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2018 ANNUAL GROUNDWATER MONITORING REPORT
FORMER TIDEWATER FACILITY

200 Taft Street
Pawtucket, Rhode Island

May 2019
GZA File No.: 05.0043654.40

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

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May 7, 2019
File No. 05.0043654.40

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: 2018 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 *2018 Annual Groundwater Monitoring Report*. This report describes groundwater monitoring activities performed at the above-referenced Site during the 2018 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 Kenneth Lento from National Grid at (781) 907-3655.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

David Rusczyk, P.E.
Associate Principal

James J. Clark, P.E.
Senior Principal

Attachment: *2018 Annual Groundwater Monitoring Report*

cc: Kenneth Lento, 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 *2018 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 2018 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 the presence of 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) established in RIDEM's *Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases* (250-RICR-140-30-1, herein referred to as the *Remediation Regulations*). Portions of this report include information and data presented in reports previously submitted to RIDEM and 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.

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 *Project Locus Map* is included on the cover sheet to the figures and an aerial Site plan is included as Figure 2. The Site was the location of the former 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 of the Site 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 eight 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 Figure 2:

- North Fill Area (NFA) (northern portions of Assessors Plat (A.P.) 54B Lot 826);
- Former Gas Plant Area (FGPA) (southern portions of A.P. 54B Lot 826 and A.P. 65B Lot 662);
- Former Power Plant Area (FPPA) (A.P. 65B Lot 645); and
- South Fill Area (SFA) (A.P. 65B Lots 647 and 649, portions of Lot 648 [owned by the City of Pawtucket], and portions of A.P. 67B Lots 11 and 21 [both owned by the City of Pawtucket]).

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 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) consistent with the requirements of Rule 1.8 of the *Remediation Regulations*. RIDEM subsequently issued a *Program Letter* dated May 25, 2017 indicating that the Site investigation was complete and describing the proposed remedy. National Grid performed the public notice consistent with the *Program Letter* and the Site-Specific *Public Involvement Plan* (PIP) in the summer of 2017. RIDEM issued an April 19, 2018 *Remedial Decision Letter* (RDL) formally approving the Site investigation and outlining the preferred remedial alternative which consists of removal and disposal of source materials from three areas, containment of NAPL via installation of an approximately 1,400-foot long steel sheetpile wall along portions of the riverfront, installation of an impermeable cap over portions of the Site where soil impacts are likely to impact groundwater quality, and installation of a permeable cap over other portions of the Site where lesser soil impacts are present. GZA subsequently prepared and submitted a June 2018 *Remedial Action Work Plan* (RAWP) to RIDEM and held a Community Outreach Event on July 17, 2018 to present the RAWP to the public. RIDEM provided comments to the RAWP in a February 8, 2019 letter. National Grid is currently preparing responses to RIDEM's comments which will be submitted by June 1, 2019 per the February 8, 2019 letter.

2.0 SHORELINE OBSERVATIONS

The Site is visited at least twice-monthly 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 and stone walls. Certain portions of the shoreline, primarily the southern extents, consist of manmade earthen slopes to the adjacent Seekonk River. Between January 2018 and December 2018, localized sheens on the surface water were intermittently observed in limited areas of the Seekonk River adjacent to the shoreline of the FGPA and the FPPA. Sheen observations during 2018 were limited to the following two general shoreline areas:

- an approximate 10-foot section of the southern shoreline portion of the FGPA near wells 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 well MW-103 (refer to Figure 2B).

Sheens observed in the FGPA near wells MW-326S and TB-12/MW-3 are dull localized spots 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 well MW-103 are bright to dull localized bands and spots less than 3 feet in diameter located very close to the shoreline. Sheens have generally been observed at mid- or low-tide only; however,

sheens were also observed in June, July, November and December 2018 at high tide proximate to the NBC CSO and well MW-103. Sheen observations are limited in extent and occurrence and are likely the result of the existing CSO and other drainage outfalls, subsurface impact or a combination of both.

Sheens observed during 2018 were generally consistent with those documented in the January 2011 SIDR, the July 2011 RAE, the June 2018 RAWP and previous groundwater monitoring reports. There were no sheens observed proximate to well MW-4 where the cap was installed in 2009[1], the SFA, or the bulkhead area proximate to the FPPA in 2018. Sheen observations from the 2018 calendar year are summarized in Table 1.

3.0 GROUNDWATER AND NAPL MONITORING PROGRAM

The 2018 monitoring program consisted of gauging the monitoring well network for the depth to groundwater and the presence of NAPL (total of sixty-six (66) wells) and the collection of groundwater samples from select monitoring wells for volatile organic compound (VOC) laboratory analysis. Monitoring well groundwater elevation gauging and NAPL gauging/recovery was conducted on a quarterly basis in 2018 (January 2018; April 2018; July 2018; and October 2018). Twenty-seven (27) monitoring wells are included in the annual groundwater quality sampling round. As described further herein, due to a lack of water in two wells (wells MW-5 and MW-316S), twenty-five (25) wells were sampled during the October 2018 groundwater sampling round. All well locations are shown on the attached Figures 2A and 2B, *Exploration Location Plans*. Monitoring wells that were included in the October 2018 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. Depth to groundwater measurements and NAPL gauging data are included in Table 2A for the period from January 2018 through December 2018. 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 2B and 2C, respectively. Figures 4A and 4B, *2018 NAPL and Groundwater Analytical Data,* depict well locations where either measurable LNAPL or DNAPL (greater than 0.01 feet in thickness) were observed during the 2018 groundwater monitoring activities. Wells exhibiting LNAPL in 2018 (greater than 0.01 feet in thickness) are located in the FGPA and FPPA and wells exhibiting DNAPL (greater than 0.01 feet in thickness) are located in the FGPA and SFA. Observations of LNAPL and DNAPL thicknesses within these monitoring wells during 2018 were generally consistent with previous observations, as described below.

During the 2018 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 recovered approximately 13.7 gallons of a NAPL/groundwater mixture in 2018. As described further below, NAPL recovery was not practical in certain wells due to the viscosity of the material. The recovered 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.

[1] A shoreline cap was installed in 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.

In addition to the NAPL thicknesses shown in Tables 2B and 2C, evidence of sheen was observed on purge water from monitoring wells MW-312S/D, MW-326S, and MW-339D during the October 2018 groundwater sampling event. Purge waters generated from wells MW-109, MW-312S, MW-201, and MW-326S were also observed to exhibit a fuel oil-like odor and purge waters from MW-339D were observed to exhibit a coal-tar like odor during the October 2018 groundwater sampling event. Refer to groundwater sampling logs in Appendix B for additional information.

LNAPL

During the quarterly gauging events in 2018, 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 2B, LNAPL thicknesses were limited and varied by well location. In the FGPA, MW-3 contained trace to 0.08 feet of LNAPL, MW-210 contained 0.09 to 0.9 feet of LNAPL, MW-312S contained 0.62 to 1.2 feet of LNAPL, and MW-313S contained trace to 0.70 feet of LNAPL. In the FPPA, M&E MW-5 contained 0.20 to 1.1 feet of LNAPL. There have been no new wells exhibiting measurable 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. In the FPPA, LNAPL was detected in the well located in the vicinity of the former service underground storage tanks (M&E MW-5).

During the quarterly gauging events in 2018, LNAPL recovery evaluations were attempted at the five (5) wells where LNAPL was observed: MW-3, MW-210, MW-312S, MW-313S 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. In general, LNAPL thicknesses and recoverability observed in 2018 are consistent with historic observations. LNAPL thicknesses in monitoring wells MW-103, MW-326S, and MW-3 have generally decreased since 2011 to consistently less than 0.01 feet suggesting that only localized LNAPL may have collected in these wells. LNAPL thicknesses within monitoring well MW-313S have also generally decreased since 2011; however, LNAPL was observed in this monitoring well at a thickness of 0.7 feet in January 2018. Subsequent to January 2018, LNAPL was observed at trace levels within monitoring well MW-313S consistent with the previous observations at this location.

DNAPL

During the quarterly gauging events in 2018, measurable levels of DNAPL (defined as equal to or greater than 0.01 feet) were detected in only three (3) of the sixty-six (66) monitoring wells gauged: two (2) in the FGPA and one (1) in the SFA. As presented in Table 2C, in the FGPA, MW-303 contained 3.18 to 5.85 feet and MW-341 contained 0.10 to 0.50 feet of DNAPL. In the SFA, MW-320D contained 13.5 to 14.3 feet of DNAPL. Wells MW-303 and MW-341 are located proximate to former MGP processes. Monitoring well MW-320D is located in the southern portion of the Site where coal waste from the gasification process was received. It should be noted that monitoring well MW-103 (located in the FPPA), which was the only well in the FPPA where measurable DNAPL was previously detected during the 2010 Site investigations, has not shown evidence of DNAPL since 2011.

Based on the measurable quantities, the physical characteristics of the DNAPL, and results of historic DNAPL recovery attempts, recovery evaluations were attempted at two (2) well locations in 2018 (MW-303 and MW-341 in the FGPA[2]). During the 2018 recovery rounds, a total of 1.75 gallons of a DNAPL/water mixture was recovered from MW-341 and a total of 0.5 gallons of a DNAPL/water mixture was recovered from MW-303. Recovery of DNAPL from MW-303 was limited

[2] Recovery was not attempted for the DNAPL observed within well MW-320D in the SFA due to the viscosity of the DNAPL.

during the 2018 recovery rounds due to the viscosity of the DNAPL observed. In general, DNAPL thicknesses and recoverability rates observed during 2018 are consistent with historic observations.

DNAPL thickness in well MW-320D (located in the SFA) ranged from 1.05 and 10 feet between 2009 and 2013, compared to DNAPL thicknesses ranging from 13.01 and 14.5 feet in 2015, 2016, 2017 and 2018. Similar to the LNAPL observations, DNAPL is observed in only certain wells suggesting the presence of localized pockets and not a continuous layer. Based on the results of attempted recovery activities and the viscous nature of the materials, the observed 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 in wells MW-303 and MW-320D. Consistent with its relatively immobile nature and the observed viscosity of the DNAPL, GZA has not observed the presence of sheen in the waterfront area adjacent to MW-320D.

3.2 GROUNDWATER FLOW DIRECTION

Between April 2009 and October 2018, GZA recorded depth to groundwater readings from the 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 surveyed casing and PVC elevations. Table 2A presents the depth to groundwater readings for each well gauged in 2018. The groundwater elevations recorded during the October 23, 2018 gauging round were used to prepare the *Shallow Groundwater Contour Plan* presented as Figure 3**.** As expected, a review of groundwater elevations recorded during the 2018 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 12 feet (NAVD 1988), 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), twelve (12) in the FGPA (MW-201, MW-208, MW-312S, MW-312D, MW-314S, MW-314D, MW-326S, MW-326D, MW-333S, MW-333D, MW-339S, and MW-339D), six (6) in the FPPA (M&E MW-2, MW-6, MW-109, MW-316S, MW-316D, and MW-337), and five (5) in the SFA (MW-107, MW-318S, MW-318D, MW-334S and MW-334D).[3] 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 October 2018 groundwater sampling round.

Groundwater samples were collected in general accordance with EPA's September 2017 *Low Stress (low flow) Purging and Sampling Procedure* (Low Flow Standard Operating Procedure). Prior to sampling, the depth to static groundwater and NAPL (if any) 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

[3] Wells 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 October 2018 monitoring event.

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 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 in Appendix B. As indicated on the logs, the monitoring wells were pumped until field screening parameters were stabilized prior to collecting the samples.

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.[4] 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 the 2018 monitoring program was containerized in a labeled 55-gallon steel drum and stored securely on-Site for subsequent off-Site disposal. Two (2) drums of purge water, one (1) drum of NAPL/water, and one (1) drum of oily debris (used personal protective equipment (PPE)) were generated during the 2018 monitoring program. The purge water, NAPL/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 manifests is included in Appendix C.

3.5 QUALITY ASSURANCE/QUALITY CONTROL SAMPLING AND ANALYSIS

During the 2018 sampling round, twenty-five (25) groundwater samples, one (1) blind duplicate sample, and one (1) trip blank were submitted to ESS Laboratory in Cranston, Rhode Island for analysis. The samples were transported to the laboratory under chain of custody protocol. As indicated in 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 target compounds.

One duplicate sample set (BD-102418 for MW-334D) was also submitted for VOC analysis to evaluate sample reproducibility. The relative percent difference (RPD) was calculated for each detected compound. Elevated RPDs (more than 40% difference) were noted in the duplicate sample set for the following compounds: benzene, naphthalene and trichloroethene. We note however the concentration of these compounds in the duplicate sample set were relatively low and the elevated RPD is not expected to affect data usability. In addition, trichloroethene is not a typical constituent of concern for MGP sites and its presence in groundwater is likely associated with an off-Site source.

These laboratory analytical 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.

[4] 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 2018 groundwater monitoring program was modified to not include TPH, PAHs, or cyanide consistent with the July 2011 RAE.

3.6 GROUNDWATER ANALYTICAL RESULTS

Analytical data from the 2018 sampling event is summarized in Table 4A (VOCs), which includes comparisons to RIDEM's Method 1 (or Method 2 as appropriate) GB Groundwater Objectives and Upper Concentration Limits (UCLs). A summary of the 2018 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 (five (5) wells total) of the GB Groundwater Objectives for benzene, ethylbenzene and naphthalene, primarily in areas of the Site where former MGP features were historically located. Figures 4A and 4B, *2018 NAPL and Groundwater Analytical Data,* present the total VOC concentrations detected in groundwater samples from the October 2018 sampling round and highlight wells exhibiting specific analyte GB Groundwater Objective exceedances. As indicated on these figures, exceedances of the GB Groundwater Objectives are limited to sporadic detections of the following compounds: ethylbenzene, benzene and naphthalene.

As indicated in Table 4A, VOCs were detected in sixteen (16) of the twenty-five (25) groundwater samples submitted for analysis in 2018. The total VOC concentrations detected during the 2018 monitoring event ranged from 0.0015 milligrams per Liter (mg/L)(MW-333S) to 15.3 mg/L (MW-310D). Five samples (5/25) exceeded the GB Groundwater Objective for one or more VOCs. Three (3/25) samples exceeded the Method 2 GB Groundwater Objective for naphthalene, four (4/25) samples exceeded the Method 1 GB Groundwater Objective for benzene, and one (1/25) sample exceeded the Method 1 GB Groundwater Objective for ethylbenzene.[5]

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 2018 exceeded the UCLs. The following sections discuss the dissolved-phased VOC analytical results for the 2018 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 2018 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 0.419 mg/L, in excess of the GB Groundwater Objective of 0.14 mg/L. Naphthalene was detected in MW-310D at a concentration of 8.6 mg/L, in excess of the Method 2 derived GB Groundwater Objective of 2.67 mg/L. The groundwater samples collected from MW-7 and MW-310S had no detection of VOCs.

Consistent with the 2018 monitoring event, the concentrations of both benzene and naphthalene have exceeded the GB Groundwater Objectives in MW-310D (refer to Table 5D) during 8 of the 10 previous sampling rounds. This well is located in the historic cove of the NFA and visual/olfactory impacts have been previously observed in this area.

[5] 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.

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

Twelve (12) groundwater samples (MW-201, MW-208, MW-312S, MW-312D, MW-314S, MW-314D, MW-326S, MW-326D, MW-333S, MW-333D, MW-339S, and MW-339D) were collected in this area during the 2018 monitoring event and submitted for analysis of VOCs. 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 seven samples (7/12) at concentrations ranging from 0.00104 mg/L (MW-312S) to 5.28 mg/L (MW-312D), with three samples (3/12) exceeding the GB Groundwater Objective of 0.14 mg/L (MW-312D, MW-326S, and MW-333D). Naphthalene was detected in nine samples (9/12) at concentrations ranging from 0.0015 mg/L (MW-333S) to 7.26 mg/L (MW-312D), with two samples (2/12) exceeding the Method 2 derived GB Groundwater Objective of 2.67 mg/L (MW-312D and MW-339D). Ethylbenzene was detected in seven samples (7/12) at concentrations ranging from 0.0016 mg/L (MW-314S) to 1.76 mg/L (MW-312D), with one sample (1/12) exceeding the GB Groundwater Objective of 1.6 mg/L (MW-312D).

Analytical VOC results for the FGPA in 2018 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-326S, and MW-333D), with the exception of MW-339D, which is located east of the location of former Gasholders No. 7 and 8.

FPPA (A.P. 65B Lot 645)

Five (5) groundwater samples (M&E MW-2, MW-6, MW-109, MW-316D and MW-337) were collected in this area during the 2018 monitoring event and submitted for VOC analysis. The groundwater samples collected from M&E MW-2 and MW-337 had no VOCs detected during the 2018 event. Benzene was detected in two samples (2/5) at concentration ranging from 0.0405 mg/L (MW-6) to 0.0455 mg/L (MW-109), 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 0.00159 mg/L (MW-109 to 0.043 mg/L (MW-6), with no exceedances of the GB Groundwater Objective of 1.6 mg/L. Naphthalene was detected in two (2/5) samples at concentrations ranging from 0.007 mg/L (MW-109) to 0.0094 mg/L (MW-6), with no exceedances of the Method 2 derived GB Groundwater Objective of 2.67 mg/L.

Historically, exceedances of the GB Groundwater Objectives have not been detected in the FPPA with the exception of the detected concentration of benzene from MW-109. As indicated in Table 5Q, benzene was detected at concentrations of 0.171 mg/L and 0.312 mg/L in November 2015 and November 2016, respectively, exceeding the GB Groundwater Objective of 0.14 mg/L. MW-109 is located near the existing switching station (former power plant building) and a former UST.

SFA (A.P. 65B Lots 647 and 649, portions of A.P. 65B Lot 648 and portions of A.P. 67B Lot 11 and 21)

Five (5) groundwater samples were collected from this area during the 2018 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 no VOCs detected during the 2018 event. Benzene was detected in three samples (3/5) at concentrations ranging from 0.0014 mg/L (MW-334D) to 0.0758 mg/L (MW-318S), with no exceedances of the GB Groundwater Objective of 0.14 mg/L. Ethylbenzene was detected in one (1/5) sample, MW-318S, at a concentration of 0.0084 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 0.0105 mg/L (MW-334D) to 0.842 mg/L (MW-318S), with no exceedances of the Method 2 derived GB 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 2018 sampling event.

4.0 CONCLUSIONS

As part of the annual groundwater monitoring for 2018, twenty-five (25) monitoring wells were sampled in October 2018 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 2018 were consistent with historic results as summarized below:

- Sheen observations were consistent with historic observations and were limited to the bulkhead area in the southern portion of the shoreline in the FGPA and the central portion of the FPPA near the CSO. Sheen observations were limited to localized and immediate areas of the shoreline and were observed at various tidal stages.
- Measurable NAPL (greater than 0.01 feet) was limited to eight (8) monitoring well locations in 2018. LNAPL was observed in five (5) monitoring wells (4 in the FGPA and 1 in the FPPA) and DNAPL was observed in three (3) monitoring wells (2 in the FGPA and 1 in the SFA). LNAPL thicknesses ranged from 0.08 to 1.2 feet and DNAPL thicknesses ranged from 0.10 to 14.3 feet. Approximately 13.7 gallons of NAPL/groundwater were 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. Typical of MGP sites, recovery attempts suggest that observed NAPLs are unlikely to be significantly mobile in the subsurface.
- Exceedances of the GB Groundwater Objectives were limited to five (5/25) wells sampled during the 2018 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.

The 2019 monitoring program will be performed consistent with the 2018 program.

TABLES

TABLE 1
SUMMARY OF SHEEN OBSERVATIONS

Former Tidewater Facility
Pawtucket, Rhode Island

Date	Approximate Tidal Stage	Sheen Observation Location	Sheen Characteristics
1/11/2018	High	No sheens observed (ice present along shoreline)	
1/26/2018	Mid-High	CSO pipe outfall washout adjacent to MW-103	Dull bands of sheen
2/9/2018	Low	No sheens observed	
2/21/2018	Mid-Low	CSO pipe outfall washout adjacent to MW-103	Dull bands of sheen
3/7/2018	Mid	CSO pipe outfall washout adjacent to MW-103	Bright bands of sheen
3/23/2018	Low	CSO pipe outfall washout adjacent to MW-103	Moderate-bright bands of sheen
4/9/2018	Low	No sheens observed	
4/25/2018	Mid	CSO pipe outfall washout adjacent to MW-103	Dull bands of sheen
5/9/2018	Mid-Low	CSO pipe outfall washout adjacent to MW-103	Dull-moderate bands of sheen
5/23/2018	Low	CSO pipe outfall washout adjacent to MW-103	Moderate-bright bands of sheen
6/14/2018	High	CSO pipe outfall washout adjacent to MW-103	Dull bands of sheen
6/26/2018	Low	CSO pipe outfall washout adjacent to MW-103	Dull bands of sheen
7/11/2018	Low	CSO pipe outfall washout adjacent to MW-103	Dull bands of sheen
7/27/2018	High	CSO pipe outfall washout adjacent to MW-103	Dull bands of sheen
8/10/2018	High	No sheens observed	
8/23/2018	Low	No sheens observed	
9/7/2018	Low	Adjacent to MW-326 S/D and TB-12/MW-3	Dull bands of sheen
9/21/2018	Low	No sheens observed	
10/4/2018	Low	No sheens observed	
10/18/2018	Mid	CSO pipe outfall washout adjacent to MW-103	Dull-moderate bands of sheen
11/1/2018	High	CSO pipe outfall washout adjacent to MW-103	Dull bands of sheen
11/12/2018	Mid-Low	No sheens observed	
11/29/2018	Low	CSO pipe outfall washout adjacent to MW-103	Dull bands of sheen
12/28/2018	High	CSO pipe outfall washout adjacent to MW-103	Dull bands of sheen

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 approximately twice per month.
6. This table shows observations that were made during 2018. The January 2011 SIDR, July 2011 RAE and previous groundwater monitoring reports presents sheen observations between 2009 and 2017.
7. A portion of the shoreline that includes the location of the CSO outfall adjacent to MW-103 was inaccessible from 8/23/2018 through 10/4/2018 due to security issues. Sheen observations for that time period do not include these inaccessible portions of the shoreline.

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

Site Area	Well ID	Top of PVC Elevation	Range of LNAPL Observed	Range of DNAPL Observed	January 2018 Groundwater Gauging Information								April 2018 Groundwater Gauging Information							
					Depth To Water	Depth to LNAPL	Depth to DNAPL	Measured Total Well Depth	GW Elevation	LNAPL Thickness	DNAPL Thickness	Corrected Groundwater Elevation	Depth To Water	Depth to LNAPL	Depth to DNAPL	Measured Total Well Depth	GW Elevation	LNAPL Thickness	DNAPL Thickness	Corrected Groundwater Elevation
		(feet)	(feet)		(feet)				(feet)	(feet)		(feet)	(feet)				(feet)	(feet)		(feet)
NFA	MW-5	31.31	NP - NP	NP - NP	8.62	-	-	11.9	22.69	NP	NP	22.69	4.9	-	-	11.75	26.41	NP	NP	26.41
NFA	MW-7	31.14	NP - NP	NP - NP	21.27	-	-	22.25	9.87	NP	NP	9.87	16.9	-	-	26.3	14.24	NP	NP	14.24
NFA	MW-204	8.60	NP - NP	NP - NP	6.85	-	-	16.9	1.75	NP	NP	1.75	5.75	-	-	16.71	2.85	NP	NP	2.85
NFA	MW-205	11.47	NP - NP	NP - NP	2.22	-	-	15.2	9.25	NP	NP	9.25	1.45	-	-	14.98	10.02	NP	NP	10.02
NFA	MW-206	36.28	NP - NP	NP - NP	26.8	-	-	29.7	9.48	NP	NP	9.48	25	-	-	29.49	11.28	NP	NP	11.28
NFA	MW-310S	8.76	NP - NP	NP - NP	5.97	-	-	16.91	2.79	NP	NP	2.79	5.55	-	-	16.95	3.21	NP	NP	3.21
NFA	MW-310D	8.31	NP - NP	NP - NP	5.55	-	-	36.65	2.76	NP	NP	2.76	5.3	-	-	36.15	3.01	NP	NP	3.01
NFA	MW-311	9.35	NP - NP	NP - NP	6.8	-	-	22	2.55	NP	NP	2.55	6.3	-	-	21.71	3.05	NP	NP	3.05
FGPA	M&E MW-1	8.39	NP - NP	NP - NP	6.79	-		15.45	1.60	NP	NP	1.60	6.87	-	-	15.57	1.52	NP	NP	1.52
FGPA	MW-201	13.01	NP - NP	NP - NP	7.65	-	-	15.1	5.36	NP	NP	5.36	6.1	-	-	15	6.91	NP	NP	6.91
FGPA	MW-202	13.61	NP - NP	NP - NP	3.6	-	-	13.91	10.01	NP	NP	10.01	2	-	-	13.77	11.61	NP	NP	11.61
FGPA	MW-203	9.45	NP - NP	NP - NP	7.08	-	-	15	2.37	NP	NP	2.37	5.25	-	-	14.75	4.20	NP	NP	4.20
FGPA	MW-207 (2)	Destroyed			Destroyed								Destroyed							
FGPA	MW-208	27.33	NP - NP	NP - NP	15.6	-	-	21.85	11.73	NP	NP	11.73	11.61	-	-	21.7	15.72	NP	NP	15.72
FGPA	MW-209	23.90	NP - NP	NP - NP	12.23	-	-	21.25	11.67	NP	NP	11.67	8.45	-	-	21	15.45	NP	NP	15.45
FGPA	MW-210	10.61	0.09 - 0.90	NP - NP	9	8.35	-	17.64	1.61	**0.65**	NP	2.16	6.4	5.5	-	17.4	4.21	**0.9**	NP	4.98
FGPA	MW-3	10.59	trace - 0.08	NP - NP	8.65	8.65	-	16.86	1.94	**trace**	NP	1.94	9.89	9.89	-	16.91	0.70	**trace**	NP	0.70
FGPA	MW-4	9.92	NP - NP	trace - trace	11.6	-	16.33	16.33	-1.68	NP	**trace**	-1.68	9.48	-	16.33	16.33	0.44	NP	**trace**	0.44
FGPA	MW-303	8.48	NP - NP	3.18 - 5.85	9.35	-	39.15	42.33	-0.87	NP	**3.18**	-0.87	8.35	-	36.45	42.3	0.13	NP	**5.85**	0.13
FGPA	MW-312S	9.94	0.62 - 1.20	NP - NP	10.31	9.55	-	23.59	-0.37	**0.76**	NP	0.27	8.4	7.78	-	23.6	1.54	**0.62**	NP	2.06
FGPA	MW-312D	9.82	NP - NP	NP - NP	10.73	-	-	32.21	-0.91	NP	NP	-0.91	9.18	-	-	32.15	0.64	NP	NP	0.64
FGPA	MW-313S	11.14	trace - 0.70	NP - NP	9.4	8.7	-	24.7	1.74	**0.7**	NP	2.33	9	9	-	24.85	2.14	**trace**	NP	2.14
FGPA	MW-313D	11.33	NP - NP	NP - NP	8.61	-	-	47.85	2.72	NP	NP	2.72	10.19	-	-	47.7	1.14	NP	NP	1.14
FGPA	MW-314S	9.58	NP - NP	NP - NP	8.09	-	-	24.4	1.49	NP	NP	1.49	8.2	-	-	24.25	1.38	NP	NP	1.38
FGPA	MW-314D	9.59	NP - NP	NP - NP	8	-	-	43.9	1.59	NP	NP	1.59	8.45	-	-	43.1	1.14	NP	NP	1.14
FGPA	MW-326S	11.90	NP - trace	NP - NP	9.53	-	-	26.7	2.37	NP	NP	2.37	10.4	-	-	26.45	1.50	NP	NP	1.50
FGPA	MW-326D	11.26	NP - NP	NP - NP	8.75	-	-	45.35	2.51	NP	NP	2.51	9.7	-	-	45.4	1.56	NP	NP	1.56
FGPA	MW-333S	11.67	NP - NP	NP - NP	8.95	-	-	17.51	2.72	NP	NP	2.72	9.71	-	-	17.21	1.96	NP	NP	1.96
FGPA	MW-333D	11.56	NP - NP	NP - NP	9	-	-	45.55	2.56	NP	NP	2.56	9.7	-	-	44.75	1.86	NP	NP	1.86
FGPA	MW-335S	10.75	NP - NP	NP - NP	7.42	7.42	-	15.73	3.33	**trace**	NP	3.33	7.93	7.93	-	15.8	2.82	**trace**	NP	2.82
FGPA	MW-335D	11.24	NP - NP	NP - NP	10.14	-	-	36.44	1.10	NP	NP	1.10	9.11	-	-	36.52	2.13	NP	NP	2.13
FGPA	MW-336	11.87	NP - NP	NP - NP	10.73	-	-	15.09	1.14	NP	NP	1.14	8.41	-	-	15	3.46	NP	NP	3.46
FGPA	MW-339S	14.52	NP - NP	NP - NP	6.1	-	-	12.5	8.42	NP	NP	8.42	4	-	-	12.35	10.52	NP	NP	10.52
FGPA	MW-339D	14.80	NP - NP	NP - trace	6.01	-	-	21.5	8.79	NP	NP	8.79	4.11	-	-	21.15	10.69	NP	NP	10.69
FGPA	MW-341	18.70	NP - NP	0.10 - 0.50	8.94	-	29.86	30.12	9.76	NP	**0.26**	9.76	5.7	-	29.7	30.2	13.00	NP	**0.5**	13.00

