — Signature: [signature] — Month: 12 Day: 10 Year: 15

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name: Joel Gwalk — Signature: [signature] — Month: 12 Day: 18 Year: 15

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

APPENDIX D

LABORATORY REPORTS

CERTIFICATE OF ANALYSIS

Meg Kilpatrick
GZA GeoEnvironmental, Inc.
530 Broadway
Providence, RI 02909

RE: Tidewater GH (03.0043654.00)
ESS Laboratory Work Order Number: 1511323

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 3:44 pm, Nov 20, 2015

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511323

SAMPLE RECEIPT

The following samples were received on November 13, 2015 for the analyses specified on the enclosed Chain of Custody Record.

The samples and analyses listed below were analyzed in accordance with the Guidelines Establishing Test Procedures for the Analysis of Pollutants, 40 CFR Part 136, as amended.

Lab Number	Sample Name	Matrix	Analysis
1511323-01	MW-312S	Ground Water	8260B
1511323-02	MW-339S	Ground Water	8260B
1511323-03	MW-339D	Ground Water	8260B
1511323-04	MW-7	Ground Water	8260B
1511323-05	MW-316D	Ground Water	8260B
1511323-06	MW-6	Ground Water	8260B
1511323-07	MW-334D	Ground Water	8260B
1511323-08	MW-334S	Ground Water	8260B
1511323-09	BD1112151	Ground Water	8260B
1511323-10	BD111315	Ground Water	8260B
1511323-11	Trip Blank	Aqueous	8260B

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511323

PROJECT NARRATIVE

8260B Volatile Organic Compounds

1511323-06	**Present in Method Blank (B).**
	Acetone
1511323-09	**Present in Method Blank (B).**
	Acetone
1511323-10	**Present in Method Blank (B).**
	Acetone
CK51332-BSD1	**Blank Spike recovery is above upper control limit (B+).**
	Methylene Chloride (131% @ 70-130%)
CK51632-BS1	**Blank Spike recovery is above upper control limit (B+).**
	Carbon Disulfide (135% @ 70-130%)
CK51632-BS1	**Blank Spike recovery is below lower control limit (B-).**
	Bromomethane (51% @ 70-130%)
CK51632-BSD1	**Blank Spike recovery is below lower control limit (B-).**
	Bromomethane (49% @ 70-130%)
CK51632-BSD1	**Relative percent difference for duplicate is outside of criteria (D+).**
	Methylene Chloride (28% @ 25%)
CYK0210-CCV1	**Continuing Calibration %Diff/Drift is above control limit (CD+).**
	Carbon Disulfide (41% @ 30%)
CYK0231-CCV1	**Continuing Calibration %Diff/Drift is above control limit (CD+).**
	Carbon Disulfide (38% @ 30%)
CYK0231-CCV1	**Continuing Calibration %Diff/Drift is below control limit (CD-).**
	Bromomethane (61% @ 30%)
CYK0268-CCV1	**Continuing Calibration %Diff/Drift is below control limit (CD-).**
	1,4-Dioxane - Screen (33% @ 30%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511323

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015D - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-312S
Date Sampled: 11/12/15 11:30
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-01
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/14/15 8:52	CYK0210	CK51332
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/14/15 8:52	CYK0210	CK51332
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/14/15 8:52	CYK0210	CK51332
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332
1,2,4-Trimethylbenzene	**0.0930** (0.0500)	0.0050	8260B		50	11/17/15 3:25	CYK0210	CK51332
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/14/15 8:52	CYK0210	CK51332
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 8:52	CYK0210	CK51332
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332
1,3,5-Trimethylbenzene	**0.0177** (0.0010)	0.0001	8260B		1	11/14/15 8:52	CYK0210	CK51332
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/14/15 8:52	CYK0210	CK51332
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 8:52	CYK0210	CK51332
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/14/15 8:52	CYK0210	CK51332
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/14/15 8:52	CYK0210	CK51332
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/14/15 8:52	CYK0210	CK51332
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/14/15 8:52	CYK0210	CK51332
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/14/15 8:52	CYK0210	CK51332
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/14/15 8:52	CYK0210	CK51332
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/14/15 8:52	CYK0210	CK51332
4-Isopropyltoluene	**0.0036** (0.0010)	0.0001	8260B		1	11/14/15 8:52	CYK0210	CK51332
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/14/15 8:52	CYK0210	CK51332
Acetone	**J 0.0031** (0.0100)	0.0027	8260B		1	11/14/15 8:52	CYK0210	CK51332
Benzene	**0.0295** (0.0010)	0.0001	8260B		1	11/14/15 8:52	CYK0210	CK51332
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-312S
Date Sampled: 11/12/15 11:30
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-01
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/14/15 8:52	CYK0210	CK51332
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/14/15 8:52	CYK0210	CK51332
Bromoform	ND (0.0010)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/14/15 8:52	CYK0210	CK51332
Carbon Disulfide	ND (0.0010)	0.0001	8260B		1	11/14/15 8:52	CYK0210	CK51332
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/14/15 8:52	CYK0210	CK51332
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 8:52	CYK0210	CK51332
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/14/15 8:52	CYK0210	CK51332
Chloroform	ND (0.0010)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332
cis-1,2-Dichloroethene	ND (0.0010)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/14/15 8:52	CYK0210	CK51332
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/14/15 8:52	CYK0210	CK51332
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/14/15 8:52	CYK0210	CK51332
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/14/15 8:52	CYK0210	CK51332
Ethylbenzene	**0.606** (0.0500)	0.0050	8260B		50	11/17/15 3:25	CYK0210	CK51332
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332
Isopropylbenzene	**0.0333** (0.0010)	0.0001	8260B		1	11/14/15 8:52	CYK0210	CK51332
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/14/15 8:52	CYK0210	CK51332
Methylene Chloride	ND (0.0020)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332
Naphthalene	**1.93** (0.0500)	0.0100	8260B		50	11/17/15 3:25	CYK0210	CK51332
n-Butylbenzene	**0.0050** (0.0010)	0.0001	8260B		1	11/14/15 8:52	CYK0210	CK51332
n-Propylbenzene	**0.0133** (0.0010)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332
sec-Butylbenzene	**0.0018** (0.0010)	0.0001	8260B		1	11/14/15 8:52	CYK0210	CK51332
Styrene	**0.0018** (0.0010)	0.0001	8260B		1	11/14/15 8:52	CYK0210	CK51332
tert-Butylbenzene	**J 0.0002** (0.0010)	0.0001	8260B		1	11/14/15 8:52	CYK0210	CK51332
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332
Tetrachloroethene	ND (0.0010)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-312S
Date Sampled: 11/12/15 11:30
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-01
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/14/15 8:52	CYK0210	CK51332
Toluene	**0.0057** (0.0010)	0.0001	8260B		1	11/14/15 8:52	CYK0210	CK51332
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/14/15 8:52	CYK0210	CK51332
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332
Trichloroethene	ND (0.0010)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/14/15 8:52	CYK0210	CK51332
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/14/15 8:52	CYK0210	CK51332
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332
Xylene O	**0.0880** (0.0500)	0.0050	8260B		50	11/17/15 3:25	CYK0210	CK51332
Xylene P,M	**0.0285** (0.0020)	0.0002	8260B		1	11/14/15 8:52	CYK0210	CK51332
Xylenes (Total)	**0.117** (0.0500)		8260B		50	11/17/15 3:25		[CALC]
Trihalomethanes (Total)	ND (0.0010)		8260B			11/14/15 8:52		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*90 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*119 %*		*70-130*
Surrogate: Dibromofluoromethane	*95 %*		*70-130*
Surrogate: Toluene-d8	*115 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-339S
Date Sampled: 11/12/15 12:40
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-02
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/14/15 7:14	CYK0210	CK51332
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/14/15 7:14	CYK0210	CK51332
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/14/15 7:14	CYK0210	CK51332
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332
1,2,4-Trimethylbenzene	**0.0035** (0.0010)	0.0001	8260B		1	11/14/15 7:14	CYK0210	CK51332
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/14/15 7:14	CYK0210	CK51332
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 7:14	CYK0210	CK51332
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332
1,3,5-Trimethylbenzene	**0.0012** (0.0010)	0.0001	8260B		1	11/14/15 7:14	CYK0210	CK51332
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/14/15 7:14	CYK0210	CK51332
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 7:14	CYK0210	CK51332
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/14/15 7:14	CYK0210	CK51332
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/14/15 7:14	CYK0210	CK51332
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/14/15 7:14	CYK0210	CK51332
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/14/15 7:14	CYK0210	CK51332
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/14/15 7:14	CYK0210	CK51332
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/14/15 7:14	CYK0210	CK51332
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/14/15 7:14	CYK0210	CK51332
4-Isopropyltoluene	ND (0.0010)	0.0001	8260B		1	11/14/15 7:14	CYK0210	CK51332
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/14/15 7:14	CYK0210	CK51332
Acetone	**J 0.0051** (0.0100)	0.0027	8260B		1	11/14/15 7:14	CYK0210	CK51332
Benzene	**J 0.0002** (0.0010)	0.0001	8260B		1	11/14/15 7:14	CYK0210	CK51332
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-339S
Date Sampled: 11/12/15 12:40
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-02
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/14/15 7:14	CYK0210	CK51332
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/14/15 7:14	CYK0210	CK51332
Bromoform	ND (0.0010)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/14/15 7:14	CYK0210	CK51332
Carbon Disulfide	ND (0.0010)	0.0001	8260B		1	11/14/15 7:14	CYK0210	CK51332
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/14/15 7:14	CYK0210	CK51332
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 7:14	CYK0210	CK51332
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/14/15 7:14	CYK0210	CK51332
Chloroform	**0.0021** (0.0010)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332
cis-1,2-Dichloroethene	ND (0.0010)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/14/15 7:14	CYK0210	CK51332
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/14/15 7:14	CYK0210	CK51332
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/14/15 7:14	CYK0210	CK51332
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/14/15 7:14	CYK0210	CK51332
Ethylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 7:14	CYK0210	CK51332
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332
Isopropylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 7:14	CYK0210	CK51332
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/14/15 7:14	CYK0210	CK51332
Methylene Chloride	ND (0.0020)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332
Naphthalene	**0.235** (0.0100)	0.0020	8260B		10	11/17/15 2:19	CYK0210	CK51332
n-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 7:14	CYK0210	CK51332
n-Propylbenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332
sec-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 7:14	CYK0210	CK51332
Styrene	**J 0.0001** (0.0010)	0.0001	8260B		1	11/14/15 7:14	CYK0210	CK51332
tert-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 7:14	CYK0210	CK51332
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332
Tetrachloroethene	ND (0.0010)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-339S
Date Sampled: 11/12/15 12:40
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-02
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/14/15 7:14	CYK0210	CK51332
Toluene	**J 0.0003** (0.0010)	0.0001	8260B		1	11/14/15 7:14	CYK0210	CK51332
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/14/15 7:14	CYK0210	CK51332
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332
Trichloroethene	ND (0.0010)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/14/15 7:14	CYK0210	CK51332
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/14/15 7:14	CYK0210	CK51332
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332
Xylene O	**J 0.0003** (0.0010)	0.0001	8260B		1	11/14/15 7:14	CYK0210	CK51332
Xylene P,M	**J 0.0005** (0.0020)	0.0002	8260B		1	11/14/15 7:14	CYK0210	CK51332
Xylenes (Total)	ND (0.0020)		8260B		1	11/14/15 7:14		[CALC]
Trihalomethanes (Total)	**0.0021** (0.0010)		8260B			11/14/15 7:14		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*103 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*96 %*		*70-130*
Surrogate: Dibromofluoromethane	*105 %*		*70-130*
Surrogate: Toluene-d8	*115 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-339D
Date Sampled: 11/12/15 13:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-03
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/14/15 9:24	CYK0210	CK51332
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/14/15 9:24	CYK0210	CK51332
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/14/15 9:24	CYK0210	CK51332
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332
1,2,4-Trimethylbenzene	**0.480** (0.0500)	0.0050	8260B		50	11/17/15 3:57	CYK0210	CK51332
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/14/15 9:24	CYK0210	CK51332
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 9:24	CYK0210	CK51332
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332
1,3,5-Trimethylbenzene	**0.113** (0.0500)	0.0050	8260B		50	11/17/15 3:57	CYK0210	CK51332
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/14/15 9:24	CYK0210	CK51332
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 9:24	CYK0210	CK51332
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/14/15 9:24	CYK0210	CK51332
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/14/15 9:24	CYK0210	CK51332
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/14/15 9:24	CYK0210	CK51332
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/14/15 9:24	CYK0210	CK51332
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/14/15 9:24	CYK0210	CK51332
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/14/15 9:24	CYK0210	CK51332
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/14/15 9:24	CYK0210	CK51332
4-Isopropyltoluene	**0.0117** (0.0010)	0.0001	8260B		1	11/14/15 9:24	CYK0210	CK51332
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/14/15 9:24	CYK0210	CK51332
Acetone	**J 0.0042** (0.0100)	0.0027	8260B		1	11/14/15 9:24	CYK0210	CK51332
Benzene	**0.0186** (0.0010)	0.0001	8260B		1	11/14/15 9:24	CYK0210	CK51332
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-339D
Date Sampled: 11/12/15 13:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-03
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/14/15 9:24	CYK0210	CK51332
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/14/15 9:24	CYK0210	CK51332
Bromoform	ND (0.0010)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/14/15 9:24	CYK0210	CK51332
Carbon Disulfide	ND (0.0010)	0.0001	8260B		1	11/14/15 9:24	CYK0210	CK51332
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/14/15 9:24	CYK0210	CK51332
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 9:24	CYK0210	CK51332
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/14/15 9:24	CYK0210	CK51332
Chloroform	ND (0.0010)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332
cis-1,2-Dichloroethene	ND (0.0010)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/14/15 9:24	CYK0210	CK51332
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/14/15 9:24	CYK0210	CK51332
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/14/15 9:24	CYK0210	CK51332
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/14/15 9:24	CYK0210	CK51332
Ethylbenzene	**0.155** (0.0500)	0.0050	8260B		50	11/17/15 3:57	CYK0210	CK51332
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332
Isopropylbenzene	**0.0744** (0.0010)	0.0001	8260B		1	11/14/15 9:24	CYK0210	CK51332
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/14/15 9:24	CYK0210	CK51332
Methylene Chloride	**J 0.0003** (0.0020)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332
Naphthalene	**3.60** (0.100)	0.0200	8260B		100	11/18/15 12:18	CYK0210	CK51332
n-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 9:24	CYK0210	CK51332
n-Propylbenzene	**0.0424** (0.0010)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332
sec-Butylbenzene	**0.0019** (0.0010)	0.0001	8260B		1	11/14/15 9:24	CYK0210	CK51332
Styrene	**0.0180** (0.0010)	0.0001	8260B		1	11/14/15 9:24	CYK0210	CK51332
tert-Butylbenzene	**J 0.0002** (0.0010)	0.0001	8260B		1	11/14/15 9:24	CYK0210	CK51332
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332
Tetrachloroethene	ND (0.0010)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-339D
Date Sampled: 11/12/15 13:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-03
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/14/15 9:24	CYK0210	CK51332
Toluene	**0.0448** (0.0010)	0.0001	8260B		1	11/14/15 9:24	CYK0210	CK51332
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/14/15 9:24	CYK0210	CK51332
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332
Trichloroethene	ND (0.0010)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/14/15 9:24	CYK0210	CK51332
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/14/15 9:24	CYK0210	CK51332
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/14/15 9:24	CYK0210	CK51332
Xylene O	**0.354** (0.0500)	0.0050	8260B		50	11/17/15 3:57	CYK0210	CK51332
Xylene P,M	**0.362** (0.100)	0.0100	8260B		50	11/17/15 3:57	CYK0210	CK51332
Xylenes (Total)	**0.716** (0.100)		8260B		50	11/17/15 3:57		[CALC]
Trihalomethanes (Total)	ND (0.0010)		8260B			11/14/15 9:24		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*85 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*112 %*		*70-130*
Surrogate: Dibromofluoromethane	*92 %*		*70-130*
Surrogate: Toluene-d8	*111 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-7
Date Sampled: 11/12/15 13:55
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-04
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/14/15 5:03	CYK0210	CK51332
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/14/15 5:03	CYK0210	CK51332
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/14/15 5:03	CYK0210	CK51332
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
1,2,4-Trimethylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:03	CYK0210	CK51332
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/14/15 5:03	CYK0210	CK51332
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:03	CYK0210	CK51332
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
1,3,5-Trimethylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:03	CYK0210	CK51332
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/14/15 5:03	CYK0210	CK51332
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:03	CYK0210	CK51332
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/14/15 5:03	CYK0210	CK51332
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/14/15 5:03	CYK0210	CK51332
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/14/15 5:03	CYK0210	CK51332
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/14/15 5:03	CYK0210	CK51332
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:03	CYK0210	CK51332
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/14/15 5:03	CYK0210	CK51332
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:03	CYK0210	CK51332
4-Isopropyltoluene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:03	CYK0210	CK51332
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/14/15 5:03	CYK0210	CK51332
Acetone	ND (0.0100)	0.0027	8260B		1	11/14/15 5:03	CYK0210	CK51332
Benzene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:03	CYK0210	CK51332
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-7
Date Sampled: 11/12/15 13:55
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-04
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/14/15 5:03	CYK0210	CK51332
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/14/15 5:03	CYK0210	CK51332
Bromoform	ND (0.0010)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/14/15 5:03	CYK0210	CK51332
Carbon Disulfide	ND (0.0010)	0.0001	8260B		1	11/14/15 5:03	CYK0210	CK51332
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/14/15 5:03	CYK0210	CK51332
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:03	CYK0210	CK51332
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/14/15 5:03	CYK0210	CK51332
Chloroform	**J 0.0005** (0.0010)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
cis-1,2-Dichloroethene	ND (0.0010)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/14/15 5:03	CYK0210	CK51332
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/14/15 5:03	CYK0210	CK51332
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/14/15 5:03	CYK0210	CK51332
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/14/15 5:03	CYK0210	CK51332
Ethylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:03	CYK0210	CK51332
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
Isopropylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:03	CYK0210	CK51332
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/14/15 5:03	CYK0210	CK51332
Methylene Chloride	ND (0.0020)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
Naphthalene	ND (0.0010)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
n-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:03	CYK0210	CK51332
n-Propylbenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
sec-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:03	CYK0210	CK51332
Styrene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:03	CYK0210	CK51332
tert-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:03	CYK0210	CK51332
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
Tetrachloroethene	ND (0.0010)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-7
Date Sampled: 11/12/15 13:55
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-04
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/14/15 5:03	CYK0210	CK51332
Toluene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:03	CYK0210	CK51332
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/14/15 5:03	CYK0210	CK51332
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
Trichloroethene	**J 0.0003** (0.0010)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/14/15 5:03	CYK0210	CK51332
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/14/15 5:03	CYK0210	CK51332
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
Xylene O	ND (0.0010)	0.0001	8260B		1	11/14/15 5:03	CYK0210	CK51332
Xylene P,M	ND (0.0020)	0.0002	8260B		1	11/14/15 5:03	CYK0210	CK51332
Xylenes (Total)	ND (0.0020)		8260B		1	11/14/15 5:03		[CALC]
Trihalomethanes (Total)	ND (0.0010)		8260B			11/14/15 5:03		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*102 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*93 %*		*70-130*
Surrogate: Dibromofluoromethane	*104 %*		*70-130*
Surrogate: Toluene-d8	*114 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-316D
Date Sampled: 11/12/15 15:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-05
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/14/15 5:35	CYK0210	CK51332
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/14/15 5:35	CYK0210	CK51332
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/14/15 5:35	CYK0210	CK51332
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
1,2,4-Trimethylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:35	CYK0210	CK51332
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/14/15 5:35	CYK0210	CK51332
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:35	CYK0210	CK51332
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
1,3,5-Trimethylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:35	CYK0210	CK51332
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/14/15 5:35	CYK0210	CK51332
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:35	CYK0210	CK51332
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/14/15 5:35	CYK0210	CK51332
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/14/15 5:35	CYK0210	CK51332
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/14/15 5:35	CYK0210	CK51332
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/14/15 5:35	CYK0210	CK51332
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:35	CYK0210	CK51332
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/14/15 5:35	CYK0210	CK51332
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:35	CYK0210	CK51332
4-Isopropyltoluene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:35	CYK0210	CK51332
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/14/15 5:35	CYK0210	CK51332
Acetone	**J 0.0033** (0.0100)	0.0027	8260B		1	11/14/15 5:35	CYK0210	CK51332
Benzene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:35	CYK0210	CK51332
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-316D
Date Sampled: 11/12/15 15:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-05
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/14/15 5:35	CYK0210	CK51332
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/14/15 5:35	CYK0210	CK51332
Bromoform	ND (0.0010)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/14/15 5:35	CYK0210	CK51332
Carbon Disulfide	ND (0.0010)	0.0001	8260B		1	11/14/15 5:35	CYK0210	CK51332
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/14/15 5:35	CYK0210	CK51332
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:35	CYK0210	CK51332
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/14/15 5:35	CYK0210	CK51332
Chloroform	ND (0.0010)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
cis-1,2-Dichloroethene	ND (0.0010)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/14/15 5:35	CYK0210	CK51332
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/14/15 5:35	CYK0210	CK51332
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/14/15 5:35	CYK0210	CK51332
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/14/15 5:35	CYK0210	CK51332
Ethylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:35	CYK0210	CK51332
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
Isopropylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:35	CYK0210	CK51332
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/14/15 5:35	CYK0210	CK51332
Methylene Chloride	ND (0.0020)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
Naphthalene	ND (0.0010)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
n-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:35	CYK0210	CK51332
n-Propylbenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
sec-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:35	CYK0210	CK51332
Styrene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:35	CYK0210	CK51332
tert-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:35	CYK0210	CK51332
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
Tetrachloroethene	ND (0.0010)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-316D
Date Sampled: 11/12/15 15:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-05
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/14/15 5:35	CYK0210	CK51332
Toluene	ND (0.0010)	0.0001	8260B		1	11/14/15 5:35	CYK0210	CK51332
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/14/15 5:35	CYK0210	CK51332
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
Trichloroethene	ND (0.0010)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/14/15 5:35	CYK0210	CK51332
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/14/15 5:35	CYK0210	CK51332
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
Xylene O	ND (0.0010)	0.0001	8260B		1	11/14/15 5:35	CYK0210	CK51332
Xylene P,M	ND (0.0020)	0.0002	8260B		1	11/14/15 5:35	CYK0210	CK51332
Xylenes (Total)	ND (0.0020)		8260B		1	11/14/15 5:35		[CALC]
Trihalomethanes (Total)	ND (0.0010)		8260B			11/14/15 5:35		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*102 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*93 %*		*70-130*
Surrogate: Dibromofluoromethane	*104 %*		*70-130*
Surrogate: Toluene-d8	*117 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-6
Date Sampled: 11/12/15 16:10
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-06
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/17/15 1:46	CYK0231	CK51632
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/17/15 1:46	CYK0231	CK51632
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/17/15 1:46	CYK0231	CK51632
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
1,2,4-Trimethylbenzene	**J 0.0001** (0.0010)	0.0001	8260B		1	11/17/15 1:46	CYK0231	CK51632
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/17/15 1:46	CYK0231	CK51632
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 1:46	CYK0231	CK51632
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
1,3,5-Trimethylbenzene	**0.0053** (0.0010)	0.0001	8260B		1	11/17/15 1:46	CYK0231	CK51632
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/17/15 1:46	CYK0231	CK51632
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 1:46	CYK0231	CK51632
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/17/15 1:46	CYK0231	CK51632
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/17/15 1:46	CYK0231	CK51632
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/17/15 1:46	CYK0231	CK51632
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/17/15 1:46	CYK0231	CK51632
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/17/15 1:46	CYK0231	CK51632
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/17/15 1:46	CYK0231	CK51632
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/17/15 1:46	CYK0231	CK51632
4-Isopropyltoluene	ND (0.0010)	0.0001	8260B		1	11/17/15 1:46	CYK0231	CK51632
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/17/15 1:46	CYK0231	CK51632
Acetone	**B, J 0.0043** (0.0100)	0.0027	8260B		1	11/17/15 1:46	CYK0231	CK51632
Benzene	**0.0095** (0.0010)	0.0001	8260B		1	11/17/15 1:46	CYK0231	CK51632
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-6
Date Sampled: 11/12/15 16:10
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-06
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/17/15 1:46	CYK0231	CK51632
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/17/15 1:46	CYK0231	CK51632
Bromoform	ND (0.0010)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/17/15 1:46	CYK0231	CK51632
Carbon Disulfide	ND (0.0010)	0.0001	8260B		1	11/17/15 1:46	CYK0231	CK51632
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/17/15 1:46	CYK0231	CK51632
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 1:46	CYK0231	CK51632
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/17/15 1:46	CYK0231	CK51632
Chloroform	ND (0.0010)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
cis-1,2-Dichloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/17/15 1:46	CYK0231	CK51632
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/17/15 1:46	CYK0231	CK51632
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/17/15 1:46	CYK0231	CK51632
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/17/15 1:46	CYK0231	CK51632
Ethylbenzene	**0.0055** (0.0010)	0.0001	8260B		1	11/17/15 1:46	CYK0231	CK51632
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
Isopropylbenzene	**J 0.0010** (0.0010)	0.0001	8260B		1	11/17/15 1:46	CYK0231	CK51632
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/17/15 1:46	CYK0231	CK51632
Methylene Chloride	ND (0.0020)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
Naphthalene	**0.0015** (0.0010)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
n-Butylbenzene	**J 0.0006** (0.0010)	0.0001	8260B		1	11/17/15 1:46	CYK0231	CK51632
n-Propylbenzene	**J 0.0007** (0.0010)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
sec-Butylbenzene	**J 0.0001** (0.0010)	0.0001	8260B		1	11/17/15 1:46	CYK0231	CK51632
Styrene	ND (0.0010)	0.0001	8260B		1	11/17/15 1:46	CYK0231	CK51632
tert-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 1:46	CYK0231	CK51632
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
Tetrachloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-6
Date Sampled: 11/12/15 16:10
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-06
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/17/15 1:46	CYK0231	CK51632
Toluene	**J 0.0005** (0.0010)	0.0001	8260B		1	11/17/15 1:46	CYK0231	CK51632
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/17/15 1:46	CYK0231	CK51632
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
Trichloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/17/15 1:46	CYK0231	CK51632
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/17/15 1:46	CYK0231	CK51632
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
Xylene O	**0.0057** (0.0010)	0.0001	8260B		1	11/17/15 1:46	CYK0231	CK51632
Xylene P,M	**J 0.0009** (0.0020)	0.0002	8260B		1	11/17/15 1:46	CYK0231	CK51632
Xylenes (Total)	**0.0065** (0.0020)		8260B		1	11/17/15 1:46		[CALC]
Trihalomethanes (Total)	ND (0.0010)		8260B			11/17/15 1:46		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*104 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*106 %*		*70-130*
Surrogate: Dibromofluoromethane	*105 %*		*70-130*
Surrogate: Toluene-d8	*114 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-334D
Date Sampled: 11/13/15 09:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-07
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/14/15 6:41	CYK0210	CK51332
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/14/15 6:41	CYK0210	CK51332
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/14/15 6:41	CYK0210	CK51332
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
1,2,4-Trimethylbenzene	**J 0.0002** (0.0010)	0.0001	8260B		1	11/14/15 6:41	CYK0210	CK51332
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/14/15 6:41	CYK0210	CK51332
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 6:41	CYK0210	CK51332
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
1,3,5-Trimethylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 6:41	CYK0210	CK51332
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/14/15 6:41	CYK0210	CK51332
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 6:41	CYK0210	CK51332
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/14/15 6:41	CYK0210	CK51332
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/14/15 6:41	CYK0210	CK51332
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/14/15 6:41	CYK0210	CK51332
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/14/15 6:41	CYK0210	CK51332
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/14/15 6:41	CYK0210	CK51332
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/14/15 6:41	CYK0210	CK51332
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/14/15 6:41	CYK0210	CK51332
4-Isopropyltoluene	ND (0.0010)	0.0001	8260B		1	11/14/15 6:41	CYK0210	CK51332
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/14/15 6:41	CYK0210	CK51332
Acetone	ND (0.0100)	0.0027	8260B		1	11/14/15 6:41	CYK0210	CK51332
Benzene	**0.0012** (0.0010)	0.0001	8260B		1	11/14/15 6:41	CYK0210	CK51332
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-334D
Date Sampled: 11/13/15 09:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-07
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/14/15 6:41	CYK0210	CK51332
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/14/15 6:41	CYK0210	CK51332
Bromoform	ND (0.0010)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/14/15 6:41	CYK0210	CK51332
Carbon Disulfide	ND (0.0010)	0.0001	8260B		1	11/14/15 6:41	CYK0210	CK51332
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/14/15 6:41	CYK0210	CK51332
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 6:41	CYK0210	CK51332
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/14/15 6:41	CYK0210	CK51332
Chloroform	ND (0.0010)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
cis-1,2-Dichloroethene	**J 0.0007** (0.0010)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/14/15 6:41	CYK0210	CK51332
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/14/15 6:41	CYK0210	CK51332
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/14/15 6:41	CYK0210	CK51332
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/14/15 6:41	CYK0210	CK51332
Ethylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 6:41	CYK0210	CK51332
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
Isopropylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 6:41	CYK0210	CK51332
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/14/15 6:41	CYK0210	CK51332
Methylene Chloride	ND (0.0020)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
Naphthalene	**0.0096** (0.0010)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
n-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 6:41	CYK0210	CK51332
n-Propylbenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
sec-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 6:41	CYK0210	CK51332
Styrene	ND (0.0010)	0.0001	8260B		1	11/14/15 6:41	CYK0210	CK51332
tert-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 6:41	CYK0210	CK51332
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
Tetrachloroethene	ND (0.0010)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-334D
Date Sampled: 11/13/15 09:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-07
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/14/15 6:41	CYK0210	CK51332
Toluene	**J 0.0004** (0.0010)	0.0001	8260B		1	11/14/15 6:41	CYK0210	CK51332
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/14/15 6:41	CYK0210	CK51332
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
Trichloroethene	**0.0015** (0.0010)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/14/15 6:41	CYK0210	CK51332
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/14/15 6:41	CYK0210	CK51332
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
Xylene O	**J 0.0001** (0.0010)	0.0001	8260B		1	11/14/15 6:41	CYK0210	CK51332
Xylene P,M	**J 0.0002** (0.0020)	0.0002	8260B		1	11/14/15 6:41	CYK0210	CK51332
Xylenes (Total)	ND (0.0020)		8260B		1	11/14/15 6:41		[CALC]
Trihalomethanes (Total)	ND (0.0010)		8260B			11/14/15 6:41		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*102 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*94 %*		*70-130*
Surrogate: Dibromofluoromethane	*104 %*		*70-130*
Surrogate: Toluene-d8	*116 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-334S
Date Sampled: 11/13/15 08:30
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-08
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/14/15 6:08	CYK0210	CK51332
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/14/15 6:08	CYK0210	CK51332
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/14/15 6:08	CYK0210	CK51332
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
1,2,4-Trimethylbenzene	**J 0.0005** (0.0010)	0.0001	8260B		1	11/14/15 6:08	CYK0210	CK51332
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/14/15 6:08	CYK0210	CK51332
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 6:08	CYK0210	CK51332
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
1,3,5-Trimethylbenzene	**J 0.0002** (0.0010)	0.0001	8260B		1	11/14/15 6:08	CYK0210	CK51332
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/14/15 6:08	CYK0210	CK51332
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 6:08	CYK0210	CK51332
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/14/15 6:08	CYK0210	CK51332
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/14/15 6:08	CYK0210	CK51332
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/14/15 6:08	CYK0210	CK51332
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/14/15 6:08	CYK0210	CK51332
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/14/15 6:08	CYK0210	CK51332
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/14/15 6:08	CYK0210	CK51332
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/14/15 6:08	CYK0210	CK51332
4-Isopropyltoluene	ND (0.0010)	0.0001	8260B		1	11/14/15 6:08	CYK0210	CK51332
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/14/15 6:08	CYK0210	CK51332
Acetone	**J 0.0032** (0.0100)	0.0027	8260B		1	11/14/15 6:08	CYK0210	CK51332
Benzene	**0.0019** (0.0010)	0.0001	8260B		1	11/14/15 6:08	CYK0210	CK51332
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-334S
Date Sampled: 11/13/15 08:30
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-08
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/14/15 6:08	CYK0210	CK51332
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/14/15 6:08	CYK0210	CK51332
Bromoform	ND (0.0010)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/14/15 6:08	CYK0210	CK51332
Carbon Disulfide	ND (0.0010)	0.0001	8260B		1	11/14/15 6:08	CYK0210	CK51332
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/14/15 6:08	CYK0210	CK51332
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 6:08	CYK0210	CK51332
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/14/15 6:08	CYK0210	CK51332
Chloroform	ND (0.0010)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
cis-1,2-Dichloroethene	ND (0.0010)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/14/15 6:08	CYK0210	CK51332
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/14/15 6:08	CYK0210	CK51332
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/14/15 6:08	CYK0210	CK51332
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/14/15 6:08	CYK0210	CK51332
Ethylbenzene	**J 0.0002** (0.0010)	0.0001	8260B		1	11/14/15 6:08	CYK0210	CK51332
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
Isopropylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 6:08	CYK0210	CK51332
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/14/15 6:08	CYK0210	CK51332
Methylene Chloride	ND (0.0020)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
Naphthalene	**0.0246** (0.0010)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
n-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 6:08	CYK0210	CK51332
n-Propylbenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
sec-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 6:08	CYK0210	CK51332
Styrene	ND (0.0010)	0.0001	8260B		1	11/14/15 6:08	CYK0210	CK51332
tert-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 6:08	CYK0210	CK51332
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
Tetrachloroethene	ND (0.0010)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-334S
Date Sampled: 11/13/15 08:30
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-08
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/14/15 6:08	CYK0210	CK51332
Toluene	**J 0.0009** (0.0010)	0.0001	8260B		1	11/14/15 6:08	CYK0210	CK51332
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/14/15 6:08	CYK0210	CK51332
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
Trichloroethene	ND (0.0010)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/14/15 6:08	CYK0210	CK51332
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/14/15 6:08	CYK0210	CK51332
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
Xylene O	**J 0.0004** (0.0010)	0.0001	8260B		1	11/14/15 6:08	CYK0210	CK51332
Xylene P,M	**J 0.0008** (0.0020)	0.0002	8260B		1	11/14/15 6:08	CYK0210	CK51332
Xylenes (Total)	ND (0.0020)		8260B		1	11/14/15 6:08		[CALC]
Trihalomethanes (Total)	ND (0.0010)		8260B			11/14/15 6:08		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*100 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*94 %*		*70-130*
Surrogate: Dibromofluoromethane	*103 %*		*70-130*
Surrogate: Toluene-d8	*116 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: BD1112151
Date Sampled: 11/12/15 08:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-09
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/17/15 9:24	CYK0231	CK51632
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/17/15 9:24	CYK0231	CK51632
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/17/15 9:24	CYK0231	CK51632
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
1,2,4-Trimethylbenzene	**0.0201** (0.0010)	0.0001	8260B		1	11/17/15 9:24	CYK0231	CK51632
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/17/15 9:24	CYK0231	CK51632
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 9:24	CYK0231	CK51632
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
1,3,5-Trimethylbenzene	**J 0.0008** (0.0010)	0.0001	8260B		1	11/17/15 9:24	CYK0231	CK51632
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/17/15 9:24	CYK0231	CK51632
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 9:24	CYK0231	CK51632
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/17/15 9:24	CYK0231	CK51632
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/17/15 9:24	CYK0231	CK51632
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/17/15 9:24	CYK0231	CK51632
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/17/15 9:24	CYK0231	CK51632
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/17/15 9:24	CYK0231	CK51632
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/17/15 9:24	CYK0231	CK51632
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/17/15 9:24	CYK0231	CK51632
4-Isopropyltoluene	**J 0.0005** (0.0010)	0.0001	8260B		1	11/17/15 9:24	CYK0231	CK51632
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/17/15 9:24	CYK0231	CK51632
Acetone	**B 0.0249** (0.0100)	0.0027	8260B		1	11/17/15 9:24	CYK0231	CK51632
Benzene	**0.118** (0.0100)	0.0010	8260B		10	11/17/15 2:52	CYK0231	CK51632
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: BD1112151
Date Sampled: 11/12/15 08:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-09
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/17/15 9:24	CYK0231	CK51632
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/17/15 9:24	CYK0231	CK51632
Bromoform	ND (0.0010)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/17/15 9:24	CYK0231	CK51632
Carbon Disulfide	ND (0.0010)	0.0001	8260B		1	11/17/15 9:24	CYK0231	CK51632
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/17/15 9:24	CYK0231	CK51632
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 9:24	CYK0231	CK51632
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/17/15 9:24	CYK0231	CK51632
Chloroform	ND (0.0010)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
cis-1,2-Dichloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/17/15 9:24	CYK0231	CK51632
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/17/15 9:24	CYK0231	CK51632
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/17/15 9:24	CYK0231	CK51632
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/17/15 9:24	CYK0231	CK51632
Ethylbenzene	**0.0312** (0.0010)	0.0001	8260B		1	11/17/15 9:24	CYK0231	CK51632
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
Isopropylbenzene	**0.0188** (0.0010)	0.0001	8260B		1	11/17/15 9:24	CYK0231	CK51632
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/17/15 9:24	CYK0231	CK51632
Methylene Chloride	ND (0.0020)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
Naphthalene	**0.0142** (0.0010)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
n-Butylbenzene	**0.0056** (0.0010)	0.0001	8260B		1	11/17/15 9:24	CYK0231	CK51632
n-Propylbenzene	**0.0152** (0.0010)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
sec-Butylbenzene	**0.0019** (0.0010)	0.0001	8260B		1	11/17/15 9:24	CYK0231	CK51632
Styrene	**0.0032** (0.0010)	0.0001	8260B		1	11/17/15 9:24	CYK0231	CK51632
tert-Butylbenzene	**J 0.0002** (0.0010)	0.0001	8260B		1	11/17/15 9:24	CYK0231	CK51632
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
Tetrachloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: BD1112151
Date Sampled: 11/12/15 08:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-09
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/17/15 9:24	CYK0231	CK51632
Toluene	**0.0016** (0.0010)	0.0001	8260B		1	11/17/15 9:24	CYK0231	CK51632
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/17/15 9:24	CYK0231	CK51632
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
Trichloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/17/15 9:24	CYK0231	CK51632
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/17/15 9:24	CYK0231	CK51632
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
Xylene O	**0.0227** (0.0010)	0.0001	8260B		1	11/17/15 9:24	CYK0231	CK51632
Xylene P,M	**J 0.0014** (0.0020)	0.0002	8260B		1	11/17/15 9:24	CYK0231	CK51632
Xylenes (Total)	**0.0242** (0.0020)		8260B		1	11/17/15 9:24		[CALC]
Trihalomethanes (Total)	ND (0.0010)		8260B			11/17/15 9:24		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*98 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*112 %*		*70-130*
Surrogate: Dibromofluoromethane	*102 %*		*70-130*
Surrogate: Toluene-d8	*112 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: BD111315
Date Sampled: 11/13/15 08:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-10
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/17/15 1:13	CYK0231	CK51632
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/17/15 1:13	CYK0231	CK51632
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/17/15 1:13	CYK0231	CK51632
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
1,2,4-Trimethylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 1:13	CYK0231	CK51632
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/17/15 1:13	CYK0231	CK51632
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 1:13	CYK0231	CK51632
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
1,3,5-Trimethylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 1:13	CYK0231	CK51632
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/17/15 1:13	CYK0231	CK51632
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 1:13	CYK0231	CK51632
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/17/15 1:13	CYK0231	CK51632
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/17/15 1:13	CYK0231	CK51632
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/17/15 1:13	CYK0231	CK51632
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/17/15 1:13	CYK0231	CK51632
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/17/15 1:13	CYK0231	CK51632
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/17/15 1:13	CYK0231	CK51632
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/17/15 1:13	CYK0231	CK51632
4-Isopropyltoluene	ND (0.0010)	0.0001	8260B		1	11/17/15 1:13	CYK0231	CK51632
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/17/15 1:13	CYK0231	CK51632
Acetone	**B, J 0.0030** (0.0100)	0.0027	8260B		1	11/17/15 1:13	CYK0231	CK51632
Benzene	**J 0.0001** (0.0010)	0.0001	8260B		1	11/17/15 1:13	CYK0231	CK51632
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: BD111315
Date Sampled: 11/13/15 08:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-10
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/17/15 1:13	CYK0231	CK51632
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/17/15 1:13	CYK0231	CK51632
Bromoform	ND (0.0010)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/17/15 1:13	CYK0231	CK51632
Carbon Disulfide	ND (0.0010)	0.0001	8260B		1	11/17/15 1:13	CYK0231	CK51632
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/17/15 1:13	CYK0231	CK51632
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 1:13	CYK0231	CK51632
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/17/15 1:13	CYK0231	CK51632
Chloroform	**J 0.0002** (0.0010)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
cis-1,2-Dichloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/17/15 1:13	CYK0231	CK51632
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/17/15 1:13	CYK0231	CK51632
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/17/15 1:13	CYK0231	CK51632
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/17/15 1:13	CYK0231	CK51632
Ethylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 1:13	CYK0231	CK51632
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
Isopropylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 1:13	CYK0231	CK51632
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/17/15 1:13	CYK0231	CK51632
Methylene Chloride	ND (0.0020)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
Naphthalene	ND (0.0010)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
n-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 1:13	CYK0231	CK51632
n-Propylbenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
sec-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 1:13	CYK0231	CK51632
Styrene	ND (0.0010)	0.0001	8260B		1	11/17/15 1:13	CYK0231	CK51632
tert-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 1:13	CYK0231	CK51632
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
Tetrachloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: BD111315
Date Sampled: 11/13/15 08:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-10
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/17/15 1:13	CYK0231	CK51632
Toluene	ND (0.0010)	0.0001	8260B		1	11/17/15 1:13	CYK0231	CK51632
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/17/15 1:13	CYK0231	CK51632
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
Trichloroethene	**J 0.0004** (0.0010)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/17/15 1:13	CYK0231	CK51632
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/17/15 1:13	CYK0231	CK51632
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
Xylene O	ND (0.0010)	0.0001	8260B		1	11/17/15 1:13	CYK0231	CK51632
Xylene P,M	ND (0.0020)	0.0002	8260B		1	11/17/15 1:13	CYK0231	CK51632
Xylenes (Total)	ND (0.0020)		8260B		1	11/17/15 1:13		[CALC]
Trihalomethanes (Total)	ND (0.0010)		8260B			11/17/15 1:13		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*90 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*95 %*		*70-130*
Surrogate: Dibromofluoromethane	*103 %*		*70-130*
Surrogate: Toluene-d8	*115 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: Trip Blank
Date Sampled: 11/12/15 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-11
Sample Matrix: Aqueous
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/14/15 4:30	CYK0210	CK51332
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/14/15 4:30	CYK0210	CK51332
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/14/15 4:30	CYK0210	CK51332
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
1,2,4-Trimethylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 4:30	CYK0210	CK51332
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/14/15 4:30	CYK0210	CK51332
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 4:30	CYK0210	CK51332
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
1,3,5-Trimethylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 4:30	CYK0210	CK51332
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/14/15 4:30	CYK0210	CK51332
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 4:30	CYK0210	CK51332
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/14/15 4:30	CYK0210	CK51332
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/14/15 4:30	CYK0210	CK51332
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/14/15 4:30	CYK0210	CK51332
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/14/15 4:30	CYK0210	CK51332
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/14/15 4:30	CYK0210	CK51332
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/14/15 4:30	CYK0210	CK51332
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/14/15 4:30	CYK0210	CK51332
4-Isopropyltoluene	ND (0.0010)	0.0001	8260B		1	11/14/15 4:30	CYK0210	CK51332
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/14/15 4:30	CYK0210	CK51332
Acetone	ND (0.0100)	0.0027	8260B		1	11/14/15 4:30	CYK0210	CK51332
Benzene	ND (0.0010)	0.0001	8260B		1	11/14/15 4:30	CYK0210	CK51332
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: Trip Blank
Date Sampled: 11/12/15 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-11
Sample Matrix: Aqueous
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/14/15 4:30	CYK0210	CK51332
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/14/15 4:30	CYK0210	CK51332
Bromoform	ND (0.0010)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/14/15 4:30	CYK0210	CK51332
Carbon Disulfide	ND (0.0010)	0.0001	8260B		1	11/14/15 4:30	CYK0210	CK51332
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/14/15 4:30	CYK0210	CK51332
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 4:30	CYK0210	CK51332
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/14/15 4:30	CYK0210	CK51332
Chloroform	ND (0.0010)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
cis-1,2-Dichloroethene	ND (0.0010)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/14/15 4:30	CYK0210	CK51332
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/14/15 4:30	CYK0210	CK51332
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/14/15 4:30	CYK0210	CK51332
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/14/15 4:30	CYK0210	CK51332
Ethylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 4:30	CYK0210	CK51332
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
Isopropylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 4:30	CYK0210	CK51332
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/14/15 4:30	CYK0210	CK51332
Methylene Chloride	ND (0.0020)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
Naphthalene	ND (0.0010)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
n-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 4:30	CYK0210	CK51332
n-Propylbenzene	ND (0.0010)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
sec-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 4:30	CYK0210	CK51332
Styrene	ND (0.0010)	0.0001	8260B		1	11/14/15 4:30	CYK0210	CK51332
tert-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/14/15 4:30	CYK0210	CK51332
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
Tetrachloroethene	ND (0.0010)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: Trip Blank
Date Sampled: 11/12/15 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511323
ESS Laboratory Sample ID: 1511323-11
Sample Matrix: Aqueous
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/14/15 4:30	CYK0210	CK51332
Toluene	ND (0.0010)	0.0001	8260B		1	11/14/15 4:30	CYK0210	CK51332
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/14/15 4:30	CYK0210	CK51332
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
Trichloroethene	ND (0.0010)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/14/15 4:30	CYK0210	CK51332
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/14/15 4:30	CYK0210	CK51332
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
Xylene O	ND (0.0010)	0.0001	8260B		1	11/14/15 4:30	CYK0210	CK51332
Xylene P,M	ND (0.0020)	0.0002	8260B		1	11/14/15 4:30	CYK0210	CK51332
Xylenes (Total)	ND (0.0020)		8260B		1	11/14/15 4:30		[CALC]
Trihalomethanes (Total)	ND (0.0010)		8260B			11/14/15 4:30		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*103 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*93 %*		*70-130*
Surrogate: Dibromofluoromethane	*106 %*		*70-130*
Surrogate: Toluene-d8	*115 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511323