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

Site Area	Well ID	Top of PVC Elevation	Range of LNAPL Observed	Range of DNAPL Observed	January 2018 Groundwater Gauging Information								April 2018 Groundwater Gauging Information							
					Depth To Water	Depth to LNAPL	Depth to DNAPL	Measured Total Well Depth	GW Elevation	LNAPL Thickness	DNAPL Thickness	Corrected Groundwater Elevation	Depth To Water	Depth to LNAPL	Depth to DNAPL	Measured Total Well Depth	GW Elevation	LNAPL Thickness	DNAPL Thickness	Corrected Groundwater Elevation
FPPA	M&E MW-2	9.97	NP - NP	NP - NP	8.49	-	-	13.83	1.48	NP	NP	1.48	7.77	-	-	13.8	2.20	NP	NP	2.20
FPPA	M&E MW-4 (1)	Not Found			Not Found								Not Found							
FPPA	M&E MW-5 (3)	8.14	NP - 1.10	NP - NP	7.85	7.65	-	14.55	0.29	**0.2**	NP	0.46	8.18	7.45	-	14.63	-0.04	**0.73**	NP	0.58
FPPA	MW-6	12.73	NP - NP	NP - NP	11.83	-	-	18.95	0.90	NP	NP	0.90	11.35	-	-	18.9	1.38	NP	NP	1.38
FPPA	MW-101	10.15	NP - NP	NP - NP	9.58	-	-	16.09	0.57	NP	NP	0.57	9	-	-	16.21	1.15	NP	NP	1.15
FPPA	MW-102	18.86	NP - NP	NP - NP	18.05	-	-	27.18	0.81	NP	NP	0.81	12.43	-	-	26.95	6.43	NP	NP	6.43
FPPA	MW-103	10.56	NP - NP	NP - NP	9.2	-	-	16.95	1.36	NP	NP	1.36	8.97	-	-	17.05	1.59	NP	NP	1.59
FPPA	MW-104	10.72	NP - NP	NP - NP	10.05	-	-	14.9	0.67	NP	NP	0.67	9.36	-	-	14.92	1.36	NP	NP	1.36
FPPA	MW-105	21.35	NP - NP	NP - NP	20.02	-	-	27.97	1.33	NP	NP	1.33	19.72	-	-	27.82	1.63	NP	NP	1.63
FPPA	MW-109	13.33	NP - NP	NP - NP	11	-	-	19.6	2.33	NP	NP	2.33	9.45	-	-	19.15	3.88	NP	NP	3.88
FPPA	MW-315S	10.15	NP - NP	NP - NP	9.09	-	-	25.8	1.06	NP	NP	1.06	8.48	-	-	25.71	1.67	NP	NP	1.67
FPPA	MW-315D	9.82	NP - NP	NP - NP	10.2	-	-	42.07	-0.38	NP	NP	-0.38	8.3	-	-	42.06	1.52	NP	NP	1.52
FPPA	MW-316S	23.81	NP - NP	NP - NP	22.02	-	-	22.87	1.79	NP	NP	1.79	20.42	-	-	23.00	3.39	NP	NP	3.39
FPPA	MW-316D	23.97	NP - NP	NP - NP	22.08	-	-	31.89	1.89	NP	NP	1.89	20.45	-	-	31.94	3.52	NP	NP	3.52
FPPA	MW-317S	24.65	NP - NP	NP - NP	23.6	-	-	27.33	1.05	NP	NP	1.05	22.99	-	-	27.6	1.66	NP	NP	1.66
FPPA	MW-317D	24.72	NP - NP	NP - NP	22.4	-	-	36.5	2.32	NP	NP	2.32	20.64	-	-	36.75	4.08	NP	NP	4.08
FPPA	MW-337	12.75	NP - NP	NP - NP	11.9	-	-	20.1	0.85	NP	NP	0.85	11.3	-	-	20.08	1.45	NP	NP	1.45
FPPA	MW-338S	13.18	NP - NP	NP - NP	12.25	-	-	18.45	0.93	NP	NP	0.93	11.85	-	-	18.7	1.33	NP	NP	1.33
FPPA	MW-338D	12.73	NP - NP	NP - NP	12	-	-	40	0.73	NP	NP	0.73	10.38	-	-	40.12	2.35	NP	NP	2.35
FPPA	MW-400 (5)	28.85	NP - NP	NP - NP	18.19	-	-	24.64	10.66	NP	NP	10.66	14.02	-	-	24.53	14.83	NP	NP	14.83
FPPA	MW-401 (5)	24.18	NP - NP	NP - NP	13.53	-	-	19.42	10.65	NP	NP	10.65	9.54	-	-	19.17	14.64	NP	NP	14.64
SFA	MW-1	18.88	NP - NP	NP - trace	17.79	-	23.35	23.35	1.09	NP	**trace**	1.09	17.01	-	-	23.4	1.87	NP	NP	1.87
SFA	MW-107	21.08	NP - NP	NP - NP	19.93	-	-	27.84	1.15	NP	NP	1.15	19.38	-	-	28.08	1.70	NP	NP	1.70
SFA	MW-318S	18.14	NP - NP	NP - NP	17.26	-	-	27.3	0.88	NP	NP	0.88	16.36	-	-	27.1	1.78	NP	NP	1.78
SFA	MW-318D (4)	17.80	NP - NP	NP - NP	18.35	-			-0.55	NP	NP	-0.55	14.95	-			2.85	NP	NP	2.85
SFA	MW-319S	19.12	NP - NP	NP - NP	18.48	-	-	27.29	0.64	NP	NP	0.64	17.34	-	-	27.47	1.78	NP	NP	1.78
SFA	MW-319D	19.56	NP - NP	NP - NP	19.72	-	-	44.2	-0.16	NP	NP	-0.16	16.65	-	-	44.01	2.91	NP	NP	2.91
SFA	MW-320S	7.05	NP - NP	trace - trace	5.98	-	11.05	11.05	1.07	NP	**trace**	1.07	5	-	11.08	11.08	2.05	NP	**trace**	2.05
SFA	MW-320D	8.02	NP - NP	13.45 - 14.26	8.2	-	12.2	25.70	-0.18	NP	**13.5**	-0.18	6.13	-	11.44	25.7	1.89	NP	**14.26**	1.89
SFA	MW-321S	5.87	NP - NP	NP - NP	4.95	-	-	12.56	0.92	NP	NP	0.92	3.97	-	-	12.42	1.90	NP	NP	1.90
SFA	MW-321D	5.89	NP - NP	NP - NP	5.25	-	-	29.4	0.64	NP	NP	0.64	3.15	-	-	29.4	2.74	NP	NP	2.74
SFA	MW-334S	20.54	NP - NP	NP - NP	19.6	-	-	29	0.94	NP	NP	0.94	18.93	-	-	28.32	1.61	NP	NP	1.61
SFA	MW-334D	20.74	NP - NP	NP - NP	20.53	-	-	43.61	0.21	NP	NP	0.21	17.85	-	-	43.7	2.89	NP	NP	2.89

Notes
NFA = North Fill Area
FGPA = Former Gas Plant Area
FPPA = Former Power Plant Area
SFA = South Fill Area
NP - Indicates No Product ob 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. Due to an obstruction in MW-318D, the Measured Total Well Depth could not be measured during the January and April 2018 gauging rounds
5. Well was installed in April 2014.
6. This table presents gauging results from 2018. The January 2011 SIDR,
July 2011 RAE and previous Groundwater Monitoring Reports presents
historical guaging results collected between 2009 and 2017.
7. This table presents top of PVC Elevations surveyed December 2017 using the NAVD 88 Datum.
8. All Elevations are referenced to NAVD88.

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

Site Area	Well ID	Top of PVC Elevation	Range of LNAPL Observed	Range of DNAPL Observed	July 2018 Groundwater Gauging Information								October 2018 Groundwater Gauging Information							
					Depth To Water	Depth to LNAPL	Depth to DNAPL	Measured Total Well Depth	GW Elevation	LNAPL Thickness	DNAPL Thickness	Corrected Groundwater Elevation	Depth To Water	Depth to LNAPL	Depth to DNAPL	Measured Total Well Depth	GW Elevation	LNAPL Thickness	DNAPL Thickness	Corrected Groundwater Elevation
		(feet)	(feet)		(feet)				(feet)	(feet)		(feet)	(feet)				(feet)	(feet)		(feet)
NFA	MW-5	31.31	NP - NP	NP - NP	dry	-	-	12.05	dry	NP	NP	dry	dry	-	-	11.83	dry	NP	NP	dry
NFA	MW-7	31.14	NP - NP	NP - NP	20.33	-	-	28.15	10.81	NP	NP	10.81	19.22	-	-	27.57	11.92	NP	NP	11.92
NFA	MW-204	8.60	NP - NP	NP - NP	5.58	-	-	17.05	3.02	NP	NP	3.02	6.16	-	-	16.73	2.44	NP	NP	2.44
NFA	MW-205	11.47	NP - NP	NP - NP	2.45	-	-	15	9.02	NP	NP	9.02	2.06	-	-	15.13	9.41	NP	NP	9.41
NFA	MW-206	36.28	NP - NP	NP - NP	26.95	-	-	30.05	9.33	NP	NP	9.33	26.3	-	-	29.72	9.98	NP	NP	9.98
NFA	MW-310S	8.76	NP - NP	NP - NP	5.78	-	-	16.95	2.98	NP	NP	2.98	6.03	-	-	16.95	2.73	NP	NP	2.73
NFA	MW-310D	8.31	NP - NP	NP - NP	5.03	-	-	29.15	3.28	NP	NP	3.28	5.53	-	-	29.15	2.78	NP	NP	2.78
NFA	MW-311	9.35	NP - NP	NP - NP	6.42	-	-	22	2.93	NP	NP	2.93	6.74	-	-	22	2.61	NP	NP	2.61
FGPA	M&E MW-1	8.39	NP - NP	NP - NP	7.1	-	-	15	1.29	NP	NP	1.29	7.05	-	-	15.15	1.34	NP	NP	1.34
FGPA	MW-201	13.01	NP - NP	NP - NP	10.69	-	-	15.2	2.32	NP	NP	2.32	9	-	-	14.98	4.01	NP	NP	4.01
FGPA	MW-202	13.61	NP - NP	NP - NP	4.22	-	-	13.77	9.39	NP	NP	9.39	3.2	-	-	13.77	10.41	NP	NP	10.41
FGPA	MW-203	9.45	NP - NP	NP - NP	9.25	-	-	14.7	0.20	NP	NP	0.20	8.05	-	-	14.66	1.40	NP	NP	1.40
FGPA	MW-207 (2)	Destroyed			Destroyed								Destroyed							
FGPA	MW-208	27.33	NP - NP	NP - NP	15.62	-	-	22.7	11.71	NP	NP	11.71	14.54	-	-	22.73	12.79	NP	NP	12.79
FGPA	MW-209	23.90	NP - NP	NP - NP	12.12	-	-	21	11.78	NP	NP	11.78	11.3	-	-	21	12.60	NP	NP	12.60
FGPA	MW-210	10.61	0.09 - 0.90	NP - NP	9.9	9.7	-	17.45	0.71	**0.20**	NP	0.88	8.94	8.85	-	17.52	1.67	**0.09**	NP	1.75
FGPA	MW-3	10.59	trace - 0.08	NP - NP	11.03	10.95	-	16.65	-0.44	**0.08**	NP	-0.37	8.75	8.75	-	16.7	1.84	**trace**	NP	1.84
FGPA	MW-4	9.92	NP - NP	trace - trace	10.85	-	16	16	-0.93	NP	**trace**	-0.93	10.3	-	15.91	15.91	-0.38	NP	**trace**	-0.93
FGPA	MW-303	8.48	NP - NP	3.18 - 5.85	9.1	-	37.2	42.15	-0.62	NP	**4.95**	-0.62	8.72	-	36.4	42	-0.24	NP	**5.60**	-0.24
FGPA	MW-312S	9.94	0.62 - 1.20	NP - NP	10.5	9.3	-	23.5	-0.56	**1.20**	NP	0.46	10.27	9.13	-	23.25	-0.33	**1.14**	NP	0.63
FGPA	MW-312D	9.82	NP - NP	NP - NP	10.15	-	-	31.95	-0.33	NP	NP	-0.33	9.89	-	-	31.96	-0.07	NP	NP	-0.07
FGPA	MW-313S	11.14	trace - 0.70	NP - NP	7.87	7.87	-	24.8	3.27	**trace**	NP	3.27	7.8	7.8	-	24.49	3.34	**trace**	NP	3.34
FGPA	MW-313D	11.33	NP - NP	NP - NP	11.67	-	-	47.6	-0.34	NP	NP	-0.34	11.58	-	-	47.7	-0.25	NP	NP	-0.25
FGPA	MW-314S	9.58	NP - NP	NP - NP	7.05	-	-	24.22	2.53	NP	NP	2.53	7.89	-	-	24.34	1.69	NP	NP	1.69
FGPA	MW-314D	9.59	NP - NP	NP - NP	6.95	-	-	43.3	2.64	NP	NP	2.64	7.9	-	-	43.6	1.69	NP	NP	1.69
FGPA	MW-326S	11.90	NP - trace	NP - NP	12.5	-	-	26.6	-0.60	NP	NP	-0.60	9.95	9.95	-	26.87	1.95	**trace**	NP	1.95
FGPA	MW-326D	11.26	NP - NP	NP - NP	11.69	-	-	45.77	-0.43	NP	NP	-0.43	8.94	-	-	45.15	2.32	NP	NP	2.32
FGPA	MW-333S	11.67	NP - NP	NP - NP	11.95	-	-	17.4	-0.28	NP	NP	-0.28	9.15	-	-	17.45	2.52	NP	NP	2.52
FGPA	MW-333D	11.56	NP - NP	NP - NP	12.02	-	-	45.33	-0.46	NP	NP	-0.46	9.1	-	-	45.05	2.46	NP	NP	2.46
FGPA	MW-335S	10.75	NP - NP	NP - NP	10.45	-	-	15.6	0.30	NP	NP	0.30	8.77	-	-	15.55	1.98	NP	NP	1.98
FGPA	MW-335D	11.24	NP - NP	NP - NP	11.4	-	-	36	-0.16	NP	NP	-0.16	8.7	-	-	36.15	2.54	NP	NP	2.54
FGPA	MW-336	11.87	NP - NP	NP - NP	11.15	-	-	15.25	0.72	NP	NP	0.72	11.07	-	-	15	0.80	NP	NP	0.80
FGPA	MW-339S	14.52	NP - NP	NP - NP	6.7	-	-	12.5	7.82	NP	NP	7.82	5.9	-	-	12.25	8.62	NP	NP	8.62
FGPA	MW-339D	14.80	NP - NP	NP - trace	6.58	-	21.4	21.4	8.22	NP	**trace**	8.22	5.92	-	21.3	21.3	8.88	NP	**trace**	8.88
FGPA	MW-341	18.70	NP - NP	0.10 - 0.50	9.13	-	30	30.1	9.57	NP	**0.10**	9.57	8.1	-	29.8	30.2	10.60	NP	**0.40**	10.60

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

Site Area	Well ID	Top of PVC Elevation	Range of LNAPL Observed	Range of DNAPL Observed	July 2018 Groundwater Gauging Information								October 2018 Groundwater Gauging Information							
					Depth To Water	Depth to LNAPL	Depth to DNAPL	Measured Total Well Depth	GW Elevation	LNAPL Thickness	DNAPL Thickness	Corrected Groundwater Elevation	Depth To Water	Depth to LNAPL	Depth to DNAPL	Measured Total Well Depth	GW Elevation	LNAPL Thickness	DNAPL Thickness	Corrected Groundwater Elevation
FPPA	M&E MW-2	9.97	NP - NP	NP - NP	7.95	-	-	13.52	2.02	NP	NP	2.02	8.44	-	-	13.65	1.53	NP	NP	1.53
FPPA	M&E MW-4 (1)	Not Found			Not Found								Not Found							
FPPA	M&E MW-5 (3)	8.14	NP - 1.10	NP - NP	6.53	-	-	14.7	1.61	NP	NP	1.61	8.45	7.35	-	14.37	-0.31	**1.10**	NP	0.63
FPPA	MW-6	12.73	NP - NP	NP - NP	11.05	-	-	19.23	1.68	NP	NP	1.68	11.6	-	-	18.93	1.13	NP	NP	1.13
FPPA	MW-101	10.15	NP - NP	NP - NP	9.25	-	-	15.95	0.90	NP	NP	0.90	9.35	-	-	16	0.80	NP	NP	0.80
FPPA	MW-102	18.86	NP - NP	NP - NP	17.4	-	-	26.65	1.46	NP	NP	1.46	17.84	-	-	26.51	1.02	NP	NP	1.02
FPPA	MW-103	10.56	NP - NP	NP - NP	8.35	-	-	16.8	2.21	NP	NP	2.21	9	-	-	16.69	1.56	NP	NP	1.56
FPPA	MW-104	10.72	NP - NP	NP - NP	9.6	-	-	14.8	1.12	NP	NP	1.12	9.63	-	-	14.82	1.09	NP	NP	1.09
FPPA	MW-105	21.35	NP - NP	NP - NP	19.87	-	-	27.53	1.48	NP	NP	1.48	19.98	-	-	27.8	1.37	NP	NP	1.37
FPPA	MW-109	13.33	NP - NP	NP - NP	11.05	-	-	19.25	2.28	NP	NP	2.28	10.8	-	-	19.22	2.53	NP	NP	2.53
FPPA	MW-315S	10.15	NP - NP	NP - NP	7.4	-	-	25.3	2.75	NP	NP	2.75	8.71	-	-	25.52	1.44	NP	NP	1.44
FPPA	MW-315D	9.82	NP - NP	NP - NP	7.4	-	-	41.6	2.42	NP	NP	2.42	8.66	-	-	41.63	1.16	NP	NP	1.16
FPPA	MW-316S	23.81	NP - NP	NP - NP	21.7	-	-	22.87	2.11	NP	NP	2.11	21.33	-	-	22.74	2.48	NP	NP	2.48
FPPA	MW-316D	23.97	NP - NP	NP - NP	21.2	-	-	32	2.77	NP	NP	2.77	21.3	-	-	31.4	2.67	NP	NP	2.67
FPPA	MW-317S	24.65	NP - NP	NP - NP	23.15	-	-	27.52	1.50	NP	NP	1.50	23.2	-	-	27.7	1.45	NP	NP	1.45
FPPA	MW-317D	24.72	NP - NP	NP - NP	21.35	-	-	36.33	3.37	NP	NP	3.37	21.34	-	-	36.6	3.38	NP	NP	3.38
FPPA	MW-337	12.75	NP - NP	NP - NP	11.3	-	-	21.7	1.45	NP	NP	1.45	11.56	-	-	19.94	1.19	NP	NP	1.19
FPPA	MW-338S	13.18	NP - NP	NP - NP	12	-	-	18.4	1.18	NP	NP	1.18	11.98	-	-	18.4	1.20	NP	NP	1.20
FPPA	MW-338D	12.73	NP - NP	NP - NP	10.1	-	-	39.52	2.63	NP	NP	2.63	11.52	-	-	39.83	1.21	NP	NP	1.21
FPPA	MW-400 (5)	28.85	NP - NP	NP - NP	16.73	-	-	25.9	12.12	NP	NP	12.12	16.36	-	-	24.25	12.49	NP	NP	12.49
FPPA	MW-401 (5)	24.18	NP - NP	NP - NP	12.24	-	-	19.5	11.94	NP	NP	11.94	11.83	-	-	19.21	12.35	NP	NP	12.35
SFA	MW-1	18.88	NP - NP	NP - trace	17.5	-	-	22.83	1.38	NP	NP	1.38	17.46	-	22.8	22.8	1.42	NP	**trace**	1.42
SFA	MW-107	21.08	NP - NP	NP - NP	19.53	-	-	26.92	1.55	NP	NP	1.55	19.62	-	-	26.75	1.46	NP	NP	1.46
SFA	MW-318S	18.14	NP - NP	NP - NP	16.73	-	-	27.1	1.41	NP	NP	1.41	16.93	-	-	26.85	1.21	NP	NP	1.21
SFA	MW-318D (4)	17.80	NP - NP	NP - NP	16.18	-	-	44.05	1.62	NP	NP	1.62	17.7	-	-	38.33	0.10	NP	NP	0.10
SFA	MW-319S	19.12	NP - NP	NP - NP	18.2	-	-	27.28	0.92	NP	NP	0.92	17.9	-	-	27.17	1.22	NP	NP	1.22
SFA	MW-319D	19.56	NP - NP	NP - NP	18.55	-	-	44	1.01	NP	NP	1.01	18.64	-	-	43.98	0.92	NP	NP	0.92
SFA	MW-320S	7.05	NP - NP	trace - trace	6.25	-	11	11	0.80	NP	**trace**	0.80	5.74	-	10.9	10.9	1.31	NP	**trace**	1.31
SFA	MW-320D	8.02	NP - NP	13.45 - 14.26	6.9	-	12.25	25.7	1.12	NP	**13.45**	1.12	7.55	-	11.75	25.7	0.47	NP	**13.95**	0.47
SFA	MW-321S	5.87	NP - NP	NP - NP	4.8	-	-	12.8	1.07	NP	NP	1.07	4.54	-	-	10.92	1.33	NP	NP	1.33
SFA	MW-321D	5.89	NP - NP	NP - NP	4.85	-	-	29.2	1.04	NP	NP	1.04	4.3	-	-	28.95	1.59	NP	NP	1.59
SFA	MW-334S	20.54	NP - NP	NP - NP	19.15	-	-	28.43	1.39	NP	NP	1.39	19.22	-	-	28.07	1.32	NP	NP	1.32
SFA	MW-334D	20.74	NP - NP	NP - NP	19	-	-	43.41	1.74	NP	NP	1.74	20.05	-	-	43.4	0.69	NP	NP	0.69

Notes
NFA = North Fill Area
FGPA = Former Gas Plant Area
FPPA = Former Power Plant Area
SFA = South Fill Area
NP - Indicates No Product ob 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. Due to an obstruction in MW-318D, the Measured Total Well Depth could not be measur
5. Well was installed in April 2014.
6. This table presents gauging results from 2018. The January 2011 SIDR,
July 2011 RAE and previous Groundwater Monitoring Reports presents
historical guaging results collected between 2009 and 2017.
7. This table presents top of PVC Elevations surveyed December 2017 using the NAVD 88 I
8. All Elevations are referenced to NAVD88.

TABLE 2B
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	6/23/2010	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
	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**
MW-4 (2) (3)		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**
MW-312S				NP	NP		**0.45**	**0.13**	trace	trace	trace	trace	**0.20**	**0.28**	**0.01**	**0.14**	**0.25**
MW-313S			0.10		trace		NP	NP	NP	**4.52**	**0.22**	**0.04**	**0.05**	**0.02**	trace	**0.01**	**0.02**
MW-326S					NP		trace	**0.30**	trace	NP	trace	trace	**0.03**	**0.01**	trace	**0.01**	**0.02**
MW-335S	NP	NP	NP	NP	NP		NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
	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**
MW-102 (4) (6)	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**
MW-109 (4)	NP	NP			NP		NP		NP		NP		NP				NP
MW-314S			0.01	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
Well is Located in South Fill 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 2B
LIGHT NON-AQUEOUS PHASE LIQUID (LNAPL) WELL GAUGING DATA

Former Tidewater Facility
Pawtucket, Rhode Island

	LNAPL Thickness (feet)																
Date	10/18/2011	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)	**0.05**	**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	NP
MW-210 (3)	**1.03**	**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	**0.48**	**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	**0.09**	NP	NP	trace	NP	NP	NP	trace	NP	trace	**0.05**	**0.01**	NP	trace	**0.06**	**0.03**	trace
MW-326S	**0.03**	NP	NP	NP	NP	NP	NP	NP	trace	trace	**0.02**	NP	NP	NP	NP	NP	trace
MW-335S	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
	Former Power Plant Area																
M&E MW-5 (5)	**0.05**	**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	NP
MW-103 (4)	trace	**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	NP
MW-314S	NP	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
Well is Located in South Fill 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 2B
LIGHT NON-AQUEOUS PHASE LIQUID (LNAPL) WELL GAUGING DATA

Former Tidewater Facility
Pawtucket, Rhode Island

	LNAPL Thickness (feet)											
Date	1/21/2016	4/30/2016	7/20/2016	11/1/2016	1/27/2017	4/21/2017	7/12/2017	10/3/2017	1/19/2018	4/17/2018	7/17/2018	10/23/2018
	Former Gas Plant Area											
MW-3 (1) (3)	trace	**0.01**	NP	NP	trace	NP	trace	NP	trace	trace	**0.08**	trace
MW-4 (2) (3)	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
MW-210 (3)	**1.83**	**1.93**	trace	NP	**1.95**	**2.06**	**0.9**	NP	**0.65**	**0.90**	**0.20**	**0.09**
MW-312S	**1.65**	**3.06**	**1.39**	NP	**1.05**	**0.1**	**0.8**	**0.93**	**0.76**	**0.62**	**1.2**	**1.14**
MW-313S	trace	**0.06**	NP	trace	trace	trace	NP	trace	**0.70**	trace	trace	trace
MW-326S	trace	NP	NP	trace	NP	trace	NP	trace	NP	NP	NP	trace
MW-335S	NP	NP	NP	NP	NP	NP	**0.01**	trace	trace	trace	NP	NP
	Former Power Plant Area											
M&E MW-5 (5)	**0.02**	**2.95**	NP	trace	**0.68**	**0.99**	NP	NP	**0.20**	**0.73**	NP	**1.1**
MW-102 (4) (6)	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
MW-103 (4)	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
MW-109 (4)	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

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 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
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-339S								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 2C
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-339S	NP	NP	NP	NP	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 2C
DENSE NON-AQUEOUS PHASE LIQUID (DNAPL) WELL GAUGING DATA

Former Tidewater Facility
Pawtucket, Rhode Island

	DNAPL Thickness (feet)											
Date	1/21/2016	4/30/2016	7/20/2016	11/1/2016	1/27/2017	4/21/2017	7/12/2017	10/3/2017	1/19/2018	4/17/2018	7/17/2018	10/23/2018
	Former Gas Plant Area											
MW-4 (1) (4)	trace	trace	trace	**0.9**	trace	trace	trace	trace	trace	trace	trace	trace
MW-303	**6.34**	**5.4**	**4.77**	**4.35**	**5.25**	**5.74**	**3.0**	**1.45**	**3.18**	**5.85**	**4.95**	**5.60**
MW-312S	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
MW-313S	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
MW-339S	NP	NP	NP	NP	trace	NP	NP	NP	NP	NP	NP	NP
MW-339D	trace	**0.2**	trace	NP	trace	trace	trace	trace	NP	NP	trace	trace
MW-341	**2.55**	**2.35**	**2.35**	**1.95**	**0.76**	**0.35**	**0.61**	**0.31**	**0.26**	**0.50**	**0.10**	**0.40**
	Former Power Plant Area											
MW-103	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
	South Fill Area											
MW-1 (2) (3)	trace	trace	trace	NP	trace	trace	trace	trace	trace	NP	NP	trace
MW-320S	**0.2**	**2.45**	trace	**1.3**	**1.15**	**0.43**	**0.25**	**0.15**	trace	trace	trace	trace
MW-320D	**14**	**13.01**	**13.6**	**14.2**	**14.52**	trace	**14.00**	**14.20**	**13.5**	**14.26**	**13.45**	**13.95**

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	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	
	7/17/2018	7:40	10.95	11.03	16.65	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	
	1/21/2016	14:15	9.32	11.15	17.3	1.50	Low	
	4/30/2016	8:15	8.57	10.5	17.9	1.00	Low	
	1/27/2017	10:30	7.75	9.7	17.4	1.50	Low	
	4/21/2017	10:15	8.14	10.2	18.15	0.25	Low	
	7/13/2017	14:11	7.30	8.20	17.35	1.50	Mid	
	1/19/2018	13:45	8.35	9.00	17.64	0.50	Low	
	4/17/2018	12:26	5.50	6.40	17.4	0.50	Mid	
	7/17/2018	8:55	9.70	9.90	17.45	0.50	Mid	
	10/23/2018	12:40	8.85	8.94	17.52	0.25	Mid	
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		9.92	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	
	1/21/2016	14:30	10.45	12.1	23.5	1.50	Low	
	4/30/2016	8:40	9.35	12.41	23.5	1.00	Low	
	7/20/2016	15:08	10.1	11.49	23.52	0.50	Low	
	1/27/2017	10:30	8.75	9.8	23.82	0.50	Low	
	4/21/2017	10:45	9.39	9.49	20.1	0.25	Low	
	7/13/2017	14:04	8.35	9.15	23.45	1.00	Mid	
	10/3/2017	10:52	9.2	10.13	23.49	1.00	Mid/High	
	1/19/2018	14:43	9.55	10.31	23.59	0.50	Low	
	4/17/2018	13:31	7.78	8.40	23.6	1.50	Low	
	7/17/2018	9:13	9.3	10.50	23.5	1.50	Mid	
	10/23/2018	11:25	9.13	10.27	23.25	2.50	Mid	
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	
	1/18/2018	10:05	8.7	9.4	24.7	1.00	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
	4/30/2016	9:30	8.1	11.05	14.5	0.50	Low	elevations adjusted for broken PVC
	1/27/2017	10:30	6.41	7.09	14.48	0.25	Low	elevations adjusted for broken PVC
	4/21/2017	11:00	7.86	8.85	14.5	0.25	Low	elevations adjusted for broken PVC
	1/19/2018	14:10	7.65	7.85	14.55	0.10	Low	
	4/17/2018	14:37	7.45	8.18	14.63	0.50	Low	
	10/23/2018	12:13	7.35	8.45	14.37	2.00	Mid	
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:

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.
	7/20/2016	15:20	10.02	37.1	41.87	1.25	Low	
	11/2/2016	14:30	9.68	37.85	42.2	<.1	Low	
	4/21/2017	11:15	9.44	36.31	42.05	0.75	Low	Pumped for approximately 30 minutes. Was not able to recover all the DNAPL due to extreme viscosity.
	1/19/2018	15:31	9.35	39.15	42.33	0	Low	Pumped for approximately 30 minutes. Was not able to recover all the DNAPL due to extreme viscosity.
	4/17/2018	13:58	8.35	36.45	42.3	0	Low	Pumped for approximately 30 minutes. Was not able to recover all the DNAPL due to extreme viscosity.
	7/17/2018	8:30	9.1	37.2	42.15	0.5	Mid	Pumped for approximately 30 minutes. Was not able to recover all the DNAPL due to extreme viscosity.
	10/23/2018	12:36	8.72	36.4	42	0	Mid	Pumped for approximately 30 minutes. 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	
	1/21/2016	14:00	9.62	27.6	30.15	1.50	Low	
	4/30/2016	9:15	7.42	27.8	30.15	1	Low	
	7/20/2016	15:35	9.66	27.71	30.06	0.5	Low	
	11/2/2016	15:40	10.92	28.2	30.15	1	Low	
	1/27/2017	10:30	9.81	29.25	30.01	1	Low	
	4/21/2017	11:45	6.93	30.25	30.6	0.2	Low	
	7/13/2017	8:02	6.90	29.55	30.16	1	High	
	10/3/2017	10:33	9.80	29.65	29.96	1	Mid	
	1/19/2018	14:15	8.94	29.86	30.12	0.25	Low	
	4/17/2018	14:13	5.70	29.7	30.2	0.5	Low	
	7/17/2018	9:30	9.13	30	30.1	0.5	Mid	
	10/23/2018	13:30	8.10	29.8	30.2	0.5	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:

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

		Units	RIDEM GB Groundwater UCL	RIDEM GB Groundwater Objective	MW-7 10/25/2018 1810775-05 Aqueous	MW-310S 10/24/2018 1810775-03 Aqueous	MW-310D 10/24/2018 1810775-02 Aqueous	MW-201 10/25/2018 1810775-07 Aqueous	MW-208 10/25/2018 1810775-06 Aqueous	MW-312S 10/25/2018 1810776-15 Aqueous	MW-312D 10/25/2018 1810776-14 Aqueous	MW-314D 10/23/2018 1810776-02 Aqueous	MW-314S 10/23/2018 1810776-01 Aqueous	MW-326S 10/25/2018 1810776-11 Aqueous	MW-326D 10/25/2018 1810775-10 Aqueous
EPA 8260	VOLATILE ORGANICS														
	1,1,1,2-Tetrachloroethane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,1,1-Trichloroethane	mg/L	68	3.1	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	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	< 0.0005	< 0.0005	< 0.0005
	1,1,2-Trichloroethane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,1-Dichloroethane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,1-Dichloroethene	mg/L	23	0.007	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,1-Dichloropropene	mg/L	NE	NE	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	1,2,3-Trichlorobenzene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,2,3-Trichloropropane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,2,4-Trichlorobenzene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,2,4-Trimethylbenzene	mg/L	NE	NE	< 0.001	< 0.001	**D 0.338**	**0.0011**	< 0.001	**D 0.106**	**D 0.32**	< 0.001	**0.0046**	**0.0178**	< 0.001
	1,2-Dibromo-3-Chloropropane	mg/L	NE	0.002	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	1,2-Dibromoethane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,2-Dichlorobenzene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,2-Dichloroethane	mg/L	670	0.11	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,2-Dichloropropane	mg/L	140	3	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,3,5-Trimethylbenzene	mg/L	NE	NE	< 0.001	< 0.001	**D 0.114**	< 0.001	< 0.001	**0.0042**	**0.015**	< 0.001	< 0.001	**0.0092**	< 0.001
	1,3-Dichlorobenzene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,3-Dichloropropane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,4-Dichlorobenzene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,4-Dioxane - Screen	mg/L	NE	NE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	1-Chlorohexane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	2,2-Dichloropropane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	2-Butanone	mg/L	NE	NE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
	2-Chlorotoluene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	2-Hexanone	mg/L	NE	NE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
	4-Chlorotoluene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	4-Isopropyltoluene	mg/L	NE	NE	< 0.001	< 0.001	**0.0134**	< 0.001	< 0.001	**0.0016**	**0.008**	< 0.001	< 0.001	< 0.001	< 0.001
	4-Methyl-2-Pentanone	mg/L	NE	NE	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
	Acetone	mg/L	NE	NE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
	Benzene	mg/L	18	0.14	< 0.001	< 0.001	**D 0.419**	**0.0182**	< 0.001	**0.0104**	**D 5.28**	< 0.001	< 0.001	**D 0.189**	< 0.001
	Bromobenzene	mg/L	NE	NE	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	Bromochloromethane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Bromodichloromethane	mg/L	NE	NE	< 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	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Bromomethane	mg/L	NE	NE	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	Carbon Disulfide	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Carbon Tetrachloride	mg/L	NE	0.07	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Chlorobenzene	mg/L	56	3.2	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Chloroethane	mg/L	NE	NE	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	Chloroform	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Chloromethane	mg/L	NE	NE	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	cis-1,2-Dichloroethene	mg/L	69	2.4	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	cis-1,3-Dichloropropene	mg/L	NE	NE	< 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	< 0.001	< 0.001	< 0.001	< 0.001	< 0.00	< 0.001	< 0.00	< 0.001	< 0.001	< 0.00

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 10/25/2018 1810775-05 Aqueous	MW-310S 10/24/2018 1810775-03 Aqueous	MW-310D 10/24/2018 1810775-02 Aqueous	MW-201 10/25/2018 1810775-07 Aqueous	MW-208 10/25/2018 1810775-06 Aqueous	MW-312S 10/25/2018 1810776-15 Aqueous	MW-312D 10/25/2018 1810776-14 Aqueous	MW-314D 10/23/2018 1810776-02 Aqueous	MW-314S 10/23/2018 1810776-01 Aqueous	MW-326S 10/25/2018 1810776-11 Aqueous	MW-326D 10/25/2018 1810775-10 Aqueous
EPA 8260	VOLATILE ORGANICS														
	Dibromomethane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Dichlorodifluoromethane	mg/L	NE	NE	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	Diethyl Ether	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Di-isopropyl ether	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Ethyl tertiary-butyl ether	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Ethylbenzene	mg/L	16	1.6	< 0.001	< 0.001	**D 0.579**	**0.0025**	< 0.001	**D 0.363**	**D 1.76**	< 0.001	**0.0016**	**0.0456**	< 0.001
	Hexachlorobutadiene	mg/L	NE	NE	< 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	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Isopropylbenzene	mg/L	NE	NE	< 0.001	< 0.001	**0.0947**	**0.0073**	< 0.001	**0.0231**	**0.0797**	< 0.001	**0.0038**	**0.02**	< 0.001
	Methyl tert-Butyl Ether	mg/L	NE	5	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Methylene Chloride	mg/L	NE	NE	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	Naphthalene	mg/L	NE	2.67	< 0.001	< 0.001	**D 8.6**	**0.0018**	< 0.001	**D 0.392**	**D 7.26**	< 0.001	**0.0044**	**0.012**	< 0.001
	n-Butylbenzene	mg/L	NE	NE	< 0.001	< 0.001	**0.0134**	**0.0033**	< 0.001	**0.0038**	< 0.001	< 0.001	< 0.001	**0.0032**	< 0.001
	n-Propylbenzene	mg/L	NE	NE	< 0.001	< 0.001	**0.0354**	**0.0061**	< 0.001	**0.0098**	**0.0296**	< 0.001	< 0.001	**0.007**	< 0.001
	sec-Butylbenzene	mg/L	NE	NE	< 0.001	< 0.001	**0.0025**	< 0.001	< 0.001	**0.0014**	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Styrene	mg/L	50	2.2	< 0.001	< 0.001	**0.0153**	**0.0043**	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	tert-Butylbenzene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Tertiary-amyl methyl ether	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Tetrachloroethene	mg/L	NE	0.15	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Tetrahydrofuran	mg/L	NE	NE	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	Toluene	mg/L	21	1.7	< 0.001	< 0.001	**D 0.115**	< 0.001	< 0.001	**0.0024**	**0.007**	< 0.001	< 0.001	**0.0011**	< 0.001
	trans-1,2-Dichloroethene	mg/L	79	2.8	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	trans-1,3-Dichloropropene	mg/L	NE	NE	< 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	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Trichlorofluoromethane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Vinyl Acetate	mg/L	NE	NE	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	Vinyl Chloride	mg/L	NE	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Xylene O	mg/L	NE	NE	< 0.001	< 0.001	D **0.372**	**0.0016**	< 0.001	**0.0557**	**D 0.468**	< 0.001	**0.0142**	**0.0146**	< 0.001
	Xylene P,M	mg/L	NE	NE	< 0.002	< 0.002	D **0.408**	< 0.002	< 0.002	**0.0087**	**0.054**	< 0.002	< 0.002	**0.0046**	< 0.002
	Xylenes (Total)	mg/L	NE	NE	< 0.002	< 0.002	D **0.78**	< 0.002	< 0.002	**0.0644**	**D 0.522**	< 0.002	**0.0142**	**0.0192**	< 0.002
	Total VOCs	mg/L	NE	NE	ND	ND	**11.1197**	**0.0462**	ND	**0.9821**	**15.2813**	ND	**0.0286**	**0.3241**	ND

Notes
ND indicates not detected above reporting limit
"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 2018. The January 2011 SIDR, the July 2011 RAE and previous groundwater monitoring reports presents historical analytical results.

Lab results and recorded sampling times indicate a strong likelihood that samples taken from MW-312S were incorrectly labeled as MW-312D and samples taken from MW-312D were incorrectly labeled as MW-312S. The results shown in this table have been corrected accordingly.

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

		Units	RIDEM GB Groundwater UCL	RIDEM GB Groundwater Objective	MW-333S 10/25/2018 1810776-12 Aqueous	MW-333D 10/25/2018 1810776-13 Aqueous	MW-339S 10/25/2018 1810775-08 Aqueous	MW-339D 10/25/2018 1810775-09 Aqueous	MW-6 10/24/2018 1810776-05 Aqueous	MW-109 10/24/2018 1810776-03 Aqueous	MW-316D 10/25/2018 1810775-04 Aqueous	MW-337 10/24/2018 1810776-07 Aqueous	M&E MW-2 10/24/2018 1810776-04 Aqueous
EPA 8260	VOLATILE ORGANICS												
	1,1,1,2-Tetrachloroethane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,1,1-Trichloroethane	mg/L	68	3.1	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	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	< 0.0005
	1,1,2-Trichloroethane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,1-Dichloroethane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,1-Dichloroethene	mg/L	23	0.007	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,1-Dichloropropene	mg/L	NE	NE	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	1,2,3-Trichlorobenzene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,2,3-Trichloropropane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,2,4-Trichlorobenzene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,2,4-Trimethylbenzene	mg/L	NE	NE	< 0.001	D **0.269**	**0.0198**	D **0.421**	**0.003**	**0.0012**	< 0.001	< 0.001	< 0.001
	1,2-Dibromo-3-Chloropropane	mg/L	NE	0.002	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	1,2-Dibromoethane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,2-Dichlorobenzene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,2-Dichloroethane	mg/L	670	0.11	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,2-Dichloropropane	mg/L	140	3	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,3,5-Trimethylbenzene	mg/L	NE	NE	< 0.001	**0.002**	**0.0066**	D **0.135**	**0.0014**	< 0.001	< 0.001	< 0.001	< 0.001
	1,3-Dichlorobenzene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,3-Dichloropropane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,4-Dichlorobenzene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,4-Dioxane - Screen	mg/L	NE	NE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	1-Chlorohexane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	2,2-Dichloropropane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	2-Butanone	mg/L	NE	NE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
	2-Chlorotoluene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	2-Hexanone	mg/L	NE	NE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
	4-Chlorotoluene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	4-Isopropyltoluene	mg/L	NE	NE	< 0.001	**0.0024**	< 0.001	**0.0105**	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	4-Methyl-2-Pentanone	mg/L	NE	NE	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
	Acetone	mg/L	NE	NE	< 0.01	< 0.01	< 0.01	**0.272**	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
	Benzene	mg/L	18	0.14	< 0.001	D **0.775**	**0.0017**	**0.0011**	**0.0405**	**0.0455**	< 0.001	< 0.001	< 0.001
	Bromobenzene	mg/L	NE	NE	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	Bromochloromethane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Bromodichloromethane	mg/L	NE	NE	< 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	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Bromomethane	mg/L	NE	NE	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	Carbon Disulfide	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Carbon Tetrachloride	mg/L	NE	0.07	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Chlorobenzene	mg/L	56	3.2	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Chloroethane	mg/L	NE	NE	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	Chloroform	mg/L	NE	NE	< 0.001	< 0.001	**0.0018**	< 0.001	< 0.001	< 0.001	**0.0043**	< 0.001	< 0.001
	Chloromethane	mg/L	NE	NE	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	cis-1,2-Dichloroethene	mg/L	69	2.4	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	cis-1,3-Dichloropropene	mg/L	NE	NE	< 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	< 0.001	< 0.00	< 0.00	< 0.001	< 0.001	< 0.00	< 0.00	< 0.001

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

		Units	RIDEM GB Groundwater UCL	RIDEM GB Groundwater Objective	MW-333S 10/25/2018 1810776-12 Aqueous	MW-333D 10/25/2018 1810776-13 Aqueous	MW-339S 10/25/2018 1810775-08 Aqueous	MW-339D 10/25/2018 1810775-09 Aqueous	MW-6 10/24/2018 1810776-05 Aqueous	MW-109 10/24/2018 1810776-03 Aqueous	MW-316D 10/25/2018 1810775-04 Aqueous	MW-337 10/24/2018 1810776-07 Aqueous	M&E MW-2 10/24/2018 1810776-04 Aqueous
EPA 8260	VOLATILE ORGANICS												
	Dibromomethane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Dichlorodifluoromethane	mg/L	NE	NE	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	Diethyl Ether	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Di-isopropyl ether	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Ethyl tertiary-butyl ether	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Ethylbenzene	mg/L	16	1.6	< 0.001	**D 0.607**	< 0.001	**0.0613**	**0.043**	**0.0159**	< 0.001	< 0.001	< 0.001
	Hexachlorobutadiene	mg/L	NE	NE	< 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	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Isopropylbenzene	mg/L	NE	NE	< 0.001	**0.0585**	< 0.001	**0.0665**	**0.0045**	**0.0168**	< 0.001	< 0.001	< 0.001
	Methyl tert-Butyl Ether	mg/L	NE	5	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Methylene Chloride	mg/L	NE	NE	< 0.002	< 0.002	< 0.002	0.003	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	Naphthalene	mg/L	NE	2.67	**0.0015**	**D 1.93**	**D 0.842**	**D 5.18**	**0.0094**	**0.007**	< 0.001	< 0.001	< 0.001
	n-Butylbenzene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	**0.0016**	**0.0067**	< 0.001	< 0.001	< 0.001
	n-Propylbenzene	mg/L	NE	NE	< 0.001	**0.0251**	< 0.001	**0.0353**	**0.0038**	**0.009**	< 0.001	< 0.001	< 0.001
	sec-Butylbenzene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	**0.0019**	< 0.001	**0.0022**	< 0.001	< 0.001	< 0.001
	Styrene	mg/L	50	2.2	< 0.001	**0.0015**	**0.0011**	**0.0156**	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	tert-Butylbenzene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Tertiary-amyl methyl ether	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Tetrachloroethene	mg/L	NE	0.15	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Tetrahydrofuran	mg/L	NE	NE	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	Toluene	mg/L	21	1.7	< 0.001	**0.0046**	**0.0012**	**0.0332**	**0.0077**	**0.0014**	< 0.001	< 0.001	< 0.001
	trans-1,2-Dichloroethene	mg/L	79	2.8	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	trans-1,3-Dichloropropene	mg/L	NE	NE	< 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	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Trichlorofluoromethane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Vinyl Acetate	mg/L	NE	NE	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	Vinyl Chloride	mg/L	NE	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Xylene O	mg/L	NE	NE	< 0.001	**D 0.183**	**0.002**	**D 0.237**	**0.0499**	**0.0113**	< 0.001	< 0.001	< 0.001
	Xylene P,M	mg/L	NE	NE	< 0.002	**0.025**	**0.003**	**D 0.301**	**0.0079**	< 0.002	< 0.002	< 0.002	< 0.002
	Xylenes (Total)	mg/L	NE	NE	< 0.002	**D 0.208**	**0.005**	**D 0.538**	**0.0579**	**0.0113**	< 0.002	< 0.002	< 0.002
	Total VOCs	mg/L	NE	NE	**0.0015**	**3.8831**	**0.8792**	**6.7744**	**0.1727**	**0.1170**	**0.0043**	ND	ND

Notes
ND indicates not detected above reporting limit
"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 2018. The January 2011 SIDR, the July 2011 RAE and previous groundwater monitoring reports presents historical analytical results.

Lab results and recorded sampling times indicate a strong likelihood that samples taken from MW-312S were incorrectly labeled as MW-312D and samples taken from MW-312D were incorrectly labeled as MW-312S. The results shown in this table have been corrected accordingly.

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

		Units	RIDEM GB Groundwater UCL	RIDEM GB Groundwater Objective	MW-107 10/24/2018 1810776-09 Aqueous	MW-318D 10/25/2018 1810776-16 Aqueous	MW-318S 10/24/2018 1810775-01 Aqueous	MW-334S 10/24/2018 1810776-08 Aqueous	MW-334D 10/24/2018 1810776-10 Aqueous
EPA 8260	VOLATILE ORGANICS								
	1,1,1,2-Tetrachloroethane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,1,1-Trichloroethane	mg/L	68	3.1	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	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	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,1-Dichloroethane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,1-Dichloroethene	mg/L	23	0.007	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,1-Dichloropropene	mg/L	NE	NE	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	1,2,3-Trichlorobenzene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,2,3-Trichloropropane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,2,4-Trichlorobenzene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,2,4-Trimethylbenzene	mg/L	NE	NE	< 0.001	< 0.001	**0.0325**	**0.0012**	< 0.001
	1,2-Dibromo-3-Chloropropane	mg/L	NE	0.002	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	1,2-Dibromoethane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,2-Dichlorobenzene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,2-Dichloroethane	mg/L	670	0.11	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,2-Dichloropropane	mg/L	140	3	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,3,5-Trimethylbenzene	mg/L	NE	NE	< 0.001	< 0.001	**0.0138**	< 0.001	< 0.001
	1,3-Dichlorobenzene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,3-Dichloropropane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,4-Dichlorobenzene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	1,4-Dioxane - Screen	mg/L	NE	NE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	1-Chlorohexane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	2,2-Dichloropropane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	2-Butanone	mg/L	NE	NE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
	2-Chlorotoluene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	2-Hexanone	mg/L	NE	NE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
	4-Chlorotoluene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	4-Isopropyltoluene	mg/L	NE	NE	< 0.001	< 0.001	**0.0011**	< 0.001	< 0.001
	4-Methyl-2-Pentanone	mg/L	NE	NE	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
	Acetone	mg/L	NE	NE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
	Benzene	mg/L	18	0.14	< 0.001	< 0.001	**0.0758**	**0.0025**	**0.0014**
	Bromobenzene	mg/L	NE	NE	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	Bromochloromethane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Bromodichloromethane	mg/L	NE	NE	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006
	Bromoform	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Bromomethane	mg/L	NE	NE	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	Carbon Disulfide	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Carbon Tetrachloride	mg/L	NE	0.07	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Chlorobenzene	mg/L	56	3.2	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Chloroethane	mg/L	NE	NE	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	Chloroform	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Chloromethane	mg/L	NE	NE	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	cis-1,2-Dichloroethene	mg/L	69	2.4	< 0.001	< 0.001	< 0.001	< 0.001	**0.0012**
	cis-1,3-Dichloropropene	mg/L	NE	NE	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
	Dibromochloromethane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

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

		Units	RIDEM GB Groundwater UCL	RIDEM GB Groundwater Objective	MW-107 10/24/2018 1810776-09 Aqueous	MW-318D 10/25/2018 1810776-16 Aqueous	MW-318S 10/24/2018 1810775-01 Aqueous	MW-334S 10/24/2018 1810776-08 Aqueous	MW-334D 10/24/2018 1810776-10 Aqueous
EPA 8260	VOLATILE ORGANICS								
	Dibromomethane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Dichlorodifluoromethane	mg/L	NE	NE	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	Diethyl Ether	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Di-isopropyl ether	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Ethyl tertiary-butyl ether	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Ethylbenzene	mg/L	16	1.6	< 0.001	< 0.001	**0.0084**	< 0.001	< 0.001
	Hexachlorobutadiene	mg/L	NE	NE	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006
	Hexachloroethane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Isopropylbenzene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Methyl tert-Butyl Ether	mg/L	NE	5	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Methylene Chloride	mg/L	NE	NE	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	Naphthalene	mg/L	NE	2.67	< 0.001	< 0.001	**0.842**	**0.0384**	**0.0105**
	n-Butylbenzene	mg/L	NE	NE	< 0.001	< 0.001	**0.0024**	< 0.001	< 0.001
	n-Propylbenzene	mg/L	NE	NE	< 0.001	< 0.001	**0.0015**	< 0.001	< 0.001
	sec-Butylbenzene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Styrene	mg/L	50	2.2	< 0.001	< 0.001	**0.0066**	< 0.001	< 0.001
	tert-Butylbenzene	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Tertiary-amyl methyl ether	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Tetrachloroethene	mg/L	NE	0.15	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Tetrahydrofuran	mg/L	NE	NE	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	Toluene	mg/L	21	1.7	< 0.001	< 0.001	**0.064**	**0.0015**	< 0.001
	trans-1,2-Dichloroethene	mg/L	79	2.8	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	trans-1,3-Dichloropropene	mg/L	NE	NE	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
	Trichloroethene	mg/L	87	0.54	< 0.001	< 0.001	< 0.001	< 0.001	**0.0022**
	Trichlorofluoromethane	mg/L	NE	NE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Vinyl Acetate	mg/L	NE	NE	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	Vinyl Chloride	mg/L	NE	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	Xylene O	mg/L	NE	NE	< 0.001	< 0.001	**0.0354**	**0.0014**	< 0.001
	Xylene P,M	mg/L	NE	NE	< 0.002	< 0.002	**0.0811**	< 0.002	< 0.002
	Xylenes (Total)	mg/L	NE	NE	< 0.002	< 0.002	**0.116**	< 0.002	< 0.002
	Total VOCs	mg/L	NE	NE	ND	ND	**1.1646**	**0.0450**	**0.0153**

Notes
ND indicates not detected above reporting limit
"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 2018. The January 2011 SIDR, the July 2011 RAE and previous groundwater monitoring reports presents historical analytical results.

Lab results and recorded sampling times indicate a strong likelihood that samples taken from MW-312S were incorrectly labeled as MW-312D and samples taken from MW-312D were incorrectly labeled as MW-312S. The results shown in this table have been corrected accordingly.

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	MW-334D 10/24/2018 1810776-10 Aqueous	BD-102418 10/24/2018 1810776-06 Aqueous	Trip Blank 10/23/2018 1810776-17 Aqueous
EPA 8260	VOLATILE ORGANICS						
	1,1,1,2-Tetrachloroethane	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	1,1,1-Trichloroethane	mg/L	68	3.1	< 0.001	< 0.001	<0.001
	1,1,2,2-Tetrachloroethane	mg/L	NE	NE	< 0.0005	< 0.0005	<0.0005
	1,1,2-Trichloroethane	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	1,1-Dichloroethane	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	1,1-Dichloroethene	mg/L	23	0.007	< 0.001	< 0.001	<0.001
	1,1-Dichloropropene	mg/L	NE	NE	< 0.002	< 0.002	<0.002
	1,2,3-Trichlorobenzene	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	1,2,3-Trichloropropane	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	1,2,4-Trichlorobenzene	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	1,2,4-Trimethylbenzene	mg/L	NE	NE	< 0.001	- **0.0012**	<0.001
	1,2-Dibromo-3-Chloropropane	mg/L	NE	0.002	< 0.005	< 0.005	<0.005
	1,2-Dibromoethane	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	1,2-Dichlorobenzene	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	1,2-Dichloroethane	mg/L	670	0.11	< 0.001	< 0.001	<0.001
	1,2-Dichloropropane	mg/L	140	3	< 0.001	< 0.001	<0.001
	1,3,5-Trimethylbenzene	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	1,3-Dichlorobenzene	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	1,3-Dichloropropane	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	1,4-Dichlorobenzene	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	1,4-Dioxane - Screen	mg/L	NE	NE	< 0.5	< 0.5	<0.5
	1-Chlorohexane	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	2,2-Dichloropropane	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	2-Butanone	mg/L	NE	NE	< 0.01	< 0.01	<0.01
	2-Chlorotoluene	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	2-Hexanone	mg/L	NE	NE	< 0.01	< 0.01	<0.01
	4-Chlorotoluene	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	4-Isopropyltoluene	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	4-Methyl-2-Pentanone	mg/L	NE	NE	< 0.025	< 0.025	<0.025
	Acetone	mg/L	NE	NE	< 0.01	< 0.01	<0.01
	Benzene	mg/L	18	0.14	**0.0014**	**0.0024**	<0.001
	Bromobenzene	mg/L	NE	NE	< 0.002	< 0.002	<0.002
	Bromochloromethane	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	Bromodichloromethane	mg/L	NE	NE	< 0.0006	< 0.0006	<0.0006
	Bromoform	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	Bromomethane	mg/L	NE	NE	< 0.002	< 0.002	<0.002
	Carbon Disulfide	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	Carbon Tetrachloride	mg/L	NE	0.07	< 0.001	< 0.001	<0.001
	Chlorobenzene	mg/L	56	3.2	< 0.001	< 0.001	<0.001
	Chloroethane	mg/L	NE	NE	< 0.002	< 0.002	<0.002
	Chloroform	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	Chloromethane	mg/L	NE	NE	< 0.002	< 0.002	<0.002
	cis-1,2-Dichloroethene	mg/L	69	2.4	**0.0012**	**0.001**	<0.001
	cis-1,3-Dichloropropene	mg/L	NE	NE	< 0.0004	< 0.0004	<0.0004
	Dibromochloromethane	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	Dibromomethane	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	Dichlorodifluoromethane	mg/L	NE	NE	< 0.002	< 0.002	<0.002
	Diethyl Ether	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	Di-isopropyl ether	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	Ethyl tertiary-butyl ether	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	Ethylbenzene	mg/L	16	1.6	< 0.001	< 0.001	<0.001
	Hexachlorobutadiene	mg/L	NE	NE	< 0.0006	< 0.0006	<0.0006
	Hexachloroethane	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	Isopropylbenzene	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	Methyl tert-Butyl Ether	mg/L	NE	5	< 0.001	< 0.001	<0.001
	Methylene Chloride	mg/L	NE	NE	< 0.002	< 0.002	<0.002
	Naphthalene	mg/L	NE	2.67	**0.0105**	**0.0343**	<0.001
	n-Butylbenzene	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	n-Propylbenzene	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	sec-Butylbenzene	mg/L	NE	NE	< 0.001	< 0.001	<0.001
	Styrene	mg/L	50	2.2	< 0.001	< 0.001	<0.001
	tert-Butylbenzene	mg/L	NE	NE	< 0.001	< 0.001	<0.0010
	Tertiary-amyl methyl ether	mg/L	NE	NE	< 0.001	< 0.001	<0.0010
	Tetrachloroethene	mg/L	NE	0.15	< 0.001	< 0.001	<0.0010
	Tetrahydrofuran	mg/L	NE	NE	< 0.005	< 0.005	<0.0050
	Toluene	mg/L	21	1.7	< 0.001	**0.0015**	<0.0010
	trans-1,2-Dichloroethene	mg/L	79	2.8	< 0.001	< 0.001	<0.0010
	trans-1,3-Dichloropropene	mg/L	NE	NE	< 0.0004	< 0.0004	<0.0004
	Trichloroethene	mg/L	87	0.54	**0.0022**	**0.001**	<0.0010
	Trichlorofluoromethane	mg/L	NE	NE	< 0.001	< 0.001	<0.0010
	Vinyl Acetate	mg/L	NE	NE	< 0.005	< 0.005	<0.0050
	Vinyl Chloride	mg/L	NE	0.002	< 0.001	< 0.001	<0.0010
	Xylene O	mg/L	NE	NE	< 0.001	**0.0012**	<0.0010
	Xylene P,M	mg/L	NE	NE	< 0.002	< 0.002	<0.0020
	Xylenes (Total)	mg/L	NE	NE	< 0.002	< 0.002	<0.0020
	Total VOCs	mg/L	NE	NE	**0.0153**	**0.0426**	ND

Notes
ND indicates not detected above reporting limit
"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.