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51332 - 5030B										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.0010	mg/L							
1,1,1-Trichloroethane	ND	0.0010	mg/L							
1,1,2,2-Tetrachloroethane	ND	0.0005	mg/L							
1,1,2-Trichloroethane	ND	0.0010	mg/L							
1,1-Dichloroethane	ND	0.0010	mg/L							
1,1-Dichloroethene	ND	0.0010	mg/L							
1,1-Dichloropropene	ND	0.0020	mg/L							
1,2,3-Trichlorobenzene	ND	0.0010	mg/L							
1,2,3-Trichloropropane	ND	0.0010	mg/L							
1,2,4-Trichlorobenzene	ND	0.0010	mg/L							
1,2,4-Trimethylbenzene	ND	0.0010	mg/L							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/L							
1,2-Dibromoethane	ND	0.0010	mg/L							
1,2-Dichlorobenzene	ND	0.0010	mg/L							
1,2-Dichloroethane	ND	0.0010	mg/L							
1,2-Dichloropropane	ND	0.0010	mg/L							
1,3,5-Trimethylbenzene	ND	0.0010	mg/L							
1,3-Dichlorobenzene	ND	0.0010	mg/L							
1,3-Dichloropropane	ND	0.0010	mg/L							
1,4-Dichlorobenzene	ND	0.0010	mg/L							
1,4-Dioxane - Screen	ND	0.500	mg/L							
1-Chlorohexane	ND	0.0010	mg/L							
2,2-Dichloropropane	ND	0.0010	mg/L							
2-Butanone	ND	0.0100	mg/L							
2-Chlorotoluene	ND	0.0010	mg/L							
2-Hexanone	ND	0.0100	mg/L							
4-Chlorotoluene	ND	0.0010	mg/L							
4-Isopropyltoluene	ND	0.0010	mg/L							
4-Methyl-2-Pentanone	ND	0.0250	mg/L							
Acetone	ND	0.0100	mg/L							
Benzene	ND	0.0010	mg/L							
Bromobenzene	ND	0.0020	mg/L							
Bromochloromethane	ND	0.0010	mg/L							
Bromodichloromethane	ND	0.0006	mg/L							
Bromoform	ND	0.0010	mg/L							
Bromomethane	ND	0.0020	mg/L							
Carbon Disulfide	ND	0.0010	mg/L							
Carbon Tetrachloride	ND	0.0010	mg/L							
Chlorobenzene	ND	0.0010	mg/L							
Chloroethane	ND	0.0020	mg/L							
Chloroform	ND	0.0010	mg/L							
Chloromethane	ND	0.0020	mg/L							
cis-1,2-Dichloroethene	ND	0.0010	mg/L							
cis-1,3-Dichloropropene	ND	0.0004	mg/L							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511323

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51332 - 5030B										
Dibromochloromethane	ND	0.0010	mg/L							
Dibromomethane	ND	0.0010	mg/L							
Dichlorodifluoromethane	ND	0.0020	mg/L							
Diethyl Ether	ND	0.0010	mg/L							
Di-isopropyl ether	ND	0.0010	mg/L							
Ethyl tertiary-butyl ether	ND	0.0010	mg/L							
Ethylbenzene	ND	0.0010	mg/L							
Hexachlorobutadiene	ND	0.0006	mg/L							
Hexachloroethane	ND	0.0010	mg/L							
Isopropylbenzene	ND	0.0010	mg/L							
Methyl tert-Butyl Ether	ND	0.0010	mg/L							
Methylene Chloride	ND	0.0020	mg/L							
Naphthalene	ND	0.0010	mg/L							
n-Butylbenzene	ND	0.0010	mg/L							
n-Propylbenzene	ND	0.0010	mg/L							
sec-Butylbenzene	ND	0.0010	mg/L							
Styrene	ND	0.0010	mg/L							
tert-Butylbenzene	ND	0.0010	mg/L							
Tertiary-amyl methyl ether	ND	0.0010	mg/L							
Tetrachloroethene	ND	0.0010	mg/L							
Tetrahydrofuran	ND	0.0050	mg/L							
Toluene	ND	0.0010	mg/L							
trans-1,2-Dichloroethene	ND	0.0010	mg/L							
trans-1,3-Dichloropropene	ND	0.0004	mg/L							
Trichloroethene	ND	0.0010	mg/L							
Trichlorofluoromethane	ND	0.0010	mg/L							
Trihalomethanes (Total)	ND	0.0010	mg/L							
Vinyl Acetate	ND	0.0050	mg/L							
Vinyl Chloride	ND	0.0010	mg/L							
Xylene O	ND	0.0010	mg/L							
Xylene P,M	ND	0.0020	mg/L							
Xylenes (Total)	ND	0.0020	mg/L							
Surrogate: 1,2-Dichloroethane-d4	*0.0253*		mg/L	*0.02500*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0230*		mg/L	*0.02500*		*92*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0256*		mg/L	*0.02500*		*102*	*70-130*			
Surrogate: Toluene-d8	*0.0293*		mg/L	*0.02500*		*117*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	9.09		ug/L	10.00		91	70-130			
1,1,1-Trichloroethane	9.09		ug/L	10.00		91	70-130			
1,1,2,2-Tetrachloroethane	10.7		ug/L	10.00		107	70-130			
1,1,2-Trichloroethane	10.0		ug/L	10.00		100	70-130			
1,1-Dichloroethane	9.02		ug/L	10.00		90	70-130			
1,1-Dichloroethene	9.83		ug/L	10.00		98	70-130			
1,1-Dichloropropene	8.95		ug/L	10.00		90	70-130			
1,2,3-Trichlorobenzene	10.6		ug/L	10.00		106	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511323

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51332 - 5030B										
1,2,3-Trichloropropane	11.2		ug/L	10.00		112	70-130			
1,2,4-Trichlorobenzene	10.1		ug/L	10.00		101	70-130			
1,2,4-Trimethylbenzene	10.5		ug/L	10.00		105	70-130			
1,2-Dibromo-3-Chloropropane	10.2		ug/L	10.00		102	70-130			
1,2-Dibromoethane	10.3		ug/L	10.00		103	70-130			
1,2-Dichlorobenzene	9.89		ug/L	10.00		99	70-130			
1,2-Dichloroethane	8.83		ug/L	10.00		88	70-130			
1,2-Dichloropropane	8.90		ug/L	10.00		89	70-130			
1,3,5-Trimethylbenzene	10.6		ug/L	10.00		106	70-130			
1,3-Dichlorobenzene	10.1		ug/L	10.00		101	70-130			
1,3-Dichloropropane	10.6		ug/L	10.00		106	70-130			
1,4-Dichlorobenzene	9.86		ug/L	10.00		99	70-130			
1,4-Dioxane - Screen	267		ug/L	200.0		133	0-332			
1-Chlorohexane	9.29		ug/L	10.00		93	70-130			
2,2-Dichloropropane	9.52		ug/L	10.00		95	70-130			
2-Butanone	51.1		ug/L	50.00		102	70-130			
2-Chlorotoluene	10.0		ug/L	10.00		100	70-130			
2-Hexanone	56.6		ug/L	50.00		113	70-130			
4-Chlorotoluene	9.35		ug/L	10.00		94	70-130			
4-Isopropyltoluene	9.97		ug/L	10.00		100	70-130			
4-Methyl-2-Pentanone	53.8		ug/L	50.00		108	70-130			
Acetone	49.9		ug/L	50.00		100	70-130			
Benzene	9.37		ug/L	10.00		94	70-130			
Bromobenzene	9.81		ug/L	10.00		98	70-130			
Bromochloromethane	9.51		ug/L	10.00		95	70-130			
Bromodichloromethane	9.46		ug/L	10.00		95	70-130			
Bromoform	10.9		ug/L	10.00		109	70-130			
Bromomethane	7.12		ug/L	10.00		71	70-130			
Carbon Disulfide	12.9		ug/L	10.00		129	70-130			
Carbon Tetrachloride	9.49		ug/L	10.00		95	70-130			
Chlorobenzene	9.44		ug/L	10.00		94	70-130			
Chloroethane	8.06		ug/L	10.00		81	70-130			
Chloroform	8.81		ug/L	10.00		88	70-130			
Chloromethane	7.64		ug/L	10.00		76	70-130			
cis-1,2-Dichloroethene	10.2		ug/L	10.00		102	70-130			
cis-1,3-Dichloropropene	8.43		ug/L	10.00		84	70-130			
Dibromochloromethane	10.2		ug/L	10.00		102	70-130			
Dibromomethane	9.76		ug/L	10.00		98	70-130			
Dichlorodifluoromethane	8.20		ug/L	10.00		82	70-130			
Diethyl Ether	9.62		ug/L	10.00		96	70-130			
Di-isopropyl ether	9.50		ug/L	10.00		95	70-130			
Ethyl tertiary-butyl ether	8.91		ug/L	10.00		89	70-130			
Ethylbenzene	9.44		ug/L	10.00		94	70-130			
Hexachlorobutadiene	11.2		ug/L	10.00		112	70-130			
Hexachloroethane	10.3		ug/L	10.00		103	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511323