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	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		July 2010		Dec 2010		July 2011	July 2012	Aug 2013	Oct 2014	Nov 2015	Nov 2016	Oct 2017	Oct 2018
	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)	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	GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		July 2010		Dec 2010	July 2011			July 2012	Aug 2013	Oct 2014	Nov 2015	Nov 2016	Oct 2017	Oct 2018
	RIDEM GB GW UCL	RIDEM GB GW-O							Note (6)										
VOCs (ppm)			Result	Result	Result	DL	Result	DL		Result	DL		Result	Result	Result	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	<0.0010	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007			<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE	<0.02	<0.001	<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
1,2-Dibromo-3-Chloropropane	NE	0.002			<	0.005	<	0.002		<	0.002		<0.005	<0.005	<0.005	<0.005	<0.0050	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
4-Isopropyltoluene	NE	NE											<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Acetone	NE	NE			<	0.025	<	0.010		<	0.010		<0.01	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100
Benzene	18	0.14	<0.02	<0.001	<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Carbon Disulfide	NE	NE								<	0.001		<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07			<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Chloroform	NE	NE		**0.0048**	<	0.001	<	0.001		<	0.001		<0.001	**0.0018**	<0.001	J 0.0005	<0.0010	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4			<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Ethylbenzene	16	1.6	<0.02	<0.001	<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Isopropylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Methyl tert-Butyl Ether	NE	5		<0.001	<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Methylene Chloride	NE	NE			<	0.002	<	0.002		<	0.002		<0.002	<0.002	<0.002	<0.002	<0.0020	<0.0020	<0.0020
Naphthalene	NE	2.67		<0.001	<	0.002	**0.0035**	0.002		<	0.002		<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
n-Butylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
n-Propylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
sec-Butylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Styrene	50	2.2	<0.02		<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
tert-Butylbenzene	NE	NE			<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE											<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Tetrachloroethene	NE	0.15			<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.001	J 0.0003	<0.0010	<0.0010	<0.0010
Toluene	21	1.7	<0.02		<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Trichloroethene	87	0.54			<	0.001	<	0.001		<	0.001		<0.001	0.0003 J	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Vinyl Chloride	NE	0.002			<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Xylene O	NE	NE	<0.02	<0.001	<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Xylene P,M	NE	NE	<0.02	<0.002	<	0.002	<	0.002		<	0.002		<0.002	<0.002	<0.002	<0.002	<0.0020	<0.0020	<0.0020
Xylenes (Total)	NE	NE	<0.04	<0.03	<	0.003	<	0.003		<	0.003		<0.003	<0.002	<0.003	<0.002	<0.0020	<0.0020	<0.0020
Total VOCs	NE	NE	ND	**0.0048**		ND	**0.0035**				ND		ND	**0.0021**	ND	**0.0008**	ND	ND	ND
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	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015	Nov 2016	Oct 2017	Oct 2018
	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	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,2-Dibromo-3-Chloropropane	NE	0.002					<	0.002		<	0.002	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
4-Isopropyltoluene	NE	NE										<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Acetone	NE	NE					<	0.01		<	0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0010	<0.0010	<0.0010
Benzene	18	0.14					<	0.001		<	0.001	**0.0029**	**0.0035**	**0.002**	J 0.0005	<0.0010	<0.0010	<0.0010
Carbon Disulfide	NE	NE								<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chloroform	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Ethylbenzene	16	1.6					<	0.001		<	0.001	**0.0012**	0.0004 J	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Isopropylbenzene	NE	NE					<	0.001		<	0.001	<0.001	0.0004 J	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Methyl tert-Butyl Ether	NE	5					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Methylene Chloride	NE	NE					<	0.002		<	0.002	<0.0020	<0.0020	<0.0020	<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	<0.0010	<0.0010	<0.0010
n-Butylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
n-Propylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
sec-Butylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Styrene	50	2.2					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
tert-Butylbenzene	NE	NE					<	0.001		<	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tetrachloroethene	NE	0.15					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	21	1.7					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Trichloroethene	87	0.54					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Vinyl Chloride	NE	0.002					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Xylene O	NE	NE					<	0.001		<	0.001	<0.001	0.0006 J	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Xylene P,M	NE	NE					<	0.002		<	0.002	<0.002	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Xylenes (Total)	NE	NE					<	0.003		<	0.003	<0.003	0.0006 J	<0.003	<0.0020	<0.0020	<0.0020	<0.0020
Total VOCs	NE	NE						ND			ND	**0.0041**	**0.0049**	**0.0033**	**0.0005**	ND	ND	ND
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	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015	Nov 2016	Oct 2017	Oct 2018
	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	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE					<	0.025		<	0.05	<0.001	**0.13 D**	<0.100	<0.100	<0.0010	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007					<	0.025		<	0.05	<0.001	<0.1 D	<0.100	<0.100	<0.0010	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE					**0.32**	0.025		**0.64**	0.05	**0.712**	**0.473 D**	**0.652**	**0.577**	**0.554**	**0.593 D**	**0.338 D**
1,2-Dibromo-3-Chloropropane	NE	0.002					<	0.050		<	0.10	<0.005	<0.5 D	<0.500	<0.500	<0.0050	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE					**0.84**	0.025		**0.17**	0.05	**0.18**	**0.102 D**	**0.162**	**0.148**	**0.147**	**0.149**	**0.114 D**
4-Isopropyltoluene	NE	NE										**0.017**	<0.1 D	<0.100	**0.015**	**0.013**	**0.0138**	**0.0134**
Acetone	NE	NE					<	0.250		<	0.50	<0.01	<1 D	<1.00	<1.00	<0.0100	<0.0100	<0.0100
Benzene	18	0.14					**0.29**	0.025		**0.65**	0.05	**0.618**	**0.678 D**	**0.652**	**0.739**	**0.617**	**0.713 D**	**0.419 D**
Carbon Disulfide	NE	NE								<	0.05	<0.001	<0.1 D	<0.100	<0.100	<0.0010	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07					<	0.025		<	0.05	<0.001	<0.1 D	<0.100	<0.100	<0.0010	<0.0010	<0.0010
Chloroform	NE	NE					<	0.025		<	0.05	<0.001	<0.1 D	<0.100	<0.100	<0.0010	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4					<	0.025		<	0.05	<0.001	<0.1 D	<0.100	<0.100	<0.0010	<0.0010	<0.0010
Ethylbenzene	16	1.6					**0.4**	0.025		**0.92**	0.05	**1.07**	**0.72 D**	**0.918**	**0.975**	**0.882**	**0.792 D**	**0.579 D**
Isopropylbenzene	NE	NE					**0.05**	0.025		**0.092**	0.05	**0.101**	**0.063 J D**	<0.100	**E 0.108**	**0.0899**	**0.0922**	**0.0947**
Methyl tert-Butyl Ether	NE	5					<	0.025		<	0.05	<0.001	<0.1 D	<0.100	<0.100	<0.100	<0.100	<0.100
Methylene Chloride	NE	NE					<	0.050		<	0.10	<0.002	<0.2 D	<0.200	<0.200	<0.200	<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**	**7.38**	**8.44 D**	**8.6 D**
n-Butylbenzene	NE	NE					<	0.025		<	0.05	<0.001	<0.1 D	<0.100	<0.100	<0.0010	**0.012**	**0.0134**
n-Propylbenzene	NE	NE					<	0.025		<	0.05	**0.0524**	<0.1 D	<0.100	**0.0438**	**0.0347**	**0.0396**	**0.0354**
sec-Butylbenzene	NE	NE					<	0.025		<	0.05	**0.005**	<0.1 D	<0.100	**0.0019**	<0.0010	**0.0014**	**0.0025**
Styrene	50	2.2					<	0.025		<	0.05	<0.001	<0.1 D	<0.100	**0.0235**	**0.0176**	**0.0173**	**0.0153**
tert-Butylbenzene	NE	NE					<	0.025		<	0.05	<0.100	<0.1 D	<0.100	<0.100	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.001	<0.1 D	<0.100	<0.100	<0.100	<0.100	<0.100
Tetrachloroethene	NE	0.15					<	0.025		<	0.05	<0.001	<0.1 D	<0.100	<0.100	<0.100	<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**	**0.154**	**0.178 D**	**0.115 D**
Trichloroethene	87	0.54					<	0.025		<	0.05	<0.001	<0.1 D	<0.100	<0.100	<0.0010	<0.0010	<0.0010
Vinyl Chloride	NE	0.002					<	0.025		<	0.05	<0.001	<0.1 D	<0.100	<0.100	<0.0010	<0.0010	<0.0010
Xylene O	NE	NE					**0.33**	0.025		**0.66**	0.05	**0.735**	**0.489 D**	**0.646**	**0.64**	**0.604**	**0.574 D**	**0.372 D**
Xylene P,M	NE	NE					**0.29**	0.050		**0.67**	0.10	**0.775**	**0.478 D**	**0.659**	**0.709**	**0.608**	**0.573 D**	**0.408 D**
Xylenes (Total)	NE	NE					**0.62**	0.075		**1.33**	0.15	**1.51**	**0.967 D**	**1.3**	**1.35**	**1.21**	**1.15 D**	**0.78 D**
Total VOCs	NE	NE					**6.480**			**10.790**		**14.263**	**9.907**	**12.822**	**13.943**	**12.311**	**12.188**	**11.1197**
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
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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 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	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015	Nov 2016	Oct 2017	Oct 2018
	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	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
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**	**0.0051**	**0.0025**	**0.0011**
1,2-Dibromo-3-Chloropropane	NE	0.002			<	0.005	<	0.005		<	0.005	<0.005	<0.005	<0.005	<0.005	<0.0050	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE		**0.0024**	<	0.001	<	0.001		<	0.001	<0.001	**0.0024**	<0.001	**0.0012**	<0.0010	<0.0010	<0.0010
4-Isopropyltoluene	NE	NE										<0.001	<0.001	<0.001	J 0.0007	<0.0010	<0.0010	<0.0010
Acetone	NE	NE			<	0.025	<	0.025		<	0.025	<0.01	<0.01	<0.01	**0.0239**	<0.0100	<0.0100	<0.0100
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**	**0.0686**	**0.0962**	**0.0182**
Carbon Disulfide	NE	NE								<	0.001	<0.001	<0.001	**0.0094**	**0.0019**	<0.0010	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Chloroform	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
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**	**0.0061**	**0.0145**	**0.0025**
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**	**0.0151**	**0.011**	**0.0073**
Methyl tert-Butyl Ether	NE	5		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Methylene Chloride	NE	NE			<	0.002	<	0.002		<	0.002	<0.002	<0.002	<0.002	<0.002	<0.0020	<0.0020	<0.0020
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**	**0.0028**	**0.003**	**0.0018**
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**	**0.0041**	**0.0023**	**0.0022**
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**	**0.012**	**0.0085**	**0.0061**
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**	**0.0016**	<0.0010	<0.0010
Styrene	50	2.2			<	0.001	<	0.001		<	0.001	<0.001	**0.0043**	**0.0015**	**0.0042**	<0.0010	**0.0032**	**0.0043**
tert-Butylbenzene	NE	NE			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	J 0.0003	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Tetrachloroethene	NE	0.15			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Toluene	21	1.7		**0.0018**	<	0.001	**0.0024**	0.001		<	0.001	<0.001	<0.001	**0.0012**	**0.0026**	<0.0010	<0.0010	<0.0010
Trichloroethene	87	0.54			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Vinyl Chloride	NE	0.002			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
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**	**0.0026**	**0.002**	**0.0016**
Xylene P,M	NE	NE		**0.0024**	<	0.002	<	0.002		<	0.002	<0.002	**0.0051**	<0.002	B <0.0040	<0.0020	<0.0020	<0.0020
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**	**0.0026**	**0.002**	**0.0016**
Total VOCs	NE	NE		**0.1733**	**0.1961**		**0.1986**			**0.1447**		**0.0959**	**0.3987**	**0.2232**	**0.3226**	**0.1206**	**0.1432**	**0.0462**
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	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015	Nov 2016	Oct 2017	Oct 2018
	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	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	**0.0012**	<0.0010	<0.0010	<0.0010
1,2-Dibromo-3-Chloropropane	NE	0.002			<	0.002	<	0.002		<	0.002	<0.005	<0.005	<0.005	<0.005	<0.0050	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	J 0.0003	<0.0010	<0.0010	<0.0010
4-Isopropyltoluene	NE	NE										<0.001	0.0009 J	<0.001	J 0.0003	<0.0010	<0.0010	<0.0010
Acetone	NE	NE			<	0.025	<	0.01		<	0.01	<0.01	<0.01	<0.01	J 0.0080	<0.0100	<0.0100	<0.0100
Benzene	18	0.14		**0.0016**	**0.004**	0.001	<	0.001		<	0.001	**0.0017**	0.0006 J	**0.0016**	**0.0032**	**0.001**	<0.0010	<0.0010
Carbon Disulfide	NE	NE			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Chloroform	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Ethylbenzene	16	1.6		**0.0012**	**0.0033**	0.001	<	0.001		**0.0037**	0.001	**0.005**	**0.0096**	<0.001	**0.0012**	<0.0010	<0.0010	<0.0010
Isopropylbenzene	NE	NE		**0.0126**	**0.011**	0.001	<	0.001		**0.0037**	0.001	**0.0037**	**0.0027**	<0.001	J 0.0004	<0.0010	<0.0010	<0.0010
Methyl tert-Butyl Ether	NE	5		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Methylene Chloride	NE	NE													<0.002	<0.0020	<0.0020	<0.0020
Naphthalene	NE	2.67		**0.0014**	**0.0023**	0.002	<	0.002		**0.0021**	0.002	**0.0028**	<0.001	<0.001	**0.0187**	<0.0010	<0.0010	<0.0010
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	**0.0034**	<0.0010	<0.0010
n-Propylbenzene	NE	NE		**0.0075**	**0.0090**	0.001	<	0.001		**0.0021**	0.001	**0.0019**	**0.0012**	<0.001	<0.001	<0.0010	<0.0010	<0.0010
sec-Butylbenzene	NE	NE		**0.0092**	**0.0074**	0.001	<	0.001		**0.0068**	0.001	**0.0077**	**0.0066**	**0.0032**	**0.0024**	**0.0026**	**0.0033**	<0.0010
Styrene	50	2.2			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	J 0.0001	<0.0010	<0.0010	<0.0010
tert-Butylbenzene	NE	NE			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Tetrachloroethene	NE	0.15			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Toluene	21	1.7		<0.001	**0.0017**	0.001	<	0.001		<	0.001	<0.001	0.0004 J	<0.001	J 0.0004	<0.0010	<0.0010	<0.0010
Trichloroethene	87	0.54			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Vinyl Chloride	NE	0.002			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Xylene O	NE	NE		**0.0036**	**0.0025**	0.001	<	0.001		**0.002**	0.001	**0.0039**	**0.0044**	<0.001	**0.001**	<0.0010	<0.0010	<0.0010
Xylene P,M	NE	NE		<0.002	<	0.002	<	0.002		<	0.002	<0.002	0.0009 J	<0.002	J 0.0011	<0.0020	<0.0020	<0.0020
Xylenes (Total)	NE	NE		**0.0036**	**0.0025**	0.003	<	0.003		**0.002**	0.003	**0.0039**	**0.0053**	<0.003	**0.0021**	<0.0020	<0.0020	<0.0020
Total VOCs	NE	NE		**0.0371**	**0.0560**		**0.0012**			**0.0280**		**0.0421**	**0.0405**	**0.0048**	**0.0383**	**0.0070**	**0.0033**	ND
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	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		July 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015	Nov 2016	Oct 2017	Oct 2018
	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)	Note (3)	Note (3)	Note (3)
VOCs (ppm)							Result	DL		Result	DL	Result	Result	Result	Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE					<	0.025		<	0.05	<0.05	<0.1 D	<0.001	<0.001	<0.0010	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007					<	0.025		<	0.05	<0.05	<0.1 D	<0.001	<0.001	<0.0010	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE					**0.18**	0.025		**0.26**	0.05	**0.186**	**0.104 D**	**0.114**	**0.093**	**0.348**	**0.0876**	**0.106 D**
1,2-Dibromo-3-Chloropropane	NE	0.002					<	0.050		<	0.10	<0.1	<0.5 D	<0.005	<0.005	<0.0050	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE					**0.05**	0.025		**0.063**	0.05	<0.05	**0.024 J D**	**0.0131**	**0.0177**	**0.0055**	**0.0106**	**0.0042**
4-Isopropyltoluene	NE	NE										<0.05	<0.1 D	**0.0026**	**0.0036**	**0.0023**	**0.0026**	**0.0016**
Acetone	NE	NE					<	0.250		<	0.50	<0.5	<1 D	**0.0347**	J 0.0031	<0.0100	<0.010	<0.010
Benzene	18	0.14					**0.052**	0.025		**0.13**	0.05	**0.0685**	<0.1 D	**0.0437**	**0.0295**	**0.0241**	**0.021**	**0.0104**
Carbon Disulfide	NE	NE								<	0.05	<0.05	<0.1 D	**0.0097**	<0.0010	<0.0010	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07					<	0.025		<	0.05	<0.05	<0.1 D	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Chloroform	NE	NE					<	0.025		<	0.05	<0.05	<0.1 D	<0.001	<0.001	<0.0010	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4					<	0.025		<	0.05	<0.05	<0.1 D	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Ethylbenzene	16	1.6					**0.84**	0.025		**1.1**	0.05	**0.856**	**0.546 D**	**0.588**	**0.606**	**0.466**	**0.346 D**	**0.363 D**
Isopropylbenzene	NE	NE					**0.04**	0.025		**0.053**	0.05	<0.05	**0.022 J D**	**0.0235**	**0.0333**	**0.0249**	**0.0189**	**0.0231**
Methyl tert-Butyl Ether	NE	5					<	0.025		<	0.05	<0.05	<0.1 D	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Methylene Chloride	NE	NE					<	0.025		<	0.05	<0.05	<0.1 D	<0.002	<0.002	<0.0020	<0.0020	<0.0020
Naphthalene	NE	2.67					**2.8**	0.050		**4.3**	0.10	**2.85**	**2.03 D**	**2.03**	**1.93**	**0.565**	**0.807 D**	**0.392 D**
n-Butylbenzene	NE	NE					<	0.025		<	0.05	<0.05	<0.1 D	<0.001	**0.005**	<0.0010	**0.0028**	**0.0038**
n-Propylbenzene	NE	NE					<	0.025		<	0.05	<0.05	<0.1 D	**0.0102**	**0.0133**	**0.0102**	**0.0086**	**0.0098**
sec-Butylbenzene	NE	NE					<	0.025		<	0.05	<0.05	<0.1 D	**0.0013**	**0.0018**	**0.0013**	**0.0011**	**0.0014**
Styrene	50	2.2					<	0.025		<	0.05	<0.05	<0.1 D	<0.001	**0.0018**	<0.0010	<0.0010	<0.0010
tert-Butylbenzene	NE	NE					<	0.025		<	0.05	<0.1	<0.1 D	<0.001	J 0.0002	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.1	<0.1 D	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Tetrachloroethene	NE	0.15					<	0.025		<	0.05	<0.05	<0.1 D	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Toluene	21	1.7					<	0.025		<	0.05	<0.05	<0.1 D	**0.0069**	**0.0057**	**0.0048**	**0.0034**	**0.0024**
Trichloroethene	87	0.54					<	0.025		<	0.05	<0.05	<0.1 D	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Vinyl Chloride	NE	0.002					<	0.025		<	0.05	<0.05	<0.1 D	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Xylene O	NE	NE					**0.22**	0.025		**0.24**	0.05	**0.119**	**0.088 J D**	**0.0935**	**0.088**	**0.0867**	**0.0705**	**0.0557**
Xylene P,M	NE	NE					<	0.050		<	0.10	<0.1	**0.027 J D**	**0.0263**	**0.0285**	**0.0154**	**0.0109**	**0.0087**
Xylenes (Total)	NE	NE					**0.22**	0.750		**0.24**	0.150	**0.119**	**0.115 J D**	**0.12**	**0.117**	**0.102**	**0.0813**	**0.0644**
Total VOCs	NE	NE					**4.1800**			**6.1500**		**4.0795**	**2.8410**	**2.9975**	**2.8605**	**1.1902**	**1.391**	**0.9821**
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	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		July 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015	Nov 2016	Oct 2017	Oct 2018
	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	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE					<	0.025		<	0.05	<0.1	<0.1 D	<0.001	<0.001	<0.0010	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007					<	0.025		<	0.05	<0.1	<0.1 D	<0.001	<0.001	<0.0010	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE					**0.31**	0.025		**0.42**	0.05	**0.432**	<0.1 D	**0.378**	**0.321**	**0.348**	**0.357 D**	**0.32 D**
1,2-Dibromo-3-Chloropropane	NE	0.002					<	0.050		<	0.10	<0.5	<0.5 D	<0.005	<0.005	<0.0050	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE					**0.055**	0.025		<	0.05	<0.1	**0.026 J D**	**0.0182**	**0.0272**	**0.0177**	**0.0206**	**0.015**
4-Isopropyltoluene	NE	NE										<0.1	<0.1 D	**0.0063**	**0.0097**	**0.008**	**0.0096**	**0.008**
Acetone	NE	NE					<	0.250		<	0.50	<1	<1 D	<0.01	**0.0216**	**0.0164**	<0.0100	<0.0100
Benzene	18	0.14					**2.5**	0.025		**2.8**	0.05	**2.29**	**3.56 D**	**5.98**	**5.55**	**5.97**	**6.67 D**	**5.28 D**
Carbon Disulfide	NE	NE								<	0.05	<0.1	<0.1 D	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07					<	0.025		<	0.05	<0.1	<0.1 D	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Chloroform	NE	NE					<	0.025		<	0.05	<0.1	<0.1 D	<0.001	<0.001	<0.0010	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4					<	0.025		<	0.05	<0.1	<0.1 D	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Ethylbenzene	16	1.6					**1.2**	0.025		**1.5**	0.05	**1.63**	**1.26 D**	**1.93**	**2.13**	**1.95**	**2.18 D**	**1.76 D**
Isopropylbenzene	NE	NE					**0.062**	0.025		**0.085**	0.05	<0.1	**0.054 J D**	**0.056**	**E 0.102**	**0.0788**	**0.0911**	**0.0797**
Methyl tert-Butyl Ether	NE	5					<	0.025		<	0.05	<0.1	<0.1 D	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Methylene Chloride	NE	NE					<	0.025		<	0.05	<0.1	<0.1 D	<0.002	<0.002	<0.0020	<0.0020	<0.0020
Naphthalene	NE	2.67					**3.4**	0.050		**5.3**	0.10	**6.75**	**4.3 D**	**8.17**	**7.68**	**6.41**	**6.9 D**	**7.26 D**
n-Butylbenzene	NE	NE					<	0.025		<	0.05	<0.1	<0.1 D	<0.001	<0.001	<0.0010	<0.0010	<0.0010
n-Propylbenzene	NE	NE					<	0.025		<	0.05	<0.1	**0.022 J D**	**0.0219**	**0.0389**	**0.0289**	**0.037**	**0.0296**
sec-Butylbenzene	NE	NE					<	0.025		<	0.05	<0.1	<0.1 D	<0.001	**0.0013**	<0.0010	<0.0010	<0.0010
Styrene	50	2.2					<	0.025		<	0.05	<0.1	<0.1 D	**0.0015**	B <0.0020	<0.0010	**0.0017**	<0.0010
tert-Butylbenzene	NE	NE					<	0.025		<	0.05	<0.1	<0.1 D	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.1	<0.1 D	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Tetrachloroethene	NE	0.15					<	0.025		<	0.05	<0.1	<0.1 D	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Toluene	21	1.7					<	0.025		<	0.05	<0.1	<0.1 D	**0.0088**	**0.0093**	**0.0066**	**0.0094**	**0.007**
Trichloroethene	87	0.54					<	0.025		<	0.05	<0.1	<0.1 D	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Vinyl Chloride	NE	0.002					<	0.025		<	0.05	<0.1	<0.1 D	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Xylene O	NE	NE					**0.3**	0.025		**0.41**	0.05	**0.422**	**0.309 D**	**0.515**	**0.494**	**0.542**	**0.613 D**	**0.468 D**
Xylene P,M	NE	NE					<	0.050		<	0.10	<0.2	**0.03 J D**	**0.0448**	**0.052**	**0.043**	**0.0571**	**0.054**
Xylenes (Total)	NE	NE					**0.3**	0.750		**0.41**	0.150	**0.422**	**0.339 D**	**0.56**	**0.546**	**0.585**	**0.67 D**	**0.522 D**
Total VOCs	NE	NE					**7.8**			**10.52**		**11.524**	**9.561**	**17.1305**	**16.437**	**15.987**	**16.9465**	**15.2813**
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	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015	Nov 2016	Oct 2017	Oct 2018
	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	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE					<	0.005		<	0.005	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007					<	0.005		<	0.005	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<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**	**0.0103**	**0.0839**	**0.0178**
1,2-Dibromo-3-Chloropropane	NE	0.002					<	0.010		<	0.010	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<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**	**0.0044**	**0.011**	**0.0092**
4-Isopropyltoluene	NE	NE										**0.0019**	<0.001	<0.0010	J 0.0004	<0.0010	<0.0010	<0.0010
Acetone	NE	NE					<	0.050		<	0.050	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<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**	**0.335**	**0.981 D**	**0.189 D**
Carbon Disulfide	NE	NE								<	0.005	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07					<	0.005		<	0.005	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chloroform	NE	NE					<	0.005		<	0.005	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4					<	0.005		<	0.005	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<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**	**0.0294**	**0.2 D**	**0.0456**
Isopropylbenzene	NE	NE					**0.026**	0.005		**0.051**	0.005	**0.0419**	**0.037**	**0.0287**	**0.034**	**0.0339**	**0.049**	**0.02**
Methyl tert-Butyl Ether	NE	5					<	0.005		<	0.005	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Methylene Chloride	NE	NE					<	0.005		<	0.005	<0.001	<0.0020	<0.0020	<0.0020	<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**	**0.0043**	**0.197**	**0.012**
n-Butylbenzene	NE	NE					<	0.005		<	0.005	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	**0.0032**
n-Propylbenzene	NE	NE					**0.007**	0.005		**0.018**	0.005	**0.0152**	**0.0128**	**0.0098**	**0.0103**	**0.0113**	**0.0156**	**0.007**
sec-Butylbenzene	NE	NE					<	0.005		<	0.005	**0.0015**	<0.001	<0.0010	J 0.0007	<0.0010	<0.0010	<0.0010
Styrene	50	2.2					<	0.005		<	0.005	<0.001	**0.0018**	<0.0010	J 0.0002	<0.0010	<0.0010	<0.0010
tert-Butylbenzene	NE	NE					<	0.005		<	0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tetrachloroethene	NE	0.15					<	0.005		<	0.005	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	21	1.7					<	0.005		**0.006**	0.005	**0.0022**	**0.0025**	**0.0011**	**0.0012**	<0.0010	**0.0026**	**0.0011**
Trichloroethene	87	0.54					<	0.005		<	0.005	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Vinyl Chloride	NE	0.002					<	0.005		<	0.005	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Xylene O	NE	NE					**0.13**	0.005		**0.16**	0.005	**0.0735**	**0.0509**	**0.0126**	**0.0071**	**0.0044**	**0.0618**	**0.0146**
Xylene P,M	NE	NE					**0.015**	0.010		**0.021**	0.010	**0.012**	**0.0132**	**0.0059**	**0.005**	**0.0031**	**0.0131**	**0.0046**
Xylenes (Total)	NE	NE					**0.145**	0.015		**0.181**	0.015	**0.0855**	**0.0641**	**0.0186**	**0.0121**	**0.0075**	**0.0749**	**0.0192**
Total VOCs	NE	NE					**1.093**			**1.318**		**0.8268**	**0.8268**	**0.5179**	**0.657**	**0.4449**	**1.615**	**0.3241**
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	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015	Nov 2016	Oct 2017	Oct 2018
	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	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE					<	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007					<	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<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	<0.0010	<0.0010	<0.0010
1,2-Dibromo-3-Chloropropane	NE	0.002					<	0.0050		<	0.002	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE					**0.0073**	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
4-Isopropyltoluene	NE	NE										<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Acetone	NE	NE					<	0.0250		<	0.010	<0.01	<0.01	<0.0010	<0.0100	**0.0115**	<0.0010	<0.0010
Benzene	18	0.14					**0.26**	0.0025		**0.057**	0.001	**0.0588**	**0.0809**	**0.0049**	**0.002**	**0.0024**	<0.0010	<0.0010
Carbon Disulfide	NE	NE								<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07					<	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chloroform	NE	NE					<	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4					<	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Ethylbenzene	16	1.6					**0.13**	0.0025		**0.017**	0.001	**0.0201**	**0.0401**	**0.0012**	**0.001**	<0.0010	<0.0010	<0.0010
Isopropylbenzene	NE	NE					**0.016**	0.0025		**0.0038**	0.001	**0.0022**	**0.0026**	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Methyl tert-Butyl Ether	NE	5					<	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Methylene Chloride	NE	NE					<	0.0025		<	0.001	<0.0020	<0.0020	<0.0020	<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	<0.0010	<0.0010	<0.0010
n-Butylbenzene	NE	NE					<	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
n-Propylbenzene	NE	NE					**0.0051**	0.0025		**0.0014**	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
sec-Butylbenzene	NE	NE					<	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Styrene	50	2.2					<	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
tert-Butylbenzene	NE	NE					<	0.0025		<	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tetrachloroethene	NE	0.15					<	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	21	1.7					<	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Trichloroethene	87	0.54					<	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Vinyl Chloride	NE	0.002					<	0.0025		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Xylene O	NE	NE					**0.034**	0.0025		**0.0029**	0.001	**0.0038**	**0.01**	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Xylene P,M	NE	NE					**0.0068**	0.0050		<	0.002	<0.002	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Xylenes (Total)	NE	NE					**0.0408**	0.0075		**0.0029**	0.003	**0.0038**	**0.01**	<0.0030	<0.0020	<0.0020	<0.0020	<0.0020
Total VOCs	NE	NE					**0.8012**			**0.1368**		**0.132**	**0.2652**	**0.0087**	**0.003**	**0.0139**	ND	ND
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
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Bold Value	= concentration detected above the Method Reporting Limit.
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(2)	Well was not sampled because there was limited water
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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	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010	Dec 2010		July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015	Nov 2016	Oct 2017	Oct 2018
	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	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE						<	0.001	**0.0097**	0.001	**0.0136**	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,2-Dibromo-3-Chloropropane	NE	0.002						<	0.002	<	0.002	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
4-Isopropyltoluene	NE	NE										<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Acetone	NE	NE						<	0.010	<	0.010	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
Benzene	18	0.14						<	0.001	**0.039**	0.001	**0.0287**	<0.001	<0.0010	<0.0010	<0.0010	**0.0028**	<0.0100
Carbon Disulfide	NE	NE								<	0.001	<0.001	<0.001	**0.0071**	<0.0010	<0.0010	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chloroform	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Ethylbenzene	16	1.6						<	0.001	**0.13**	0.001	**0.212**	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Isopropylbenzene	NE	NE						<	0.001	**0.005**	0.001	**0.0068**	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Methyl tert-Butyl Ether	NE	5						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Methylene Chloride	NE	NE						<	0.002	<	0.002	<0.0020	<0.0020	<0.0020	<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	<0.0010	<0.0010	**0.0015**
n-Butylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
n-Propylbenzene	NE	NE						<	0.001	**0.0015**	0.001	**0.0024**	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
sec-Butylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Styrene	50	2.2						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
tert-Butylbenzene	NE	NE						<	0.001	<	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tetrachloroethene	NE	0.15						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	21	1.7						<	0.001	**0.0026**	0.001	**0.0014**	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Trichloroethene	87	0.54						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Vinyl Chloride	NE	0.002						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Xylene O	NE	NE						<	0.001	**0.024**	0.001	**0.0144**	<0.001	<0.0010	<0.0010	**0.0356**	<0.0010	<0.0010
Xylene P,M	NE	NE						<	0.002	**0.0048**	0.002	**0.0023**	<0.002	<0.0020	<0.0020	**0.0052**	<0.0020	<0.0020
Xylenes (Total)	NE	NE						<	0	**0.029**	0.003	**0.0167**	<0.003	<0.0030	<0.0020	**0.0408**	<0.0020	<0.0020
Total VCs	NE	NE							ND	**0.2586**		**0.2938**	ND	**0.0071**	ND	**1.274**	**0.0028**	**0.0015**
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	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010	Dec 2010		July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015	Nov 2016	Oct 2017	Oct 2018
	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	Result		
1,1,1,2-Tetrachloroethane	NE	NE						<	0.025	<	0.025	<0.1	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007						<	0.025	<	0.025	<0.1	<0.001	<0.0010	<0.0010	<0.0010	<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**	**0.103**	**0.133 D**	**0.269 D**
1,2-Dibromo-3-Chloropropane	NE	0.002						<	0.050	<	0.050	<0.5	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE						<	0.025	<	0.025	<0.1	<0.001	**0.0024**	J 0.001	<0.0010	**0.0806**	**0.002**
4-Isopropyltoluene	NE	NE										<0.1	<0.001	**0.0022**	J 0.0008	<0.0010	<0.0010	**0.0024**
Acetone	NE	NE						<	0.250	<	0.250	<1	<0.01	<0.0100	J 0.0038	<0.0100	<0.0100	<0.0100
Benzene	18	0.14						**1.2**	0.025	**1.6**	0.025	**1.77**	**2.67 D**	**1.76**	**0.902**	**0.327**	**0.842**	**0.775 D**
Carbon Disulfide	NE	NE								<	0.025	<0.1	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07						<	0.025	<	0.025	<0.1	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chloroform	NE	NE						<	0.025	<	0.025	<0.1	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4						<	0.025	<	0.025	<0.1	<0.001	<0.0010	<0.0010	<0.0010	<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**	**0.17**	**0.364 D**	**0.607 D**
Isopropylbenzene	NE	NE						**0.041**	0.025	**0.080**	0.025	<0.1	**0.09**	**0.0647**	**0.0517**	**0.0352**	**0.0543**	**0.0585**
Methyl tert-Butyl Ether	NE	5						<	0.025	<	0.025	<0.1	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Methylene Chloride	NE	NE						<	0.025	<	0.025	<0.0020	<0.0020	<0.0020	<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**	**0.545**	**0.913 D**	**1.93 D**
n-Butylbenzene	NE	NE						<	0.025	<	0.025	<0.1	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
n-Propylbenzene	NE	NE						<	0.025	**0.035**	0.025	<0.1	**0.0346**	**0.0226**	**0.0165**	**0.0126**	**0.0221**	**0.0251**
sec-Butylbenzene	NE	NE						<	0.025	<	0.025	<0.1	<0.001	**0.001**	J 0.0009	<0.0010	<0.0010	<0.0010
Styrene	50	2.2						<	0.025	<	0.025	<0.1	**0.0039**	**0.0014**	B <0.0020	<0.0010	<0.0010	**0.0015**
tert-Butylbenzene	NE	NE						<	0.025	<	0.025	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.1	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tetrachloroethene	NE	0.15						<	0.025	<	0.025	<0.1	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	21	1.7						**0.065**	0.025	<	0.025	<0.1	**0.0152**	**0.0055**	**0.0015**	<0.0010	**0.0032**	**0.0046**
Trichloroethene	87	0.54						<	0.025	<	0.025	<0.1	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Vinyl Chloride	NE	0.002						<	0.025	<	0.025	<0.1	<0.001	<0.0010	<0.0010	<0.0010	<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**	<0.0010	**0.0806**	**0.183 D**
Xylene P,M	NE	NE						**0.27**	0.050	**0.093**	0.050	<0.2	**0.0393**	**0.0143**	**0.0429**	<0.0020	**0.0109**	**0.025**
Xylenes (Total)	NE	NE						**0.63**	0.08	**0.433**	0.075	**0.205**	**0.202 D**	**0.103**	**0.0848**	<0.0020	**0.0915**	**0.208 D**
Total VOCs	NE	NE						**4.84**		**6.558**		**6.85**	**8.469**	**4.9981**	**2.233**	**0.037**	**2.5037**	**3.8831**
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	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010	June 2010	Dec 2010		July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015	Nov 2016	Oct 2017	Oct 2018
	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	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE					<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007					<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE					**0.41**	0.1	**0.02**	0.005	**0.0092**	**0.0092**	**0.0082**	**0.0035**	**0.0248**	**0.0038**	**0.0198**
1,2-Dibromo-3-Chloropropane	NE	0.002					<	0.2	<	0.010	<0.01	<0.005	<0.005	<0.005	<0.0050	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE					**0.13**	0.1	**0.0068**	0.005	<0.005	**0.0032**	**0.0026**	**0.0012**	**0.0114**	**0.0015**	**0.0066**
4-Isopropyltoluene	NE	NE									<0.005	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Acetone	NE	NE					<	1.0	<	0.050	<0.05	<0.01	**0.0546**	J 0.0051	**0.0148**	<0.01	<0.01
Benzene	18	0.14					<	0.1	<	0.005	<0.005	**0.0011**	<0.001	J 0.0002	<0.0010	<0.0010	**0.0017**
Carbon Disulfide	NE	NE							<	0.005	<0.005	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07					<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Chloroform	NE	NE					<	0.1	<	0.005	<0.005	<0.001	<0.001	**0.0021**	<0.0010	**0.0045**	**0.0018**
cis-1,2-Dichloroethene	69	2.4					<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Ethylbenzene	16	1.6					<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Isopropylbenzene	NE	NE					<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Methyl tert-Butyl Ether	NE	5					<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Methylene Chloride	NE	NE					<	0.1	<	0.005	<0.005	<0.002	<0.002	<0.002	<0.0020	<0.0020	<0.0020
Naphthalene	NE	2.67					**10**	0.2	**0.76**	0.010	**0.35**	**0.286 D**	**0.3**	**0.235**	**1.31**	**0.165**	**0.842 D**
n-Butylbenzene	NE	NE					<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
n-Propylbenzene	NE	NE					<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
sec-Butylbenzene	NE	NE					<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Styrene	50	2.2					<	0.1	<	0.005	<0.005	**0.0016**	<0.001	J 0.0001	**0.0029**	<0.0010	**0.0011**
tert-Butylbenzene	NE	NE					<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE									<0.01	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Tetrachloroethene	NE	0.15					<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Toluene	21	1.7					<	0.1	<	0.005	<0.005	<0.001	<0.001	J 0.0003	**0.0018**	<0.0010	**0.0012**
Trichloroethene	87	0.54					<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Vinyl Chloride	NE	0.002					<	0.1	<	0.005	<0.005	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Xylene O	NE	NE					<	0.1	<	0.005	<0.005	**0.0013**	**0.001**	J 0.0003	**0.008**	<0.0010	**0.002**
Xylene P,M	NE	NE					<	0.2	<	0.010	<0.01	**0.0021**	<0.002	J 0.0005	**0.0056**	<0.002	**0.003**
Xylenes (Total)	NE	NE					<	0.3	<	0.015	<0.015	**0.0034**	**0.001**	<0.002	**0.0136**	<0.002	**0.005**
Total VOCs	NE	NE					**10.54**		**0.7868**		**0.3592**	**0.3045**	**0.3664**	**0.2504**	**1.394**	**0.1748**	**0.8792**
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

3/14/2019
GZA File No. 05.0043654.00

ANALYTICAL	Sample ID:		MW-339D														
	Collected By:		AES	VHB	GZA		GZA	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	Nov 2016	Oct 2017	Oct 2018
	RIDEM GB GW UCL	RIDEM GB GW-O	Note (4)	Note (4)	Note (4)		Note (4)					Note (3)	Note (3)	Note (3)	Note (3)	Note (3)	Note (3)	Note (3)
VOCs (ppm)								Result	DL	Result	DL	Result	Result	Result	Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE						<	0.05	<	0.025	<0.05	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007						<	0.05	<	0.025	<0.05	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE						**0.38**	0.05	**0.41**	0.025	**0.449**	**0.437 D**	**0.4**	**0.48**	**0.437**	**0.486 D**	**0.421 D**
1,2-Dibromo-3-Chloropropane	NE	0.002						<	0.10	<	0.050	<0.1	<0.005	<0.005	<0.005	<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**	**0.121**	**0.132 D**	**0.135 D**
4-Isopropyltoluene	NE	NE										<0.05	**0.0087**	**0.0073**	**0.0117**	**0.0098**	**0.0103**	**0.0105**
Acetone	NE	NE						<	0.50	<	0.250	<0.5	<0.01	<0.01	J 0.0042	<0.0100	<0.0100	**0.272**
Benzene	18	0.14						<	0.05	**0.036**	0.025	**0.066**	**0.0232**	**0.0265**	**0.0186**	**0.0129**	**0.0164**	**0.0011**
Carbon Disulfide	NE	NE								<	0.025	<0.05	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07						<	0.05	<	0.025	<0.05	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Chloroform	NE	NE						<	0.05	<	0.025	<0.05	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4						<	0.05	<	0.025	<0.05	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Ethylbenzene	16	1.6						**0.20**	0.05	**0.24**	0.025	**0.26**	**0.19 D**	**0.183**	**0.155**	**0.13**	**0.112**	**0.0613**
Isopropylbenzene	NE	NE						<	0.05	**0.046**	0.025	<0.05	**0.0472**	**0.0437**	**0.0744**	**0.0591**	**0.061**	**0.0665**
Methyl tert-Butyl Ether	NE	5						<	0.05	<	0.025	<0.05	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Methylene Chloride	NE	NE						<	0.05	<	0.025	<0.05	<0.001	<0.001	J 0.0003	<0.0020	<0.0020	<0.0020
Naphthalene	NE	2.67						**3.3**	0.10	**2.7**	0.050	**3.13**	**3.91 D**	**4.29**	**3.6**	**3.88**	**4.36 D**	**5.18 D**
n-Butylbenzene	NE	NE						<	0.05	<	0.025	<0.05	<0.001	<0.001	<0.001	**0.01**	**0.0115**	<0.0010
n-Propylbenzene	NE	NE						<	0.05	**0.034**	0.025	<0.05	**0.034**	**0.026**	**0.0424**	**0.0341**	**0.0383**	**0.0353**
sec-Butylbenzene	NE	NE						<	0.05	<	0.025	<0.05	<0.001	**0.0013**	**0.0019**	**0.0019**	**0.0016**	**0.0019**
Styrene	50	2.2						<	0.05	**0.044**	0.025	<0.05	**0.0342**	**0.0158**	**0.018**	**0.0124**	**0.0124**	**0.0156**
tert-Butylbenzene	NE	NE						<	0.05	<	0.025	<0.05	<0.001	<0.001	J 0.0002	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.1	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Tetrachloroethene	NE	0.15						<	0.05	<	0.025	<0.05	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Toluene	21	1.7						**0.058**	0.05	**0.041**	0.025	**0.05**	**0.0471**	**0.0398**	**0.0448**	**0.0351**	**0.042**	**0.0332**
Trichloroethene	87	0.54						<	0.05	<	0.025	<0.05	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Vinyl Chloride	NE	0.002						<	0.05	<	0.025	<0.05	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Xylene O	NE	NE						**0.41**	0.05	**0.038**	0.025	**0.418**	**0.344 D**	**0.344**	**0.354**	**0.321**	**0.311**	**0.237 D**
Xylene P,M	NE	NE						**0.46**	0.10	**0.047**	0.050	**0.446**	**0.33 D**	**0.317**	**0.362**	**0.326**	**0.312**	**0.301 D**
Xylenes (Total)	NE	NE						**0.87**	0.15	**0.085**	0.075	**0.864**	**0.674 D**	**0.661**	**0.716**	**0.647**	**0.623**	**0.538 D**
Total VCCs	NE	NE						**4.92**		**3.746**		**4.941**	**5.5054**	**5.7799**	**5.2805**	**6.037**	**5.9065**	**6.7744**
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	GZA	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015	Nov 2016	Oct 2017	Oct 2018	
	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	Result	Result	Result	
1,1,1,2-Tetrachloroethane	NE	NE			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
1,1-Dichloroethene	23	0.007			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<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	<0.0010	<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	<0.0050	<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	<0.0010	<0.0010	<0.0010	
4-Isopropyltoluene	NE	NE										<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Acetone	NE	NE			<	0.010	<	0.010		<	0.010	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	
Benzene	18	0.14		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Carbon Disulfide	NE	NE								<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Carbon Tetrachloride	NE	0.07			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Chloroform	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<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	<0.0010	<0.0010	<0.0010	
Ethylbenzene	16	1.6		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Isopropylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<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	<0.0010	<0.0010	<0.0010	
Methylene Chloride	NE	NE			<	0.002	<	0.002		<	0.002	<0.0020	<0.0020	<0.0020	<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	<0.0010	<0.0010	<0.0010	
n-Butylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
n-Propylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
sec-Butylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Styrene	50	2.2			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
tert-Butylbenzene	NE	NE			<	0.001	<	0.001		<	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Tertiary-amyl methyl ether	NE	NE										<0.002	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Tetrachloroethene	NE	0.15			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Toluene	21	1.7			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Trichloroethene	87	0.54			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Vinyl Chloride	NE	0.002			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Xylene O	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<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	<0.0020	<0.0020	<0.0020	
Xylenes (Total)	NE	NE		<0.003	<	0.003	<	0.003		<	0.003	<0.003	<0.003	<0.0030	<0.0020	<0.0020	<0.0020	<0.0020	
Total VOCs	NE	NE		ND		ND		ND			ND	ND	ND	**0.0112**	ND	ND	ND	ND	
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	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		July 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015	Nov 2016	Oct 2017	Oct 2018
	RIDEM GB GW UCL	RIDEM GB GW-O							Note (6)									
VOCs (ppm)			Result	Result	Result	DL	Result	DL		Result	DL	Result	Result	Result	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	<0.0010	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<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	<0.0010	**0.0022**	**0.003**
1,2-Dibromo-3-Chloropropane	NE	0.002			<	0.005	<	0.002		<	0.002	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<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**	<0.0010	<0.0010	**0.0014**
4-Isopropyltoluene	NE	NE										<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Acetone	NE	NE			<	0.025	<	0.010		**0.003**	0.010	<0.01	<0.01	<0.0100	B <0.035	<0.0100	<0.0100	<0.0100
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**	**0.0185**	**0.023**	**0.0405**
Carbon Disulfide	NE	NE								<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chloroform	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<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	<0.0010	<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**	**0.0119**	**0.0198**	**0.043**
Isopropylbenzene	NE	NE		**0.0074**	<	0.001	**0.008**	0.001		**0.0049**	0.001	**0.0033**	**0.0037**	**0.002**	J 0.0010	**0.0022**	**0.0042**	**0.0045**
Methyl tert-Butyl Ether	NE	5		<0.001	**0.005**	0.001	<	0.002		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Methylene Chloride	NE	NE			<	0.002	<	0.002				<0.0020	<0.0020	<0.0020	<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**	**0.0019**	**0.0028**	**0.0094**
n-Butylbenzene	NE	NE		**0.0027**	<	0.001	<	0.001		**0.0012**	0.001	<0.001	<0.001	<0.0010	J 0.0006	**0.0011**	**0.0012**	**0.0016**
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	**0.0016**	**0.0026**	**0.0038**
sec-Butylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	J 0.0001	<0.0010	<0.0010	<0.0010
Styrene	50	2.2	<0.02		**0.0022**	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
tert-Butylbenzene	NE	NE			<	0.001	<	0.001		<	0.001	<0.001	<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	<0.0010	<0.0010	<0.0010
Tetrachloroethene	NE	0.15			**0.00015**	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<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	**0.0015**	**0.001**	**0.0077**
Trichloroethene	87	0.54			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Vinyl Chloride	NE	0.002			<	0.001	<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<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**	**0.0105**	**0.0152**	**0.0499**
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	<0.0020	**0.0049**	**0.0079**
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**	**0.0105**	**0.0202**	**0.0579**
Total VOCs	NE	NE	**0.08**	**0.2962**	**0.02882**		**0.340**			**0.117**		**0.0802**	**0.0803**	**0.0321**	**0.0357**	**0.0597**	**0.0769**	**0.1727**
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	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		July 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015	Nov 2016	Oct 2017	Oct 2018
	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	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE			<	0.0025	<	0.001		<	0.0025	<0.01	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007			<	0.0025	<	0.001		<	0.0025	<0.01	<0.001	<0.0010	<0.0010	<0.0010	<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**	**0.0058**	**0.0398**	**0.0012**
1,2-Dibromo-3-Chloropropane	NE	0.002			<	0.0130	<	0.002		<	0.0050	<0.05	<0.005	<0.0050	<0.0050	<0.0050	<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	<0.0010	**0.0015**	<0.0010
4-Isopropyltoluene	NE	NE										**0.0104**	**0.0046**	**0.0037**	J 0.0004	<0.0010	**0.0014**	<0.0010
Acetone	NE	NE			<	0.0630	<	0.010		<	0.0250	<0.1	<0.01	<0.0100	J 0.0037	<0.0100	<0.0100	<0.0100
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**	**0.312**	**0.137 D**	**0.0455**
Carbon Disulfide	NE	NE								<	0.0025	<0.01	<0.001	**0.0015**	<0.0010	<0.0010	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07			<	0.0025	<	0.001		<	0.0025	<0.01	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chloroform	NE	NE		<0.001	<	0.0025	<	0.001		<	0.0025	<0.01	<0.001	<0.0010	<0.0010	<0.0010	<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	<0.0010	<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**	**0.0182**	**0.0168**	**0.0159**
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**	**0.016**	**0.0172**	**0.0168**
Methyl tert-Butyl Ether	NE	5		<0.001	<	0.0025	<	0.002		<	0.0025	<0.01	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Methylene Chloride	NE	NE			<	0.0025	<	0.002		<	0.0050	<0.0020	<0.0020	<0.0020	<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**	**0.0255**	**0.0779**	**0.007**
n-Butylbenzene	NE	NE		<0.001	**0.009**	0.0025	<	0.001		**0.0075**	0.0025	<0.01	<0.001	<0.0010	**0.0067**	**0.0052**	**0.0056**	**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**	**0.0083**	**0.0091**	**0.009**
sec-Butylbenzene	NE	NE		**0.0056**	**0.0025**	0.0025	<	0.001		**0.0025**	0.0025	<0.01	<0.001	**0.0025**	**0.0024**	**0.0018**	**0.002**	**0.0022**
Styrene	50	2.2			<	0.0025	<	0.001		<	0.0025	<0.01	<0.001	<0.0010	B <0.0020	<0.0010	<0.0010	<0.0010
tert-Butylbenzene	NE	NE			<	0.0025	<	0.001		<	0.0025	<0.01	<0.001	<0.0010	J 0.0004	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE			<	0.0025	<	0.001		<	0.0025	<0.01	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tetrachloroethene	NE	0.15			<	0.0025	<	0.001		<	0.0025	<0.01	<0.001	<0.0010	<0.0010	<0.0010	<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**	**0.002**	**0.0015**	**0.0014**
Trichloroethene	87	0.54			<	0.0025	<	0.001		<	0.0025	<0.01	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Vinyl Chloride	NE	0.002			<	0.0025	<	0.001		<	0.0025	<0.01	<0.001	<0.0010	<0.0010	<0.0010	<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**	**0.0124**	**0.0114**	**0.0113**
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	**0.0021**	**0.0044**	<0.002
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**	**0.0144**	**0.0158**	**0.0113**
Total VOCs	NE	NE		**1.6871**	**0.9483**		**0.717**			**0.7042**		**1.1544**	**0.5494**	**0.634**	**0.3306**	**0.418**	**0.3256**	**0.1170**
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 Gas 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	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015	Nov 2016	Oct 2017	Oct 2018
	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	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE					**0.0017**	0.001		<	0.001	**0.0053**	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	**0.0046**
1,2-Dibromo-3-Chloropropane	NE	0.002					<	0.002		<	0.002	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
4-Isopropyltoluene	NE	NE										<0.0025	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Acetone	NE	NE					<	0.010		<	0.010	<0.025	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
Benzene	18	0.14					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Carbon Disulfide	NE	NE								<	0.001	<0.0025	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chloroform	NE	NE					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Ethylbenzene	16	1.6					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	J 0.0002	<0.0010	<0.0010	**0.0016**
Isopropylbenzene	NE	NE					**0.0016**	0.001		**0.0016**	0.001	**0.0028**	0.0007 J	<0.0010	J 0.0004	<0.0010	<0.0010	**0.0038**
Methyl tert-Butyl Ether	NE	5					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Methylene Chloride	NE	NE					<	0.002		<	0.002	<0.0025	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Naphthalene	NE	2.67					**0.0041**	0.002		<	0.002	**0.0083**	<0.001	**0.0014**	<0.001	<0.001	<0.001	**0.0044**
n-Butylbenzene	NE	NE					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
n-Propylbenzene	NE	NE					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
sec-Butylbenzene	NE	NE					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Styrene	50	2.2					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
tert-Butylbenzene	NE	NE					<	0.001		<	0.001	<0.0025	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.005	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tetrachloroethene	NE	0.15					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	21	1.7					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Trichloroethene	87	0.54					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Vinyl Chloride	NE	0.002					<	0.001		<	0.001	<0.0025	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Xylene O	NE	NE					**0.0041**	0.001		<	0.001	**0.0052**	<0.001	<0.0010	J 0.0003	<0.0010	<0.0010	**0.0142**
Xylene P,M	NE	NE					<	0.002		<	0.002	<0.005	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Xylenes (Total)	NE	NE					**0.0041**	0.003		<	0.003	**0.0052**	<0.003	<0.0030	<0.0020	<0.0020	<0.0020	**0.0142**
Total VOCs	NE	NE					**0.0115**			**0.0016**		**0.0216**	**0.0007**	**0.0014**	**0.0009**	ND	ND	**0.0286**
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
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 5S
GROUNDWATER MONITORING DATA
Former Gas 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	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010		Dec 2010		July 2011	July 2012	Aug 2013	Oct 2014	Nov 2015	Nov 2016	Oct 2017	Oct 2018
	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	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,2-Dibromo-3-Chloropropane	NE	0.002					<	0.002		<	0.002	<0.002	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
4-Isopropyltoluene	NE	NE										<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Acetone	NE	NE					<	0.010		<	0.010	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
Benzene	18	0.14					**0.0016**	0.001		**0.001**	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Carbon Disulfide	NE	NE								<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chloroform	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Ethylbenzene	16	1.6					<	0.001		<	0.001	<0.001	<0.001	<0.0010	B <0.0020	<0.0010	<0.0010	<0.0010
Isopropylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Methyl tert-Butyl Ether	NE	5					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Methylene Chloride	NE	NE					<	0.002		<	0.002	<0.0020	<0.0020	<0.0020	<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	<0.0010	<0.0010	<0.0010
n-Butylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
n-Propylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
sec-Butylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Styrene	50	2.2					<	0.001		<	0.001	<0.001	<0.001	<0.0010	B <0.0020	<0.0010	<0.0010	<0.0010
tert-Butylbenzene	NE	NE					<	0.001		<	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.002	0.0004 J	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tetrachloroethene	NE	0.15					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	21	1.7					<	0.001		<	0.001	<0.001	<0.001	<0.0010	J 0.0003	<0.0010	<0.0010	<0.0010
Trichloroethene	87	0.54					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Vinyl Chloride	NE	0.002					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Xylene O	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	**0.0165**	<0.0010	<0.0010
Xylene P,M	NE	NE					<	0.002		<	0.002	<0.002	<0.002	<0.0020	B <0.0040	**0.0366**	<0.0020	<0.0020
Xylenes (Total)	NE	NE					<	0.003		<	0.003	<0.003	<0.003	<0.0030	<0.0020	**0.0531**	<0.0020	<0.0020
Total VOCs	NE	NE					**0.0039**			**0.001**		ND	**0.0004**	ND	**0.0003**	**0.718**	ND	ND
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
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 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	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015	Nov 2016	Oct 2017	Oct 2018
	RIDEM GB GW UCL	RIDEM GB GW-O	Note (4)	Note (4)	Note (4)				Note (6)					Note (2)	Note (2)	Note (2)	Note (2)	Note (2)
VOCs (ppm)							Result	DL		Result	DL	Result	Result	Result	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	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015	Nov 2016	Oct 2017	Oct 2018
	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	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,2-Dibromo-3-Chloropropane	NE	0.002					<	0.002		<	0.002	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
4-Isopropyltoluene	NE	NE										<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Acetone	NE	NE					<	0.010		<	0.010	<0.01	<0.01	<0.0100	J 0.0033	<0.0100	<0.0100	<0.0100
Benzene	18	0.14					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Carbon Disulfide	NE	NE								<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chloroform	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	**0.0013**	**0.0043**
cis-1,2-Dichloroethene	69	2.4					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Ethylbenzene	16	1.6					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Isopropylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Methyl tert-Butyl Ether	NE	5					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Methylene Chloride	NE	NE					<	0.002		<	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Naphthalene	NE	2.67					<	0.002		<	0.002	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
n-Butylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
n-Propylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
sec-Butylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Styrene	50	2.2					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
tert-Butylbenzene	NE	NE					<	0.001		<	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tetrachloroethene	NE	0.15					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	21	1.7					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Trichloroethene	87	0.54					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Vinyl Chloride	NE	0.002					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Xylene O	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Xylene P,M	NE	NE					<	0.002		<	0.002	<0.002	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Xylenes (Total)	NE	NE					<	0.003		<	0.003	<0.003	<0.003	<0.0030	<0.0020	<0.0020	<0.0020	<0.0020
Total VOCs	NE	NE						ND			ND	ND	ND	ND	**0.0033**	ND	**0.0013**	**0.0043**
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	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010	Dec 2010		July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015	Nov 2016	Oct 2017	Oct 2018
	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	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	J 0.0004	<0.0010	<0.0010	<0.0010
1,2-Dibromo-3-Chloropropane	NE	0.002						<	0.002	<	0.002	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
4-Isopropyltoluene	NE	NE										<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Acetone	NE	NE						<	0.010	<	0.010	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
Benzene	18	0.14						<	0.001	<	0.001	<0.001	<0.001	**0.0036**	**0.0039**	**0.008**	<0.0010	<0.0010
Carbon Disulfide	NE	NE								<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chloroform	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Ethylbenzene	16	1.6						<	0.001	<	0.001	<0.001	<0.001	<0.0010	J 0.0008	**0.0018**	<0.0010	<0.0010
Isopropylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	J 0.0003	<0.0010	<0.0010	<0.0010
Methyl tert-Butyl Ether	NE	5						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Methylene Chloride	NE	NE						<	0.002	<	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Naphthalene	NE	2.67						<	0.002	<	0.002	<0.001	<0.001	<0.0010	**0.0033**	<0.0010	<0.0010	<0.0010
n-Butylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
n-Propylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
sec-Butylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Styrene	50	2.2						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
tert-Butylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tetrachloroethene	NE	0.15						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	21	1.7						<	0.001	<	0.001	<0.001	<0.001	<0.0010	J 0.0001	<0.0010	<0.0010	<0.0010
Trichloroethene	87	0.54						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Vinyl Chloride	NE	0.002						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Xylene O	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	J 0.0002	<0.0010	<0.0010	<0.0010
Xylene P,M	NE	NE						<	0.002	<	0.002	<0.002	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Xylenes (Total)	NE	NE						<	0	<	0.003	<0.003	<0.003	<0.0030	<0.0020	<0.0020	<0.0020	<0.0020
Total VOCs	NE	NE							ND		ND	ND	ND	**0.0036**	**0.0057**	**0.01**	ND	ND
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	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		July 2010		Dec 2010	July 2011			July 2012	Aug 2013	Oct 2014	Nov 2015	Nov 2016	Oct 2017	Oct 2018
	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	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE			<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007			<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010	<0.0010	<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	<0.0010	<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	<0.0050	<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	<0.0010	<0.0010	<0.0010
4-Isopropyltoluene	NE	NE											<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Acetone	NE	NE			<	0.025	<	0.010		<	0.010		<0.01	<0.01	<0.0100	<0.0100	<0.0100	<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	<0.0010	<0.0010	<0.0010
Carbon Disulfide	NE	NE								<	0.001		<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07			<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chloroform	NE	NE		<0.001	<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.0010	J 0.0003	<0.0010	<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	<0.0010	<0.0010	<0.0010
Ethylbenzene	16	1.6		<0.001	<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Isopropylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010	<0.0010	<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	<0.0010	<0.0010	<0.0010
Methylene Chloride	NE	NE			<	0.002	<	0.002		<	0.002		<0.0020	<0.0020	<0.0020	<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	<0.0010	<0.0010	<0.0010
n-Butylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
n-Propylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
sec-Butylbenzene	NE	NE		<0.001	<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Styrene	50	2.2			<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
tert-Butylbenzene	NE	NE			<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE											<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tetrachloroethene	NE	0.15			<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.0010	J 0.0002	<0.0010	<0.0010	<0.0010
Toluene	21	1.7		<0.001	<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Trichloroethene	87	0.54			<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.0010	J 0.0004	<0.0010	<0.0010	<0.0010
Vinyl Chloride	NE	0.002			<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Xylene O	NE	NE		<0.001	<	0.001	<	0.001		<	0.001		<0.001	<0.001	<0.0010	<0.0010	<0.0010	<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	<0.0020	<0.0020	<0.0020
Xylenes (Total)	NE	NE		<0.003	<	0.003	<	0.002		<	0.003		<0.003	<0.003	<0.0030	<0.0020	<0.0020	<0.0020	<0.0020
Total VOCs	NE	NE		<0.02	<	0.122	<	0.122			ND		ND	ND	ND	**0.0011**	ND	ND	ND
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	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015	Nov 2016	Oct 2017	Oct 2018
	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	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE					<	0.01		<	0.01	<0.05	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007					<	0.01		<	0.01	<0.05	<0.001	<0.0010	<0.0010	<0.0010	<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**	**0.0183**	**0.0327**	**0.0325**
1,2-Dibromo-3-Chloropropane	NE	0.002					<	0.02		<	0.02	<0.25	<0.005	<0.0050	<0.0050	<0.0050	<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**	**0.0075**	**0.0139**	**0.0138**
4-Isopropyltoluene	NE	NE										<0.05	**0.0012**	<0.0010	J 0.0008	<0.0010	<0.0010	**0.0011**
Acetone	NE	NE					<	0.10		<	0.10	<0.5	<0.01	<0.0100	J 0.0033	<0.0100	<0.0100	<0.0100
Benzene	18	0.14					**0.088**	0.01		**0.089**	0.01	**0.063**	**0.0733**	**0.0516**	**0.0408**	**0.0426**	**0.0817**	**0.0758**
Carbon Disulfide	NE	NE								<	0.01	<0.05	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07					<	0.01		<	0.01	<0.05	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chloroform	NE	NE					<	0.01		<	0.01	<0.05	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4					<	0.01		<	0.01	<0.05	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Ethylbenzene	16	1.6					**0.012**	0.01		**0.01**	0.01	<0.05	**0.0099**	**0.0062**	**0.0061**	**0.0046**	**0.0082**	**0.0084**
Isopropylbenzene	NE	NE					<	0.01		<	0.01	<0.05	<0.001	<0.0010	J 0.0007	<0.0010	<0.0010	<0.0010
Methyl tert-Butyl Ether	NE	5					<	0.01		<	0.01	<0.05	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Methylene Chloride	NE	NE					<	0.01		<	0.01	<0.05	<0.0020	<0.0020	<0.0020	<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**	**0.504**	**0.766 D**	**0.842**
n-Butylbenzene	NE	NE					<	0.01		<	0.01	<0.05	<0.001	<0.0010	**0.0016**	**0.0014**	**0.0019**	**0.0024**
n-Propylbenzene	NE	NE					<	0.01		<	0.01	<0.05	**0.002**	**0.0012**	**0.0013**	<0.0010	**0.0018**	**0.0015**
sec-Butylbenzene	NE	NE					<	0.01		<	0.01	<0.05	<0.001	<0.0010	J 0.0003	<0.0010	<0.0010	<0.0010
Styrene	50	2.2					<	0.01		<	0.01	<0.05	**0.0051**	**0.0024**	**0.0025**	**0.0024**	**0.0043**	**0.0066**
tert-Butylbenzene	NE	NE					<	0.01		<	0.01	<0.05	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.05	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tetrachloroethene	NE	0.15					<	0.01		<	0.01	<0.05	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	21	1.7					**0.076**	0.01		**0.072**	0.01	**0.0575**	**0.0659**	**0.0441**	**0.037**	**0.0314**	**0.0666**	**0.064**
Trichloroethene	87	0.54					<	0.01		<	0.01	<0.05	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Vinyl Chloride	NE	0.002					<	0.01		<	0.01	<0.05	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Xylene O	NE	NE					**0.046**	0.01		**0.039**	0.01	<0.05	**0.0374**	**0.0253**	**0.022**	<0.0010	**0.033**	**0.0354**
Xylene P,M	NE	NE					**0.11**	0.02		**0.082**	0.02	<0.1	**0.083**	**0.0556**	**0.0486**	<0.0020	**0.0695**	**0.0811**
Xylenes (Total)	NE	NE					**0.156**	0.03		**0.121**	0.03	<0.15	**0.12**	**0.0809**	**0.0706**	<0.0020	**0.102**	**0.116**
Total VCs	NE	NE					**1.61**			**1.449**		**1.3405**	**1.3265**	**1.1121**	**0.9563**	**0.6047**	**1.0796**	**1.1646**
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	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010		Dec 2010	July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015	Nov 2016	Oct 2017	Oct 2018
	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	Result		
1,1,1,2-Tetrachloroethane	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,2,4-Trimethylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,2-Dibromo-3-Chloropropane	NE	0.002					<	0.002		<	0.002	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
4-Isopropyltoluene	NE	NE										<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Acetone	NE	NE					<	0.010		<	0.010	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
Benzene	18	0.14					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Carbon Disulfide	NE	NE								<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chloroform	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Ethylbenzene	16	1.6					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Isopropylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Methyl tert-Butyl Ether	NE	5					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Methylene Chloride	NE	NE					<	0.002		<	0.002	<0.0020	<0.0020	<0.0020	<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	<0.0010	<0.0010	<0.0010
n-Butylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
n-Propylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
sec-Butylbenzene	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Styrene	50	2.2					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
tert-Butylbenzene	NE	NE					<	0.001		<	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tetrachloroethene	NE	0.15					<	0.001		<	0.001	<0.001	<0.001	<0.0010	J 0.0002	<0.0010	<0.0010	<0.0010
Toluene	21	1.7					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Trichloroethene	87	0.54					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Vinyl Chloride	NE	0.002					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Xylene O	NE	NE					<	0.001		<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Xylene P,M	NE	NE					<	0.002		<	0.002	<0.002	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Xylenes (Total)	NE	NE					<	0.003		<	0.003	<0.003	<0.003	<0.0030	<0.0020	<0.0020	<0.0020	<0.0020
Total VOCs	NE	NE						ND			ND	ND	ND	**0.0013**	**0.0002**	ND	ND	ND
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
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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
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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	GZA	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010	Dec 2010		July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015	Nov 2016	Oct 2017	Oct 2018
	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	Result	Result	Result
1,1,1,2-Tetrachloroethane	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<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	**0.0014**	**0.001**	**0.0012**
1,2-Dibromo-3-Chloropropane	NE	0.002						<	0.002	<	0.002	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<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	<0.0010	<0.0010	<0.0010
4-Isopropyltoluene	NE	NE										<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Acetone	NE	NE						<	0.010	<	0.010	<0.01	<0.01	<0.0100	J 0.0032	<0.0100	<0.0100	<0.0100
Benzene	18	0.14						**0.0032**	0.001	**0.001**	0.001	**0.0021**	**0.002**	**0.0032**	**0.0019**	**0.0028**	**0.0026**	**0.0025**
Carbon Disulfide	NE	NE								<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chloroform	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
cis-1,2-Dichloroethene	69	2.4						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Ethylbenzene	16	1.6						<	0.001	<	0.001	<0.001	<0.001	<0.0010	J 0.0002	<0.0010	<0.0010	<0.0010
Isopropylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Methyl tert-Butyl Ether	NE	5						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Methylene Chloride	NE	NE						<	0.002	<	0.002	<0.0020	<0.0020	<0.0020	<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**	**0.0447**	**0.0265**	**0.0384**
n-Butylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
n-Propylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
sec-Butylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Styrene	50	2.2						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
tert-Butylbenzene	NE	NE						<	0.001	<	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tetrachloroethene	NE	0.15						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<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	**0.0016**	**0.0012**	**0.0015**
Trichloroethene	87	0.54						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Vinyl Chloride	NE	0.002						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Xylene O	NE	NE						**0.0025**	0.001	<	0.001	**0.0013**	<0.001	**0.0013**	J 0.0004	**0.0011**	<0.0010	**0.0014**
Xylene P,M	NE	NE						**0.0042**	0.002	<	0.002	<0.002	<0.002	**0.0022**	J 0.0008	<0.0020	<0.0020	<0.0020
Xylenes (Total)	NE	NE						**0.0067**	0	<	0.003	**0.0013**	<0.003	**0.0035**	<0.0020	<0.0020	<0.0020	<0.0020
Total VOCs	NE	NE						**0.0874**		**0.0161**		**0.0491**	**0.0375**	**0.079**	**0.0327**	**0.0516**	**0.0313**	**0.045**
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	GZA	GZA
	Sample Date:		1996	2006	Jan 2010		June 2010	Dec 2010		July 2011		July 2012	Aug 2013	Oct 2014	Nov 2015	Nov 2016	Oct 2017	Oct 2018
	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	Result		
1,1,1,2-Tetrachloroethane	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1-Dichloroethene	23	0.007						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<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	<0.0010	<0.0010	<0.0010
1,2-Dibromo-3-Chloropropane	NE	0.002						<	0.002	<	0.002	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
1,3,5-Trimethylbenzene	NE	NE						**0.0014**	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
4-Isopropyltoluene	NE	NE										<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Acetone	NE	NE						<	0.010	<	0.010	<0.01	<0.01	<0.0100	<0.0100	<0.0010	<0.0010	<0.0010
Benzene	18	0.14						**0.0030**	0.001	**0.0013**	0.001	**0.0013**	**0.0015**	**0.0084**	**0.0012**	**0.0022**	**0.0012**	**0.0014**
Carbon Disulfide	NE	NE								<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Carbon Tetrachloride	NE	0.07						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chloroform	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<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	**0.0011**	<0.0010	**0.0012**
Ethylbenzene	16	1.6						**0.0011**	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Isopropylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Methyl tert-Butyl Ether	NE	5						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Methylene Chloride	NE	NE						<	0.002	<	0.002	<0.0020	<0.0020	<0.0020	<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**	**0.0302**	**0.01**	**0.0105**
n-Butylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
n-Propylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
sec-Butylbenzene	NE	NE						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Styrene	50	2.2						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
tert-Butylbenzene	NE	NE						<	0.001	<	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tertiary-amyl methyl ether	NE	NE										<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tetrachloroethene	NE	0.15						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	21	1.7						**0.0018**	0.001	<	0.001	<0.001	<0.001	**0.0012**	J 0.0004	**0.0012**	<0.0010	<0.0010
Trichloroethene	87	0.54						**0.0045**	0.001	**0.0014**	0.001	**0.0023**	**0.0021**	**0.0024**	**0.0015**	**0.0018**	**0.0013**	**0.0022**
Vinyl Chloride	NE	0.002						<	0.001	<	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Xylene O	NE	NE						**0.0036**	0.001	<	0.001	<0.001	<0.001	<0.0010	J 0.0001	<0.0010	<0.0010	<0.0010
Xylene P,M	NE	NE						**0.0040**	0.002	<	0.002	<0.002	<0.002	<0.0020	J 0.0002	<0.0020	<0.0020	<0.0020
Xylenes (Total)	NE	NE						**0.0076**	0	<	0.003	<0.003	<0.003	<0.0030	<0.0020	<0.0020	<0.0020	<0.0020
Total VOCs	NE	NE						**0.136**		**0.0135**		**0.0261**	**0.018**	**0.0311**	**0.0139**	**0.01**	**0.0125**	**0.0153**
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
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Bold Value	= concentration detected above the Method Reporting Limit.
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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.