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51332 - 5030B										
Isopropylbenzene	9.92		ug/L	10.00		99	70-130			
Methyl tert-Butyl Ether	9.27		ug/L	10.00		93	70-130			
Methylene Chloride	12.4		ug/L	10.00		124	70-130			
Naphthalene	9.71		ug/L	10.00		97	70-130			
n-Butylbenzene	10.2		ug/L	10.00		102	70-130			
n-Propylbenzene	10.0		ug/L	10.00		100	70-130			
sec-Butylbenzene	10.5		ug/L	10.00		105	70-130			
Styrene	8.49		ug/L	10.00		85	70-130			
tert-Butylbenzene	10.2		ug/L	10.00		102	70-130			
Tertiary-amyl methyl ether	8.73		ug/L	10.00		87	70-130			
Tetrachloroethene	7.35		ug/L	10.00		74	70-130			
Tetrahydrofuran	12.0		ug/L	10.00		120	70-130			
Toluene	9.84		ug/L	10.00		98	70-130			
trans-1,2-Dichloroethene	9.95		ug/L	10.00		100	70-130			
trans-1,3-Dichloropropene	7.91		ug/L	10.00		79	70-130			
Trichloroethene	9.28		ug/L	10.00		93	70-130			
Trichlorofluoromethane	8.97		ug/L	10.00		90	70-130			
Trihalomethanes (Total)	39.4		mg/L							
Vinyl Acetate	10.4		ug/L	10.00		104	70-130			
Vinyl Chloride	8.84		ug/L	10.00		88	70-130			
Xylene O	9.96		ug/L	10.00		100	70-130			
Xylene P,M	20.0		ug/L	20.00		100	70-130			
Xylenes (Total)	30.0		mg/L							
Surrogate: 1,2-Dichloroethane-d4	*0.0228*		mg/L	*0.02500*		*91*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0241*		mg/L	*0.02500*		*97*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0245*		mg/L	*0.02500*		*98*	*70-130*			
Surrogate: Toluene-d8	*0.0269*		mg/L	*0.02500*		*108*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	9.27		ug/L	10.00		93	70-130	2	25	
1,1,1-Trichloroethane	9.25		ug/L	10.00		92	70-130	2	25	
1,1,2,2-Tetrachloroethane	10.2		ug/L	10.00		102	70-130	4	25	
1,1,2-Trichloroethane	9.64		ug/L	10.00		96	70-130	4	25	
1,1-Dichloroethane	9.07		ug/L	10.00		91	70-130	0.6	25	
1,1-Dichloroethene	9.63		ug/L	10.00		96	70-130	2	25	
1,1-Dichloropropene	9.16		ug/L	10.00		92	70-130	2	25	
1,2,3-Trichlorobenzene	10.0		ug/L	10.00		100	70-130	5	25	
1,2,3-Trichloropropane	9.54		ug/L	10.00		95	70-130	16	25	
1,2,4-Trichlorobenzene	9.84		ug/L	10.00		98	70-130	3	25	
1,2,4-Trimethylbenzene	10.3		ug/L	10.00		103	70-130	1	25	
1,2-Dibromo-3-Chloropropane	8.80		ug/L	10.00		88	70-130	15	25	
1,2-Dibromoethane	10.2		ug/L	10.00		102	70-130	0.8	25	
1,2-Dichlorobenzene	9.84		ug/L	10.00		98	70-130	0.5	25	
1,2-Dichloroethane	8.93		ug/L	10.00		89	70-130	1	25	
1,2-Dichloropropane	9.17		ug/L	10.00		92	70-130	3	25	
1,3,5-Trimethylbenzene	10.6		ug/L	10.00		106	70-130	0.7	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511323

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51332 - 5030B										
1,3-Dichlorobenzene	10.1		ug/L	10.00		101	70-130	0.5	25	
1,3-Dichloropropane	10.5		ug/L	10.00		105	70-130	1	25	
1,4-Dichlorobenzene	9.99		ug/L	10.00		100	70-130	1	25	
1,4-Dioxane - Screen	230		ug/L	200.0		115	0-332	15	200	
1-Chlorohexane	9.52		ug/L	10.00		95	70-130	2	25	
2,2-Dichloropropane	9.43		ug/L	10.00		94	70-130	0.9	25	
2-Butanone	44.2		ug/L	50.00		88	70-130	15	25	
2-Chlorotoluene	9.98		ug/L	10.00		100	70-130	0.5	25	
2-Hexanone	50.4		ug/L	50.00		101	70-130	12	25	
4-Chlorotoluene	9.47		ug/L	10.00		95	70-130	1	25	
4-Isopropyltoluene	10.1		ug/L	10.00		101	70-130	2	25	
4-Methyl-2-Pentanone	49.4		ug/L	50.00		99	70-130	9	25	
Acetone	44.4		ug/L	50.00		89	70-130	12	25	
Benzene	9.53		ug/L	10.00		95	70-130	2	25	
Bromobenzene	10.1		ug/L	10.00		101	70-130	3	25	
Bromochloromethane	9.53		ug/L	10.00		95	70-130	0.2	25	
Bromodichloromethane	9.83		ug/L	10.00		98	70-130	4	25	
Bromoform	10.6		ug/L	10.00		106	70-130	3	25	
Bromomethane	8.27		ug/L	10.00		83	70-130	15	25	
Carbon Disulfide	12.9		ug/L	10.00		129	70-130	0	25	
Carbon Tetrachloride	9.48		ug/L	10.00		95	70-130	0.1	25	
Chlorobenzene	9.46		ug/L	10.00		95	70-130	0.2	25	
Chloroethane	8.07		ug/L	10.00		81	70-130	0.1	25	
Chloroform	8.96		ug/L	10.00		90	70-130	2	25	
Chloromethane	7.60		ug/L	10.00		76	70-130	0.5	25	
cis-1,2-Dichloroethene	10.0		ug/L	10.00		100	70-130	1	25	
cis-1,3-Dichloropropene	8.41		ug/L	10.00		84	70-130	0.2	25	
Dibromochloromethane	9.97		ug/L	10.00		100	70-130	2	25	
Dibromomethane	9.84		ug/L	10.00		98	70-130	0.8	25	
Dichlorodifluoromethane	8.04		ug/L	10.00		80	70-130	2	25	
Diethyl Ether	9.86		ug/L	10.00		99	70-130	2	25	
Di-isopropyl ether	9.70		ug/L	10.00		97	70-130	2	25	
Ethyl tertiary-butyl ether	8.98		ug/L	10.00		90	70-130	0.8	25	
Ethylbenzene	9.54		ug/L	10.00		95	70-130	1	25	
Hexachlorobutadiene	10.7		ug/L	10.00		107	70-130	5	25	
Hexachloroethane	10.4		ug/L	10.00		104	70-130	1	25	
Isopropylbenzene	9.95		ug/L	10.00		100	70-130	0.3	25	
Methyl tert-Butyl Ether	9.34		ug/L	10.00		93	70-130	0.8	25	
Methylene Chloride	13.1		ug/L	10.00		131	70-130	5	25	B+
Naphthalene	8.56		ug/L	10.00		86	70-130	13	25	
n-Butylbenzene	9.98		ug/L	10.00		100	70-130	2	25	
n-Propylbenzene	9.81		ug/L	10.00		98	70-130	2	25	
sec-Butylbenzene	10.6		ug/L	10.00		106	70-130	0.4	25	
Styrene	8.77		ug/L	10.00		88	70-130	3	25	
tert-Butylbenzene	10.2		ug/L	10.00		102	70-130	0.2	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511323

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51332 - 5030B										
Tertiary-amyl methyl ether	8.66		ug/L	10.00		87	70-130	0.8	25	
Tetrachloroethene	7.55		ug/L	10.00		76	70-130	3	25	
Tetrahydrofuran	10.3		ug/L	10.00		103	70-130	15	25	
Toluene	10.0		ug/L	10.00		100	70-130	2	25	
trans-1,2-Dichloroethene	10.2		ug/L	10.00		102	70-130	2	25	
trans-1,3-Dichloropropene	7.87		ug/L	10.00		79	70-130	0.5	25	
Trichloroethene	9.47		ug/L	10.00		95	70-130	2	25	
Trichlorofluoromethane	8.76		ug/L	10.00		88	70-130	2	25	
Trihalomethanes (Total)	39.3		mg/L							
Vinyl Acetate	9.61		ug/L	10.00		96	70-130	8	25	
Vinyl Chloride	8.59		ug/L	10.00		86	70-130	3	25	
Xylene O	9.96		ug/L	10.00		100	70-130	0	25	
Xylene P,M	20.5		ug/L	20.00		103	70-130	2	25	
Xylenes (Total)	30.5		mg/L							
Surrogate: 1,2-Dichloroethane-d4	*0.0228*		mg/L	*0.02500*		*91*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0246*		mg/L	*0.02500*		*98*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0249*		mg/L	*0.02500*		*100*	*70-130*			
Surrogate: Toluene-d8	*0.0266*		mg/L	*0.02500*		*107*	*70-130*			
Batch CK51632 - 5030B										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.0010	mg/L							
1,1,1-Trichloroethane	ND	0.0010	mg/L							
1,1,2,2-Tetrachloroethane	ND	0.0005	mg/L							
1,1,2-Trichloroethane	ND	0.0010	mg/L							
1,1-Dichloroethane	ND	0.0010	mg/L							
1,1-Dichloroethene	ND	0.0010	mg/L							
1,1-Dichloropropene	ND	0.0020	mg/L							
1,2,3-Trichlorobenzene	ND	0.0010	mg/L							
1,2,3-Trichloropropane	ND	0.0010	mg/L							
1,2,4-Trichlorobenzene	ND	0.0010	mg/L							
1,2,4-Trimethylbenzene	ND	0.0010	mg/L							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/L							
1,2-Dibromoethane	ND	0.0010	mg/L							
1,2-Dichlorobenzene	ND	0.0010	mg/L							
1,2-Dichloroethane	ND	0.0010	mg/L							
1,2-Dichloropropane	ND	0.0010	mg/L							
1,3,5-Trimethylbenzene	ND	0.0010	mg/L							
1,3-Dichlorobenzene	ND	0.0010	mg/L							
1,3-Dichloropropane	ND	0.0010	mg/L							
1,4-Dichlorobenzene	ND	0.0010	mg/L							
1,4-Dioxane - Screen	ND	0.500	mg/L							
1-Chlorohexane	ND	0.0010	mg/L							
2,2-Dichloropropane	ND	0.0010	mg/L							
2-Butanone	ND	0.0100	mg/L							
2-Chlorotoluene	ND	0.0010	mg/L							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511323

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51632 - 5030B										
2-Hexanone	ND	0.0100	mg/L							
4-Chlorotoluene	ND	0.0010	mg/L							
4-Isopropyltoluene	ND	0.0010	mg/L							
4-Methyl-2-Pentanone	ND	0.0250	mg/L							
Acetone	0.0035	0.0100	mg/L							J
Benzene	ND	0.0010	mg/L							
Bromobenzene	ND	0.0020	mg/L							
Bromochloromethane	ND	0.0010	mg/L							
Bromodichloromethane	ND	0.0006	mg/L							
Bromoform	ND	0.0010	mg/L							
Bromomethane	ND	0.0020	mg/L							
Carbon Disulfide	ND	0.0010	mg/L							
Carbon Tetrachloride	ND	0.0010	mg/L							
Chlorobenzene	ND	0.0010	mg/L							
Chloroethane	ND	0.0020	mg/L							
Chloroform	ND	0.0010	mg/L							
Chloromethane	ND	0.0020	mg/L							
cis-1,2-Dichloroethene	ND	0.0010	mg/L							
cis-1,3-Dichloropropene	ND	0.0004	mg/L							
Dibromochloromethane	ND	0.0010	mg/L							
Dibromomethane	ND	0.0010	mg/L							
Dichlorodifluoromethane	ND	0.0020	mg/L							
Diethyl Ether	ND	0.0010	mg/L							
Di-isopropyl ether	ND	0.0010	mg/L							
Ethyl tertiary-butyl ether	ND	0.0010	mg/L							
Ethylbenzene	ND	0.0010	mg/L							
Hexachlorobutadiene	ND	0.0006	mg/L							
Hexachloroethane	ND	0.0010	mg/L							
Isopropylbenzene	ND	0.0010	mg/L							
Methyl tert-Butyl Ether	ND	0.0010	mg/L							
Methylene Chloride	ND	0.0020	mg/L							
Naphthalene	ND	0.0010	mg/L							
n-Butylbenzene	ND	0.0010	mg/L							
n-Propylbenzene	ND	0.0010	mg/L							
sec-Butylbenzene	ND	0.0010	mg/L							
Styrene	ND	0.0010	mg/L							
tert-Butylbenzene	ND	0.0010	mg/L							
Tertiary-amyl methyl ether	ND	0.0010	mg/L							
Tetrachloroethene	ND	0.0010	mg/L							
Tetrahydrofuran	ND	0.0050	mg/L							
Toluene	ND	0.0010	mg/L							
trans-1,2-Dichloroethene	ND	0.0010	mg/L							
trans-1,3-Dichloropropene	ND	0.0004	mg/L							
Trichloroethene	ND	0.0010	mg/L							
Trichlorofluoromethane	ND	0.0010	mg/L							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511323

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51632 - [CALC]										
Trihalomethanes (Total)	ND	0.0010	mg/L							
Vinyl Acetate	ND	0.0050	mg/L							
Vinyl Chloride	ND	0.0010	mg/L							
Xylene O	ND	0.0010	mg/L							
Xylene P,M	ND	0.0020	mg/L							
Xylenes (Total)	ND	0.0020	mg/L							
Surrogate: 1,2-Dichloroethane-d4	*0.0243*		mg/L	*0.02500*		*97*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0238*		mg/L	*0.02500*		*95*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0254*		mg/L	*0.02500*		*101*	*70-130*			
Surrogate: Toluene-d8	*0.0290*		mg/L	*0.02500*		*116*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	9.18		ug/L	10.00		92	70-130			
1,1,1-Trichloroethane	9.46		ug/L	10.00		95	70-130			
1,1,2,2-Tetrachloroethane	10.4		ug/L	10.00		104	70-130			
1,1,2-Trichloroethane	10.3		ug/L	10.00		103	70-130			
1,1-Dichloroethane	9.49		ug/L	10.00		95	70-130			
1,1-Dichloroethene	9.88		ug/L	10.00		99	70-130			
1,1-Dichloropropene	9.39		ug/L	10.00		94	70-130			
1,2,3-Trichlorobenzene	10.9		ug/L	10.00		109	70-130			
1,2,3-Trichloropropane	10.2		ug/L	10.00		102	70-130			
1,2,4-Trichlorobenzene	10.6		ug/L	10.00		106	70-130			
1,2,4-Trimethylbenzene	11.0		ug/L	10.00		110	70-130			
1,2-Dibromo-3-Chloropropane	9.74		ug/L	10.00		97	70-130			
1,2-Dibromoethane	10.4		ug/L	10.00		104	70-130			
1,2-Dichlorobenzene	10.5		ug/L	10.00		105	70-130			
1,2-Dichloroethane	9.16		ug/L	10.00		92	70-130			
1,2-Dichloropropane	9.67		ug/L	10.00		97	70-130			
1,3,5-Trimethylbenzene	11.0		ug/L	10.00		110	70-130			
1,3-Dichlorobenzene	10.2		ug/L	10.00		102	70-130			
1,3-Dichloropropane	10.4		ug/L	10.00		104	70-130			
1,4-Dichlorobenzene	10.0		ug/L	10.00		100	70-130			
1,4-Dioxane - Screen	271		ug/L	200.0		135	0-332			
1-Chlorohexane	9.74		ug/L	10.00		97	70-130			
2,2-Dichloropropane	9.96		ug/L	10.00		100	70-130			
2-Butanone	52.9		ug/L	50.00		106	70-130			
2-Chlorotoluene	10.2		ug/L	10.00		102	70-130			
2-Hexanone	54.0		ug/L	50.00		108	70-130			
4-Chlorotoluene	9.65		ug/L	10.00		96	70-130			
4-Isopropyltoluene	10.5		ug/L	10.00		105	70-130			
4-Methyl-2-Pentanone	53.2		ug/L	50.00		106	70-130			
Acetone	48.9		ug/L	50.00		98	70-130			
Benzene	9.72		ug/L	10.00		97	70-130			
Bromobenzene	10.4		ug/L	10.00		104	70-130			
Bromochloromethane	9.88		ug/L	10.00		99	70-130			
Bromodichloromethane	9.77		ug/L	10.00		98	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511323

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51632 - 5030B										
Bromoform	10.3		ug/L	10.00		103	70-130			
Bromomethane	5.12		ug/L	10.00		51	70-130			B-
Carbon Disulfide	13.5		ug/L	10.00		135	70-130			B+
Carbon Tetrachloride	9.93		ug/L	10.00		99	70-130			
Chlorobenzene	9.58		ug/L	10.00		96	70-130			
Chloroethane	8.71		ug/L	10.00		87	70-130			
Chloroform	9.15		ug/L	10.00		92	70-130			
Chloromethane	7.51		ug/L	10.00		75	70-130			
cis-1,2-Dichloroethene	10.6		ug/L	10.00		106	70-130			
cis-1,3-Dichloropropene	8.71		ug/L	10.00		87	70-130			
Dibromochloromethane	9.90		ug/L	10.00		99	70-130			
Dibromomethane	10.1		ug/L	10.00		101	70-130			
Dichlorodifluoromethane	8.17		ug/L	10.00		82	70-130			
Diethyl Ether	9.77		ug/L	10.00		98	70-130			
Di-isopropyl ether	10.6		ug/L	10.00		106	70-130			
Ethyl tertiary-butyl ether	9.65		ug/L	10.00		96	70-130			
Ethylbenzene	9.82		ug/L	10.00		98	70-130			
Hexachlorobutadiene	11.6		ug/L	10.00		116	70-130			
Hexachloroethane	9.53		ug/L	10.00		95	70-130			
Isopropylbenzene	10.5		ug/L	10.00		105	70-130			
Methyl tert-Butyl Ether	9.84		ug/L	10.00		98	70-130			
Methylene Chloride	9.04		ug/L	10.00		90	70-130			
Naphthalene	10.0		ug/L	10.00		100	70-130			
n-Butylbenzene	10.9		ug/L	10.00		109	70-130			
n-Propylbenzene	10.1		ug/L	10.00		101	70-130			
sec-Butylbenzene	11.0		ug/L	10.00		110	70-130			
Styrene	9.06		ug/L	10.00		91	70-130			
tert-Butylbenzene	10.8		ug/L	10.00		108	70-130			
Tertiary-amyl methyl ether	9.32		ug/L	10.00		93	70-130			
Tetrachloroethene	8.14		ug/L	10.00		81	70-130			
Tetrahydrofuran	11.5		ug/L	10.00		115	70-130			
Toluene	10.5		ug/L	10.00		105	70-130			
trans-1,2-Dichloroethene	10.3		ug/L	10.00		103	70-130			
trans-1,3-Dichloropropene	8.25		ug/L	10.00		82	70-130			
Trichloroethene	9.64		ug/L	10.00		96	70-130			
Trichlorofluoromethane	8.99		ug/L	10.00		90	70-130			
Trihalomethanes (Total)	39.2		mg/L							
Vinyl Acetate	10.9		ug/L	10.00		109	70-130			
Vinyl Chloride	9.01		ug/L	10.00		90	70-130			
Xylene O	10.0		ug/L	10.00		100	70-130			
Xylene P,M	21.0		ug/L	20.00		105	70-130			
Xylenes (Total)	31.0		mg/L							
Surrogate: 1,2-Dichloroethane-d4	*0.0235*		mg/L	*0.02500*		*94*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0241*		mg/L	*0.02500*		*96*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0249*		mg/L	*0.02500*		*100*	*70-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511323

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51632 - 5030B										
Surrogate: Toluene-d8	*0.0268*		mg/L	*0.02500*		*107*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	8.93		ug/L	10.00		89	70-130	3	25	
1,1,1-Trichloroethane	8.84		ug/L	10.00		88	70-130	7	25	
1,1,2,2-Tetrachloroethane	9.57		ug/L	10.00		96	70-130	8	25	
1,1,2-Trichloroethane	9.40		ug/L	10.00		94	70-130	9	25	
1,1-Dichloroethane	8.91		ug/L	10.00		89	70-130	6	25	
1,1-Dichloroethene	9.55		ug/L	10.00		96	70-130	3	25	
1,1-Dichloropropene	9.02		ug/L	10.00		90	70-130	4	25	
1,2,3-Trichlorobenzene	9.80		ug/L	10.00		98	70-130	11	25	
1,2,3-Trichloropropane	9.39		ug/L	10.00		94	70-130	9	25	
1,2,4-Trichlorobenzene	9.43		ug/L	10.00		94	70-130	12	25	
1,2,4-Trimethylbenzene	10.2		ug/L	10.00		102	70-130	8	25	
1,2-Dibromo-3-Chloropropane	8.25		ug/L	10.00		82	70-130	17	25	
1,2-Dibromoethane	9.77		ug/L	10.00		98	70-130	7	25	
1,2-Dichlorobenzene	9.47		ug/L	10.00		95	70-130	10	25	
1,2-Dichloroethane	8.51		ug/L	10.00		85	70-130	7	25	
1,2-Dichloropropane	9.13		ug/L	10.00		91	70-130	6	25	
1,3,5-Trimethylbenzene	10.6		ug/L	10.00		106	70-130	4	25	
1,3-Dichlorobenzene	9.72		ug/L	10.00		97	70-130	5	25	
1,3-Dichloropropane	10.0		ug/L	10.00		100	70-130	4	25	
1,4-Dichlorobenzene	9.50		ug/L	10.00		95	70-130	5	25	
1,4-Dioxane - Screen	215		ug/L	200.0		107	0-332	23	200	
1-Chlorohexane	9.22		ug/L	10.00		92	70-130	5	25	
2,2-Dichloropropane	9.14		ug/L	10.00		91	70-130	9	25	
2-Butanone	44.8		ug/L	50.00		90	70-130	17	25	
2-Chlorotoluene	9.70		ug/L	10.00		97	70-130	5	25	
2-Hexanone	49.8		ug/L	50.00		100	70-130	8	25	
4-Chlorotoluene	9.15		ug/L	10.00		92	70-130	5	25	
4-Isopropyltoluene	9.81		ug/L	10.00		98	70-130	7	25	
4-Methyl-2-Pentanone	49.8		ug/L	50.00		100	70-130	7	25	
Acetone	44.1		ug/L	50.00		88	70-130	10	25	
Benzene	9.13		ug/L	10.00		91	70-130	6	25	
Bromobenzene	9.49		ug/L	10.00		95	70-130	10	25	
Bromochloromethane	9.13		ug/L	10.00		91	70-130	8	25	
Bromodichloromethane	9.07		ug/L	10.00		91	70-130	7	25	
Bromoform	9.72		ug/L	10.00		97	70-130	6	25	
Bromomethane	4.91		ug/L	10.00		49	70-130	4	25	B-
Carbon Disulfide	12.6		ug/L	10.00		126	70-130	7	25	
Carbon Tetrachloride	9.19		ug/L	10.00		92	70-130	8	25	
Chlorobenzene	9.15		ug/L	10.00		92	70-130	5	25	
Chloroethane	7.93		ug/L	10.00		79	70-130	9	25	
Chloroform	8.42		ug/L	10.00		84	70-130	8	25	
Chloromethane	7.01		ug/L	10.00		70	70-130	7	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511323

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51632 - 5030B										
cis-1,2-Dichloroethene	9.90		ug/L	10.00		99	70-130	7	25	
cis-1,3-Dichloropropene	8.21		ug/L	10.00		82	70-130	6	25	
Dibromochloromethane	9.49		ug/L	10.00		95	70-130	4	25	
Dibromomethane	9.09		ug/L	10.00		91	70-130	10	25	
Dichlorodifluoromethane	7.60		ug/L	10.00		76	70-130	7	25	
Diethyl Ether	9.05		ug/L	10.00		90	70-130	8	25	
Di-isopropyl ether	9.73		ug/L	10.00		97	70-130	9	25	
Ethyl tertiary-butyl ether	9.06		ug/L	10.00		91	70-130	6	25	
Ethylbenzene	9.39		ug/L	10.00		94	70-130	4	25	
Hexachlorobutadiene	10.6		ug/L	10.00		106	70-130	10	25	
Hexachloroethane	8.93		ug/L	10.00		89	70-130	7	25	
Isopropylbenzene	9.80		ug/L	10.00		98	70-130	7	25	
Methyl tert-Butyl Ether	9.01		ug/L	10.00		90	70-130	9	25	
Methylene Chloride	12.0		ug/L	10.00		120	70-130	28	25	D+
Naphthalene	8.54		ug/L	10.00		85	70-130	16	25	
n-Butylbenzene	10.0		ug/L	10.00		100	70-130	9	25	
n-Propylbenzene	9.45		ug/L	10.00		94	70-130	7	25	
sec-Butylbenzene	10.5		ug/L	10.00		105	70-130	5	25	
Styrene	8.68		ug/L	10.00		87	70-130	4	25	
tert-Butylbenzene	9.90		ug/L	10.00		99	70-130	8	25	
Tertiary-amyl methyl ether	8.71		ug/L	10.00		87	70-130	7	25	
Tetrachloroethene	7.82		ug/L	10.00		78	70-130	4	25	
Tetrahydrofuran	10.2		ug/L	10.00		102	70-130	12	25	
Toluene	9.83		ug/L	10.00		98	70-130	7	25	
trans-1,2-Dichloroethene	9.53		ug/L	10.00		95	70-130	8	25	
trans-1,3-Dichloropropene	7.62		ug/L	10.00		76	70-130	8	25	
Trichloroethene	8.92		ug/L	10.00		89	70-130	8	25	
Trichlorofluoromethane	8.15		ug/L	10.00		82	70-130	10	25	
Trihalomethanes (Total)	36.7		mg/L							
Vinyl Acetate	9.58		ug/L	10.00		96	70-130	13	25	
Vinyl Chloride	8.44		ug/L	10.00		84	70-130	7	25	
Xylene O	9.66		ug/L	10.00		97	70-130	4	25	
Xylene P,M	19.7		ug/L	20.00		98	70-130	6	25	
Xylenes (Total)	29.4		mg/L							
Surrogate: 1,2-Dichloroethane-d4	*0.0225*		mg/L	*0.02500*		*90*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0242*		mg/L	*0.02500*		*97*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0243*		mg/L	*0.02500*		*97*	*70-130*			
Surrogate: Toluene-d8	*0.0271*		mg/L	*0.02500*		*108*	*70-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511323

Notes and Definitions

U	Analyte included in the analysis, but not detected
J	Reported between MDL and MRL
D+	Relative percent difference for duplicate is outside of criteria (D+).
D	Diluted.
CD+	Continuing Calibration %Diff/Drift is above control limit (CD+).
CD-	Continuing Calibration %Diff/Drift is below control limit (CD-).
B+	Blank Spike recovery is above upper control limit (B+).
B-	Blank Spike recovery is below lower control limit (B-).
B	Present in Method Blank (B).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511323

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 15110323
Date Project Due: 11/20/15
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	No
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	No
Cooler Temp: **4.1**		16. Are ESS labels on correct containers?	**Yes** | **No**
Iced With: **Ice**		17. Were samples received intact?	**Yes** | **No**
6. Was COC included with samples?	Yes	ESS Sample IDs: _____	
7. Was COC signed and dated by client?	Yes	Sub Lab: _____	
8. Does the COC match the sample	* No	Analysis: _____	
9. Is COC complete and correct?	Yes	TAT: _____	

18. Was there need to call project manager to discuss status? If yes, please explain.
COC = MW-312D 11/12/15 1500; Label = MW-316D 11/12/15 1500 11/13/15

Who was called?:_____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	40 ml - VOA	3	HCL
2	Yes	40 ml - VOA	3	HCL
3	Yes	40 ml - VOA	3	HCL
4	Yes	40 ml - VOA	3	HCL
5	Yes	40 ml - VOA	3	HCL
6	Yes	40 ml - VOA	3	HCL
7	Yes	40 ml - VOA	3	HCL
8	Yes	40 ml - VOA	3	HCL
9	Yes	40 ml - VOA	3	HCL
10	Yes	40 ml - VOA	3	HCL
11	Yes	40 ml - VOA	1	HCL

Completed By: _____ Date/Time: 11/13/15 1313
Reviewed By: _____ Date/Time: 11/13/15 1452

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page_____ of_____

Turn Time ☒ Standard Other _____
If faster than 5 days, prior approval by laboratory is required # _____

State where samples were collected from:
MA (RI) CT NH NJ NY ME Other _____

Is this project for any of the following:
MA-MCP Navy USACE Other _____

Reporting Limits: GB

ESS LAB PROJECT ID: 151323

Electronic Deliverable Yes ✓ No ___
Format: Excel ✓ Access ___ PDF ___ Other _____

Co. Name	Project #	Project Name (20 Char. or less)
GZA	43654	Tidewater

Contact Person	Address
Meg Kilpatrick	530 Broadway

City	State	Zip	PO#
Providence	RI	02909	

Telephone #	Fax #	Email Address

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	Write Required Analysis: VOCs
1	11/12/15	11:30		G	GW	MW-312S	2	3	V	
2	11/12/15	12:90				MW-339S				
3	11/12/15	13:00				MW-339D				
4	11/12/15	13:55				MW-7				
5	11/12/15	15:00				~~MW-312D~~ *MW-316D				
6	11/12/15	16:10				MW-6				
7	11/13/15	9:00				MW-337D				
8	11/13/15	8:30				MW-331S				
9	11/12/15	8:00				BD 111215				
10	11/13/15	8:00		V	V	BD 111315				

Container Type: P-Poly G-Glass S-Sterile V-VOA
Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___ Yes ___ No
Seals Intact ___ Yes ___ No NA: ___
Cooler Temp: 4.1°C MW 11/13/15

Internal Use Only
[ ] Pickup
[ ] Technicians ____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- _____

Sampled by: *client confirmed sample ID by e-mail (cmt 11/16/15)

Comments: National Grid rates apply

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	11/13/15 1240	MW	11/13/15 1240				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page_____ of_____

Turn Time X Standard Other _____
If faster than 5 days, prior approval by laboratory is required # _____

State where samples were collected from:
MA (RI) CT NH NJ NY ME Other _____

Is this project for any of the following:
MA-MCP Navy USACE Other _____

Reporting Limits: GB

ESS LAB PROJECT ID: 1511323

Electronic Deliverable Yes √ No ___
Format: Excel √ Access __ PDF __ Other _____

Co. Name	Project #	Project Name (20 Char. or less)
GZA	43459.00	Tidewater

Contact Person	Address
Meg Kilpatrick	530 Broadway

City	State	Zip	PO#
Providence	RI	02909	

Telephone #	Fax #	Email Address

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	Write Required Analysis: VOCs
11	11/10/15	8:00				Trip blank	2	3	V	

Container Type: P-Poly G-Glass S-Sterile V-VOA | Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___ Yes ___ No Internal Use Only

Seals Intact ___ Yes ___ No NA: ___ [ ] Pickup

Cooler Temp: 4.1°C on 11/13/15 1210 [ ] Technicians ____

Preservation Code 1- NP, 2- HC1, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- _____

Sampled by:

Comments: NGrid rates apply

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	11/13/15 12:10	MHL	11/13/15 1210				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

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CHAIN OF CUSTODY

Page_____ of_____

Turn Time ✓ Standard Other _____
If faster than 5 days, prior approval by laboratory is required # _____

State where samples were collected from:
MA (RI) CT NH NJ NY ME Other _____

Is this project for any of the following:
MA-MCP Navy USACE Other _____

Reporting Limits: GB

ESS LAB PROJECT ID: 151323

Electronic Deliverable Yes ✓ No ___
Format: Excel ✓ Access ___ PDF ___ Other _____

Co. Name	Project #	Project Name (20 Char. or less)
GZA	43654	Tidewater

Contact Person	Address
Meg Kilpatrick	530 Broadway

City	State	Zip	PO#
Providence	RI	02909	

Telephone #	Fax #	Email Address

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	Write Required Analysis: VOCs
1	11/12/15	11:30		G	GW	MW-312S	2	3	V	
2	11/12/15	12:90				MW-339S				
3	11/12/15	13:00				MW-339D				
4	11/12/15	13:55				MW-7				
5	11/12/15	15:00				MW-312D				
6	11/12/15	16:10				MW-6				
7	11/13/15	9:00				MW-337D				
8	11/13/15	8:30				MW-331S				
9	11/12/15	8:00				BD 111215				
10	11/13/15	8:00		V	V	BD 111315				

Container Type: P-Poly G-Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___ Yes ___ No Internal Use Only

Seals Intact ___ Yes ___ No NA: ___ [ ] Pickup

Cooler Temp: 4.1°C MM 11/13/15 [ ] Technicians ___

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- _____

Sampled by:

Comments: National Grid rates apply

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	11/13/15 1240	MGL	11/13/15 1240				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

ESS Laboratory

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www.esslaboratory.com

CHAIN OF CUSTODY

Page_____ of_____

Turn Time: X Standard Other _____
If faster than 5 days, prior approval by laboratory is required # _____

State where samples were collected from:
MA (RI) CT NH NJ NY ME Other _____

Is this project for any of the following:
MA-MCP Navy USACE Other _____

Reporting Limits: GB

ESS LAB PROJECT ID: 1511323

Electronic Deliverable: Yes √ No ___
Format: Excel √ Access __ PDF __ Other _____

Co. Name	Project #	Project Name (20 Char. or less)
GZA	43459.00	Tidewater

Contact Person	Address
Meg Kilpatrick	530 Broadway

City	State	Zip	PO#
Providence	RI	02909	

Telephone #	Fax #	Email Address

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	Write Required Analysis: VOCs
11	11/10/15	8:00				Trip blank	2	3	V	

Container Type: P-Poly G-Glass S-Sterile V-VOA | Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___ Yes ___ No Internal Use Only

Seals Intact ___ Yes ___ No NA: ___ [ ] Pickup

Cooler Temp: 4.1°C on 11/13/15 1210 [ ] Technicians _____

Preservation Code 1- NP, 2- HC1, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- _____

Sampled by:

Comments: NGrid rates apply

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	11/13/15 12:10	MHL	11/13/15 1210				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

CERTIFICATE OF ANALYSIS

Meg Kilpatrick
GZA GeoEnvironmental, Inc.
530 Broadway
Providence, RI 02909

RE: Tidewater GH (03.0043654.00)
ESS Laboratory Work Order Number: 1511324

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 3:45 pm, Nov 20, 2015

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511324

SAMPLE RECEIPT

The following samples were received on November 13, 2015 for the analyses specified on the enclosed Chain of Custody Record.

The samples and analyses listed below were analyzed in accordance with the Guidelines Establishing Test Procedures for the Analysis of Pollutants, 40 CFR Part 136, as amended.

Lab Number	Sample Name	Matrix	Analysis
1511324-01	MW-107	Ground Water	8260B
1511324-02	MW-318S	Ground Water	8260B
1511324-03	MW-318D	Ground Water	8260B
1511324-04	MW-208	Ground Water	8260B
1511324-05	MW-310D	Ground Water	8260B
1511324-06	MW-337	Ground Water	8260B
1511324-07	MW-326D	Ground Water	8260B
1511324-08	MW-326S	Ground Water	8260B
1511324-09	MW-310S	Ground Water	8260B
1511324-10	MW-333D	Ground Water	8260B
1511324-11	MW-333S	Ground Water	8260B
1511324-12	MW-314D	Ground Water	8260B
1511324-13	MW-2	Ground Water	8260B
1511324-14	MW-314S	Ground Water	8260B
1511324-15	MW-109	Ground Water	8260B
1511324-16	MW-312D	Ground Water	8260B
1511324-17	MW-201	Ground Water	8260B

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511324

PROJECT NARRATIVE

8260B Volatile Organic Compounds

1511324-05	**Present in Method Blank (B).**
	Xylene P,M
1511324-05	**Reported above the quantitation limit; Estimated value (E).**
	Isopropylbenzene
1511324-06	**Present in Method Blank (B).**
	Naphthalene
1511324-07	**Present in Method Blank (B).**
	Naphthalene
1511324-09	**Present in Method Blank (B).**
	Naphthalene
1511324-10	**Present in Method Blank (B).**
	Styrene
1511324-12	**Present in Method Blank (B).**
	Ethylbenzene , Styrene , Xylene P,M
1511324-15	**Present in Method Blank (B).**
	Styrene , Xylene P,M
1511324-16	**Present in Method Blank (B).**
	Styrene
1511324-16	**Reported above the quantitation limit; Estimated value (E).**
	Isopropylbenzene
1511324-17	**Present in Method Blank (B).**
	Xylene P,M
CK51635-BS1	**Blank Spike recovery is above upper control limit (B+).**
	2-Hexanone (134% @ 70-130%), Acetone (200% @ 70-130%)
CK51635-BSD1	**Relative percent difference for duplicate is outside of criteria (D+).**
	2-Butanone (31% @ 25%), Acetone (73% @ 25%)
CK51735-BS1	**Blank Spike recovery is below lower control limit (B-).**
	Bromomethane (56% @ 70-130%)
CK51735-BSD1	**Blank Spike recovery is below lower control limit (B-).**
	Bromomethane (58% @ 70-130%)
CYK0255-CCV1	**Continuing Calibration %Diff/Drift is below control limit (CD-).**
	Bromomethane (51% @ 30%)
CYK0273-CCV1	**Continuing Calibration %Diff/Drift is below control limit (CD-).**
	Bromomethane (44% @ 30%)

No other observations noted.