FIGURES

2018 GROUNDWATER MONITORING REPORT
FORMER TIDEWATER FACILITY
PAWTUCKET, RHODE ISLAND

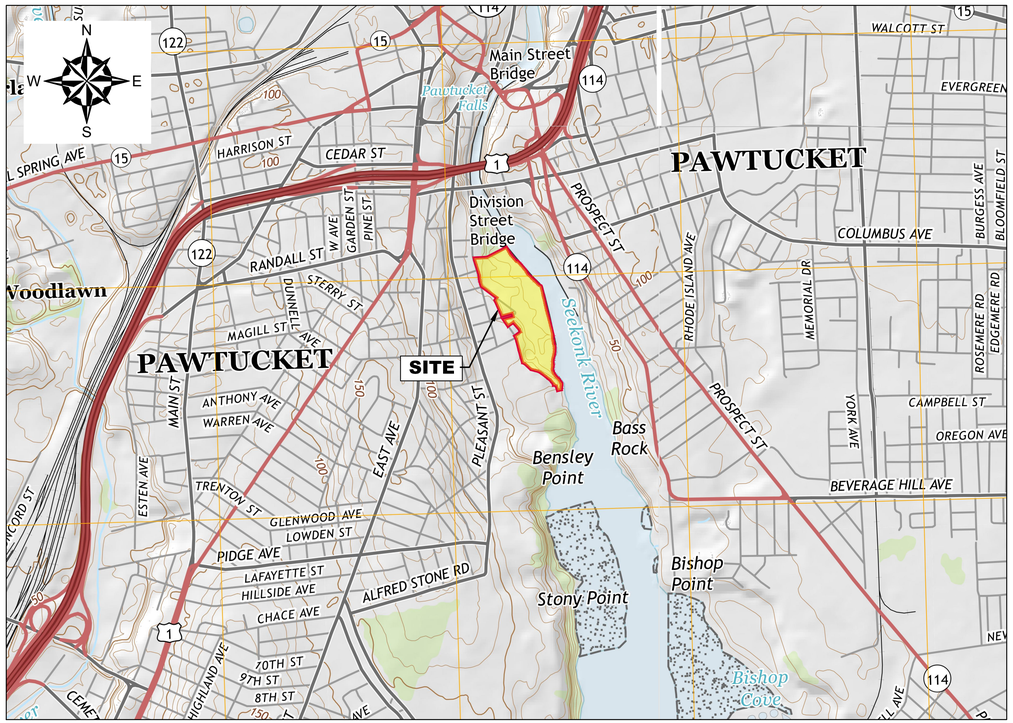
APRIL 2019

PREPARED FOR:

nationalgrid

PREPARED BY:

GZA
GZA GEOENVIRONMENTAL, INC.
188 VALLEY STREET, SUITE 300
PROVIDENCE, RHODE ISLAND 02909



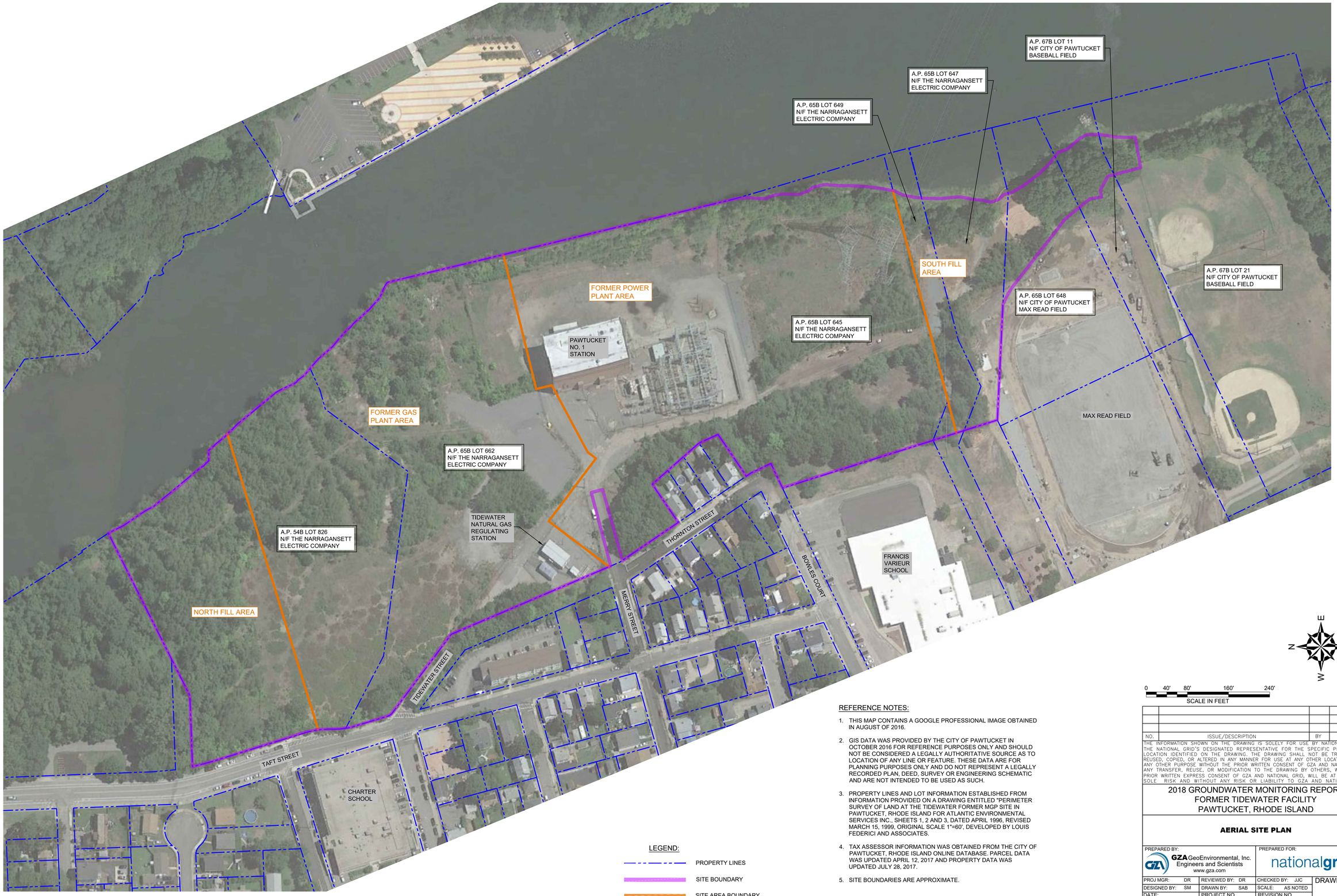
PROJECT LOCUS MAP

SOURCE: USGSSTORE.GOV

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

Sheet List Table	
Sheet Number	Sheet Title
1	SHEET INDEX AND SITE LOCUS PLAN
2	AERIAL SITE PLAN
2A	EXPLORATION LOCATION PLAN NORTH FILL AREA AND FORMER GAS PLANT AREA
2B	EXPLORATION LOCATION PLAN FORMER POWER PLANT AREA AND SOUTH FILL AREA
3	SHALLOW GROUNDWATER CONTOUR OCTOBER 23, 2018
4A	NAPL & GROUNDWATER ANALYTICAL DATA NORTH FILL AREA AND FORMER GAS PLANT AREA
4B	NAPL & GROUNDWATER ANALYTICAL DATA FORMER POWER PLANT AREA AND SOUTH FILL AREA

C



LEGEND:

- PROPERTY LINES
- SITE BOUNDARY
- SITE AREA BOUNDARY

REFERENCE NOTES:

1. THIS MAP CONTAINS A GOOGLE PROFESSIONAL IMAGE OBTAINED IN AUGUST OF 2016.
2. GIS DATA WAS PROVIDED BY THE CITY OF PAWTUCKET IN OCTOBER 2016 FOR REFERENCE PURPOSES ONLY AND SHOULD NOT BE CONSIDERED A LEGALLY AUTHORITATIVE SOURCE AS TO LOCATION OF ANY LINE OR FEATURE. THESE DATA ARE FOR PLANNING PURPOSES ONLY AND DO NOT REPRESENT A LEGALLY RECORDED PLAN, DEED, SURVEY OR ENGINEERING SCHEMATIC AND ARE NOT INTENDED TO BE USED AS SUCH.
3. 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., SHEETS 1, 2 AND 3, DATED APRIL 1996, REVISED MARCH 15, 1999, ORIGINAL SCALE 1"=60', DEVELOPED BY LOUIS FEDERICI AND ASSOCIATES.
4. TAX ASSESSOR INFORMATION WAS OBTAINED FROM THE CITY OF PAWTUCKET, RHODE ISLAND ONLINE DATABASE. PARCEL DATA WAS UPDATED APRIL 12, 2017 AND PROPERTY DATA WAS UPDATED JULY 28, 2017.
5. SITE BOUNDARIES ARE APPROXIMATE.

N E S W

0 40' 80' 160' 240'
SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

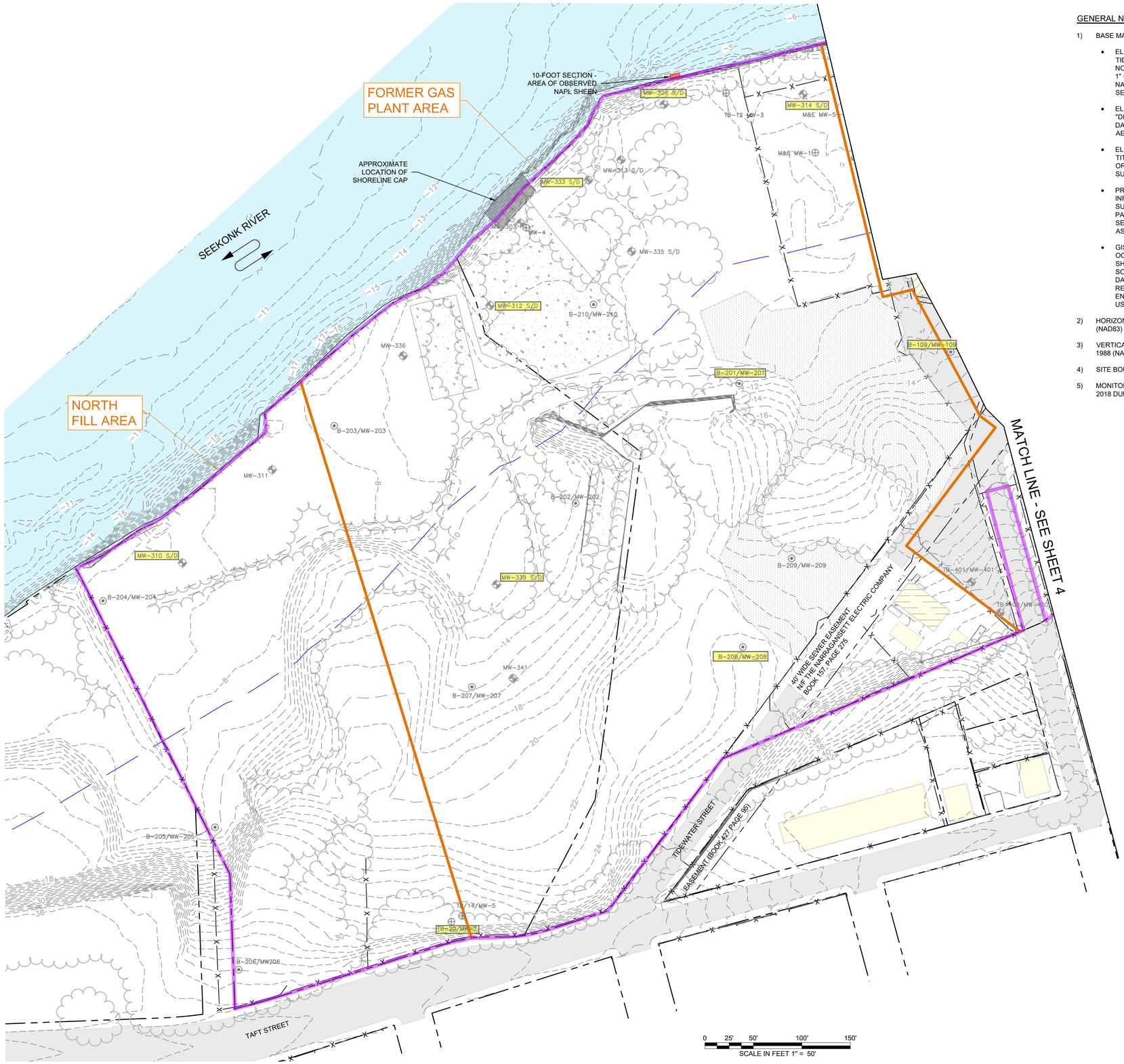
2018 GROUNDWATER MONITORING REPORT
FORMER TIDEWATER FACILITY
PAWTUCKET, RHODE ISLAND

AERIAL SITE PLAN

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:
nationalgrid

PROJ MGR: DR	REVIEWED BY: DR	CHECKED BY: JJC	DRAWING 2
DESIGNED BY: SM	DRAWN BY: SAB	SCALE: AS NOTED	
DATE: APRIL 2019	PROJECT NO. 43654.40	REVISION NO. 0	SHEET NO. 2 OF 7



GENERAL NOTES:

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   - ELECTRONIC CAD FILE 17-NG-52_PAWTUCKET NO1 SUB TIDEWATER-JEG-07.DWG, TITLED "AS BUILT PLAN PAWTUCKET NO. 1 SUBSTATION," DATED AUGUST 22, 2017, ORIGINAL SCALE 1" = 20', CREATED BY TAUPER LAND SURVEY, INC. FOR NATIONAL GRID AND PROVIDED TO GZA ON SEPTEMBER 12, 2017.
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3) VERTICAL DATUM IS BASED ON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88) FROM BASE MAPPING PROVIDED BY AEROTECH CORP.
4) SITE BOUNDARIES ARE APPROXIMATE.
5) MONITORING WELLS MW-5 AND MW-316 S WERE NOT SAMPLED IN 2018 DUE TO AN INSUFFICIENT VOLUME OF WATER.