End of Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511324

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015D - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-107
Date Sampled: 11/13/15 09:15
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-01
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/16/15 14:47	CYK0232	CK51635
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/16/15 14:47	CYK0232	CK51635
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/16/15 14:47	CYK0232	CK51635
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
1,2,4-Trimethylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 14:47	CYK0232	CK51635
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/16/15 14:47	CYK0232	CK51635
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 14:47	CYK0232	CK51635
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
1,3,5-Trimethylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 14:47	CYK0232	CK51635
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/16/15 14:47	CYK0232	CK51635
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 14:47	CYK0232	CK51635
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/16/15 14:47	CYK0232	CK51635
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/16/15 14:47	CYK0232	CK51635
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/16/15 14:47	CYK0232	CK51635
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/16/15 14:47	CYK0232	CK51635
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/16/15 14:47	CYK0232	CK51635
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/16/15 14:47	CYK0232	CK51635
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/16/15 14:47	CYK0232	CK51635
4-Isopropyltoluene	ND (0.0010)	0.0001	8260B		1	11/16/15 14:47	CYK0232	CK51635
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/16/15 14:47	CYK0232	CK51635
Acetone	ND (0.0100)	0.0027	8260B		1	11/16/15 14:47	CYK0232	CK51635
Benzene	**J 0.0002** (0.0010)	0.0001	8260B		1	11/16/15 14:47	CYK0232	CK51635
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-107
Date Sampled: 11/13/15 09:15
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-01
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/16/15 14:47	CYK0232	CK51635
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/16/15 14:47	CYK0232	CK51635
Bromoform	ND (0.0010)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/16/15 14:47	CYK0232	CK51635
Carbon Disulfide	ND (0.0010)	0.0001	8260B		1	11/16/15 14:47	CYK0232	CK51635
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/16/15 14:47	CYK0232	CK51635
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 14:47	CYK0232	CK51635
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/16/15 14:47	CYK0232	CK51635
Chloroform	**J 0.0003** (0.0010)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
cis-1,2-Dichloroethene	ND (0.0010)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/16/15 14:47	CYK0232	CK51635
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/16/15 14:47	CYK0232	CK51635
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/16/15 14:47	CYK0232	CK51635
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/16/15 14:47	CYK0232	CK51635
Ethylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 14:47	CYK0232	CK51635
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
Isopropylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 14:47	CYK0232	CK51635
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/16/15 14:47	CYK0232	CK51635
Methylene Chloride	ND (0.0020)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
Naphthalene	ND (0.0010)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
n-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 14:47	CYK0232	CK51635
n-Propylbenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
sec-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 14:47	CYK0232	CK51635
Styrene	ND (0.0010)	0.0001	8260B		1	11/16/15 14:47	CYK0232	CK51635
tert-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 14:47	CYK0232	CK51635
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
Tetrachloroethene	**J 0.0002** (0.0010)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-107
Date Sampled: 11/13/15 09:15
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-01
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/16/15 14:47	CYK0232	CK51635
Toluene	ND (0.0010)	0.0001	8260B		1	11/16/15 14:47	CYK0232	CK51635
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/16/15 14:47	CYK0232	CK51635
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
Trichloroethene	**J 0.0004** (0.0010)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/16/15 14:47	CYK0232	CK51635
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/16/15 14:47	CYK0232	CK51635
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
Xylene O	ND (0.0010)	0.0001	8260B		1	11/16/15 14:47	CYK0232	CK51635
Xylene P,M	ND (0.0020)	0.0002	8260B		1	11/16/15 14:47	CYK0232	CK51635
Xylenes (Total)	ND (0.0020)		8260B		1	11/16/15 14:47		[CALC]
Trihalomethanes (Total)	ND (0.0010)		8260B			11/16/15 14:47		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*94 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*80 %*		*70-130*
Surrogate: Dibromofluoromethane	*87 %*		*70-130*
Surrogate: Toluene-d8	*82 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-318S
Date Sampled: 11/13/15 08:45
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-02
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/18/15 3:35	CYK0255	CK51735
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/18/15 3:35	CYK0255	CK51735
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/18/15 3:35	CYK0255	CK51735
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735
1,2,4-Trimethylbenzene	**0.0255** (0.0010)	0.0001	8260B		1	11/18/15 3:35	CYK0255	CK51735
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/18/15 3:35	CYK0255	CK51735
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/18/15 3:35	CYK0255	CK51735
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735
1,3,5-Trimethylbenzene	**0.0108** (0.0010)	0.0001	8260B		1	11/18/15 3:35	CYK0255	CK51735
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/18/15 3:35	CYK0255	CK51735
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/18/15 3:35	CYK0255	CK51735
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/18/15 3:35	CYK0255	CK51735
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/18/15 3:35	CYK0255	CK51735
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/18/15 3:35	CYK0255	CK51735
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/18/15 3:35	CYK0255	CK51735
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/18/15 3:35	CYK0255	CK51735
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/18/15 3:35	CYK0255	CK51735
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/18/15 3:35	CYK0255	CK51735
4-Isopropyltoluene	**J 0.0008** (0.0010)	0.0001	8260B		1	11/18/15 3:35	CYK0255	CK51735
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/18/15 3:35	CYK0255	CK51735
Acetone	**J 0.0033** (0.0100)	0.0027	8260B		1	11/18/15 3:35	CYK0255	CK51735
Benzene	**0.0408** (0.0010)	0.0001	8260B		1	11/18/15 3:35	CYK0255	CK51735
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-318S
Date Sampled: 11/13/15 08:45
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-02
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/18/15 3:35	CYK0255	CK51735
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/18/15 3:35	CYK0255	CK51735
Bromoform	ND (0.0010)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/18/15 3:35	CYK0255	CK51735
Carbon Disulfide	ND (0.0010)	0.0001	8260B		1	11/18/15 3:35	CYK0255	CK51735
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/18/15 3:35	CYK0255	CK51735
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/18/15 3:35	CYK0255	CK51735
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/18/15 3:35	CYK0255	CK51735
Chloroform	ND (0.0010)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735
cis-1,2-Dichloroethene	ND (0.0010)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/18/15 3:35	CYK0255	CK51735
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/18/15 3:35	CYK0255	CK51735
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/18/15 3:35	CYK0255	CK51735
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/18/15 3:35	CYK0255	CK51735
Ethylbenzene	**0.0061** (0.0010)	0.0001	8260B		1	11/18/15 3:35	CYK0255	CK51735
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735
Isopropylbenzene	**J 0.0007** (0.0010)	0.0001	8260B		1	11/18/15 3:35	CYK0255	CK51735
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/18/15 3:35	CYK0255	CK51735
Methylene Chloride	ND (0.0020)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735
Naphthalene	**0.755** (0.0500)	0.0100	8260B		50	11/17/15 23:00	CYK0255	CK51735
n-Butylbenzene	**0.0016** (0.0010)	0.0001	8260B		1	11/18/15 3:35	CYK0255	CK51735
n-Propylbenzene	**0.0013** (0.0010)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735
sec-Butylbenzene	**J 0.0003** (0.0010)	0.0001	8260B		1	11/18/15 3:35	CYK0255	CK51735
Styrene	**0.0025** (0.0010)	0.0001	8260B		1	11/18/15 3:35	CYK0255	CK51735
tert-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/18/15 3:35	CYK0255	CK51735
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735
Tetrachloroethene	ND (0.0010)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-318S
Date Sampled: 11/13/15 08:45
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-02
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/18/15 3:35	CYK0255	CK51735
Toluene	**0.0370** (0.0010)	0.0001	8260B		1	11/18/15 3:35	CYK0255	CK51735
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/18/15 3:35	CYK0255	CK51735
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735
Trichloroethene	ND (0.0010)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/18/15 3:35	CYK0255	CK51735
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/18/15 3:35	CYK0255	CK51735
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735
Xylene O	**0.0220** (0.0010)	0.0001	8260B		1	11/18/15 3:35	CYK0255	CK51735
Xylene P,M	**0.0486** (0.0020)	0.0002	8260B		1	11/18/15 3:35	CYK0255	CK51735
Xylenes (Total)	**0.0706** (0.0020)		8260B		1	11/18/15 3:35		[CALC]
Trihalomethanes (Total)	ND (0.0010)		8260B			11/18/15 3:35		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*85 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*90 %*		*70-130*
Surrogate: Dibromofluoromethane	*72 %*		*70-130*
Surrogate: Toluene-d8	*84 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-318D
Date Sampled: 11/13/15 08:30
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-03
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/16/15 15:13	CYK0232	CK51635
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/16/15 15:13	CYK0232	CK51635
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/16/15 15:13	CYK0232	CK51635
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
1,2,4-Trimethylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 15:13	CYK0232	CK51635
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/16/15 15:13	CYK0232	CK51635
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 15:13	CYK0232	CK51635
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
1,3,5-Trimethylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 15:13	CYK0232	CK51635
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/16/15 15:13	CYK0232	CK51635
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 15:13	CYK0232	CK51635
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/16/15 15:13	CYK0232	CK51635
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/16/15 15:13	CYK0232	CK51635
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/16/15 15:13	CYK0232	CK51635
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/16/15 15:13	CYK0232	CK51635
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/16/15 15:13	CYK0232	CK51635
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/16/15 15:13	CYK0232	CK51635
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/16/15 15:13	CYK0232	CK51635
4-Isopropyltoluene	ND (0.0010)	0.0001	8260B		1	11/16/15 15:13	CYK0232	CK51635
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/16/15 15:13	CYK0232	CK51635
Acetone	ND (0.0100)	0.0027	8260B		1	11/16/15 15:13	CYK0232	CK51635
Benzene	ND (0.0010)	0.0001	8260B		1	11/16/15 15:13	CYK0232	CK51635
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-318D
Date Sampled: 11/13/15 08:30
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-03
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/16/15 15:13	CYK0232	CK51635
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/16/15 15:13	CYK0232	CK51635
Bromoform	ND (0.0010)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/16/15 15:13	CYK0232	CK51635
Carbon Disulfide	ND (0.0010)	0.0001	8260B		1	11/16/15 15:13	CYK0232	CK51635
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/16/15 15:13	CYK0232	CK51635
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 15:13	CYK0232	CK51635
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/16/15 15:13	CYK0232	CK51635
Chloroform	ND (0.0010)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
cis-1,2-Dichloroethene	ND (0.0010)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/16/15 15:13	CYK0232	CK51635
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/16/15 15:13	CYK0232	CK51635
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/16/15 15:13	CYK0232	CK51635
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/16/15 15:13	CYK0232	CK51635
Ethylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 15:13	CYK0232	CK51635
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
Isopropylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 15:13	CYK0232	CK51635
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/16/15 15:13	CYK0232	CK51635
Methylene Chloride	ND (0.0020)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
Naphthalene	ND (0.0010)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
n-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 15:13	CYK0232	CK51635
n-Propylbenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
sec-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 15:13	CYK0232	CK51635
Styrene	ND (0.0010)	0.0001	8260B		1	11/16/15 15:13	CYK0232	CK51635
tert-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 15:13	CYK0232	CK51635
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
Tetrachloroethene	**J 0.0002** (0.0010)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-318D
Date Sampled: 11/13/15 08:30
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-03
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/16/15 15:13	CYK0232	CK51635
Toluene	ND (0.0010)	0.0001	8260B		1	11/16/15 15:13	CYK0232	CK51635
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/16/15 15:13	CYK0232	CK51635
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
Trichloroethene	ND (0.0010)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/16/15 15:13	CYK0232	CK51635
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/16/15 15:13	CYK0232	CK51635
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
Xylene O	ND (0.0010)	0.0001	8260B		1	11/16/15 15:13	CYK0232	CK51635
Xylene P,M	ND (0.0020)	0.0002	8260B		1	11/16/15 15:13	CYK0232	CK51635
Xylenes (Total)	ND (0.0020)		8260B		1	11/16/15 15:13		[CALC]
Trihalomethanes (Total)	ND (0.0010)		8260B			11/16/15 15:13		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*96 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*80 %*		*70-130*
Surrogate: Dibromofluoromethane	*94 %*		*70-130*
Surrogate: Toluene-d8	*80 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-208
Date Sampled: 11/12/15 13:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-04
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/17/15 19:40	CYK0255	CK51735
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/17/15 19:40	CYK0255	CK51735
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/17/15 19:40	CYK0255	CK51735
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
1,2,4-Trimethylbenzene	**0.0012** (0.0010)	0.0001	8260B		1	11/17/15 19:40	CYK0255	CK51735
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/17/15 19:40	CYK0255	CK51735
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 19:40	CYK0255	CK51735
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
1,3,5-Trimethylbenzene	**J 0.0003** (0.0010)	0.0001	8260B		1	11/17/15 19:40	CYK0255	CK51735
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/17/15 19:40	CYK0255	CK51735
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 19:40	CYK0255	CK51735
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/17/15 19:40	CYK0255	CK51735
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/17/15 19:40	CYK0255	CK51735
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/17/15 19:40	CYK0255	CK51735
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/17/15 19:40	CYK0255	CK51735
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/17/15 19:40	CYK0255	CK51735
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/17/15 19:40	CYK0255	CK51735
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/17/15 19:40	CYK0255	CK51735
4-Isopropyltoluene	**J 0.0003** (0.0010)	0.0001	8260B		1	11/17/15 19:40	CYK0255	CK51735
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/17/15 19:40	CYK0255	CK51735
Acetone	**J 0.0080** (0.0100)	0.0027	8260B		1	11/17/15 19:40	CYK0255	CK51735
Benzene	**0.0032** (0.0010)	0.0001	8260B		1	11/17/15 19:40	CYK0255	CK51735
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-208
Date Sampled: 11/12/15 13:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-04
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/17/15 19:40	CYK0255	CK51735
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/17/15 19:40	CYK0255	CK51735
Bromoform	ND (0.0010)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/17/15 19:40	CYK0255	CK51735
Carbon Disulfide	ND (0.0010)	0.0001	8260B		1	11/17/15 19:40	CYK0255	CK51735
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/17/15 19:40	CYK0255	CK51735
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 19:40	CYK0255	CK51735
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/17/15 19:40	CYK0255	CK51735
Chloroform	ND (0.0010)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
cis-1,2-Dichloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/17/15 19:40	CYK0255	CK51735
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/17/15 19:40	CYK0255	CK51735
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/17/15 19:40	CYK0255	CK51735
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/17/15 19:40	CYK0255	CK51735
Ethylbenzene	**0.0012** (0.0010)	0.0001	8260B		1	11/17/15 19:40	CYK0255	CK51735
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
Isopropylbenzene	**J 0.0004** (0.0010)	0.0001	8260B		1	11/17/15 19:40	CYK0255	CK51735
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/17/15 19:40	CYK0255	CK51735
Methylene Chloride	ND (0.0020)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
Naphthalene	**0.0187** (0.0010)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
n-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 19:40	CYK0255	CK51735
n-Propylbenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
sec-Butylbenzene	**0.0024** (0.0010)	0.0001	8260B		1	11/17/15 19:40	CYK0255	CK51735
Styrene	**J 0.0001** (0.0010)	0.0001	8260B		1	11/17/15 19:40	CYK0255	CK51735
tert-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 19:40	CYK0255	CK51735
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
Tetrachloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-208
Date Sampled: 11/12/15 13:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-04
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/17/15 19:40	CYK0255	CK51735
Toluene	**J 0.0004** (0.0010)	0.0001	8260B		1	11/17/15 19:40	CYK0255	CK51735
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/17/15 19:40	CYK0255	CK51735
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
Trichloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/17/15 19:40	CYK0255	CK51735
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/17/15 19:40	CYK0255	CK51735
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
Xylene O	**0.0010** (0.0010)	0.0001	8260B		1	11/17/15 19:40	CYK0255	CK51735
Xylene P,M	**J 0.0011** (0.0020)	0.0002	8260B		1	11/17/15 19:40	CYK0255	CK51735
Xylenes (Total)	**0.0021** (0.0020)		8260B		1	11/17/15 19:40		[CALC]
Trihalomethanes (Total)	ND (0.0010)		8260B			11/17/15 19:40		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*95 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*92 %*		*70-130*
Surrogate: Dibromofluoromethane	*91 %*		*70-130*
Surrogate: Toluene-d8	*77 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-310D
Date Sampled: 11/12/15 09:30
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-05
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/17/15 8:47	CYK0236	CK51643
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/17/15 8:47	CYK0236	CK51643
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/17/15 8:47	CYK0236	CK51643
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643
1,2,4-Trimethylbenzene	**0.577** (0.100)	0.0100	8260B		100	11/18/15 15:52	CYK0236	CK51643
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/17/15 8:47	CYK0236	CK51643
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 8:47	CYK0236	CK51643
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643
1,3,5-Trimethylbenzene	**0.148** (0.100)	0.0100	8260B		100	11/18/15 15:52	CYK0236	CK51643
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/17/15 8:47	CYK0236	CK51643
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 8:47	CYK0236	CK51643
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/17/15 8:47	CYK0236	CK51643
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/17/15 8:47	CYK0236	CK51643
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/17/15 8:47	CYK0236	CK51643
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/17/15 8:47	CYK0236	CK51643
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/17/15 8:47	CYK0236	CK51643
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/17/15 8:47	CYK0236	CK51643
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/17/15 8:47	CYK0236	CK51643
4-Isopropyltoluene	**0.0150** (0.0010)	0.0001	8260B		1	11/17/15 8:47	CYK0236	CK51643
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/17/15 8:47	CYK0236	CK51643
Acetone	ND (0.0100)	0.0027	8260B		1	11/17/15 8:47	CYK0236	CK51643
Benzene	**0.739** (0.100)	0.0100	8260B		100	11/18/15 15:52	CYK0236	CK51643
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-310D
Date Sampled: 11/12/15 09:30
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-05
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/17/15 8:47	CYK0236	CK51643
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/17/15 8:47	CYK0236	CK51643
Bromoform	ND (0.0010)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/17/15 8:47	CYK0236	CK51643
Carbon Disulfide	ND (0.0010)	0.0001	8260B		1	11/17/15 8:47	CYK0236	CK51643
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/17/15 8:47	CYK0236	CK51643
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 8:47	CYK0236	CK51643
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/17/15 8:47	CYK0236	CK51643
Chloroform	ND (0.0010)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643
cis-1,2-Dichloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/17/15 8:47	CYK0236	CK51643
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/17/15 8:47	CYK0236	CK51643
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/17/15 8:47	CYK0236	CK51643
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/17/15 8:47	CYK0236	CK51643
Ethylbenzene	**0.975** (0.100)	0.0100	8260B		100	11/18/15 15:52	CYK0236	CK51643
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643
Isopropylbenzene	**E 0.108** (0.0010)	0.0001	8260B		1	11/17/15 8:47	CYK0236	CK51643
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/17/15 8:47	CYK0236	CK51643
Methylene Chloride	ND (0.0020)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643
Naphthalene	**9.75** (0.100)	0.0200	8260B		100	11/18/15 15:52	CYK0236	CK51643
n-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 8:47	CYK0236	CK51643
n-Propylbenzene	**0.0438** (0.0010)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643
sec-Butylbenzene	**0.0019** (0.0010)	0.0001	8260B		1	11/17/15 8:47	CYK0236	CK51643
Styrene	**0.0235** (0.0010)	0.0001	8260B		1	11/17/15 8:47	CYK0236	CK51643
tert-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 8:47	CYK0236	CK51643
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643
Tetrachloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-310D
Date Sampled: 11/12/15 09:30
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-05
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/17/15 8:47	CYK0236	CK51643
Toluene	**0.213** (0.100)	0.0100	8260B		100	11/18/15 15:52	CYK0236	CK51643
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/17/15 8:47	CYK0236	CK51643
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643
Trichloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/17/15 8:47	CYK0236	CK51643
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/17/15 8:47	CYK0236	CK51643
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/17/15 8:47	CYK0236	CK51643
Xylene O	**0.640** (0.100)	0.0100	8260B		100	11/18/15 15:52	CYK0236	CK51643
Xylene P,M	**B 0.709** (0.200)	0.0200	8260B		100	11/18/15 15:52	CYK0236	CK51643
Xylenes (Total)	**1.35** (0.200)		8260B		100	11/18/15 15:52		[CALC]
Trihalomethanes (Total)	ND (0.0010)		8260B			11/17/15 8:47		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*71 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*95 %*		*70-130*
Surrogate: Dibromofluoromethane	*72 %*		*70-130*
Surrogate: Toluene-d8	*87 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-337
Date Sampled: 11/11/15 16:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-06
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/16/15 15:38	CYK0232	CK51635
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/16/15 15:38	CYK0232	CK51635
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/16/15 15:38	CYK0232	CK51635
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
1,2,4-Trimethylbenzene	**J 0.0004** (0.0010)	0.0001	8260B		1	11/16/15 15:38	CYK0232	CK51635
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/16/15 15:38	CYK0232	CK51635
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 15:38	CYK0232	CK51635
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
1,3,5-Trimethylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 15:38	CYK0232	CK51635
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/16/15 15:38	CYK0232	CK51635
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 15:38	CYK0232	CK51635
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/16/15 15:38	CYK0232	CK51635
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/16/15 15:38	CYK0232	CK51635
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/16/15 15:38	CYK0232	CK51635
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/16/15 15:38	CYK0232	CK51635
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/16/15 15:38	CYK0232	CK51635
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/16/15 15:38	CYK0232	CK51635
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/16/15 15:38	CYK0232	CK51635
4-Isopropyltoluene	ND (0.0010)	0.0001	8260B		1	11/16/15 15:38	CYK0232	CK51635
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/16/15 15:38	CYK0232	CK51635
Acetone	ND (0.0100)	0.0027	8260B		1	11/16/15 15:38	CYK0232	CK51635
Benzene	**0.0039** (0.0010)	0.0001	8260B		1	11/16/15 15:38	CYK0232	CK51635
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-337
Date Sampled: 11/11/15 16:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-06
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/16/15 15:38	CYK0232	CK51635
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/16/15 15:38	CYK0232	CK51635
Bromoform	ND (0.0010)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/16/15 15:38	CYK0232	CK51635
Carbon Disulfide	ND (0.0010)	0.0001	8260B		1	11/16/15 15:38	CYK0232	CK51635
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/16/15 15:38	CYK0232	CK51635
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 15:38	CYK0232	CK51635
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/16/15 15:38	CYK0232	CK51635
Chloroform	ND (0.0010)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
cis-1,2-Dichloroethene	ND (0.0010)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/16/15 15:38	CYK0232	CK51635
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/16/15 15:38	CYK0232	CK51635
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/16/15 15:38	CYK0232	CK51635
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/16/15 15:38	CYK0232	CK51635
Ethylbenzene	**J 0.0008** (0.0010)	0.0001	8260B		1	11/16/15 15:38	CYK0232	CK51635
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
Isopropylbenzene	**J 0.0003** (0.0010)	0.0001	8260B		1	11/16/15 15:38	CYK0232	CK51635
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/16/15 15:38	CYK0232	CK51635
Methylene Chloride	ND (0.0020)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
Naphthalene	**B 0.0033** (0.0010)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
n-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 15:38	CYK0232	CK51635
n-Propylbenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
sec-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 15:38	CYK0232	CK51635
Styrene	ND (0.0010)	0.0001	8260B		1	11/16/15 15:38	CYK0232	CK51635
tert-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 15:38	CYK0232	CK51635
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
Tetrachloroethene	ND (0.0010)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-337
Date Sampled: 11/11/15 16:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-06
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/16/15 15:38	CYK0232	CK51635
Toluene	**J 0.0001** (0.0010)	0.0001	8260B		1	11/16/15 15:38	CYK0232	CK51635
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/16/15 15:38	CYK0232	CK51635
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
Trichloroethene	ND (0.0010)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/16/15 15:38	CYK0232	CK51635
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/16/15 15:38	CYK0232	CK51635
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
Xylene O	**J 0.0002** (0.0010)	0.0001	8260B		1	11/16/15 15:38	CYK0232	CK51635
Xylene P,M	ND (0.0020)	0.0002	8260B		1	11/16/15 15:38	CYK0232	CK51635
Xylenes (Total)	ND (0.0020)		8260B		1	11/16/15 15:38		[CALC]
Trihalomethanes (Total)	ND (0.0010)		8260B			11/16/15 15:38		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*97 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*81 %*		*70-130*
Surrogate: Dibromofluoromethane	*91 %*		*70-130*
Surrogate: Toluene-d8	*81 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-326D
Date Sampled: 11/12/15 11:30
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-07
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/16/15 16:03	CYK0232	CK51635
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/16/15 16:03	CYK0232	CK51635
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/16/15 16:03	CYK0232	CK51635
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
1,2,4-Trimethylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:03	CYK0232	CK51635
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/16/15 16:03	CYK0232	CK51635
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:03	CYK0232	CK51635
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
1,3,5-Trimethylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:03	CYK0232	CK51635
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/16/15 16:03	CYK0232	CK51635
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:03	CYK0232	CK51635
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/16/15 16:03	CYK0232	CK51635
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/16/15 16:03	CYK0232	CK51635
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/16/15 16:03	CYK0232	CK51635
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/16/15 16:03	CYK0232	CK51635
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:03	CYK0232	CK51635
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/16/15 16:03	CYK0232	CK51635
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:03	CYK0232	CK51635
4-Isopropyltoluene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:03	CYK0232	CK51635
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/16/15 16:03	CYK0232	CK51635
Acetone	ND (0.0100)	0.0027	8260B		1	11/16/15 16:03	CYK0232	CK51635
Benzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:03	CYK0232	CK51635
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-326D
Date Sampled: 11/12/15 11:30
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-07
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/16/15 16:03	CYK0232	CK51635
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/16/15 16:03	CYK0232	CK51635
Bromoform	ND (0.0010)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/16/15 16:03	CYK0232	CK51635
Carbon Disulfide	ND (0.0010)	0.0001	8260B		1	11/16/15 16:03	CYK0232	CK51635
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/16/15 16:03	CYK0232	CK51635
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:03	CYK0232	CK51635
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/16/15 16:03	CYK0232	CK51635
Chloroform	ND (0.0010)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
cis-1,2-Dichloroethene	ND (0.0010)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/16/15 16:03	CYK0232	CK51635
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/16/15 16:03	CYK0232	CK51635
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/16/15 16:03	CYK0232	CK51635
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/16/15 16:03	CYK0232	CK51635
Ethylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:03	CYK0232	CK51635
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
Isopropylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:03	CYK0232	CK51635
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/16/15 16:03	CYK0232	CK51635
Methylene Chloride	ND (0.0020)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
Naphthalene	**B, J 0.0004** (0.0010)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
n-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:03	CYK0232	CK51635
n-Propylbenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
sec-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:03	CYK0232	CK51635
Styrene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:03	CYK0232	CK51635
tert-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:03	CYK0232	CK51635
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
Tetrachloroethene	ND (0.0010)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-326D
Date Sampled: 11/12/15 11:30
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-07
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/16/15 16:03	CYK0232	CK51635
Toluene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:03	CYK0232	CK51635
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/16/15 16:03	CYK0232	CK51635
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
Trichloroethene	ND (0.0010)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/16/15 16:03	CYK0232	CK51635
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/16/15 16:03	CYK0232	CK51635
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
Xylene O	ND (0.0010)	0.0001	8260B		1	11/16/15 16:03	CYK0232	CK51635
Xylene P,M	ND (0.0020)	0.0002	8260B		1	11/16/15 16:03	CYK0232	CK51635
Xylenes (Total)	ND (0.0020)		8260B		1	11/16/15 16:03		[CALC]
Trihalomethanes (Total)	ND (0.0010)		8260B			11/16/15 16:03		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*94 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*81 %*		*70-130*
Surrogate: Dibromofluoromethane	*91 %*		*70-130*
Surrogate: Toluene-d8	*82 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-326S
Date Sampled: 11/12/15 11:45
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-08
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/18/15 3:10	CYK0255	CK51735
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/18/15 3:10	CYK0255	CK51735
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/18/15 3:10	CYK0255	CK51735
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
1,2,4-Trimethylbenzene	**0.0113** (0.0010)	0.0001	8260B		1	11/18/15 3:10	CYK0255	CK51735
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/18/15 3:10	CYK0255	CK51735
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/18/15 3:10	CYK0255	CK51735
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
1,3,5-Trimethylbenzene	**0.0044** (0.0010)	0.0001	8260B		1	11/18/15 3:10	CYK0255	CK51735
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/18/15 3:10	CYK0255	CK51735
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/18/15 3:10	CYK0255	CK51735
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/18/15 3:10	CYK0255	CK51735
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/18/15 3:10	CYK0255	CK51735
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/18/15 3:10	CYK0255	CK51735
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/18/15 3:10	CYK0255	CK51735
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/18/15 3:10	CYK0255	CK51735
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/18/15 3:10	CYK0255	CK51735
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/18/15 3:10	CYK0255	CK51735
4-Isopropyltoluene	**J 0.0004** (0.0010)	0.0001	8260B		1	11/18/15 3:10	CYK0255	CK51735
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/18/15 3:10	CYK0255	CK51735
Acetone	ND (0.0100)	0.0027	8260B		1	11/18/15 3:10	CYK0255	CK51735
Benzene	**0.516** (0.0100)	0.0010	8260B		10	11/18/15 14:36	CYK0255	CK51735
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-326S
Date Sampled: 11/12/15 11:45
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-08
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/18/15 3:10	CYK0255	CK51735
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/18/15 3:10	CYK0255	CK51735
Bromoform	ND (0.0010)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/18/15 3:10	CYK0255	CK51735
Carbon Disulfide	ND (0.0010)	0.0001	8260B		1	11/18/15 3:10	CYK0255	CK51735
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/18/15 3:10	CYK0255	CK51735
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/18/15 3:10	CYK0255	CK51735
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/18/15 3:10	CYK0255	CK51735
Chloroform	ND (0.0010)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
cis-1,2-Dichloroethene	ND (0.0010)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/18/15 3:10	CYK0255	CK51735
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/18/15 3:10	CYK0255	CK51735
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/18/15 3:10	CYK0255	CK51735
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/18/15 3:10	CYK0255	CK51735
Ethylbenzene	**0.0544** (0.0010)	0.0001	8260B		1	11/18/15 3:10	CYK0255	CK51735
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
Isopropylbenzene	**0.0340** (0.0010)	0.0001	8260B		1	11/18/15 3:10	CYK0255	CK51735
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/18/15 3:10	CYK0255	CK51735
Methylene Chloride	ND (0.0020)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
Naphthalene	**0.0120** (0.0010)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
n-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/18/15 3:10	CYK0255	CK51735
n-Propylbenzene	**0.0103** (0.0010)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
sec-Butylbenzene	**J 0.0007** (0.0010)	0.0001	8260B		1	11/18/15 3:10	CYK0255	CK51735
Styrene	**J 0.0002** (0.0010)	0.0001	8260B		1	11/18/15 3:10	CYK0255	CK51735
tert-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/18/15 3:10	CYK0255	CK51735
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
Tetrachloroethene	ND (0.0010)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-326S
Date Sampled: 11/12/15 11:45
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-08
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/18/15 3:10	CYK0255	CK51735
Toluene	**0.0012** (0.0010)	0.0001	8260B		1	11/18/15 3:10	CYK0255	CK51735
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/18/15 3:10	CYK0255	CK51735
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
Trichloroethene	ND (0.0010)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/18/15 3:10	CYK0255	CK51735
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/18/15 3:10	CYK0255	CK51735
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
Xylene O	**0.0071** (0.0010)	0.0001	8260B		1	11/18/15 3:10	CYK0255	CK51735
Xylene P,M	**0.0050** (0.0020)	0.0002	8260B		1	11/18/15 3:10	CYK0255	CK51735
Xylenes (Total)	**0.0121** (0.0020)		8260B		1	11/18/15 3:10		[CALC]
Trihalomethanes (Total)	ND (0.0010)		8260B			11/18/15 3:10		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*89 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*94 %*		*70-130*
Surrogate: Dibromofluoromethane	*80 %*		*70-130*
Surrogate: Toluene-d8	*83 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-310S
Date Sampled: 11/12/15 10:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-09
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/16/15 16:28	CYK0232	CK51635
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/16/15 16:28	CYK0232	CK51635
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/16/15 16:28	CYK0232	CK51635
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
1,2,4-Trimethylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:28	CYK0232	CK51635
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/16/15 16:28	CYK0232	CK51635
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:28	CYK0232	CK51635
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
1,3,5-Trimethylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:28	CYK0232	CK51635
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/16/15 16:28	CYK0232	CK51635
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:28	CYK0232	CK51635
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/16/15 16:28	CYK0232	CK51635
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/16/15 16:28	CYK0232	CK51635
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/16/15 16:28	CYK0232	CK51635
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/16/15 16:28	CYK0232	CK51635
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:28	CYK0232	CK51635
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/16/15 16:28	CYK0232	CK51635
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:28	CYK0232	CK51635
4-Isopropyltoluene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:28	CYK0232	CK51635
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/16/15 16:28	CYK0232	CK51635
Acetone	ND (0.0100)	0.0027	8260B		1	11/16/15 16:28	CYK0232	CK51635
Benzene	**J 0.0005** (0.0010)	0.0001	8260B		1	11/16/15 16:28	CYK0232	CK51635
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-310S
Date Sampled: 11/12/15 10:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-09
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/16/15 16:28	CYK0232	CK51635
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/16/15 16:28	CYK0232	CK51635
Bromoform	ND (0.0010)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/16/15 16:28	CYK0232	CK51635
Carbon Disulfide	ND (0.0010)	0.0001	8260B		1	11/16/15 16:28	CYK0232	CK51635
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/16/15 16:28	CYK0232	CK51635
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:28	CYK0232	CK51635
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/16/15 16:28	CYK0232	CK51635
Chloroform	ND (0.0010)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
cis-1,2-Dichloroethene	ND (0.0010)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/16/15 16:28	CYK0232	CK51635
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/16/15 16:28	CYK0232	CK51635
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/16/15 16:28	CYK0232	CK51635
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/16/15 16:28	CYK0232	CK51635
Ethylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:28	CYK0232	CK51635
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
Isopropylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:28	CYK0232	CK51635
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/16/15 16:28	CYK0232	CK51635
Methylene Chloride	ND (0.0020)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
Naphthalene	**B, J 0.0002** (0.0010)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
n-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:28	CYK0232	CK51635
n-Propylbenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
sec-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:28	CYK0232	CK51635
Styrene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:28	CYK0232	CK51635
tert-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:28	CYK0232	CK51635
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
Tetrachloroethene	ND (0.0010)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-310S
Date Sampled: 11/12/15 10:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-09
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/16/15 16:28	CYK0232	CK51635
Toluene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:28	CYK0232	CK51635
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/16/15 16:28	CYK0232	CK51635
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
Trichloroethene	ND (0.0010)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/16/15 16:28	CYK0232	CK51635
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/16/15 16:28	CYK0232	CK51635
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
Xylene O	ND (0.0010)	0.0001	8260B		1	11/16/15 16:28	CYK0232	CK51635
Xylene P,M	ND (0.0020)	0.0002	8260B		1	11/16/15 16:28	CYK0232	CK51635
Xylenes (Total)	ND (0.0020)		8260B		1	11/16/15 16:28		[CALC]
Trihalomethanes (Total)	ND (0.0010)		8260B			11/16/15 16:28		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*94 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*82 %*		*70-130*
Surrogate: Dibromofluoromethane	*93 %*		*70-130*
Surrogate: Toluene-d8	*81 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-333D
Date Sampled: 11/12/15 15:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-10
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/17/15 7:07	CYK0236	CK51643
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/17/15 7:07	CYK0236	CK51643
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/17/15 7:07	CYK0236	CK51643
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643
1,2,4-Trimethylbenzene	**0.0760** (0.0500)	0.0050	8260B		50	11/17/15 23:50	CYK0236	CK51643
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/17/15 7:07	CYK0236	CK51643
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 7:07	CYK0236	CK51643
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643
1,3,5-Trimethylbenzene	**J 0.0010** (0.0010)	0.0001	8260B		1	11/17/15 7:07	CYK0236	CK51643
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/17/15 7:07	CYK0236	CK51643
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 7:07	CYK0236	CK51643
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/17/15 7:07	CYK0236	CK51643
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/17/15 7:07	CYK0236	CK51643
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/17/15 7:07	CYK0236	CK51643
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/17/15 7:07	CYK0236	CK51643
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/17/15 7:07	CYK0236	CK51643
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/17/15 7:07	CYK0236	CK51643
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/17/15 7:07	CYK0236	CK51643
4-Isopropyltoluene	**J 0.0008** (0.0010)	0.0001	8260B		1	11/17/15 7:07	CYK0236	CK51643
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/17/15 7:07	CYK0236	CK51643
Acetone	**J 0.0038** (0.0100)	0.0027	8260B		1	11/17/15 7:07	CYK0236	CK51643
Benzene	**0.902** (0.0500)	0.0050	8260B		50	11/17/15 23:50	CYK0236	CK51643
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-333D
Date Sampled: 11/12/15 15:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-10
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/17/15 7:07	CYK0236	CK51643
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/17/15 7:07	CYK0236	CK51643
Bromoform	ND (0.0010)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/17/15 7:07	CYK0236	CK51643
Carbon Disulfide	ND (0.0010)	0.0001	8260B		1	11/17/15 7:07	CYK0236	CK51643
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/17/15 7:07	CYK0236	CK51643
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 7:07	CYK0236	CK51643
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/17/15 7:07	CYK0236	CK51643
Chloroform	ND (0.0010)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643
cis-1,2-Dichloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/17/15 7:07	CYK0236	CK51643
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/17/15 7:07	CYK0236	CK51643
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/17/15 7:07	CYK0236	CK51643
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/17/15 7:07	CYK0236	CK51643
Ethylbenzene	**0.233** (0.0500)	0.0050	8260B		50	11/17/15 23:50	CYK0236	CK51643
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643
Isopropylbenzene	**0.0517** (0.0010)	0.0001	8260B		1	11/17/15 7:07	CYK0236	CK51643
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/17/15 7:07	CYK0236	CK51643
Methylene Chloride	ND (0.0020)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643
Naphthalene	**0.861** (0.0500)	0.0100	8260B		50	11/17/15 23:50	CYK0236	CK51643
n-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 7:07	CYK0236	CK51643
n-Propylbenzene	**0.0165** (0.0010)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643
sec-Butylbenzene	**J 0.0009** (0.0010)	0.0001	8260B		1	11/17/15 7:07	CYK0236	CK51643
Styrene	**B 0.0010** (0.0010)	0.0001	8260B		1	11/17/15 7:07	CYK0236	CK51643
tert-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 7:07	CYK0236	CK51643
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643
Tetrachloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-333D
Date Sampled: 11/12/15 15:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-10
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/17/15 7:07	CYK0236	CK51643
Toluene	**0.0015** (0.0010)	0.0001	8260B		1	11/17/15 7:07	CYK0236	CK51643
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/17/15 7:07	CYK0236	CK51643
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643
Trichloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/17/15 7:07	CYK0236	CK51643
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/17/15 7:07	CYK0236	CK51643
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643
Xylene O	**0.0419** (0.0010)	0.0001	8260B		1	11/17/15 7:07	CYK0236	CK51643
Xylene P,M	**0.0429** (0.0020)	0.0002	8260B		1	11/17/15 7:07	CYK0236	CK51643
Xylenes (Total)	**0.0848** (0.0020)		8260B		1	11/17/15 7:07		[CALC]
Trihalomethanes (Total)	ND (0.0010)		8260B			11/17/15 7:07		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*80 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*96 %*		*70-130*
Surrogate: Dibromofluoromethane	*80 %*		*70-130*
Surrogate: Toluene-d8	*86 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-333S
Date Sampled: 11/12/15 14:20
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-11
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/17/15 19:15	CYK0255	CK51735
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/17/15 19:15	CYK0255	CK51735
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/17/15 19:15	CYK0255	CK51735
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
1,2,4-Trimethylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 19:15	CYK0255	CK51735
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/17/15 19:15	CYK0255	CK51735
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 19:15	CYK0255	CK51735
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
1,3,5-Trimethylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 19:15	CYK0255	CK51735
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/17/15 19:15	CYK0255	CK51735
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 19:15	CYK0255	CK51735
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/17/15 19:15	CYK0255	CK51735
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/17/15 19:15	CYK0255	CK51735
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/17/15 19:15	CYK0255	CK51735
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/17/15 19:15	CYK0255	CK51735
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/17/15 19:15	CYK0255	CK51735
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/17/15 19:15	CYK0255	CK51735
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/17/15 19:15	CYK0255	CK51735
4-Isopropyltoluene	ND (0.0010)	0.0001	8260B		1	11/17/15 19:15	CYK0255	CK51735
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/17/15 19:15	CYK0255	CK51735
Acetone	ND (0.0100)	0.0027	8260B		1	11/17/15 19:15	CYK0255	CK51735
Benzene	ND (0.0010)	0.0001	8260B		1	11/17/15 19:15	CYK0255	CK51735
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-333S
Date Sampled: 11/12/15 14:20
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-11
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/17/15 19:15	CYK0255	CK51735
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/17/15 19:15	CYK0255	CK51735
Bromoform	ND (0.0010)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/17/15 19:15	CYK0255	CK51735
Carbon Disulfide	ND (0.0010)	0.0001	8260B		1	11/17/15 19:15	CYK0255	CK51735
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/17/15 19:15	CYK0255	CK51735
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 19:15	CYK0255	CK51735
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/17/15 19:15	CYK0255	CK51735
Chloroform	ND (0.0010)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
cis-1,2-Dichloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/17/15 19:15	CYK0255	CK51735
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/17/15 19:15	CYK0255	CK51735
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/17/15 19:15	CYK0255	CK51735
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/17/15 19:15	CYK0255	CK51735
Ethylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 19:15	CYK0255	CK51735
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
Isopropylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 19:15	CYK0255	CK51735
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/17/15 19:15	CYK0255	CK51735
Methylene Chloride	ND (0.0020)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
Naphthalene	ND (0.0010)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
n-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 19:15	CYK0255	CK51735
n-Propylbenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
sec-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 19:15	CYK0255	CK51735
Styrene	ND (0.0010)	0.0001	8260B		1	11/17/15 19:15	CYK0255	CK51735
tert-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 19:15	CYK0255	CK51735
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
Tetrachloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-333S
Date Sampled: 11/12/15 14:20
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-11
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/17/15 19:15	CYK0255	CK51735
Toluene	ND (0.0010)	0.0001	8260B		1	11/17/15 19:15	CYK0255	CK51735
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/17/15 19:15	CYK0255	CK51735
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
Trichloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/17/15 19:15	CYK0255	CK51735
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/17/15 19:15	CYK0255	CK51735
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
Xylene O	ND (0.0010)	0.0001	8260B		1	11/17/15 19:15	CYK0255	CK51735
Xylene P,M	ND (0.0020)	0.0002	8260B		1	11/17/15 19:15	CYK0255	CK51735
Xylenes (Total)	ND (0.0020)		8260B		1	11/17/15 19:15		[CALC]
Trihalomethanes (Total)	ND (0.0010)		8260B			11/17/15 19:15		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*93 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*84 %*		*70-130*
Surrogate: Dibromofluoromethane	*89 %*		*70-130*
Surrogate: Toluene-d8	*82 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-314D
Date Sampled: 11/11/15 14:50
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-12
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/17/15 6:42	CYK0236	CK51643
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/17/15 6:42	CYK0236	CK51643
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/17/15 6:42	CYK0236	CK51643
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
1,2,4-Trimethylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 6:42	CYK0236	CK51643
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/17/15 6:42	CYK0236	CK51643
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 6:42	CYK0236	CK51643
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
1,3,5-Trimethylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 6:42	CYK0236	CK51643
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/17/15 6:42	CYK0236	CK51643
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 6:42	CYK0236	CK51643
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/17/15 6:42	CYK0236	CK51643
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/17/15 6:42	CYK0236	CK51643
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/17/15 6:42	CYK0236	CK51643
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/17/15 6:42	CYK0236	CK51643
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/17/15 6:42	CYK0236	CK51643
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/17/15 6:42	CYK0236	CK51643
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/17/15 6:42	CYK0236	CK51643
4-Isopropyltoluene	ND (0.0010)	0.0001	8260B		1	11/17/15 6:42	CYK0236	CK51643
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/17/15 6:42	CYK0236	CK51643
Acetone	ND (0.0100)	0.0027	8260B		1	11/17/15 6:42	CYK0236	CK51643
Benzene	ND (0.0010)	0.0001	8260B		1	11/17/15 6:42	CYK0236	CK51643
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-314D
Date Sampled: 11/11/15 14:50
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-12
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/17/15 6:42	CYK0236	CK51643
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/17/15 6:42	CYK0236	CK51643
Bromoform	ND (0.0010)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/17/15 6:42	CYK0236	CK51643
Carbon Disulfide	ND (0.0010)	0.0001	8260B		1	11/17/15 6:42	CYK0236	CK51643
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/17/15 6:42	CYK0236	CK51643
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 6:42	CYK0236	CK51643
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/17/15 6:42	CYK0236	CK51643
Chloroform	ND (0.0010)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
cis-1,2-Dichloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/17/15 6:42	CYK0236	CK51643
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/17/15 6:42	CYK0236	CK51643
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/17/15 6:42	CYK0236	CK51643
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/17/15 6:42	CYK0236	CK51643
Ethylbenzene	**B, J 0.0002** (0.0010)	0.0001	8260B		1	11/17/15 6:42	CYK0236	CK51643
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
Isopropylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 6:42	CYK0236	CK51643
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/17/15 6:42	CYK0236	CK51643
Methylene Chloride	ND (0.0020)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
Naphthalene	ND (0.0010)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
n-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 6:42	CYK0236	CK51643
n-Propylbenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
sec-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 6:42	CYK0236	CK51643
Styrene	**B, J 0.0002** (0.0010)	0.0001	8260B		1	11/17/15 6:42	CYK0236	CK51643
tert-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 6:42	CYK0236	CK51643
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
Tetrachloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-314D
Date Sampled: 11/11/15 14:50
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-12
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/17/15 6:42	CYK0236	CK51643
Toluene	**J 0.0003** (0.0010)	0.0001	8260B		1	11/17/15 6:42	CYK0236	CK51643
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/17/15 6:42	CYK0236	CK51643
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
Trichloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/17/15 6:42	CYK0236	CK51643
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/17/15 6:42	CYK0236	CK51643
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
Xylene O	ND (0.0010)	0.0001	8260B		1	11/17/15 6:42	CYK0236	CK51643
Xylene P,M	**B, J 0.0003** (0.0020)	0.0002	8260B		1	11/17/15 6:42	CYK0236	CK51643
Xylenes (Total)	ND (0.0020)		8260B		1	11/17/15 6:42		[CALC]
Trihalomethanes (Total)	ND (0.0010)		8260B			11/17/15 6:42		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*82 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*87 %*		*70-130*
Surrogate: Dibromofluoromethane	*81 %*		*70-130*
Surrogate: Toluene-d8	*84 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-2
Date Sampled: 11/11/15 15:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-13
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/16/15 16:54	CYK0232	CK51635
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/16/15 16:54	CYK0232	CK51635
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/16/15 16:54	CYK0232	CK51635
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
1,2,4-Trimethylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:54	CYK0232	CK51635
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/16/15 16:54	CYK0232	CK51635
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:54	CYK0232	CK51635
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
1,3,5-Trimethylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:54	CYK0232	CK51635
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/16/15 16:54	CYK0232	CK51635
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:54	CYK0232	CK51635
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/16/15 16:54	CYK0232	CK51635
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/16/15 16:54	CYK0232	CK51635
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/16/15 16:54	CYK0232	CK51635
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/16/15 16:54	CYK0232	CK51635
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:54	CYK0232	CK51635
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/16/15 16:54	CYK0232	CK51635
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:54	CYK0232	CK51635
4-Isopropyltoluene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:54	CYK0232	CK51635
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/16/15 16:54	CYK0232	CK51635
Acetone	ND (0.0100)	0.0027	8260B		1	11/16/15 16:54	CYK0232	CK51635
Benzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:54	CYK0232	CK51635
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-2
Date Sampled: 11/11/15 15:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-13
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/16/15 16:54	CYK0232	CK51635
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/16/15 16:54	CYK0232	CK51635
Bromoform	ND (0.0010)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/16/15 16:54	CYK0232	CK51635
Carbon Disulfide	ND (0.0010)	0.0001	8260B		1	11/16/15 16:54	CYK0232	CK51635
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/16/15 16:54	CYK0232	CK51635
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:54	CYK0232	CK51635
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/16/15 16:54	CYK0232	CK51635
Chloroform	ND (0.0010)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
cis-1,2-Dichloroethene	ND (0.0010)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/16/15 16:54	CYK0232	CK51635
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/16/15 16:54	CYK0232	CK51635
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/16/15 16:54	CYK0232	CK51635
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/16/15 16:54	CYK0232	CK51635
Ethylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:54	CYK0232	CK51635
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
Isopropylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:54	CYK0232	CK51635
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/16/15 16:54	CYK0232	CK51635
Methylene Chloride	ND (0.0020)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
Naphthalene	ND (0.0010)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
n-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:54	CYK0232	CK51635
n-Propylbenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
sec-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:54	CYK0232	CK51635
Styrene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:54	CYK0232	CK51635
tert-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:54	CYK0232	CK51635
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
Tetrachloroethene	ND (0.0010)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-2
Date Sampled: 11/11/15 15:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-13
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/16/15 16:54	CYK0232	CK51635
Toluene	ND (0.0010)	0.0001	8260B		1	11/16/15 16:54	CYK0232	CK51635
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/16/15 16:54	CYK0232	CK51635
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
Trichloroethene	ND (0.0010)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/16/15 16:54	CYK0232	CK51635
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/16/15 16:54	CYK0232	CK51635
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
Xylene O	ND (0.0010)	0.0001	8260B		1	11/16/15 16:54	CYK0232	CK51635
Xylene P,M	ND (0.0020)	0.0002	8260B		1	11/16/15 16:54	CYK0232	CK51635
Xylenes (Total)	ND (0.0020)		8260B		1	11/16/15 16:54		[CALC]
Trihalomethanes (Total)	ND (0.0010)		8260B			11/16/15 16:54		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*95 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*79 %*		*70-130*
Surrogate: Dibromofluoromethane	*90 %*		*70-130*
Surrogate: Toluene-d8	*81 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-314S
Date Sampled: 11/11/15 15:35
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-14
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/16/15 17:19	CYK0232	CK51635
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/16/15 17:19	CYK0232	CK51635
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/16/15 17:19	CYK0232	CK51635
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
1,2,4-Trimethylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 17:19	CYK0232	CK51635
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/16/15 17:19	CYK0232	CK51635
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 17:19	CYK0232	CK51635
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
1,3,5-Trimethylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 17:19	CYK0232	CK51635
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/16/15 17:19	CYK0232	CK51635
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 17:19	CYK0232	CK51635
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/16/15 17:19	CYK0232	CK51635
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/16/15 17:19	CYK0232	CK51635
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/16/15 17:19	CYK0232	CK51635
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/16/15 17:19	CYK0232	CK51635
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/16/15 17:19	CYK0232	CK51635
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/16/15 17:19	CYK0232	CK51635
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/16/15 17:19	CYK0232	CK51635
4-Isopropyltoluene	ND (0.0010)	0.0001	8260B		1	11/16/15 17:19	CYK0232	CK51635
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/16/15 17:19	CYK0232	CK51635
Acetone	ND (0.0100)	0.0027	8260B		1	11/16/15 17:19	CYK0232	CK51635
Benzene	ND (0.0010)	0.0001	8260B		1	11/16/15 17:19	CYK0232	CK51635
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-314S
Date Sampled: 11/11/15 15:35
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-14
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/16/15 17:19	CYK0232	CK51635
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/16/15 17:19	CYK0232	CK51635
Bromoform	ND (0.0010)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/16/15 17:19	CYK0232	CK51635
Carbon Disulfide	ND (0.0010)	0.0001	8260B		1	11/16/15 17:19	CYK0232	CK51635
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/16/15 17:19	CYK0232	CK51635
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 17:19	CYK0232	CK51635
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/16/15 17:19	CYK0232	CK51635
Chloroform	ND (0.0010)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
cis-1,2-Dichloroethene	ND (0.0010)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/16/15 17:19	CYK0232	CK51635
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/16/15 17:19	CYK0232	CK51635
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/16/15 17:19	CYK0232	CK51635
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/16/15 17:19	CYK0232	CK51635
Ethylbenzene	**J 0.0002** (0.0010)	0.0001	8260B		1	11/16/15 17:19	CYK0232	CK51635
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
Isopropylbenzene	**J 0.0004** (0.0010)	0.0001	8260B		1	11/16/15 17:19	CYK0232	CK51635
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/16/15 17:19	CYK0232	CK51635
Methylene Chloride	ND (0.0020)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
Naphthalene	ND (0.0010)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
n-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 17:19	CYK0232	CK51635
n-Propylbenzene	ND (0.0010)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
sec-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 17:19	CYK0232	CK51635
Styrene	ND (0.0010)	0.0001	8260B		1	11/16/15 17:19	CYK0232	CK51635
tert-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/16/15 17:19	CYK0232	CK51635
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
Tetrachloroethene	ND (0.0010)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-314S
Date Sampled: 11/11/15 15:35
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-14
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/16/15 17:19	CYK0232	CK51635
Toluene	ND (0.0010)	0.0001	8260B		1	11/16/15 17:19	CYK0232	CK51635
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/16/15 17:19	CYK0232	CK51635
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
Trichloroethene	ND (0.0010)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/16/15 17:19	CYK0232	CK51635
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/16/15 17:19	CYK0232	CK51635
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
Xylene O	**J 0.0003** (0.0010)	0.0001	8260B		1	11/16/15 17:19	CYK0232	CK51635
Xylene P,M	ND (0.0020)	0.0002	8260B		1	11/16/15 17:19	CYK0232	CK51635
Xylenes (Total)	ND (0.0020)		8260B		1	11/16/15 17:19		[CALC]
Trihalomethanes (Total)	ND (0.0010)		8260B			11/16/15 17:19		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*96 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*87 %*		*70-130*
Surrogate: Dibromofluoromethane	*90 %*		*70-130*
Surrogate: Toluene-d8	*81 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-109
Date Sampled: 11/11/15 16:50
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-15
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/17/15 5:26	CYK0236	CK51643
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/17/15 5:26	CYK0236	CK51643
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/17/15 5:26	CYK0236	CK51643
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
1,2,4-Trimethylbenzene	**0.0259** (0.0010)	0.0001	8260B		1	11/17/15 5:26	CYK0236	CK51643
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/17/15 5:26	CYK0236	CK51643
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 5:26	CYK0236	CK51643
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
1,3,5-Trimethylbenzene	**J 0.0004** (0.0010)	0.0001	8260B		1	11/17/15 5:26	CYK0236	CK51643
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/17/15 5:26	CYK0236	CK51643
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 5:26	CYK0236	CK51643
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/17/15 5:26	CYK0236	CK51643
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/17/15 5:26	CYK0236	CK51643
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/17/15 5:26	CYK0236	CK51643
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/17/15 5:26	CYK0236	CK51643
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/17/15 5:26	CYK0236	CK51643
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/17/15 5:26	CYK0236	CK51643
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/17/15 5:26	CYK0236	CK51643
4-Isopropyltoluene	**J 0.0004** (0.0010)	0.0001	8260B		1	11/17/15 5:26	CYK0236	CK51643
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/17/15 5:26	CYK0236	CK51643
Acetone	**J 0.0037** (0.0100)	0.0027	8260B		1	11/17/15 5:26	CYK0236	CK51643
Benzene	**0.171** (0.0100)	0.0010	8260B		10	11/17/15 20:30	CYK0236	CK51643
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-109
Date Sampled: 11/11/15 16:50
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-15
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/17/15 5:26	CYK0236	CK51643
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/17/15 5:26	CYK0236	CK51643
Bromoform	ND (0.0010)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/17/15 5:26	CYK0236	CK51643
Carbon Disulfide	ND (0.0010)	0.0001	8260B		1	11/17/15 5:26	CYK0236	CK51643
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/17/15 5:26	CYK0236	CK51643
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 5:26	CYK0236	CK51643
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/17/15 5:26	CYK0236	CK51643
Chloroform	ND (0.0010)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
cis-1,2-Dichloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/17/15 5:26	CYK0236	CK51643
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/17/15 5:26	CYK0236	CK51643
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/17/15 5:26	CYK0236	CK51643
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/17/15 5:26	CYK0236	CK51643
Ethylbenzene	**0.0338** (0.0010)	0.0001	8260B		1	11/17/15 5:26	CYK0236	CK51643
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
Isopropylbenzene	**0.0233** (0.0010)	0.0001	8260B		1	11/17/15 5:26	CYK0236	CK51643
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/17/15 5:26	CYK0236	CK51643
Methylene Chloride	ND (0.0020)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
Naphthalene	**0.0288** (0.0010)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
n-Butylbenzene	**0.0067** (0.0010)	0.0001	8260B		1	11/17/15 5:26	CYK0236	CK51643
n-Propylbenzene	**0.0124** (0.0010)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
sec-Butylbenzene	**0.0024** (0.0010)	0.0001	8260B		1	11/17/15 5:26	CYK0236	CK51643
Styrene	**B, J 0.0005** (0.0010)	0.0001	8260B		1	11/17/15 5:26	CYK0236	CK51643
tert-Butylbenzene	**J 0.0004** (0.0010)	0.0001	8260B		1	11/17/15 5:26	CYK0236	CK51643
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
Tetrachloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-109
Date Sampled: 11/11/15 16:50
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-15
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/17/15 5:26	CYK0236	CK51643
Toluene	**0.0033** (0.0010)	0.0001	8260B		1	11/17/15 5:26	CYK0236	CK51643
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/17/15 5:26	CYK0236	CK51643
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
Trichloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/17/15 5:26	CYK0236	CK51643
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/17/15 5:26	CYK0236	CK51643
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
Xylene O	**0.0176** (0.0010)	0.0001	8260B		1	11/17/15 5:26	CYK0236	CK51643
Xylene P,M	**B 0.0033** (0.0020)	0.0002	8260B		1	11/17/15 5:26	CYK0236	CK51643
Xylenes (Total)	**0.0210** (0.0020)		8260B		1	11/17/15 5:26		[CALC]
Trihalomethanes (Total)	ND (0.0010)		8260B			11/17/15 5:26		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*83 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*91 %*		*70-130*
Surrogate: Dibromofluoromethane	*79 %*		*70-130*
Surrogate: Toluene-d8	*83 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-312D
Date Sampled: 11/12/15 10:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-16
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/17/15 7:57	CYK0236	CK51643
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/17/15 7:57	CYK0236	CK51643
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/17/15 7:57	CYK0236	CK51643
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643
1,2,4-Trimethylbenzene	**0.321** (0.100)	0.0100	8260B		100	11/18/15 1:05	CYK0236	CK51643
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/17/15 7:57	CYK0236	CK51643
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 7:57	CYK0236	CK51643
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643
1,3,5-Trimethylbenzene	**0.0272** (0.0010)	0.0001	8260B		1	11/17/15 7:57	CYK0236	CK51643
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/17/15 7:57	CYK0236	CK51643
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 7:57	CYK0236	CK51643
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/17/15 7:57	CYK0236	CK51643
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/17/15 7:57	CYK0236	CK51643
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/17/15 7:57	CYK0236	CK51643
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/17/15 7:57	CYK0236	CK51643
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/17/15 7:57	CYK0236	CK51643
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/17/15 7:57	CYK0236	CK51643
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/17/15 7:57	CYK0236	CK51643
4-Isopropyltoluene	**0.0097** (0.0010)	0.0001	8260B		1	11/17/15 7:57	CYK0236	CK51643
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/17/15 7:57	CYK0236	CK51643
Acetone	**0.0216** (0.0100)	0.0027	8260B		1	11/17/15 7:57	CYK0236	CK51643
Benzene	**5.55** (0.100)	0.0100	8260B		100	11/18/15 1:05	CYK0236	CK51643
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-312D
Date Sampled: 11/12/15 10:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-16
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/17/15 7:57	CYK0236	CK51643
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/17/15 7:57	CYK0236	CK51643
Bromoform	ND (0.0010)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/17/15 7:57	CYK0236	CK51643
Carbon Disulfide	ND (0.0010)	0.0001	8260B		1	11/17/15 7:57	CYK0236	CK51643
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/17/15 7:57	CYK0236	CK51643
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 7:57	CYK0236	CK51643
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/17/15 7:57	CYK0236	CK51643
Chloroform	ND (0.0010)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643
cis-1,2-Dichloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/17/15 7:57	CYK0236	CK51643
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/17/15 7:57	CYK0236	CK51643
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/17/15 7:57	CYK0236	CK51643
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/17/15 7:57	CYK0236	CK51643
Ethylbenzene	**2.13** (0.100)	0.0100	8260B		100	11/18/15 1:05	CYK0236	CK51643
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643
Isopropylbenzene	**E 0.102** (0.0010)	0.0001	8260B		1	11/17/15 7:57	CYK0236	CK51643
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/17/15 7:57	CYK0236	CK51643
Methylene Chloride	ND (0.0020)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643
Naphthalene	**7.68** (0.100)	0.0200	8260B		100	11/18/15 1:05	CYK0236	CK51643
n-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 7:57	CYK0236	CK51643
n-Propylbenzene	**0.0389** (0.0010)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643
sec-Butylbenzene	**0.0013** (0.0010)	0.0001	8260B		1	11/17/15 7:57	CYK0236	CK51643
Styrene	**B 0.0016** (0.0010)	0.0001	8260B		1	11/17/15 7:57	CYK0236	CK51643
tert-Butylbenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 7:57	CYK0236	CK51643
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643
Tetrachloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-312D
Date Sampled: 11/12/15 10:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-16
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/17/15 7:57	CYK0236	CK51643
Toluene	**0.0093** (0.0010)	0.0001	8260B		1	11/17/15 7:57	CYK0236	CK51643
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/17/15 7:57	CYK0236	CK51643
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643
Trichloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/17/15 7:57	CYK0236	CK51643
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/17/15 7:57	CYK0236	CK51643
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643
Xylene O	**0.494** (0.100)	0.0100	8260B		100	11/18/15 1:05	CYK0236	CK51643
Xylene P,M	**0.0520** (0.0020)	0.0002	8260B		1	11/17/15 7:57	CYK0236	CK51643
Xylenes (Total)	**0.546** (0.100)		8260B		100	11/18/15 1:05		[CALC]
Trihalomethanes (Total)	ND (0.0010)		8260B			11/17/15 7:57		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*76 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*96 %*		*70-130*
Surrogate: Dibromofluoromethane	*76 %*		*70-130*
Surrogate: Toluene-d8	*87 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-201
Date Sampled: 11/12/15 09:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-17
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
1,1,1-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
1,1,2,2-Tetrachloroethane	ND (0.0005)	0.0001	8260B		1	11/17/15 5:51	CYK0236	CK51643
1,1,2-Trichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
1,1-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
1,1-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/17/15 5:51	CYK0236	CK51643
1,1-Dichloropropene	ND (0.0020)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
1,2,3-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
1,2,3-Trichloropropane	ND (0.0010)	0.0003	8260B		1	11/17/15 5:51	CYK0236	CK51643
1,2,4-Trichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
1,2,4-Trimethylbenzene	**0.0219** (0.0010)	0.0001	8260B		1	11/17/15 5:51	CYK0236	CK51643
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.0010	8260B		1	11/17/15 5:51	CYK0236	CK51643
1,2-Dibromoethane	ND (0.0010)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
1,2-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 5:51	CYK0236	CK51643
1,2-Dichloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
1,2-Dichloropropane	ND (0.0010)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
1,3,5-Trimethylbenzene	**0.0012** (0.0010)	0.0001	8260B		1	11/17/15 5:51	CYK0236	CK51643
1,3-Dichlorobenzene	ND (0.0010)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
1,3-Dichloropropane	ND (0.0010)	0.0001	8260B		1	11/17/15 5:51	CYK0236	CK51643
1,4-Dichlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 5:51	CYK0236	CK51643
1,4-Dioxane - Screen	ND (0.500)	0.190	8260B		1	11/17/15 5:51	CYK0236	CK51643
1-Chlorohexane	ND (0.0010)	0.0004	8260B		1	11/17/15 5:51	CYK0236	CK51643
2,2-Dichloropropane	ND (0.0010)	0.0003	8260B		1	11/17/15 5:51	CYK0236	CK51643
2-Butanone	ND (0.0100)	0.0034	8260B		1	11/17/15 5:51	CYK0236	CK51643
2-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/17/15 5:51	CYK0236	CK51643
2-Hexanone	ND (0.0100)	0.0015	8260B		1	11/17/15 5:51	CYK0236	CK51643
4-Chlorotoluene	ND (0.0010)	0.0001	8260B		1	11/17/15 5:51	CYK0236	CK51643
4-Isopropyltoluene	**J 0.0007** (0.0010)	0.0001	8260B		1	11/17/15 5:51	CYK0236	CK51643
4-Methyl-2-Pentanone	ND (0.0250)	0.0016	8260B		1	11/17/15 5:51	CYK0236	CK51643
Acetone	**0.0239** (0.0100)	0.0027	8260B		1	11/17/15 5:51	CYK0236	CK51643
Benzene	**0.133** (0.0100)	0.0010	8260B		10	11/17/15 21:20	CYK0236	CK51643
Bromobenzene	ND (0.0020)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-201
Date Sampled: 11/12/15 09:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-17
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)	0.0003	8260B		1	11/17/15 5:51	CYK0236	CK51643
Bromodichloromethane	ND (0.0006)	0.0001	8260B		1	11/17/15 5:51	CYK0236	CK51643
Bromoform	ND (0.0010)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
Bromomethane	ND (0.0020)	0.0004	8260B		1	11/17/15 5:51	CYK0236	CK51643
Carbon Disulfide	**0.0019** (0.0010)	0.0001	8260B		1	11/17/15 5:51	CYK0236	CK51643
Carbon Tetrachloride	ND (0.0010)	0.0001	8260B		1	11/17/15 5:51	CYK0236	CK51643
Chlorobenzene	ND (0.0010)	0.0001	8260B		1	11/17/15 5:51	CYK0236	CK51643
Chloroethane	ND (0.0020)	0.0004	8260B		1	11/17/15 5:51	CYK0236	CK51643
Chloroform	ND (0.0010)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
Chloromethane	ND (0.0020)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
cis-1,2-Dichloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
cis-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
Dibromochloromethane	ND (0.0010)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
Dibromomethane	ND (0.0010)	0.0003	8260B		1	11/17/15 5:51	CYK0236	CK51643
Dichlorodifluoromethane	ND (0.0020)	0.0003	8260B		1	11/17/15 5:51	CYK0236	CK51643
Diethyl Ether	ND (0.0010)	0.0003	8260B		1	11/17/15 5:51	CYK0236	CK51643
Di-isopropyl ether	ND (0.0010)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
Ethyl tertiary-butyl ether	ND (0.0010)	0.0001	8260B		1	11/17/15 5:51	CYK0236	CK51643
Ethylbenzene	**0.0346** (0.0010)	0.0001	8260B		1	11/17/15 5:51	CYK0236	CK51643
Hexachlorobutadiene	ND (0.0006)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
Hexachloroethane	ND (0.0010)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
Isopropylbenzene	**0.0252** (0.0010)	0.0001	8260B		1	11/17/15 5:51	CYK0236	CK51643
Methyl tert-Butyl Ether	ND (0.0010)	0.0003	8260B		1	11/17/15 5:51	CYK0236	CK51643
Methylene Chloride	ND (0.0020)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
Naphthalene	**0.0198** (0.0010)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
n-Butylbenzene	**0.0070** (0.0010)	0.0001	8260B		1	11/17/15 5:51	CYK0236	CK51643
n-Propylbenzene	**0.0200** (0.0010)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
sec-Butylbenzene	**0.0024** (0.0010)	0.0001	8260B		1	11/17/15 5:51	CYK0236	CK51643
Styrene	**0.0042** (0.0010)	0.0001	8260B		1	11/17/15 5:51	CYK0236	CK51643
tert-Butylbenzene	**J 0.0003** (0.0010)	0.0001	8260B		1	11/17/15 5:51	CYK0236	CK51643
Tertiary-amyl methyl ether	ND (0.0010)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
Tetrachloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH
Client Sample ID: MW-201
Date Sampled: 11/12/15 09:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1511324
ESS Laboratory Sample ID: 1511324-17
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