SAMPLE LEGEND

- B-109/MW-109 — MONITORING WELL/BORING (VHB) SURVEYED
- MW-3 — ATLANTIC MONITORING WELL LOCATION
- M&E MW-1 — METCALF & EDDY MONITORING WELL LOCATION
- MW-320 S/D — GZA MONITORING WELL LOCATION (2010-2011)
- MW-400 — GZA MONITORING WELL LOCATION (2014)
- MW-01 — F & O MONITORING WELL LOCATION (2011-2012)
- ERA-2 — ERA MONITORING WELL LOCATION (1988)
- INDICATES THAT MONITORING WELL WAS SAMPLED AS PART OF THE 2018 GROUNDWATER MONITORING PROGRAM

LEGEND:

- EXISTING CONTOUR (MAJOR 5 FOOT INTERVAL)
- EXISTING CONTOUR (MINOR 1 FOOT INTERVAL)
- PROPERTY LINE
- EDGE OF WATER
- EXISTING FENCE
- SITE BOUNDARY
- SITE AREA BOUNDARY
- 200 FOOT CRMC SETBACK
- CATCH BASIN
- MANHOLE
- UTILITY POLE
- LIGHT POLE
- LIGHT POST
- HYDRANT
- EXISTING BUILDING
- EXISTING CONCRETE SURFACE
- EXISTING GRAVEL SURFACE
- EXISTING PAVEMENT
- EASEMENT AREA

2018 GROUNDWATER MONITORING REPORT
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 www.gza.com		PREPARED FOR: nationalgrid	
PROJ MGR: DR	REVIEWED BY: DR	CHECKED BY: JJC	DRAWING 2A
DESIGNED BY: SM	DRAWN BY: SAB	SCALE: AS NOTED	
DATE: APRIL 2019	PROJECT NO. 43654.40	REVISION NO. 0	SHEET NO. 3 OF 7

LEGEND:

- EXISTING CONTOUR (MAJOR 5 FOOT INTERVAL)
- EXISTING CONTOUR (MINOR 1 FOOT INTERVAL)
- PROPERTY LINE
- EDGE OF WATER
- EXISTING FENCE
- SITE BOUNDARY
- SITE AREA BOUNDARY
- 200 FOOT CRMC SETBACK
- CATCH BASIN
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5) MONITORING WELLS MW-5 AND MW-316 S WERE NOT SAMPLED IN 2018 DUE TO AN INSUFFICIENT VOLUME OF WATER.

SEEKONK RIVER

FORMER POWER PLANT AREA

SOUTH FILL AREA

10-FOOT SECTION - AREA OF OBSERVED NAPL SHEEN

MATCH LINE - SEE SHEET 3

EXISTING PAWTUCKET No. 1 STATION

EXISTING SUBSTATION

TELECOMMUNICATIONS EASEMENT N/F VERIZON NEW ENGLAND, INC. BOOK 3920 PAGE 38

80' WIDE SEWER EASEMENT N/F THE NARRAGANSETT ELECTRIC COMPANY BOOK 157, PAGE 275

CITY OF PAWTUCKET DRAINAGE EASEMENT (BOOK 712 PAGE 289)

NARRAGANSETT BAY COMMISSION EASEMENT (BOOK 453 PAGE 7)

RECREATION EASEMENT N/F THE CITY OF PAWTUCKET BOOK 3969 PAGE 2

THORNTON STREET

BOWLES COURT

M&E MW-2, M&E MW-4, M&E MW-3, MW-315 S/D, B-101/MW-101, B-103/MW-103, TB-8/MW-6, B-102/MW-102, MW-337, B-104/MW-104, MW-338 S/D, B-105/MW-105, B-107/MW-107, MW-334 S/D, MW-316 S/D, TB-8/MW-1, MW-319 S/D, MW-320 S/D, MW-321 S/D, MW-817 S/D, MW-316 S/D

N W E S

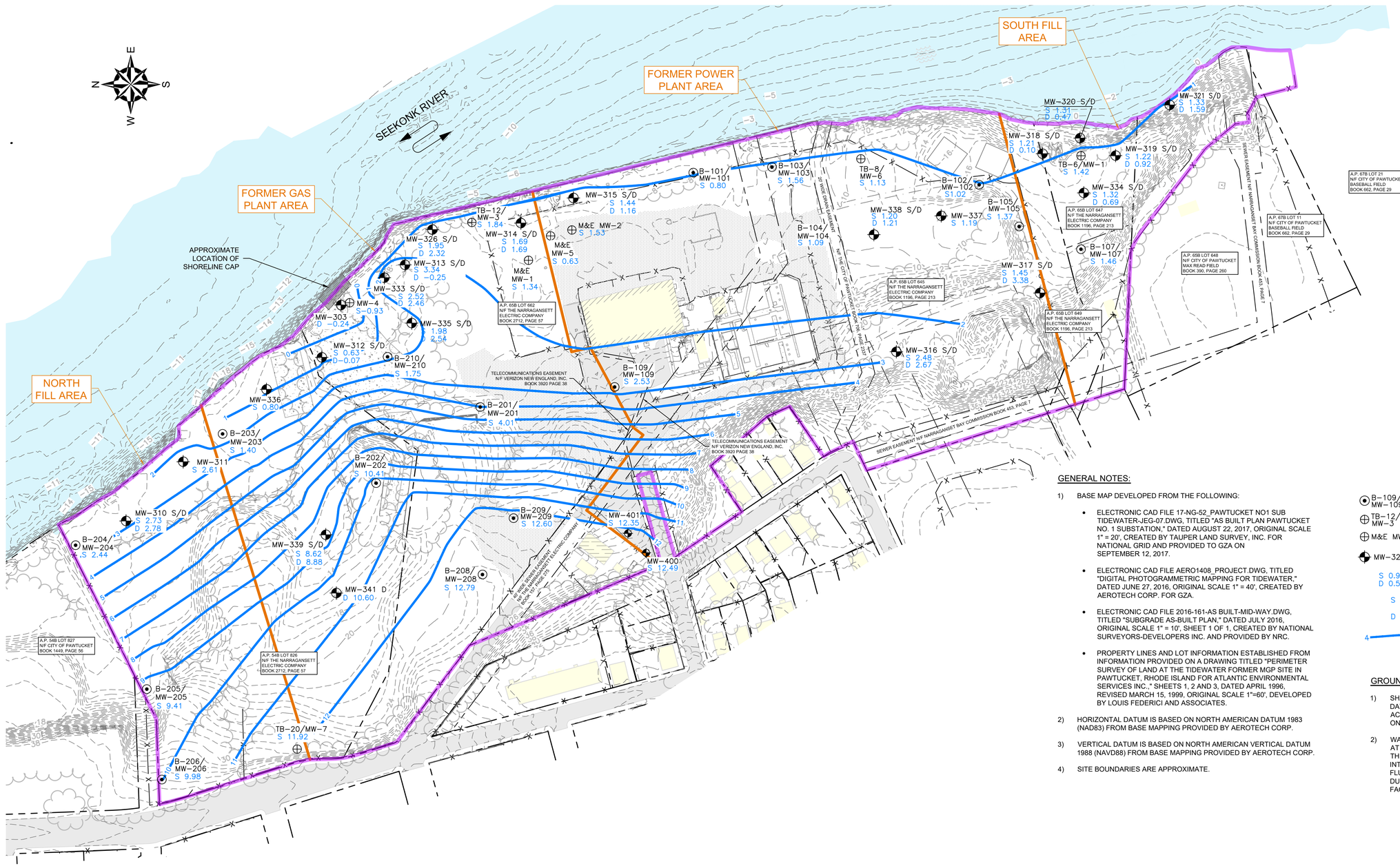
0 25' 50' 100' 150'

SCALE IN FEET 1" = 50'

2018 GROUNDWATER MONITORING REPORT
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 www.gza.com		PREPARED FOR: nationalgrid	
PROJ MGR: DR	REVIEWED BY: DR	CHECKED BY: JJC	DRAWING 2B
DESIGNED BY: SM	DRAWN BY: SAB	SCALE: AS NOTED	
DATE: APRIL 2019	PROJECT NO. 43654.40	REVISION NO. 0	SHEET NO. 4 OF 7



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   - ELECTRONIC CAD FILE 2016-161-AS BUILT-MID-WAY.DWG, TITLED "SUBGRADE AS-BUILT PLAN," DATED JULY 2016, ORIGINAL SCALE 1" = 10', SHEET 1 OF 1, CREATED BY NATIONAL SURVEYORS-DEVELOPERS INC. AND PROVIDED BY NRC.
   - PROPERTY LINES AND LOT INFORMATION ESTABLISHED FROM INFORMATION PROVIDED ON A DRAWING TITLED "PERIMETER SURVEY OF LAND AT THE TIDEWATER FORMER MGP SITE IN PAWTUCKET, RHODE ISLAND FOR ATLANTIC ENVIRONMENTAL SERVICES INC.," SHEETS 1, 2 AND 3, DATED APRIL 1996, REVISED MARCH 15, 1999, ORIGINAL SCALE 1"=60', DEVELOPED BY LOUIS FEDERICI AND ASSOCIATES.
2) HORIZONTAL DATUM IS BASED ON NORTH AMERICAN DATUM 1983 (NAD83) FROM BASE MAPPING PROVIDED BY AEROTECH CORP.
3) VERTICAL DATUM IS BASED ON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88) FROM BASE MAPPING PROVIDED BY AEROTECH CORP.
4) SITE BOUNDARIES ARE APPROXIMATE.

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 OCTOBER 23, 2018 (IN FEET RELATIVE TO NAVD 1988).
- S — INDICATES THE MONITORING WELL SCREEN IS SHALLOW
- D — INDICATES THE MONITORING WELL SCREEN IS DEEP
- 4 — 4 — SHALLOW GROUNDWATER ELEVATION CONTOUR ON OCTOBER 23, 2018

GROUNDWATER CONTOUR NOTES:

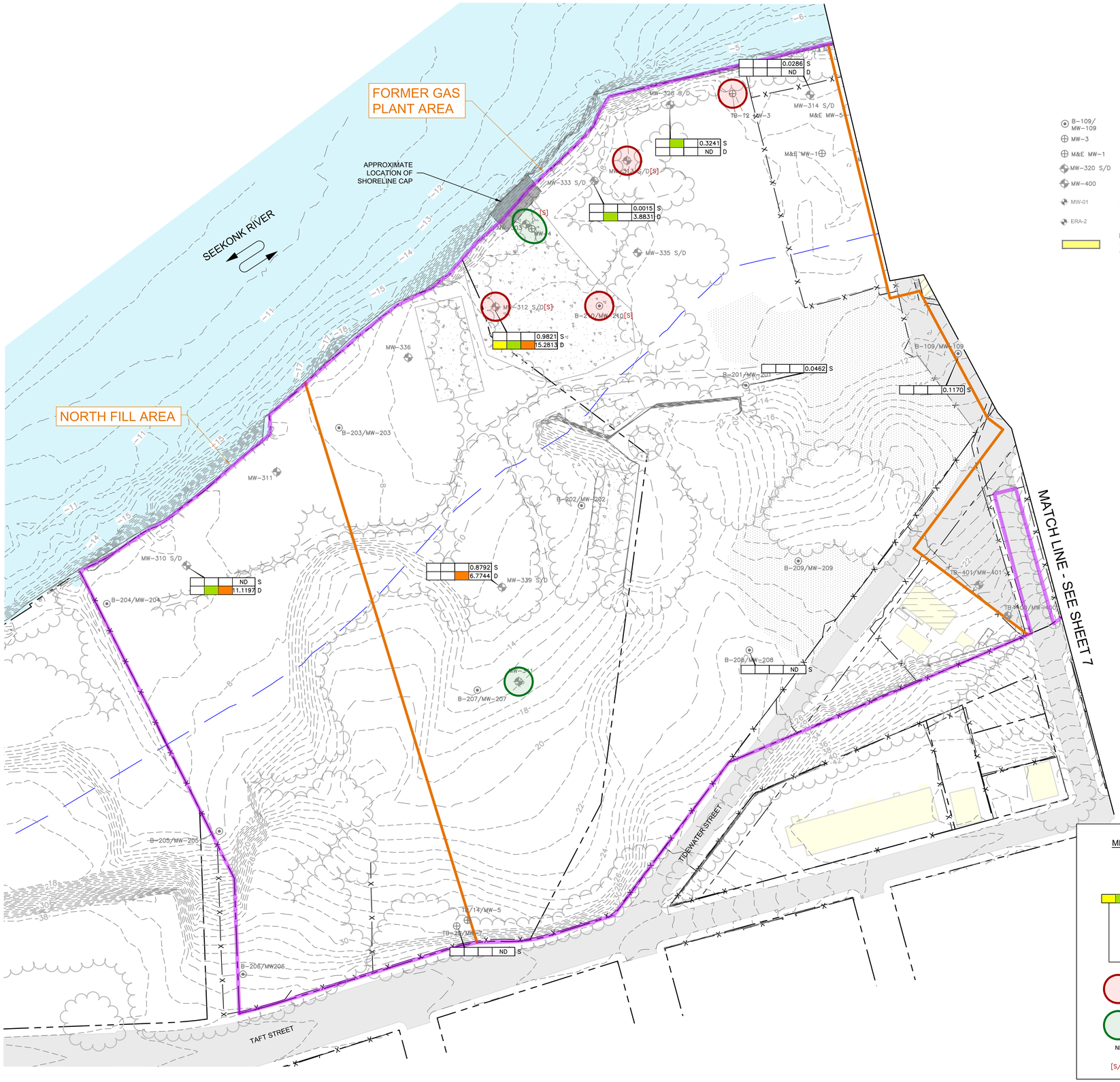
1) SHALLOW GROUNDWATER CONTOURS (NAVD 88 MSL) ARE BASED ON DATA FROM WIDELY SPACED EXPLORATIONS AND MAY NOT REFLECT ACTUAL SUBSURFACE CONDITIONS. WATER LEVEL READINGS WERE ON OCTOBER 23, 2018.
2) WATER LEVEL READINGS HAVE BEEN MADE IN MONITORING WELLS AT THE TIMES AND UNDER THE CONDITIONS STATED IN THE TEXT OF THIS REPORT. 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'
SCALE IN FEET 1" = 80'

2018 GROUNDWATER MONITORING REPORT
FORMER TIDEWATER FACILITY
PAWTUCKET, RHODE ISLAND

SHALLOW GROUNDWATER CONTOUR PLAN
OCTOBER 23, 2018

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: nationalgrid	
PROJ MGR: DR	REVIEWED BY: DR	CHECKED BY: JJC	DRAWING 3
DESIGNED BY: SM	DRAWN BY: SAB	SCALE: AS NOTED	
DATE: APRIL 2019	PROJECT NO. 43654.40	REVISION NO. 0	SHEET NO. 5 OF 7



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LEGEND:

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- EXISTING CONTOUR (MINOR 1 FOOT INTERVAL)
- PROPERTY LINE
- EDGE OF WATER
- EXISTING FENCE
- CRMC 200-FOOT JURISDICTION LIMIT
- SITE BOUNDARY
- SITE AREA BOUNDARY
- CATCH BASIN
- MANHOLE
- UTILITY POLE
- LIGHT POLE
- LIGHT POST
- HYDRANT
- EXISTING BUILDING
- EXISTING CONCRETE SURFACE
- EXISTING GRAVEL SURFACE
- EXISTING PAVEMENT
- EASEMENT AREA

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

- 0.008 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 2018
- PRESENCE OF MEASURABLE DNAPL (>0.01 FT) FOR 2018
- ND — NOT DETECTED
- [S/D] — INDICATES WHETHER MONITORING WELL IS SHALLOW OR DEEP

N E S W

0 25' 50' 100' 150'
SCALE IN FEET 1" = 50'

2018 GROUNDWATER MONITORING REPORT
FORMER TIDEWATER FACILITY
PAWTUCKET, RHODE ISLAND

2018 NAPL & GROUNDWATER ANALYTICAL DATA NORTH FILL AREA AND FORMER GAS PLANT AREA

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: nationalgrid	
PROJ MGR: DR	REVIEWED BY: DR	CHECKED BY: JJC	DRAWING 4A
DESIGNED BY: SM	DRAWN BY: SAB	SCALE: AS NOTED	
DATE: APRIL 2019	PROJECT NO. 43654.40	REVISION NO. 0	SHEET NO. 6 OF 7

LEGEND:

- EXISTING CONTOUR (MAJOR 5 FOOT INTERVAL)
- EXISTING CONTOUR (MINOR 1 FOOT INTERVAL)
- PROPERTY LINE
- EDGE OF WATER
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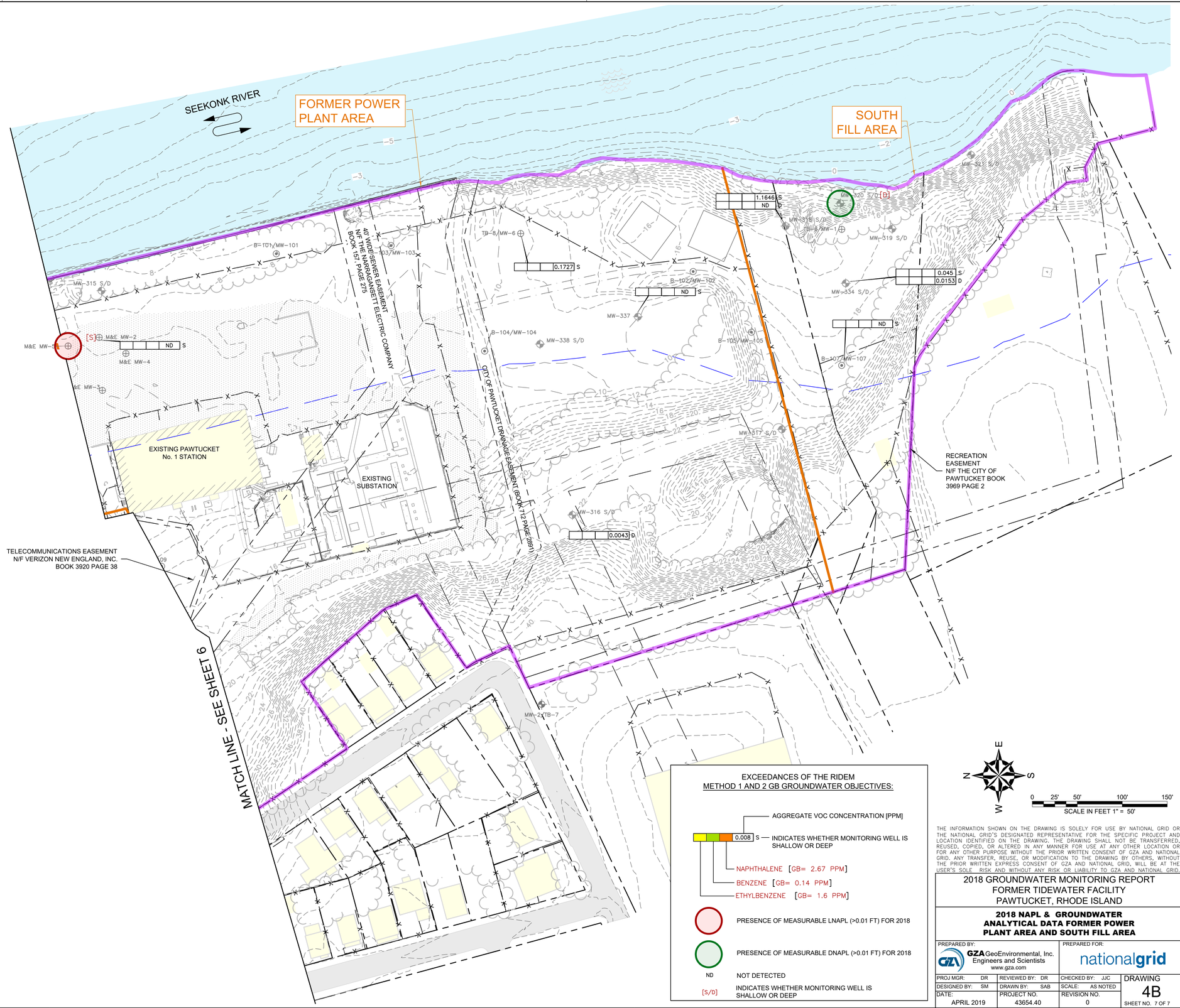

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N E S W

0 25' 50' 100' 150'
SCALE IN FEET 1" = 50'

2018 GROUNDWATER MONITORING REPORT
FORMER TIDEWATER FACILITY
PAWTUCKET, RHODE ISLAND

2018 NAPL & GROUNDWATER ANALYTICAL DATA FORMER POWER PLANT AREA AND SOUTH FILL AREA

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: nationalgrid	
PROJ MGR: DR	REVIEWED BY: DR	CHECKED BY: JJC	DRAWING 4B
DESIGNED BY: SM	DRAWN BY: SAB	SCALE: AS NOTED	
DATE: APRIL 2019	PROJECT NO. 43654.40	REVISION NO. 0	SHEET NO. 7 OF 7

2019- GZA GeoEnvironmental, Inc. G:\ENV\43654.40\CAD\01_CURRENT\PLANS\2018-GROUNDWATER MONITORING RPT\CAD\18-NAPL AND GROUNDWATER ANALYTICAL-SOUTH.DWG 2018 NAPL & GROUNDWATER ANALYTICAL DATA FORMER POWER PLANT AREA APRIL 12, 2019 9:52 AM SCOTT BUXTON

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
GROUNDWATER DATA SHEETS

Groundwater Sampling Data Sheet

LOW FLOW CALIBRATION SHEET

File No. 43654 | Page: 1 of 2

Project: Former Tidewater Facility | Date: 10/22/2018

Location: City: Pawtucket State: RI

LOW FLOW CALIBRATION:

Intial Calibration:

Specific Conductance:	Instrument and Number:	YSI	Standard Solution:	1000	Reading:	1016
pH (s.u.):	Instrument and Number:	YSI	Standard Solution:	4/7	Reading:	4.39/7.27
DO (mg/L):	Instrument and Number:	YSI	Standard Solution:	100%	Reading:	99%
ORP (mvolts:)	Instrument and Number:	YSI	Standard Solution:	237.5	Reading:	215.6
Turbidity (NTU):	Instrument and Number:	Lamotte	Standard Solution:	0/126	Reading:	0.3 / 113.8

Bump Check:

Specific Conductance:	Instrument and Number:	YSI	Standard Solution:	1000	Reading:	1000
pH (s.u.):	Instrument and Number:	YSI	Standard Solution:	4/7	Reading:	7-Apr
DO (mg/L):	Instrument and Number:	YSI	Standard Solution:	100%	Reading:	100.6%
ORP (mvolts:)	Instrument and Number:	YSI	Standard Solution:	237.5	Reading:	238
Turbidity (NTU):	Instrument and Number:	Lamotte	Standard Solution:	0/126	Reading:	0/124

Groundwater Sampling Data Sheet

LOW FLOW CALIBRATION SHEET

File No. 43654 Page: 2 of 2

Project: Former Tidewater Facility Date: 10/22/2018

Location: City: Pawtucket State: RI

LOW FLOW CALIBRATION:

Intial Calibration:

Specific Conductance:	Instrument and Number:	YSI	Standard Solution:	1000	Reading:	999
pH (s.u.):	Instrument and Number:	YSI	Standard Solution:	4/7	Reading:	3.94/7.04
DO (mg/L):	Instrument and Number:	YSI	Standard Solution:	100	Reading:	101.2
ORP (mvolts:)	Instrument and Number:	YSI	Standard Solution:	237.5	Reading:	239
Turbidity (NTU):	Instrument and Number:	Lamotte	Standard Solution:	0/126	Reading:	1.4/110

Bump Check:

Specific Conductance:	Instrument and Number:	YSI	Standard Solution:	1000	Reading:	1000
pH (s.u.):	Instrument and Number:	YSI	Standard Solution:	4/7	Reading:	4/7
DO (mg/L):	Instrument and Number:	YSI	Standard Solution:	100	Reading:	100
ORP (mvolts:)	Instrument and Number:	YSI	Standard Solution:	237.5	Reading:	238
Turbidity (NTU):	Instrument and Number:	Lamotte	Standard Solution:	0/126	Reading:	0/124

Groundwater Sampling Data Sheet

File No.	43654	Well ID:	M&E MW-2
Project	Tidewater	Sample Date:	10/24/2018
Location	city: Pawtucket State: RI	Sampler's name:	Sarah Mcleod
Weather:	Partly Cloudy, 40's		

WATER LEVEL OBSERVATIONS measurement date/time: 10/23/2018 1005

Point of measurement: PVC Riser [X] Casing [ ] Ground [ ]

Total well depth (feet)	13.65	Standing water in well (feet)	5.21
Depth to LNAPL (feet)	-	Well Diameter (in.)	2
Depth to water (feet)	8.44	Sample Depth (feet bgs)	12 ft
Depth to DNAPL (feet)	-	Standpipe TPVC to Ground (feet)	-
Well Screen (feet bgs)	10 to 15	Roadbox TPVC to Ground (feet)	-

Well Condition:

Protective casing [X] poor [ ] good **Expansion cap** [ ] yes [X] no **Well ID** [ ] yes [X] no

lock [X] yes [ ] no **Concrete Collar** [ ] yes [X] no **Well** [X] poor [ ] good

EQUIPMENT

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

Pump Type: Solinst No. 1

Meter Type: YSI No. 1 **Flow Thru Cell Vol (mL):** 250

INSTRUMENT MEASUREMENTS: Start time: 0754 Stop time: 830

Time	Depth to water (ft) (drawdown <0.3 or stable)	ORP (mV) (±10)	pH (s.u.) (±0.1)	Spec. Cond (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rds <0.5)	Temp. (°C) (±3%)	Turbidity (ntu) (±10% or <5 ntu)	Flow (mL/min) (<500)	Notes
0754	8.76	275	7.08	6857	2.69	17.7	9	250	
0814	8.56	272.6	6.97	6803	2.69	17.4	<5	250	
0817	8.55	271.7	6.96	6809	2.6	17.4	<5	250	
0820	8.45	271.1	6.96	6795	2.64	17.5	<5	250	
0823	8.45	271.0	6.95	6790	2.69	17.4	<5	250	

SAMPLE TESTING INFORMATION **Sample time:** 825

Analysis	Method	No. bottles	Bottle type	Volume	Preservation	Handling
VOC	8260	3	VOA	40	HCL	ICE

SAMPLE OBSERVATIONS

Color None Odor None Clarity Clear

Purge Volume: 4 gal

Tubing Volume:

Notes:

Groundwater Sampling Data Sheet

File No.	43654	Well ID:	MW-5
Project	Tidewater	Sample Date:	10/25/2018
Location	city: Pawtucket State: RI	Sampler's name:	Sarah Mcleod
Weather:	Sunny, 40's-50's		

WATER LEVEL OBSERVATIONS measurement date/time: 10/23/2018 0727

Point of measurement	PVC Riser [X] Casing [ ] Ground [ ]		
Total well depth (feet)	11.83	Standing water in well (feet)	-
Depth to LNAPL (feet)	-	Well Diameter (in.)	2
Depth to water (feet)	-	Sample Depth (feet bgs)	-
Depth to DNAPL (feet)	-	Standpipe TPVC to Ground (feet)	-
Well Screen (feet bgs)	5.5 to 15.5	Roadbox TPVC to Ground (feet)	-

Well Condition: **Protective casing** [ ] poor [X] good **Expansion cap** [X] yes [ ] no **Well ID** [X] yes [ ] no

lock [X] yes [ ] no **Concrete Collar** [X] yes [ ] no **Well** [ ] poor [X] good

EQUIPMENT

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

Pump Type: geopump No. 1

Meter Type: YSI No. 1 **Flow Thru Cell Vol (mL):**

INSTRUMENT MEASUREMENTS: Start time: Stop time:

Time	Depth to water (ft) (drawdown <0.3 or	ORP (mV) (±10)	pH (s.u.) (±0.1)	Spec. Cond (µS/cm)	DO (mg/L) (±10% or 3	Temp. (°C) (±3%)	Turbidity (ntu) (±10% or <5 ntu)	Flow (mL/min)	Notes

SAMPLE TESTING INFORMATION **Sample time:**

Analysis	Method	No. bottles	Bottle type	Volume	Preservation	Handling
VOC	8260	3	VOA	40	HCL	ICE

SAMPLE OBSERVATIONS

Color Odor Clarity

Purge Volume: -

Tubing Volume: -

Notes: No water in well at 0915. Will Check back in 2 hours

No water at 1145. Cannot Sample

Groundwater Sampling Data Sheet

File No.	43654	Well ID:	MW-6
Project	Tidewater	Sample Date:	10/24/2018
Location	city: Pawtucket State: RI	Sampler's name:	Sarah Mcleod
Weather:	Partly Cloudy, 40's		

WATER LEVEL OBSERVATIONS measurement date/time: 10/23/2018 1038

Point of measurement: PVC Riser [X] Casing [ ] Ground [ ]

Total well depth (feet)	18.93	Standing water in well (feet)	7.33
Depth to LNAPL (feet)	-	Well Diameter (in.)	2
Depth to water (feet)	11.60	Sample Depth (feet bgs)	16
Depth to DNAPL (feet)	-	Standpipe TPVC to Ground (feet)	-
Well Screen (feet bgs)	10 to 20	Roadbox TPVC to Ground (feet)	-

Well Condition: **Protective casing** [ ] poor [X] good **Expansion cap** [X] yes [ ] no **Well ID** [X] yes [ ] no

lock [X] yes [ ] no **Concrete Collar** [ ] yes [X] no **Well** [ ] poor [X] good