All methods used are in accordance with 40 CFR 136.

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)	0.0016	8260B		1	11/17/15 5:51	CYK0236	CK51643
Toluene	**0.0026** (0.0010)	0.0001	8260B		1	11/17/15 5:51	CYK0236	CK51643
trans-1,2-Dichloroethene	ND (0.0010)	0.0003	8260B		1	11/17/15 5:51	CYK0236	CK51643
trans-1,3-Dichloropropene	ND (0.0004)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
Trichloroethene	ND (0.0010)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
Trichlorofluoromethane	ND (0.0010)	0.0004	8260B		1	11/17/15 5:51	CYK0236	CK51643
Vinyl Acetate	ND (0.0050)	0.0005	8260B		1	11/17/15 5:51	CYK0236	CK51643
Vinyl Chloride	ND (0.0010)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
Xylene O	**0.0239** (0.0010)	0.0001	8260B		1	11/17/15 5:51	CYK0236	CK51643
Xylene P,M	**B 0.0026** (0.0020)	0.0002	8260B		1	11/17/15 5:51	CYK0236	CK51643
Xylenes (Total)	**0.0265** (0.0020)		8260B		1	11/17/15 5:51		[CALC]
Trihalomethanes (Total)	ND (0.0010)		8260B			11/17/15 5:51		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*82 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*89 %*		*70-130*
Surrogate: Dibromofluoromethane	*82 %*		*70-130*
Surrogate: Toluene-d8	*86 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511324

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51635 - 5030B										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.0010	mg/L							
1,1,1-Trichloroethane	ND	0.0010	mg/L							
1,1,2,2-Tetrachloroethane	ND	0.0005	mg/L							
1,1,2-Trichloroethane	ND	0.0010	mg/L							
1,1-Dichloroethane	ND	0.0010	mg/L							
1,1-Dichloroethene	ND	0.0010	mg/L							
1,1-Dichloropropene	ND	0.0020	mg/L							
1,2,3-Trichlorobenzene	ND	0.0010	mg/L							
1,2,3-Trichloropropane	ND	0.0010	mg/L							
1,2,4-Trichlorobenzene	ND	0.0010	mg/L							
1,2,4-Trimethylbenzene	ND	0.0010	mg/L							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/L							
1,2-Dibromoethane	ND	0.0010	mg/L							
1,2-Dichlorobenzene	ND	0.0010	mg/L							
1,2-Dichloroethane	ND	0.0010	mg/L							
1,2-Dichloropropane	ND	0.0010	mg/L							
1,3,5-Trimethylbenzene	ND	0.0010	mg/L							
1,3-Dichlorobenzene	ND	0.0010	mg/L							
1,3-Dichloropropane	ND	0.0010	mg/L							
1,4-Dichlorobenzene	ND	0.0010	mg/L							
1,4-Dioxane - Screen	ND	0.500	mg/L							
1-Chlorohexane	ND	0.0010	mg/L							
2,2-Dichloropropane	ND	0.0010	mg/L							
2-Butanone	ND	0.0100	mg/L							
2-Chlorotoluene	ND	0.0010	mg/L							
2-Hexanone	ND	0.0100	mg/L							
4-Chlorotoluene	ND	0.0010	mg/L							
4-Isopropyltoluene	ND	0.0010	mg/L							
4-Methyl-2-Pentanone	ND	0.0250	mg/L							
Acetone	ND	0.0100	mg/L							
Benzene	ND	0.0010	mg/L							
Bromobenzene	ND	0.0020	mg/L							
Bromochloromethane	ND	0.0010	mg/L							
Bromodichloromethane	ND	0.0006	mg/L							
Bromoform	ND	0.0010	mg/L							
Bromomethane	ND	0.0020	mg/L							
Carbon Disulfide	ND	0.0010	mg/L							
Carbon Tetrachloride	ND	0.0010	mg/L							
Chlorobenzene	ND	0.0010	mg/L							
Chloroethane	ND	0.0020	mg/L							
Chloroform	ND	0.0010	mg/L							
Chloromethane	ND	0.0020	mg/L							
cis-1,2-Dichloroethene	ND	0.0010	mg/L							
cis-1,3-Dichloropropene	ND	0.0004	mg/L							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511324

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51635 - 5030B										
Dibromochloromethane	ND	0.0010	mg/L							
Dibromomethane	ND	0.0010	mg/L							
Dichlorodifluoromethane	ND	0.0020	mg/L							
Diethyl Ether	ND	0.0010	mg/L							
Di-isopropyl ether	ND	0.0010	mg/L							
Ethyl tertiary-butyl ether	ND	0.0010	mg/L							
Ethylbenzene	ND	0.0010	mg/L							
Hexachlorobutadiene	ND	0.0006	mg/L							
Hexachloroethane	ND	0.0010	mg/L							
Isopropylbenzene	ND	0.0010	mg/L							
Methyl tert-Butyl Ether	ND	0.0010	mg/L							
Methylene Chloride	ND	0.0020	mg/L							
Naphthalene	0.0002	0.0010	mg/L							J
n-Butylbenzene	ND	0.0010	mg/L							
n-Propylbenzene	ND	0.0010	mg/L							
sec-Butylbenzene	ND	0.0010	mg/L							
Styrene	ND	0.0010	mg/L							
tert-Butylbenzene	ND	0.0010	mg/L							
Tertiary-amyl methyl ether	ND	0.0010	mg/L							
Tetrachloroethene	ND	0.0010	mg/L							
Tetrahydrofuran	ND	0.0050	mg/L							
Toluene	ND	0.0010	mg/L							
trans-1,2-Dichloroethene	ND	0.0010	mg/L							
trans-1,3-Dichloropropene	ND	0.0004	mg/L							
Trichloroethene	ND	0.0010	mg/L							
Trichlorofluoromethane	ND	0.0010	mg/L							
Trihalomethanes (Total)	ND	0.0010	mg/L							
Vinyl Acetate	ND	0.0050	mg/L							
Vinyl Chloride	ND	0.0010	mg/L							
Xylene O	ND	0.0010	mg/L							
Xylene P,M	ND	0.0020	mg/L							
Xylenes (Total)	ND	0.0020	mg/L							
Surrogate: 1,2-Dichloroethane-d4	*0.0231*		mg/L	*0.02500*		*92*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0198*		mg/L	*0.02500*		*79*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0215*		mg/L	*0.02500*		*86*	*70-130*			
Surrogate: Toluene-d8	*0.0202*		mg/L	*0.02500*		*81*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	9.38		ug/L	10.00		94	70-130			
1,1,1-Trichloroethane	10.0		ug/L	10.00		100	70-130			
1,1,2,2-Tetrachloroethane	9.49		ug/L	10.00		95	70-130			
1,1,2-Trichloroethane	9.44		ug/L	10.00		94	70-130			
1,1-Dichloroethane	9.62		ug/L	10.00		96	70-130			
1,1-Dichloroethene	9.98		ug/L	10.00		100	70-130			
1,1-Dichloropropene	10.1		ug/L	10.00		101	70-130			
1,2,3-Trichlorobenzene	10.4		ug/L	10.00		104	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511324

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51635 - 5030B										
1,2,3-Trichloropropane	9.55		ug/L	10.00		96	70-130			
1,2,4-Trichlorobenzene	10.0		ug/L	10.00		100	70-130			
1,2,4-Trimethylbenzene	10.3		ug/L	10.00		103	70-130			
1,2-Dibromo-3-Chloropropane	9.28		ug/L	10.00		93	70-130			
1,2-Dibromoethane	9.41		ug/L	10.00		94	70-130			
1,2-Dichlorobenzene	9.78		ug/L	10.00		98	70-130			
1,2-Dichloroethane	9.78		ug/L	10.00		98	70-130			
1,2-Dichloropropane	9.31		ug/L	10.00		93	70-130			
1,3,5-Trimethylbenzene	10.7		ug/L	10.00		107	70-130			
1,3-Dichlorobenzene	10.1		ug/L	10.00		101	70-130			
1,3-Dichloropropane	10.2		ug/L	10.00		102	70-130			
1,4-Dichlorobenzene	9.93		ug/L	10.00		99	70-130			
1,4-Dioxane - Screen	208		ug/L	200.0		104	0-332			
1-Chlorohexane	9.58		ug/L	10.00		96	70-130			
2,2-Dichloropropane	11.0		ug/L	10.00		110	70-130			
2-Butanone	64.6		ug/L	50.00		129	70-130			
2-Chlorotoluene	9.79		ug/L	10.00		98	70-130			
2-Hexanone	67.0		ug/L	50.00		134	70-130			B+
4-Chlorotoluene	10.3		ug/L	10.00		103	70-130			
4-Isopropyltoluene	10.1		ug/L	10.00		101	70-130			
4-Methyl-2-Pentanone	51.6		ug/L	50.00		103	70-130			
Acetone	100		ug/L	50.00		200	70-130			B+
Benzene	9.55		ug/L	10.00		96	70-130			
Bromobenzene	10.1		ug/L	10.00		101	70-130			
Bromochloromethane	10.2		ug/L	10.00		102	70-130			
Bromodichloromethane	9.76		ug/L	10.00		98	70-130			
Bromoform	9.49		ug/L	10.00		95	70-130			
Bromomethane	10.4		ug/L	10.00		104	70-130			
Carbon Disulfide	9.84		ug/L	10.00		98	70-130			
Carbon Tetrachloride	10.2		ug/L	10.00		102	70-130			
Chlorobenzene	9.55		ug/L	10.00		96	70-130			
Chloroethane	9.47		ug/L	10.00		95	70-130			
Chloroform	9.62		ug/L	10.00		96	70-130			
Chloromethane	8.49		ug/L	10.00		85	70-130			
cis-1,2-Dichloroethene	10.3		ug/L	10.00		103	70-130			
cis-1,3-Dichloropropene	9.38		ug/L	10.00		94	70-130			
Dibromochloromethane	9.84		ug/L	10.00		98	70-130			
Dibromomethane	9.87		ug/L	10.00		99	70-130			
Dichlorodifluoromethane	8.82		ug/L	10.00		88	70-130			
Diethyl Ether	9.89		ug/L	10.00		99	70-130			
Di-isopropyl ether	9.61		ug/L	10.00		96	70-130			
Ethyl tertiary-butyl ether	9.49		ug/L	10.00		95	70-130			
Ethylbenzene	9.65		ug/L	10.00		96	70-130			
Hexachlorobutadiene	11.1		ug/L	10.00		111	70-130			
Hexachloroethane	9.79		ug/L	10.00		98	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511324

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51635 - 5030B										
Isopropylbenzene	9.95		ug/L	10.00		100	70-130			
Methyl tert-Butyl Ether	9.82		ug/L	10.00		98	70-130			
Methylene Chloride	9.67		ug/L	10.00		97	70-130			
Naphthalene	9.54		ug/L	10.00		95	70-130			
n-Butylbenzene	10.4		ug/L	10.00		104	70-130			
n-Propylbenzene	10.0		ug/L	10.00		100	70-130			
sec-Butylbenzene	10.2		ug/L	10.00		102	70-130			
Styrene	9.03		ug/L	10.00		90	70-130			
tert-Butylbenzene	9.84		ug/L	10.00		98	70-130			
Tertiary-amyl methyl ether	9.54		ug/L	10.00		95	70-130			
Tetrachloroethene	8.71		ug/L	10.00		87	70-130			
Tetrahydrofuran	9.42		ug/L	10.00		94	70-130			
Toluene	10.1		ug/L	10.00		101	70-130			
trans-1,2-Dichloroethene	10.0		ug/L	10.00		100	70-130			
trans-1,3-Dichloropropene	8.70		ug/L	10.00		87	70-130			
Trichloroethene	9.52		ug/L	10.00		95	70-130			
Trichlorofluoromethane	9.63		ug/L	10.00		96	70-130			
Trihalomethanes (Total)	38.7		mg/L							
Vinyl Acetate	9.61		ug/L	10.00		96	70-130			
Vinyl Chloride	9.51		ug/L	10.00		95	70-130			
Xylene O	9.87		ug/L	10.00		99	70-130			
Xylene P,M	20.1		ug/L	20.00		101	70-130			
Xylenes (Total)	30.0		mg/L							
Surrogate: 1,2-Dichloroethane-d4	*0.0262*		mg/L	*0.02500*		*105*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0263*		mg/L	*0.02500*		*105*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0261*		mg/L	*0.02500*		*104*	*70-130*			
Surrogate: Toluene-d8	*0.0261*		mg/L	*0.02500*		*104*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	9.27		ug/L	10.00		93	70-130	1	25	
1,1,1-Trichloroethane	10.0		ug/L	10.00		100	70-130	0.2	25	
1,1,2,2-Tetrachloroethane	8.83		ug/L	10.00		88	70-130	7	25	
1,1,2-Trichloroethane	9.17		ug/L	10.00		92	70-130	3	25	
1,1-Dichloroethane	9.46		ug/L	10.00		95	70-130	2	25	
1,1-Dichloroethene	9.65		ug/L	10.00		96	70-130	3	25	
1,1-Dichloropropene	9.90		ug/L	10.00		99	70-130	2	25	
1,2,3-Trichlorobenzene	9.62		ug/L	10.00		96	70-130	8	25	
1,2,3-Trichloropropane	9.04		ug/L	10.00		90	70-130	5	25	
1,2,4-Trichlorobenzene	9.40		ug/L	10.00		94	70-130	6	25	
1,2,4-Trimethylbenzene	9.97		ug/L	10.00		100	70-130	3	25	
1,2-Dibromo-3-Chloropropane	8.61		ug/L	10.00		86	70-130	7	25	
1,2-Dibromoethane	9.44		ug/L	10.00		94	70-130	0.3	25	
1,2-Dichlorobenzene	9.41		ug/L	10.00		94	70-130	4	25	
1,2-Dichloroethane	9.54		ug/L	10.00		95	70-130	2	25	
1,2-Dichloropropane	9.21		ug/L	10.00		92	70-130	1	25	
1,3,5-Trimethylbenzene	10.5		ug/L	10.00		105	70-130	1	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511324

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51635 - 5030B										
1,3-Dichlorobenzene	9.84		ug/L	10.00		98	70-130	3	25	
1,3-Dichloropropane	9.97		ug/L	10.00		100	70-130	2	25	
1,4-Dichlorobenzene	9.48		ug/L	10.00		95	70-130	5	25	
1,4-Dioxane - Screen	205		ug/L	200.0		103	0-332	1	200	
1-Chlorohexane	9.68		ug/L	10.00		97	70-130	1	25	
2,2-Dichloropropane	10.8		ug/L	10.00		108	70-130	2	25	
2-Butanone	47.4		ug/L	50.00		95	70-130	31	25	D+
2-Chlorotoluene	9.66		ug/L	10.00		97	70-130	1	25	
2-Hexanone	52.0		ug/L	50.00		104	70-130	25	25	
4-Chlorotoluene	9.96		ug/L	10.00		100	70-130	3	25	
4-Isopropyltoluene	9.82		ug/L	10.00		98	70-130	3	25	
4-Methyl-2-Pentanone	49.4		ug/L	50.00		99	70-130	4	25	
Acetone	46.6		ug/L	50.00		93	70-130	73	25	D+
Benzene	9.56		ug/L	10.00		96	70-130	0.1	25	
Bromobenzene	9.67		ug/L	10.00		97	70-130	4	25	
Bromochloromethane	9.81		ug/L	10.00		98	70-130	4	25	
Bromodichloromethane	9.65		ug/L	10.00		96	70-130	1	25	
Bromoform	9.44		ug/L	10.00		94	70-130	0.5	25	
Bromomethane	9.74		ug/L	10.00		97	70-130	6	25	
Carbon Disulfide	9.80		ug/L	10.00		98	70-130	0.4	25	
Carbon Tetrachloride	9.89		ug/L	10.00		99	70-130	3	25	
Chlorobenzene	9.59		ug/L	10.00		96	70-130	0.4	25	
Chloroethane	9.26		ug/L	10.00		93	70-130	2	25	
Chloroform	9.47		ug/L	10.00		95	70-130	2	25	
Chloromethane	8.61		ug/L	10.00		86	70-130	1	25	
cis-1,2-Dichloroethene	10.1		ug/L	10.00		101	70-130	2	25	
cis-1,3-Dichloropropene	9.20		ug/L	10.00		92	70-130	2	25	
Dibromochloromethane	9.72		ug/L	10.00		97	70-130	1	25	
Dibromomethane	9.59		ug/L	10.00		96	70-130	3	25	
Dichlorodifluoromethane	9.01		ug/L	10.00		90	70-130	2	25	
Diethyl Ether	9.64		ug/L	10.00		96	70-130	3	25	
Di-isopropyl ether	9.32		ug/L	10.00		93	70-130	3	25	
Ethyl tertiary-butyl ether	9.09		ug/L	10.00		91	70-130	4	25	
Ethylbenzene	9.81		ug/L	10.00		98	70-130	2	25	
Hexachlorobutadiene	10.3		ug/L	10.00		103	70-130	8	25	
Hexachloroethane	9.59		ug/L	10.00		96	70-130	2	25	
Isopropylbenzene	9.72		ug/L	10.00		97	70-130	2	25	
Methyl tert-Butyl Ether	9.45		ug/L	10.00		94	70-130	4	25	
Methylene Chloride	9.42		ug/L	10.00		94	70-130	3	25	
Naphthalene	7.91		ug/L	10.00		79	70-130	19	25	
n-Butylbenzene	9.97		ug/L	10.00		100	70-130	4	25	
n-Propylbenzene	9.79		ug/L	10.00		98	70-130	2	25	
sec-Butylbenzene	10.0		ug/L	10.00		100	70-130	1	25	
Styrene	9.09		ug/L	10.00		91	70-130	0.7	25	
tert-Butylbenzene	9.69		ug/L	10.00		97	70-130	2	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511324

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51635 - 5030B										
Tertiary-amyl methyl ether	9.11		ug/L	10.00		91	70-130	5	25	
Tetrachloroethene	8.66		ug/L	10.00		87	70-130	0.6	25	
Tetrahydrofuran	8.78		ug/L	10.00		88	70-130	7	25	
Toluene	10.0		ug/L	10.00		100	70-130	0.8	25	
trans-1,2-Dichloroethene	10.2		ug/L	10.00		102	70-130	1	25	
trans-1,3-Dichloropropene	8.52		ug/L	10.00		85	70-130	2	25	
Trichloroethene	9.39		ug/L	10.00		94	70-130	1	25	
Trichlorofluoromethane	9.29		ug/L	10.00		93	70-130	4	25	
Trihalomethanes (Total)	38.3		mg/L							
Vinyl Acetate	9.37		ug/L	10.00		94	70-130	3	25	
Vinyl Chloride	9.39		ug/L	10.00		94	70-130	1	25	
Xylene O	10.0		ug/L	10.00		100	70-130	2	25	
Xylene P,M	20.4		ug/L	20.00		102	70-130	2	25	
Xylenes (Total)	30.5		mg/L							
Surrogate: 1,2-Dichloroethane-d4	*0.0258*		mg/L	*0.02500*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0267*		mg/L	*0.02500*		*107*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0258*		mg/L	*0.02500*		*103*	*70-130*			
Surrogate: Toluene-d8	*0.0263*		mg/L	*0.02500*		*105*	*70-130*			
Batch CK51643 - 5030B										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.0010	mg/L							
1,1,1-Trichloroethane	ND	0.0010	mg/L							
1,1,2,2-Tetrachloroethane	ND	0.0005	mg/L							
1,1,2-Trichloroethane	ND	0.0010	mg/L							
1,1-Dichloroethane	ND	0.0010	mg/L							
1,1-Dichloroethene	ND	0.0010	mg/L							
1,1-Dichloropropene	ND	0.0020	mg/L							
1,2,3-Trichlorobenzene	ND	0.0010	mg/L							
1,2,3-Trichloropropane	ND	0.0010	mg/L							
1,2,4-Trichlorobenzene	ND	0.0010	mg/L							
1,2,4-Trimethylbenzene	ND	0.0010	mg/L							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/L							
1,2-Dibromoethane	ND	0.0010	mg/L							
1,2-Dichlorobenzene	ND	0.0010	mg/L							
1,2-Dichloroethane	ND	0.0010	mg/L							
1,2-Dichloropropane	ND	0.0010	mg/L							
1,3,5-Trimethylbenzene	ND	0.0010	mg/L							
1,3-Dichlorobenzene	ND	0.0010	mg/L							
1,3-Dichloropropane	ND	0.0010	mg/L							
1,4-Dichlorobenzene	ND	0.0010	mg/L							
1,4-Dioxane - Screen	ND	0.500	mg/L							
1-Chlorohexane	ND	0.0010	mg/L							
2,2-Dichloropropane	ND	0.0010	mg/L							
2-Butanone	ND	0.0100	mg/L							
2-Chlorotoluene	ND	0.0010	mg/L							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511324

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51643 - 5030B										
2-Hexanone	ND	0.0100	mg/L							
4-Chlorotoluene	ND	0.0010	mg/L							
4-Isopropyltoluene	ND	0.0010	mg/L							
4-Methyl-2-Pentanone	ND	0.0250	mg/L							
Acetone	ND	0.0100	mg/L							
Benzene	ND	0.0010	mg/L							
Bromobenzene	ND	0.0020	mg/L							
Bromochloromethane	ND	0.0010	mg/L							
Bromodichloromethane	ND	0.0006	mg/L							
Bromoform	ND	0.0010	mg/L							
Bromomethane	ND	0.0020	mg/L							
Carbon Disulfide	ND	0.0010	mg/L							
Carbon Tetrachloride	ND	0.0010	mg/L							
Chlorobenzene	ND	0.0010	mg/L							
Chloroethane	ND	0.0020	mg/L							
Chloroform	ND	0.0010	mg/L							
Chloromethane	ND	0.0020	mg/L							
cis-1,2-Dichloroethene	ND	0.0010	mg/L							
cis-1,3-Dichloropropene	ND	0.0004	mg/L							
Dibromochloromethane	ND	0.0010	mg/L							
Dibromomethane	ND	0.0010	mg/L							
Dichlorodifluoromethane	ND	0.0020	mg/L							
Diethyl Ether	ND	0.0010	mg/L							
Di-isopropyl ether	ND	0.0010	mg/L							
Ethyl tertiary-butyl ether	ND	0.0010	mg/L							
Ethylbenzene	0.0002	0.0010	mg/L							J
Hexachlorobutadiene	ND	0.0006	mg/L							
Hexachloroethane	ND	0.0010	mg/L							
Isopropylbenzene	ND	0.0010	mg/L							
Methyl tert-Butyl Ether	ND	0.0010	mg/L							
Methylene Chloride	ND	0.0020	mg/L							
Naphthalene	ND	0.0010	mg/L							
n-Butylbenzene	ND	0.0010	mg/L							
n-Propylbenzene	ND	0.0010	mg/L							
sec-Butylbenzene	ND	0.0010	mg/L							
Styrene	0.0002	0.0010	mg/L							J
tert-Butylbenzene	ND	0.0010	mg/L							
Tertiary-amyl methyl ether	ND	0.0010	mg/L							
Tetrachloroethene	ND	0.0010	mg/L							
Tetrahydrofuran	ND	0.0050	mg/L							
Toluene	ND	0.0010	mg/L							
trans-1,2-Dichloroethene	ND	0.0010	mg/L							
trans-1,3-Dichloropropene	ND	0.0004	mg/L							
Trichloroethene	ND	0.0010	mg/L							
Trichlorofluoromethane	ND	0.0010	mg/L							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511324

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51643 - [CALC]										
Trihalomethanes (Total)	ND	0.0010	mg/L							
Vinyl Acetate	ND	0.0050	mg/L							
Vinyl Chloride	ND	0.0010	mg/L							
Xylene O	0.0001	0.0010	mg/L							J
Xylene P,M	0.0004	0.0020	mg/L							J
Xylenes (Total)	ND	0.0020	mg/L							
Surrogate: 1,2-Dichloroethane-d4	*0.0205*		mg/L	*0.02500*		*82*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0213*		mg/L	*0.02500*		*85*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0199*		mg/L	*0.02500*		*79*	*70-130*			
Surrogate: Toluene-d8	*0.0210*		mg/L	*0.02500*		*84*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	8.79		ug/L	10.00		88	70-130			
1,1,1-Trichloroethane	9.10		ug/L	10.00		91	70-130			
1,1,2,2-Tetrachloroethane	9.59		ug/L	10.00		96	70-130			
1,1,2-Trichloroethane	9.31		ug/L	10.00		93	70-130			
1,1-Dichloroethane	9.24		ug/L	10.00		92	70-130			
1,1-Dichloroethene	10.1		ug/L	10.00		101	70-130			
1,1-Dichloropropene	10.1		ug/L	10.00		101	70-130			
1,2,3-Trichlorobenzene	10.8		ug/L	10.00		108	70-130			
1,2,3-Trichloropropane	9.64		ug/L	10.00		96	70-130			
1,2,4-Trichlorobenzene	10.8		ug/L	10.00		108	70-130			
1,2,4-Trimethylbenzene	11.0		ug/L	10.00		110	70-130			
1,2-Dibromo-3-Chloropropane	9.15		ug/L	10.00		92	70-130			
1,2-Dibromoethane	9.83		ug/L	10.00		98	70-130			
1,2-Dichlorobenzene	10.1		ug/L	10.00		101	70-130			
1,2-Dichloroethane	8.89		ug/L	10.00		89	70-130			
1,2-Dichloropropane	9.36		ug/L	10.00		94	70-130			
1,3,5-Trimethylbenzene	11.3		ug/L	10.00		113	70-130			
1,3-Dichlorobenzene	10.3		ug/L	10.00		103	70-130			
1,3-Dichloropropane	10.1		ug/L	10.00		101	70-130			
1,4-Dichlorobenzene	9.70		ug/L	10.00		97	70-130			
1,4-Dioxane - Screen	229		ug/L	200.0		114	0-332			
1-Chlorohexane	10.4		ug/L	10.00		104	70-130			
2,2-Dichloropropane	7.36		ug/L	10.00		74	70-130			
2-Butanone	49.5		ug/L	50.00		99	70-130			
2-Chlorotoluene	10.4		ug/L	10.00		104	70-130			
2-Hexanone	56.6		ug/L	50.00		113	70-130			
4-Chlorotoluene	10.6		ug/L	10.00		106	70-130			
4-Isopropyltoluene	10.2		ug/L	10.00		102	70-130			
4-Methyl-2-Pentanone	57.1		ug/L	50.00		114	70-130			
Acetone	46.5		ug/L	50.00		93	70-130			
Benzene	9.49		ug/L	10.00		95	70-130			
Bromobenzene	10.4		ug/L	10.00		104	70-130			
Bromochloromethane	9.39		ug/L	10.00		94	70-130			
Bromodichloromethane	8.98		ug/L	10.00		90	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511324

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51643 - 5030B										
Bromoform	9.05		ug/L	10.00		90	70-130			
Bromomethane	7.51		ug/L	10.00		75	70-130			
Carbon Disulfide	9.33		ug/L	10.00		93	70-130			
Carbon Tetrachloride	8.82		ug/L	10.00		88	70-130			
Chlorobenzene	9.51		ug/L	10.00		95	70-130			
Chloroethane	9.79		ug/L	10.00		98	70-130			
Chloroform	9.00		ug/L	10.00		90	70-130			
Chloromethane	8.07		ug/L	10.00		81	70-130			
cis-1,2-Dichloroethene	10.2		ug/L	10.00		102	70-130			
cis-1,3-Dichloropropene	8.86		ug/L	10.00		89	70-130			
Dibromochloromethane	9.35		ug/L	10.00		94	70-130			
Dibromomethane	9.34		ug/L	10.00		93	70-130			
Dichlorodifluoromethane	7.58		ug/L	10.00		76	70-130			
Diethyl Ether	10.7		ug/L	10.00		107	70-130			
Di-isopropyl ether	10.3		ug/L	10.00		103	70-130			
Ethyl tertiary-butyl ether	10.6		ug/L	10.00		106	70-130			
Ethylbenzene	10.7		ug/L	10.00		107	70-130			
Hexachlorobutadiene	10.6		ug/L	10.00		106	70-130			
Hexachloroethane	9.05		ug/L	10.00		90	70-130			
Isopropylbenzene	10.8		ug/L	10.00		108	70-130			
Methyl tert-Butyl Ether	10.7		ug/L	10.00		107	70-130			
Methylene Chloride	9.37		ug/L	10.00		94	70-130			
Naphthalene	13.0		ug/L	10.00		130	70-130			
n-Butylbenzene	10.7		ug/L	10.00		107	70-130			
n-Propylbenzene	10.5		ug/L	10.00		105	70-130			
sec-Butylbenzene	10.7		ug/L	10.00		107	70-130			
Styrene	10.1		ug/L	10.00		101	70-130			
tert-Butylbenzene	11.0		ug/L	10.00		110	70-130			
Tertiary-amyl methyl ether	10.7		ug/L	10.00		107	70-130			
Tetrachloroethene	8.54		ug/L	10.00		85	70-130			
Tetrahydrofuran	10.5		ug/L	10.00		105	70-130			
Toluene	10.8		ug/L	10.00		108	70-130			
trans-1,2-Dichloroethene	10.2		ug/L	10.00		102	70-130			
trans-1,3-Dichloropropene	8.06		ug/L	10.00		81	70-130			
Trichloroethene	9.39		ug/L	10.00		94	70-130			
Trichlorofluoromethane	8.47		ug/L	10.00		85	70-130			
Trihalomethanes (Total)	36.4		mg/L							
Vinyl Acetate	10.9		ug/L	10.00		109	70-130			
Vinyl Chloride	8.75		ug/L	10.00		88	70-130			
Xylene O	10.7		ug/L	10.00		107	70-130			
Xylene P,M	22.0		ug/L	20.00		110	70-130			
Xylenes (Total)	32.7		mg/L							
Surrogate: 1,2-Dichloroethane-d4	*0.0235*		mg/L	*0.02500*		*94*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0261*		mg/L	*0.02500*		*104*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0241*		mg/L	*0.02500*		*97*	*70-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511324

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51643 - 5030B										
Surrogate: Toluene-d8	*0.0269*		mg/L	*0.02500*		*108*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	8.82		ug/L	10.00		88	70-130	0.3	25	
1,1,1-Trichloroethane	9.12		ug/L	10.00		91	70-130	0.2	25	
1,1,2,2-Tetrachloroethane	9.12		ug/L	10.00		91	70-130	5	25	
1,1,2-Trichloroethane	8.96		ug/L	10.00		90	70-130	4	25	
1,1-Dichloroethane	9.11		ug/L	10.00		91	70-130	1	25	
1,1-Dichloroethene	9.93		ug/L	10.00		99	70-130	1	25	
1,1-Dichloropropene	9.86		ug/L	10.00		99	70-130	2	25	
1,2,3-Trichlorobenzene	10.2		ug/L	10.00		102	70-130	6	25	
1,2,3-Trichloropropane	8.90		ug/L	10.00		89	70-130	8	25	
1,2,4-Trichlorobenzene	10.2		ug/L	10.00		102	70-130	5	25	
1,2,4-Trimethylbenzene	10.9		ug/L	10.00		109	70-130	2	25	
1,2-Dibromo-3-Chloropropane	8.32		ug/L	10.00		83	70-130	10	25	
1,2-Dibromoethane	9.40		ug/L	10.00		94	70-130	4	25	
1,2-Dichlorobenzene	9.87		ug/L	10.00		99	70-130	2	25	
1,2-Dichloroethane	8.71		ug/L	10.00		87	70-130	2	25	
1,2-Dichloropropane	9.29		ug/L	10.00		93	70-130	0.8	25	
1,3,5-Trimethylbenzene	11.2		ug/L	10.00		112	70-130	1	25	
1,3-Dichlorobenzene	10.1		ug/L	10.00		101	70-130	2	25	
1,3-Dichloropropane	9.88		ug/L	10.00		99	70-130	2	25	
1,4-Dichlorobenzene	9.48		ug/L	10.00		95	70-130	2	25	
1,4-Dioxane - Screen	212		ug/L	200.0		106	0-332	7	200	
1-Chlorohexane	10.4		ug/L	10.00		104	70-130	0	25	
2,2-Dichloropropane	7.34		ug/L	10.00		73	70-130	0.3	25	
2-Butanone	46.7		ug/L	50.00		93	70-130	6	25	
2-Chlorotoluene	10.2		ug/L	10.00		102	70-130	2	25	
2-Hexanone	52.8		ug/L	50.00		106	70-130	7	25	
4-Chlorotoluene	10.5		ug/L	10.00		105	70-130	1	25	
4-Isopropyltoluene	10.1		ug/L	10.00		101	70-130	1	25	
4-Methyl-2-Pentanone	51.2		ug/L	50.00		102	70-130	11	25	
Acetone	43.0		ug/L	50.00		86	70-130	8	25	
Benzene	9.49		ug/L	10.00		95	70-130	0	25	
Bromobenzene	10.1		ug/L	10.00		101	70-130	3	25	
Bromochloromethane	9.43		ug/L	10.00		94	70-130	0.4	25	
Bromodichloromethane	8.85		ug/L	10.00		88	70-130	1	25	
Bromoform	8.67		ug/L	10.00		87	70-130	4	25	
Bromomethane	7.14		ug/L	10.00		71	70-130	5	25	
Carbon Disulfide	9.24		ug/L	10.00		92	70-130	1	25	
Carbon Tetrachloride	8.84		ug/L	10.00		88	70-130	0.2	25	
Chlorobenzene	9.46		ug/L	10.00		95	70-130	0.5	25	
Chloroethane	8.90		ug/L	10.00		89	70-130	10	25	
Chloroform	8.83		ug/L	10.00		88	70-130	2	25	
Chloromethane	8.16		ug/L	10.00		82	70-130	1	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511324

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51643 - 5030B										
cis-1,2-Dichloroethene	10.2		ug/L	10.00		102	70-130	0.7	25	
cis-1,3-Dichloropropene	8.66		ug/L	10.00		87	70-130	2	25	
Dibromochloromethane	9.07		ug/L	10.00		91	70-130	3	25	
Dibromomethane	9.11		ug/L	10.00		91	70-130	2	25	
Dichlorodifluoromethane	7.78		ug/L	10.00		78	70-130	3	25	
Diethyl Ether	10.2		ug/L	10.00		102	70-130	5	25	
Di-isopropyl ether	10.1		ug/L	10.00		101	70-130	2	25	
Ethyl tertiary-butyl ether	9.94		ug/L	10.00		99	70-130	7	25	
Ethylbenzene	10.6		ug/L	10.00		106	70-130	1	25	
Hexachlorobutadiene	9.91		ug/L	10.00		99	70-130	7	25	
Hexachloroethane	9.14		ug/L	10.00		91	70-130	1	25	
Isopropylbenzene	10.7		ug/L	10.00		107	70-130	2	25	
Methyl tert-Butyl Ether	10.1		ug/L	10.00		101	70-130	6	25	
Methylene Chloride	9.07		ug/L	10.00		91	70-130	3	25	
Naphthalene	11.7		ug/L	10.00		117	70-130	10	25	
n-Butylbenzene	10.4		ug/L	10.00		104	70-130	3	25	
n-Propylbenzene	10.5		ug/L	10.00		105	70-130	0.1	25	
sec-Butylbenzene	10.6		ug/L	10.00		106	70-130	0.9	25	
Styrene	9.91		ug/L	10.00		99	70-130	2	25	
tert-Butylbenzene	10.8		ug/L	10.00		108	70-130	2	25	
Tertiary-amyl methyl ether	9.91		ug/L	10.00		99	70-130	7	25	
Tetrachloroethene	8.79		ug/L	10.00		88	70-130	3	25	
Tetrahydrofuran	9.45		ug/L	10.00		94	70-130	11	25	
Toluene	10.7		ug/L	10.00		107	70-130	2	25	
trans-1,2-Dichloroethene	10.0		ug/L	10.00		100	70-130	1	25	
trans-1,3-Dichloropropene	7.81		ug/L	10.00		78	70-130	3	25	
Trichloroethene	9.34		ug/L	10.00		93	70-130	0.5	25	
Trichlorofluoromethane	8.33		ug/L	10.00		83	70-130	2	25	
Trihalomethanes (Total)	35.4		mg/L							
Vinyl Acetate	10.2		ug/L	10.00		102	70-130	6	25	
Vinyl Chloride	8.87		ug/L	10.00		89	70-130	1	25	
Xylene O	10.6		ug/L	10.00		106	70-130	1	25	
Xylene P,M	21.7		ug/L	20.00		109	70-130	1	25	
Xylenes (Total)	32.3		mg/L							
Surrogate: 1,2-Dichloroethane-d4	*0.0228*		mg/L	*0.02500*		*91*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0262*		mg/L	*0.02500*		*105*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0238*		mg/L	*0.02500*		*95*	*70-130*			
Surrogate: Toluene-d8	*0.0270*		mg/L	*0.02500*		*108*	*70-130*			
Batch CK51735 - 5030B										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.0010	mg/L							
1,1,1-Trichloroethane	ND	0.0010	mg/L							
1,1,2,2-Tetrachloroethane	ND	0.0005	mg/L							
1,1,2-Trichloroethane	ND	0.0010	mg/L							
1,1-Dichloroethane	ND	0.0010	mg/L							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511324

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51735 - 5030B										
1,1-Dichloroethene	ND	0.0010	mg/L							
1,1-Dichloropropene	ND	0.0020	mg/L							
1,2,3-Trichlorobenzene	ND	0.0010	mg/L							
1,2,3-Trichloropropane	ND	0.0010	mg/L							
1,2,4-Trichlorobenzene	ND	0.0010	mg/L							
1,2,4-Trimethylbenzene	ND	0.0010	mg/L							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/L							
1,2-Dibromoethane	ND	0.0010	mg/L							
1,2-Dichlorobenzene	ND	0.0010	mg/L							
1,2-Dichloroethane	ND	0.0010	mg/L							
1,2-Dichloropropane	ND	0.0010	mg/L							
1,3,5-Trimethylbenzene	ND	0.0010	mg/L							
1,3-Dichlorobenzene	ND	0.0010	mg/L							
1,3-Dichloropropane	ND	0.0010	mg/L							
1,4-Dichlorobenzene	ND	0.0010	mg/L							
1,4-Dioxane - Screen	ND	0.500	mg/L							
1-Chlorohexane	ND	0.0010	mg/L							
2,2-Dichloropropane	ND	0.0010	mg/L							
2-Butanone	ND	0.0100	mg/L							
2-Chlorotoluene	ND	0.0010	mg/L							
2-Hexanone	ND	0.0100	mg/L							
4-Chlorotoluene	ND	0.0010	mg/L							
4-Isopropyltoluene	ND	0.0010	mg/L							
4-Methyl-2-Pentanone	ND	0.0250	mg/L							
Acetone	ND	0.0100	mg/L							
Benzene	ND	0.0010	mg/L							
Bromobenzene	ND	0.0020	mg/L							
Bromochloromethane	ND	0.0010	mg/L							
Bromodichloromethane	ND	0.0006	mg/L							
Bromoform	ND	0.0010	mg/L							
Bromomethane	ND	0.0020	mg/L							
Carbon Disulfide	ND	0.0010	mg/L							
Carbon Tetrachloride	ND	0.0010	mg/L							
Chlorobenzene	ND	0.0010	mg/L							
Chloroethane	ND	0.0020	mg/L							
Chloroform	ND	0.0010	mg/L							
Chloromethane	ND	0.0020	mg/L							
cis-1,2-Dichloroethene	ND	0.0010	mg/L							
cis-1,3-Dichloropropene	ND	0.0004	mg/L							
Dibromochloromethane	ND	0.0010	mg/L							
Dibromomethane	ND	0.0010	mg/L							
Dichlorodifluoromethane	ND	0.0020	mg/L							
Diethyl Ether	ND	0.0010	mg/L							
Di-isopropyl ether	ND	0.0010	mg/L							
Ethyl tertiary-butyl ether	ND	0.0010	mg/L							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511324

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51735 - 5030B										
Ethylbenzene	ND	0.0010	mg/L							
Hexachlorobutadiene	ND	0.0006	mg/L							
Hexachloroethane	ND	0.0010	mg/L							
Isopropylbenzene	ND	0.0010	mg/L							
Methyl tert-Butyl Ether	ND	0.0010	mg/L							
Methylene Chloride	ND	0.0020	mg/L							
Naphthalene	ND	0.0010	mg/L							
n-Butylbenzene	ND	0.0010	mg/L							
n-Propylbenzene	ND	0.0010	mg/L							
sec-Butylbenzene	ND	0.0010	mg/L							
Styrene	ND	0.0010	mg/L							
tert-Butylbenzene	ND	0.0010	mg/L							
Tertiary-amyl methyl ether	ND	0.0010	mg/L							
Tetrachloroethene	ND	0.0010	mg/L							
Tetrahydrofuran	ND	0.0050	mg/L							
Toluene	ND	0.0010	mg/L							
trans-1,2-Dichloroethene	ND	0.0010	mg/L							
trans-1,3-Dichloropropene	ND	0.0004	mg/L							
Trichloroethene	ND	0.0010	mg/L							
Trichlorofluoromethane	ND	0.0010	mg/L							
Trihalomethanes (Total)	ND	0.0010	mg/L							
Vinyl Acetate	ND	0.0050	mg/L							
Vinyl Chloride	ND	0.0010	mg/L							
Xylene O	ND	0.0010	mg/L							
Xylene P,M	ND	0.0020	mg/L							
Xylenes (Total)	ND	0.0020	mg/L							
Surrogate: 1,2-Dichloroethane-d4	*0.0234*		mg/L	*0.02500*		*94*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0204*		mg/L	*0.02500*		*82*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0224*		mg/L	*0.02500*		*90*	*70-130*			
Surrogate: Toluene-d8	*0.0201*		mg/L	*0.02500*		*80*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	9.49		ug/L	10.00		95	70-130			
1,1,1-Trichloroethane	9.87		ug/L	10.00		99	70-130			
1,1,2,2-Tetrachloroethane	9.03		ug/L	10.00		90	70-130			
1,1,2-Trichloroethane	9.35		ug/L	10.00		94	70-130			
1,1-Dichloroethane	9.51		ug/L	10.00		95	70-130			
1,1-Dichloroethene	9.79		ug/L	10.00		98	70-130			
1,1-Dichloropropene	10.1		ug/L	10.00		101	70-130			
1,2,3-Trichlorobenzene	10.2		ug/L	10.00		102	70-130			
1,2,3-Trichloropropane	8.98		ug/L	10.00		90	70-130			
1,2,4-Trichlorobenzene	9.90		ug/L	10.00		99	70-130			
1,2,4-Trimethylbenzene	10.6		ug/L	10.00		106	70-130			
1,2-Dibromo-3-Chloropropane	8.79		ug/L	10.00		88	70-130			
1,2-Dibromoethane	9.73		ug/L	10.00		97	70-130			
1,2-Dichlorobenzene	9.69		ug/L	10.00		97	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511324

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51735 - 5030B										
1,2-Dichloroethane	9.81		ug/L	10.00		98	70-130			
1,2-Dichloropropane	9.41		ug/L	10.00		94	70-130			
1,3,5-Trimethylbenzene	11.0		ug/L	10.00		110	70-130			
1,3-Dichlorobenzene	9.85		ug/L	10.00		98	70-130			
1,3-Dichloropropane	10.2		ug/L	10.00		102	70-130			
1,4-Dichlorobenzene	9.84		ug/L	10.00		98	70-130			
1,4-Dioxane - Screen	203		ug/L	200.0		101	0-332			
1-Chlorohexane	10.1		ug/L	10.00		101	70-130			
2,2-Dichloropropane	10.3		ug/L	10.00		103	70-130			
2-Butanone	50.0		ug/L	50.00		100	70-130			
2-Chlorotoluene	10.0		ug/L	10.00		100	70-130			
2-Hexanone	53.2		ug/L	50.00		106	70-130			
4-Chlorotoluene	10.5		ug/L	10.00		105	70-130			
4-Isopropyltoluene	10.2		ug/L	10.00		102	70-130			
4-Methyl-2-Pentanone	51.6		ug/L	50.00		103	70-130			
Acetone	49.7		ug/L	50.00		99	70-130			
Benzene	9.61		ug/L	10.00		96	70-130			
Bromobenzene	9.95		ug/L	10.00		100	70-130			
Bromochloromethane	9.70		ug/L	10.00		97	70-130			
Bromodichloromethane	9.62		ug/L	10.00		96	70-130			
Bromoform	9.30		ug/L	10.00		93	70-130			
Bromomethane	5.55		ug/L	10.00		56	70-130			B-
Carbon Disulfide	9.54		ug/L	10.00		95	70-130			
Carbon Tetrachloride	9.86		ug/L	10.00		99	70-130			
Chlorobenzene	9.67		ug/L	10.00		97	70-130			
Chloroethane	9.23		ug/L	10.00		92	70-130			
Chloroform	9.62		ug/L	10.00		96	70-130			
Chloromethane	8.33		ug/L	10.00		83	70-130			
cis-1,2-Dichloroethene	10.3		ug/L	10.00		103	70-130			
cis-1,3-Dichloropropene	8.95		ug/L	10.00		90	70-130			
Dibromochloromethane	9.63		ug/L	10.00		96	70-130			
Dibromomethane	9.67		ug/L	10.00		97	70-130			
Dichlorodifluoromethane	8.71		ug/L	10.00		87	70-130			
Diethyl Ether	10.2		ug/L	10.00		102	70-130			
Di-isopropyl ether	9.89		ug/L	10.00		99	70-130			
Ethyl tertiary-butyl ether	9.82		ug/L	10.00		98	70-130			
Ethylbenzene	10.5		ug/L	10.00		105	70-130			
Hexachlorobutadiene	10.8		ug/L	10.00		108	70-130			
Hexachloroethane	9.25		ug/L	10.00		92	70-130			
Isopropylbenzene	10.1		ug/L	10.00		101	70-130			
Methyl tert-Butyl Ether	10.0		ug/L	10.00		100	70-130			
Methylene Chloride	11.6		ug/L	10.00		116	70-130			
Naphthalene	9.90		ug/L	10.00		99	70-130			
n-Butylbenzene	10.5		ug/L	10.00		105	70-130			
n-Propylbenzene	10.2		ug/L	10.00		102	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511324

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51735 - 5030B										
sec-Butylbenzene	10.3		ug/L	10.00		103	70-130			
Styrene	9.56		ug/L	10.00		96	70-130			
tert-Butylbenzene	10.2		ug/L	10.00		102	70-130			
Tertiary-amyl methyl ether	9.50		ug/L	10.00		95	70-130			
Tetrachloroethene	9.09		ug/L	10.00		91	70-130			
Tetrahydrofuran	9.39		ug/L	10.00		94	70-130			
Toluene	10.2		ug/L	10.00		102	70-130			
trans-1,2-Dichloroethene	10.2		ug/L	10.00		102	70-130			
trans-1,3-Dichloropropene	8.28		ug/L	10.00		83	70-130			
Trichloroethene	9.44		ug/L	10.00		94	70-130			
Trichlorofluoromethane	9.35		ug/L	10.00		94	70-130			
Trihalomethanes (Total)	38.2		mg/L							
Vinyl Acetate	10.2		ug/L	10.00		102	70-130			
Vinyl Chloride	9.34		ug/L	10.00		93	70-130			
Xylene O	10.6		ug/L	10.00		106	70-130			
Xylene P,M	21.5		ug/L	20.00		107	70-130			
Xylenes (Total)	32.1		mg/L							
Surrogate: 1,2-Dichloroethane-d4	*0.0263*		mg/L	*0.02500*		*105*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0272*		mg/L	*0.02500*		*109*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0255*		mg/L	*0.02500*		*102*	*70-130*			
Surrogate: Toluene-d8	*0.0268*		mg/L	*0.02500*		*107*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	9.09		ug/L	10.00		91	70-130	4	25	
1,1,1-Trichloroethane	9.68		ug/L	10.00		97	70-130	2	25	
1,1,2,2-Tetrachloroethane	9.06		ug/L	10.00		91	70-130	0.3	25	
1,1,2-Trichloroethane	9.13		ug/L	10.00		91	70-130	2	25	
1,1-Dichloroethane	9.50		ug/L	10.00		95	70-130	0.1	25	
1,1-Dichloroethene	9.84		ug/L	10.00		98	70-130	0.5	25	
1,1-Dichloropropene	10.1		ug/L	10.00		101	70-130	0	25	
1,2,3-Trichlorobenzene	9.72		ug/L	10.00		97	70-130	5	25	
1,2,3-Trichloropropane	9.03		ug/L	10.00		90	70-130	0.6	25	
1,2,4-Trichlorobenzene	9.45		ug/L	10.00		94	70-130	5	25	
1,2,4-Trimethylbenzene	10.5		ug/L	10.00		105	70-130	0.4	25	
1,2-Dibromo-3-Chloropropane	8.54		ug/L	10.00		85	70-130	3	25	
1,2-Dibromoethane	9.70		ug/L	10.00		97	70-130	0.3	25	
1,2-Dichlorobenzene	9.44		ug/L	10.00		94	70-130	3	25	
1,2-Dichloroethane	9.58		ug/L	10.00		96	70-130	2	25	
1,2-Dichloropropane	9.15		ug/L	10.00		92	70-130	3	25	
1,3,5-Trimethylbenzene	10.9		ug/L	10.00		109	70-130	1	25	
1,3-Dichlorobenzene	9.78		ug/L	10.00		98	70-130	0.7	25	
1,3-Dichloropropane	10.1		ug/L	10.00		101	70-130	1	25	
1,4-Dichlorobenzene	9.50		ug/L	10.00		95	70-130	4	25	
1,4-Dioxane - Screen	201		ug/L	200.0		101	0-332	0.9	200	
1-Chlorohexane	9.89		ug/L	10.00		99	70-130	2	25	
2,2-Dichloropropane	10.1		ug/L	10.00		101	70-130	2	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511324

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51735 - 5030B										
2-Butanone	48.5		ug/L	50.00		97	70-130	3	25	
2-Chlorotoluene	9.86		ug/L	10.00		99	70-130	1	25	
2-Hexanone	53.1		ug/L	50.00		106	70-130	0.08	25	
4-Chlorotoluene	10.4		ug/L	10.00		104	70-130	1	25	
4-Isopropyltoluene	10.1		ug/L	10.00		101	70-130	1	25	
4-Methyl-2-Pentanone	49.9		ug/L	50.00		100	70-130	3	25	
Acetone	47.6		ug/L	50.00		95	70-130	4	25	
Benzene	9.51		ug/L	10.00		95	70-130	1	25	
Bromobenzene	9.74		ug/L	10.00		97	70-130	2	25	
Bromochloromethane	9.51		ug/L	10.00		95	70-130	2	25	
Bromodichloromethane	9.44		ug/L	10.00		94	70-130	2	25	
Bromoform	9.13		ug/L	10.00		91	70-130	2	25	
Bromomethane	5.78		ug/L	10.00		58	70-130	4	25	B-
Carbon Disulfide	9.55		ug/L	10.00		96	70-130	0.1	25	
Carbon Tetrachloride	9.62		ug/L	10.00		96	70-130	2	25	
Chlorobenzene	9.71		ug/L	10.00		97	70-130	0.4	25	
Chloroethane	8.82		ug/L	10.00		88	70-130	5	25	
Chloroform	9.45		ug/L	10.00		94	70-130	2	25	
Chloromethane	8.33		ug/L	10.00		83	70-130	0	25	
cis-1,2-Dichloroethene	10.2		ug/L	10.00		102	70-130	0.1	25	
cis-1,3-Dichloropropene	9.04		ug/L	10.00		90	70-130	1	25	
Dibromochloromethane	9.58		ug/L	10.00		96	70-130	0.5	25	
Dibromomethane	9.32		ug/L	10.00		93	70-130	4	25	
Dichlorodifluoromethane	8.79		ug/L	10.00		88	70-130	0.9	25	
Diethyl Ether	9.91		ug/L	10.00		99	70-130	3	25	
Di-isopropyl ether	9.71		ug/L	10.00		97	70-130	2	25	
Ethyl tertiary-butyl ether	9.83		ug/L	10.00		98	70-130	0.1	25	
Ethylbenzene	10.4		ug/L	10.00		104	70-130	0.9	25	
Hexachlorobutadiene	10.3		ug/L	10.00		103	70-130	5	25	
Hexachloroethane	9.27		ug/L	10.00		93	70-130	0.2	25	
Isopropylbenzene	10.0		ug/L	10.00		100	70-130	0.8	25	
Methyl tert-Butyl Ether	9.90		ug/L	10.00		99	70-130	1	25	
Methylene Chloride	10.8		ug/L	10.00		108	70-130	7	25	
Naphthalene	9.49		ug/L	10.00		95	70-130	4	25	
n-Butylbenzene	10.3		ug/L	10.00		103	70-130	2	25	
n-Propylbenzene	10.1		ug/L	10.00		101	70-130	1	25	
sec-Butylbenzene	10.3		ug/L	10.00		103	70-130	0.5	25	
Styrene	9.52		ug/L	10.00		95	70-130	0.4	25	
tert-Butylbenzene	10.1		ug/L	10.00		101	70-130	1	25	
Tertiary-amyl methyl ether	9.66		ug/L	10.00		97	70-130	2	25	
Tetrachloroethene	8.80		ug/L	10.00		88	70-130	3	25	
Tetrahydrofuran	9.27		ug/L	10.00		93	70-130	1	25	
Toluene	10.2		ug/L	10.00		102	70-130	0.7	25	
trans-1,2-Dichloroethene	10.0		ug/L	10.00		100	70-130	1	25	
trans-1,3-Dichloropropene	8.24		ug/L	10.00		82	70-130	0.5	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511324

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK51735 - 5030B										
Trichloroethene	9.39		ug/L	10.00		94	70-130	0.5	25	
Trichlorofluoromethane	9.35		ug/L	10.00		94	70-130	0	25	
Trihalomethanes (Total)	37.6		mg/L							
Vinyl Acetate	9.95		ug/L	10.00		100	70-130	2	25	
Vinyl Chloride	9.31		ug/L	10.00		93	70-130	0.3	25	
Xylene O	10.6		ug/L	10.00		106	70-130	0	25	
Xylene P,M	21.3		ug/L	20.00		107	70-130	0.8	25	
Xylenes (Total)	31.9		mg/L							
Surrogate: 1,2-Dichloroethane-d4	*0.0258*		mg/L	*0.02500*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0274*		mg/L	*0.02500*		*110*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0254*		mg/L	*0.02500*		*102*	*70-130*			
Surrogate: Toluene-d8	*0.0270*		mg/L	*0.02500*		*108*	*70-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511324

Notes and Definitions

U	Analyte included in the analysis, but not detected
J	Reported between MDL and MRL
E	Reported above the quantitation limit; Estimated value (E).
D+	Relative percent difference for duplicate is outside of criteria (D+).
D	Diluted.
CD-	Continuing Calibration %Diff/Drift is below control limit (CD-).
B+	Blank Spike recovery is above upper control limit (B+).
B-	Blank Spike recovery is below lower control limit (B-).
B	Present in Method Blank (B).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Tidewater GH

ESS Laboratory Work Order: 1511324

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 15110324
Date Project Due: 11/20/15
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	No
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	No
Cooler Temp: **4.1**		16. Are ESS labels on correct containers?	Yes | No
Iced With: **Ice**		17. Were samples received intact?	Yes | No
6. Was COC included with samples?	Yes	ESS Sample IDs:	
7. Was COC signed and dated by client?	Yes	Sub Lab:	
8. Does the COC match the sample	Yes	Analysis:	
9. Is COC complete and correct?	Yes	TAT:	

18. Was there need to call project manager to discuss status? If yes, please explain.

_____

_____

_____

Who was called?: _____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	40 ml - VOA	3	HCL
2	Yes	40 ml - VOA	3	HCL
3	Yes	40 ml - VOA	3	HCL
4	Yes	40 ml - VOA	3	HCL
5	Yes	40 ml - VOA	3	HCL
6	Yes	40 ml - VOA	3	HCL
7	Yes	40 ml - VOA	3	HCL
8	Yes	40 ml - VOA	3	HCL
9	Yes	40 ml - VOA	3	HCL
10	Yes	40 ml - VOA	3	HCL
11	Yes	40 ml - VOA	3	HCL
12	Yes	40 ml - VOA	3	HCL
13	Yes	40 ml - VOA	3	HCL
14	Yes	40 ml - VOA	3	HCL
15	Yes	40 ml - VOA	3	HCL
16	Yes	40 ml - VOA	3	HCL
17	Yes	40 ml - VOA	3	HCL

Completed By: _____ Date/Time: 11/13/15 1319

Reviewed By: _____ Date/Time: 11/13/15 1503

ESS Laboratory

Division of Thielsch Engineering, Inc.

185 Frances Avenue, Cranston RI 02910-2211
Tel. (401)461-7181 Fax (401)461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 151324

Turn Time X Standard Other_____

Regulatory State: MA RI CT NH NJ NY ME Other_____

Is this project for any of the following:(please circle)
MA-MCP Navy USACE CT DEP Other_____

Reporting Limits - GB

Electonic Deliverables (Excel) Access PDF

Co. Name: GZA	Project #: 43654.00	Project Name: Tidewater	
Contact Person: Meg Kilpatrick	Proj. Location:		
Address: 530 Broadway	City, State: Providence	Zip: 02909	PO #:
Tel.	email:		

ESS Lab ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample ID	Pres Code	# of Containers	Type of Container	Vol of Container	Analysis: VOCs								
1	11/13/15	9:15	G	GW	MW-107	2	3	✓	40mL	X								
2	11/13/15	8:45			MW-318S													
3	11/13/15	8:30			MW-318D													
4	11/12/15	13:00			MW-208													
5	11/12/15	9:30			MW-310D													
6	11/11/15	16:00			MW-337													
7	11/12/15	11:30			MW-326D													

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present _____Yes _____No

Seals Intact ____ Yes _____No NA:____

Cooler Temperature: 4.1°C on 11/13/15 1410

Internal Use Only

[ ] Pickup

[ ] Technician____

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Sampled by: Sara Haupt, Sophia Navickewicz, Sarah DiSimone

Comments: NGrid rates apply

Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)	Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)
11/13/15 12:10	11/13/15 1410		

* By circling MA-MCP, client acknowledges sampels were collected in accordance with MADEP CAM VIIA

Please fax to the laboratory all changes to Chain of Custody

Report Method Blank & Laboratory Control Sample Results

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page_____ of_____

Turn Time X Standard Other _____
If faster than 5 days, prior approval by laboratory is required # _____

State where samples were collected from:
MA RI CT NH NJ NY ME Other _____

Is this project for any of the following:
MA-MCP Navy USACE Other _____

Reporting Limits: GB

ESS LAB PROJECT ID: 151324

Electronic Deliverable Yes ✓ No ___
Format: Excel ✓ Access ___ PDF ___ Other _____

Co. Name	Project #	Project Name (20 Char. or less)
GZA	43654.00	Tidewater

Contact Person	Address
Meg Kilpatrick	530 Broadway

City	State	Zip	PO#
Providence	RI	02909	

Telephone #	Fax #	Email Address

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	Write Required Analysis: VOC
8	11/12/15	11:45		X	GW	MW-324S	2	3	V	X
9	11/12/15	10:00		↓	↓	MW-310S	↓	↓	↓	↓
10	11/12/15	15:00				MW-333D				
11	11/12/15	14:20				MW-333S				
12	11/11/15	14:50				MW-314D				
13	11/11/15	15:00				MW-2				
14	11/11/15	15:35				MW-314S				
15	11/11/15	16:50				MW-109				
16	11/12/15	10:00				MW-312D				
17	11/12/15	9:00		↓	✓	MW-201	↓	↓	↓	↓

Container Type: P-Poly G-Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___ Yes ___ No Internal Use Only

Seals Intact ___ Yes ___ No NA: ___ [ ] Pickup

Cooler Temp: 4.1°C on 11/13/15 1210 [ ] Technicians ____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- _____

Sampled by:

Comments: National Grid Rates Apply

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
[signature]	11/13/15 12:10	[signature]	11/13/15 1210				

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A