EQUIPMENT

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

Pump Type: geopump No. 1

Meter Type: YSI No. 1 **Flow Thru Cell Vol (mL):** 250

INSTRUMENT MEASUREMENTS: Start time: 0902 Stop time: 0943

Time	Depth to water (ft) (drawdown <0.3 or stable)	ORP (mV) (±10)	pH (s.u.) (±0.1)	Spec. Cond (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rds <0.5)	Temp. (°C) (±3%)	Turbidity (ntu) (±10% or <5 ntu)	Flow (mL/min) (<500)	Notes
0903	11.60	95.8	6.46	977	2.16	13.4	20	250	
0927	11.59	17.8	6.24	899	0.92	13.9	<5	250	
0930	11.59	15.9	6.23	897	0.88	13.9	<5	250	
0933	11.59	10.5	6.23	904	0.77	14.1	<5	250	
0936	11.59	9.9	6.23	901	0.77	14.1	<5	250	
0939	11.59	9.7	6.23	900	0.77	14.1	<5	250	

SAMPLE TESTING INFORMATION **Sample time:** 0940

Analysis	Method	No. bottles	Bottle type	Volume	Preservation	Handling
VOC	8260	3	VOA	40	HCL	ICE

SAMPLE OBSERVATIONS

Color None Odor None Clarity Clear **Purge Volume:** 2 gal

Tubing Volume:

Notes:

Groundwater Sampling Data Sheet

File No.	43654	Well ID:	MW-7
Project	Tidewater	Sample Date:	10/25/2018
Location	city: Pawtucket State: RI	Sampler's name:	Sarah Mcleod
Weather:	Sunny, 40's-50's		

WATER LEVEL OBSERVATIONS measurement date/time: 10/23/2018 0730

Point of measurement: PVC Riser [X] Casing [ ] Ground [ ]

Total well depth (feet)	19.22	Standing water in well (feet)	8.35
Depth to LNAPL (feet)	-	Well Diameter (in.)	2
Depth to water (feet)	27.57	Sample Depth (feet bgs)	26
Depth to DNAPL (feet)	-	Standpipe TPVC to Ground (feet)	-
Well Screen (feet bgs)	19.5 to 29.5	Roadbox TPVC to Ground (feet)	-

Well Condition: **Protective casing** [ ] poor [X] good **Expansion cap** [X] yes [ ] no **Well ID** [X] yes [ ] no

lock [X] yes [ ] no **Concrete Collar** [X] yes [ ] no **Well** [ ] poor [X] good

EQUIPMENT

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

Pump Type: Dedicated Submersible No. 1

Meter Type: YSI No. 1 **Flow Thru Cell Vol (mL):** 250

INSTRUMENT MEASUREMENTS: Start time: 0940 Stop time: 1025

Time	Depth to water (ft) (drawdown <0.3 or stable)	ORP (mV) (±10)	pH (s.u.) (±0.1)	Spec. Cond (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rds <0.5)	Temp. (°C) (±3%)	Turbidity (ntu) (±10% or <5 ntu)	Flow (mL/min) (<500)	Notes
0943	19.10	383.5	6.17	1215	8.53	15.7	100	400	
1010	19.10	391	6.11	1238	8.46	15.6	<5	400	
1013	19.10	388.4	6.10	1241	8.44	15.8	<5	400	
1016	19.10	386.4	6.10	1244	8.44	15.9	<5	400	

SAMPLE TESTING INFORMATION **Sample time:** 1018

Analysis	Method	No. bottles	Bottle type	Volume	Preservation	Handling
VOC	8260	3	VOA	40	HCL	ICE

SAMPLE OBSERVATIONS

Color None Odor None Clarity Clear

Purge Volume: 4 gal

Tubing Volume:

Notes:

Groundwater Sampling Data Sheet

File No.	43654	Well ID:	MW-107
Project	Tidewater	Sample Date:	10/24/2018
Location	city: Pawtucket State: RI	Sampler's name:	Sarah Mcleod
Weather:	Partly Cloudy, 40's		

WATER LEVEL OBSERVATIONS measurement date/time: 10/23/18 1132

Point of measurement: PVC Riser [X] Casing [ ] Ground [ ]

Total well depth (feet)	26.75	Standing water in well (feet)	19.61
Depth to LNAPL (feet)	-	Well Diameter (in.)	2
Depth to water (feet)	19.62	Sample Depth (feet bgs)	23
Depth to DNAPL (feet)	-	Standpipe TPVC to Ground (feet)	-
Well Screen (feet bgs)	16 to 26	Roadbox TPVC to Ground (feet)	-

Well Condition: **Protective casing** [ ] poor [X] good **Expansion cap** [X] yes [ ] no **Well ID** [X] yes [ ] no

lock [X] yes [ ] no **Concrete Collar** [X] yes [ ] no **Well** [ ] poor [X] good

EQUIPMENT

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

Pump Type: geopump No.

Meter Type: YSI No. **Flow Thru Cell Vol (mL):** 250

INSTRUMENT MEASUREMENTS: Start time: 1010 Stop time: 1210

Time	Depth to water (ft) (drawdown <0.3 or stable)	ORP (mV) (±10)	pH (s.u.) (±0.1)	Spec. Cond (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rds <0.5)	Temp. (°C) (±3%)	Turbidity (ntu) (±10% or <5 ntu)	Flow (mL/min) (<500)	Notes
1011	19.61	212	3.38	840	0.90	13.5	29	300	
1042	19.59	282.2	3.31	840	0.40	13.6	<5	300	
1045	19.59	288	3.31	840	0.40	13.6	<5	300	
1048	19.59	294.4	3.31	839	0.39	13.6	<5	300	
1155	19.59	422.2	3.32	829	0.61	13.3	<5	300	
1158	19.59	421.6	3.32	827	0.61	13.3	<5	300	
1201	19.59	420	3.33	818	0.61	13.3	<5	300	

SAMPLE TESTING INFORMATION **Sample time:** 1203

Analysis	Method	No. bottles	Bottle type	Volume	Preservation	Handling
VOC	8260	3	VOA	40	HCL	None

SAMPLE OBSERVATIONS

Color None Odor None Clarity clear **Purge Volume:** 6 gals

Tubing Volume:

Notes:

Groundwater Sampling Data Sheet

File No.	43654	Well ID:	MW-109
Project	Tidewater	Sample Date:	10/24/2018
Location	city: Pawtucket State: RI	Sampler's name:	Sarah Mcleod
Weather:	Partly Cloudy, 40's		

WATER LEVEL OBSERVATIONS measurement date/time: 10/24/2018 0730

Point of measurement: PVC Riser [ ] Casing [ ] Ground [X]

Total well depth (feet)	19.22	Standing water in well (feet)	8.42
Depth to LNAPL (feet)	-	Well Diameter (in.)	2
Depth to water (feet)	10.80	Sample Depth (feet bgs)	16
Depth to DNAPL (feet)	-	Standpipe TPVC to Ground (feet)	-
Well Screen (feet bgs)	10 to 20	Roadbox TPVC to Ground (feet)	-

Well Condition: **Protective casing** [ ] poor [X] good **Expansion cap** [X] yes [ ] no **Well ID** [x] yes [ ] no

lock [ ] yes [X] no **Concrete Collar** [ ] yes [X] no **Well** [ ] poor [X] good

EQUIPMENT

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

Pump Type: geopump No. 1

Meter Type: YSI No. 2 **Flow Thru Cell Vol (mL):** 250

INSTRUMENT MEASUREMENTS: Start time: 0730 Stop time: 0816

Time	Depth to water (ft) (drawdown <0.3 or stable)	ORP (mV) (±10)	pH (s.u.) (±0.1)	Spec. Cond (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rds <0.5)	Temp. (°C) (±3%)	Turbidity (ntu) (±10% or <5 ntu)	Flow (mL/min) (<500)	Notes
0731	10.92	-23	6.35	495	1.11	18.5	18	300	
0805	10.82	-79.9	6.42	510	0.62	18	<5	300	
0808	10.82	-81.4	6.42	509	0.58	18	<5	300	
0811	10.82	-82.6	6.42	510	0.59	18	<5	300	
0814	10.82	-84	6.42	510	0.58	18	<5	300	

SAMPLE TESTING INFORMATION **Sample time:** 0815

Analysis	Method	No. bottles	Bottle type	Volume	Preservation	Handling
VOC	8260	3	VOA	40	HCL	Ice

SAMPLE OBSERVATIONS

Color None Odor None Clarity clear

Purge Volume: 2.5 gal

Tubing Volume:

Notes:

Groundwater Sampling Data Sheet

File No.	43654	Well ID:	MW-201
Project	Tidewater	Sample Date:	10/25/2018
Location	city: Pawtucket State: RI	Sampler's name:	Charlie Lindner
Weather:	Sunny, 40's-50's		

WATER LEVEL OBSERVATIONS measurement date/time: 10/23/2018 0839

Point of measurement: PVC Riser [X] Casing [ ] Ground [ ]

Total well depth (feet)	14.98	Standing water in well (feet)	5.98
Depth to LNAPL (feet)	-	Well Diameter (in.)	2
Depth to water (feet)	9.00	Sample Depth (feet bgs)	11
Depth to DNAPL (feet)	-	Standpipe TPVC to Ground (feet)	-
Well Screen (feet bgs)	5 to 15	Roadbox TPVC to Ground (feet)	-

Well Condition: **Protective casing** [ ] poor [X] good **Expansion cap** [X] yes [ ] no **Well ID** [X] yes [ ] no

lock [X] yes [ ] no **Concrete Collar** [ ] yes [X] no **Well** [ ] poor [X] good

EQUIPMENT

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

Pump Type: geopump No. 1

Meter Type: YSI No. 1 **Flow Thru Cell Vol (mL):** 250

INSTRUMENT MEASUREMENTS: Start time: 1025 Stop time: 1050

Time	Depth to water (ft) (drawdown <0.3 or stable)	ORP (mV) (±10)	pH (s.u.) (±0.1)	Spec. Cond (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rds <0.5)	Temp. (°C) (±3%)	Turbidity (ntu) (±10% or <5 ntu)	Flow (mL/min) (<500)	Notes
1025	9.6	-34.2	6.63	731	1.07	15.7	10	200	
1040	9.7	-73.7	6.71	729	0.62	15.9	<5	200	
1043	9.7	-74.0	6.71	729	0.69	15.9	<5	200	
1046	9.7	-74.0	6.71	728	0.65	15.9	<5	200	

SAMPLE TESTING INFORMATION **Sample time:** 1050

Analysis	Method	No. bottles	Bottle type	Volume	Preservation	Handling
VOC	8260	3	VOA	40	HCL	None

SAMPLE OBSERVATIONS

Color none Odor Slight petroleum-like Clarity clear **Purge Volume:** 2 gals

Tubing Volume:

Notes:

Groundwater Sampling Data Sheet

File No.	43654	Well ID:	MW-208
Project	Tidewater	Sample Date:	10/25/2018
Location	city: Pawtucket State: RI	Sampler's name:	Charlie Lindner
Weather:	Sunny, 40's-50's		

WATER LEVEL OBSERVATIONS measurement date/time: 10/23/2018 0823

Point of measurement: PVC Riser [X] Casing [ ] Ground [ ]

Total well depth (feet)	21.73	Standing water in well (feet)	7.19
Depth to LNAPL (feet)	-	Well Diameter (in.)	2
Depth to water (feet)	14.54	Sample Depth (feet bgs)	15
Depth to DNAPL (feet)	-	Standpipe TPVC to Ground (feet)	-
Well Screen (feet bgs)	10 to 20	Roadbox TPVC to Ground (feet)	-

Well Condition:
Protective casing [ ] poor [X] good **Expansion cap** [X] yes [ ] no **Well ID** [X] yes [ ] no
lock [X] yes [ ] no **Concrete Collar** [ ] yes [X] no **Well** [ ] poor [X] good

EQUIPMENT

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

Pump Type: geopump No. 1

Meter Type: YSI No. 1 **Flow Thru Cell Vol (mL):** 250

INSTRUMENT MEASUREMENTS: Start time: 0854 Stop time: 935

Time	Depth to water (ft) (drawdown <0.3 or stable)	ORP (mV) (±10)	pH (s.u.) (±0.1)	Spec. Cond (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rds <0.5)	Temp. (°C) (±3%)	Turbidity (ntu) (±10% or <5 ntu)	Flow (mL/min) (<500)	Notes
855	14.5	20.1	6.22	786	0.80	13.8	100	200	
924	14.5	13.4	6.23	779	0.41	14.2	<5	200	
937	14.5	13.7	6.23	778	0.39	14.1	<5	200	
930	14.5	13.0	6.23	780	0.40	14.1	<5	200	

SAMPLE TESTING INFORMATION **Sample time:** 935

Analysis	Method	No. bottles	Bottle type	Volume	Preservation	Handling
VOC	8260	3	VOA	40	HCL	None

SAMPLE OBSERVATIONS

Color None Odor None Clarity Clear

Purge Volume: 2 gal

Tubing Volume:

Notes:

Groundwater Sampling Data Sheet

File No. 43654 | Well ID: MW-310D
Project Tidewater | Sample Date: 102/4/2018
Location city: Pawtucket State: RI | Sampler's name: Sarah Mcleod
Weather: Partly Cloudy, 40's

WATER LEVEL OBSERVATIONS measurement date/time: 10/23/2018 0753

Point of measurement: PVC Riser [X] Casing [ ] Ground [ ]

Total well depth (feet)	36.48	Standing water in well (feet)	30.95
Depth to LNAPL (feet)	-	Well Diameter (in.)	2
Depth to water (feet)	5.53	Sample Depth (feet bgs)	31
Depth to DNAPL (feet)	-	Standpipe TPVC to Ground (feet)	-
Well Screen (feet bgs)	27 to 37	Roadbox TPVC to Ground (feet)	-

Well Condition:
Protective casing [ ] poor [X] good **Expansion cap** [X] yes [ ] no **Well ID** [X] yes [ ] no
lock [X] yes [ ] no **Concrete Collar** [X] yes [ ] no **Well** [ ] poor [X] good

EQUIPMENT

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

Pump Type: geopump No. 1

Meter Type: YSI No. 1 **Flow Thru Cell Vol (mL):** 250

INSTRUMENT MEASUREMENTS: Start time: 1458 Stop time: 1547

Time	Depth to water (ft) (drawdown <0.3 or stable)	ORP (mV) (±10)	pH (s.u.) (±0.1)	Spec. Cond (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rds <0.5)	Temp. (°C) (±3%)	Turbidity (ntu) (±10% or <5 ntu)	Flow (mL/min) (<500)	Notes
1502	9.8	-51.3	6.39	804	2.31	13.4	<5	250	
1518	9.56	-69.1	6.69	799	1.99	13.8	<5	250	
1521	9.56	-71.5	6.71	802	1.67	13.5	<5	250	
1531	9.32	-74.9	6.77	800	1.34	13.4	<5	250	
1534	9.32	-74.8	6.77	800	1.36	13.4	<5	250	
1539	9.32	-73.3	6.78	800	1.36	13.4	<5	250	

SAMPLE TESTING INFORMATION **Sample time:** 1540

Analysis	Method	No. bottles	Bottle type	Volume	Preservation	Handling
VOC	8260	3	VOA	40	HCL	ICE

SAMPLE OBSERVATIONS

Color none Odor none Clarity clear **Purge Volume:** 3.5 gals
Tubing Volume:

Notes:

Groundwater Sampling Data Sheet

File No.	43654	Well ID:	MW-310S
Project	Tidewater	Sample Date:	10/24/2018
Location	City: Pawtucket State: RI	Sampler's name:	Charlie Lindner
Weather:	Partly Cloudy, 40's		

WATER LEVEL OBSERVATIONS measurement date/time: 10/23/2018 0755

Point of measurement: PVC Riser [X] Casing [ ] Ground [ ]

Total well depth (feet)	16.96	Standing water in well (feet)	10.93
Depth to LNAPL (feet)	-	Well Diameter (in.)	2
Depth to water (feet)	6.03	Sample Depth (feet bgs)	13
Depth to DNAPL (feet)	-	Standpipe TPVC to Ground (feet)	-
Well Screen (feet bgs)	7 to 17	Roadbox TPVC to Ground (feet)	-

Well Condition: **Protective casing** [ ] poor [X] good **Expansion cap** [X] yes [ ] no **Well ID** [X] yes [ ] no

lock [X] yes [ ] no **Concrete Collar** [X] yes [ ] no **Well** [ ] poor [X] good

EQUIPMENT

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

Pump Type: geopump No. 1

Meter Type: YSI No. 1 **Flow Thru Cell Vol (mL):** 250

INSTRUMENT MEASUREMENTS: Start time: 1500 Stop time: 1610

Time	Depth to water (ft) (drawdown <0.3 or stable)	ORP (mV) (±10)	pH (s.u.) (±0.1)	Spec. Cond (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rds <0.5)	Temp. (°C) (±3%)	Turbidity (ntu) (±10% or <5 ntu)	Flow (mL/min) (<500)	Notes
1505	10.22	57.2	635	250.9	0.72	15.0	100	250	
1532	11.2	-27.3	6.42	254.7	0.21	14.8	<5	250	
1600	10.41	-31.3	6.36	290.7	0.15	14.7	<5	250	*
1603	10.42	-31.7	6.35	292.2	0.15	14.8	<5	250	
1606	10.42	-31.5	6.35	293.0	0.15	14.7	<5	250	

SAMPLE TESTING INFORMATION **Sample time:** 1610

Analysis	Method	No. bottles	Bottle type	Volume	Preservation	Handling
VOC	8260	3	VOA	40	HCL	ICE

SAMPLE OBSERVATIONS

Color None Odor None Clarity Clear **Purge Volume:** 5 gal

Tubing Volume:

Notes:

Groundwater Sampling Data Sheet

File No.	43654	Well ID:	MW-312D
Project	Tidewater	Sample Date:	10/25/2018
Location	city: Pawtucket State: RI	Sampler's name:	Charlie Lindner
Weather:	Sunny, 40's-50's		

WATER LEVEL OBSERVATIONS measurement date/time: 10/23/2018 1221

Point of measurement: PVC Riser [X] Casing [ ] Ground [ ]

Total well depth (feet)	31.96	Standing water in well (feet)	22.07
Depth to LNAPL (feet)	-	Well Diameter (in.)	2
Depth to water (feet)	9.89	Sample Depth (feet bgs)	30
Depth to DNAPL (feet)	-	Standpipe TPVC to Ground (feet)	-
Well Screen (feet bgs)	22 to 32	Roadbox TPVC to Ground (feet)	-

Well Condition: **Protective casing** [ ] poor [X] good **Expansion cap** [X] yes [ ] no **Well ID** [X] yes [ ] no

lock [X] yes [ ] no **Concrete Collar** [X] yes [ ] no **Well** [ ] poor [X] good

EQUIPMENT

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

Pump Type: geopump No. 1

Meter Type: YSI No. 1 **Flow Thru Cell Vol (mL):** 250

INSTRUMENT MEASUREMENTS: Start time: 1515 Stop time: 1555

Time	Depth to water (ft) (drawdown <0.3 or stable)	ORP (mV) (±10)	pH (s.u.) (±0.1)	Spec. Cond (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rds <0.5)	Temp. (°C) (±3%)	Turbidity (ntu) (±10% or <5 ntu)	Flow (mL/min) (<500)	Notes
1515	11.2	-96.4	7.39	1107	1.6	15.4	105	250	
1520	11.2	-117.5	7.28	1090	.88	15.1	<5	250	
1523	11.2	-121.2	7.27	1055	.77	15.1	<5	250	
1530	11.2	-121.8	7.27	1052	.68	14.9	<5	250	
1544	11.2	-125.1	7.25	1026	.50	14.7	<5	250	
1547	11.2	-125.3	7.26	1020	.49	14.8	<5	250	
1550	11.2	-125.9	7.26	1017	.48	14.9	<5	250	

SAMPLE TESTING INFORMATION **Sample time:** 1550

Analysis	Method	No. bottles	Bottle type	Volume	Preservation	Handling
VOC	8260	3	VOA	40	HCL	ICE

SAMPLE OBSERVATIONS

Color None Odor Petroleum Like Clarity Cloudy **Purge Volume:** 3 gal

Tubing Volume:

Notes:

Groundwater Sampling Data Sheet

File No. 43654 | Well ID: MW-312S
Project Tidewater | Sample Date: 10/25/2018
Location city: Pawtucket State: RI | Sampler's name: Sarah Mcleod
Weather: Sunny, 40's-50's

WATER LEVEL OBSERVATIONS measurement date/time: 10/23/2018 1225

Point of measurement: PVC Riser [X] Casing [ ] Ground [ ]

Total well depth (feet)	23.25	Standing water in well (feet)	12.98
Depth to LNAPL (feet)	9.13	Well Diameter (in.)	2
Depth to water (feet)	10.27	Sample Depth (feet bgs)	18
Depth to DNAPL (feet)	-	Standpipe TPVC to Ground (feet)	-
Well Screen (feet bgs)	5 to 20	Roadbox TPVC to Ground (feet)	-

Well Condition: **Protective casing** [ ] poor [X] good **Expansion cap** [X] yes [ ] no **Well ID** [X] yes [ ] no
lock [X] yes [ ] no **Concrete Collar** [X] yes [ ] no **Well** [ ] poor [X] good

EQUIPMENT

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

Pump Type: geopump No. 1

Meter Type: YSI No. 1 **Flow Thru Cell Vol (mL):** 250

INSTRUMENT MEASUREMENTS: Start time: 1520 Stop time: 1608

Time	Depth to water (ft) (drawdown <0.3 or stable)	ORP (mV) (±10)	pH (s.u.) (±0.1)	Spec. Cond (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rds <0.5)	Temp. (°C) (±3%)	Turbidity (ntu) (±10% or <5 ntu)	Flow (mL/min) (<500)	Notes
1525	10.12	-89.6	6.16	2897	1.42	16.9	20.9	450	
1540	10.12	-122.6	6.12	2993	0.44	16.4	<5	450	
1557	10.12	-177	6.14	2892	0.41	15.8	<5	450	
1600	10.12	-178.8	6.14	2889	0.41	15.8	<5	450	
1603	10.12	-183.6	6.14	2865	0.41	15.7	<5	450	

SAMPLE TESTING INFORMATION **Sample time:** 1604

Analysis	Method	No. bottles	Bottle type	Volume	Preservation	Handling
VOC	8260	3	VOA	40	HCL	ICE

SAMPLE OBSERVATIONS

Color None Odor Petroleum like Clarity: Sheen **Purge Volume:** 4 gal
Tubing Volume:

Notes:

Groundwater Sampling Data Sheet

File No. 43654 | Well ID: MW-314D
Project Tidewater | Sample Date: 10/23/2018
Location city: Pawtucket State: RI | Sampler's name: Sarah Mcleod
Weather: Partly Cloudy, 50's

WATER LEVEL OBSERVATIONS measurement date/time: 10/23/2018 0938

Point of measurement: PVC Riser [X] Casing [ ] Ground [ ]

Total well depth (feet)	43.6	Standing water in well (feet)	11
Depth to LNAPL (feet)	-	Well Diameter (in.)	2
Depth to water (feet)	7.9	Sample Depth (feet bgs)	25
Depth to DNAPL (feet)	-	Standpipe TPVC to Ground (feet)	-
Well Screen (feet bgs)	10 to 20	Roadbox TPVC to Ground (feet)	-

Well Condition: **Protective casing** [ ] poor [X] good **Expansion cap** [X] yes [ ] no **Well ID** [X] yes [ ] no
lock [X] yes [ ] no **Concrete Collar** [ ] yes [X] no **Well** [ ] poor [X] good

EQUIPMENT

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

Pump Type: Solinst No. 1

Meter Type: YSI No. 1 **Flow Thru Cell Vol (mL):** 250

INSTRUMENT MEASUREMENTS: Start time: 1540 Stop time: 1615

Time	Depth to water (ft) (drawdown <0.3 or stable)	ORP (mV) (±10)	pH (s.u.) (±0.1)	Spec. Cond (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rds <0.5)	Temp. (°C) (±3%)	Turbidity (ntu) (±10% or <5 ntu)	Flow (mL/min) (<500)	Notes
1543	11	-1.9	6.52	15015	0.88	13.6	24	200	
1603	11.2	-61.8	6.80	10234	0.25	13.4	<5	200	
1606	11.2	-63	6.80	10060	0.33	13.5	<5	200	
1609	11.2	-66	6.82	10053	0.27	13.4	<5	200	
1612	11.2	-67.5	6.82	10049	0.24	13.4	<5	200	

SAMPLE TESTING INFORMATION **Sample time:** 1613

Analysis	Method	No. bottles	Bottle type	Volume	Preservation	Handling
VOC	8260	3	VOA	40	HCL	ICE

SAMPLE OBSERVATIONS

Color None Odor None Clarity CLEAR

Purge Volume: 5 gal
Tubing Volume:

Notes:

Groundwater Sampling Data Sheet

File No.	43654	Well ID:	MW-314S
Project	Tidewater	Sample Date:	10/23/2018
Location	city: Pawtucket State: RI	Sampler's name:	Sarah Mcleod
Weather:	Partly Cloudy, 50's		

WATER LEVEL OBSERVATIONS measurement date/time: 10/23/2018 0940

Point of measurement: PVC Riser [X] Casing [ ] Ground [ ]

Total well depth (feet)	24.34	Standing water in well (feet)	16.45
Depth to LNAPL (feet)	-	Well Diameter (in.)	2
Depth to water (feet)	9.89	Sample Depth (feet bgs)	20
Depth to DNAPL (feet)	-	Standpipe TPVC to Ground (feet)	-
Well Screen (feet bgs)	10 to 25	Roadbox TPVC to Ground (feet)	-

Well Condition: **Protective casing** [ ] poor [X] good **Expansion cap** [X] yes [ ] no **Well ID** [X] yes [ ] no

lock [X] yes [ ] no **Concrete Collar** [ ] yes [X] no **Well** [ ] poor [X] good

EQUIPMENT

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

Pump Type: Solinst No. 1

Meter Type: YSI No. 1 **Flow Thru Cell Vol (mL):** 250

INSTRUMENT MEASUREMENTS: Start time: 1440 Stop time: 1510

Time	Depth to water (ft) (drawdown <0.3 or stable)	ORP (mV) (±10)	pH (s.u.) (±0.1)	Spec. Cond (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rds <0.5)	Temp. (°C) (±3%)	Turbidity (ntu) (±10% or <5 ntu)	Flow (mL/min) (<500)	Notes
1456	10.42	-57.9	6.43	1058	0.28	16.5	<5	250	
1459	10.42	-59.8	6.43	1069	0.28	16.5	<5	250	
1502	10.42	-61.1	6.43	1061	0.28	16.5	<5	250	
1505	10.42	-62.5	6.43	1058	0.27	16.5	<5	250	

SAMPLE TESTING INFORMATION **Sample time:** 1508

Analysis	Method	No. bottles	Bottle type	Volume	Preservation	Handling
VOC	8260	3	VOA	40	HCL	ICE

SAMPLE OBSERVATIONS

Color None Odor Slight Petroleum Clarity CLEAR

Purge Volume: 6 gal

Tubing Volume:

Notes:

Groundwater Sampling Data Sheet

File No.	43654	Well ID:	MW-316D
Project	Tidewater	Sample Date:	10/25/2018
Location	city: Pawtucket State: RI	Sampler's name:	Sarah Mcleod
Weather:	Sunny 40's		

WATER LEVEL OBSERVATIONS measurement date/time: 10/25/2018 0702

Point of measurement: PVC Riser [X] Casing [ ] Ground [ ]

Total well depth (feet)	31.4	Standing water in well (feet)	21.3
Depth to LNAPL (feet)	-	Well Diameter (in.)	2
Depth to water (feet)	21.3	Sample Depth (feet bgs)	25
Depth to DNAPL (feet)	-	Standpipe TPVC to Ground (feet)	-
Well Screen (feet bgs)	22 to 27	Roadbox TPVC to Ground (feet)	-

Well Condition:

Protective casing	[ ] poor	[X] good	**Expansion cap**	[ ] yes	[X] no	**Well ID**	[X] yes	[ ] no	
lock	[X] yes	[ ] no	**Concrete Collar**	[ ] yes	[X] no	**Well**	[ ] poor	[X] good	

EQUIPMENT

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

Pump Type: Dedicated Submersible No. 1

Meter Type: YSI No. 1 **Flow Thru Cell Vol (mL):** 250

INSTRUMENT MEASUREMENTS: Start time: 755 Stop time: 0855

Time	Depth to water (ft) (drawdown <0.3 or stable)	ORP (mV) (±10)	pH (s.u.) (±0.1)	Spec. Cond (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rds <0.5)	Temp. (°C) (±3%)	Turbidity (ntu) (±10% or <5 ntu)	Flow (mL/min) (<500)	Notes
0840	21.3	360.6	6.35	679	7.51	13.6	<5	350	
0843	21.3	363	6.34	680	7.50	13.9	<5	350	
0846	21.3	368.2	6.34	682	7.55	13.8	<5	350	
0849	21.3	370	6.34	682	7.55	13.8	<5	350	

SAMPLE TESTING INFORMATION **Sample time:** 0852

Analysis	Method	No. bottles	Bottle type	Volume	Preservation	Handling
VOC	8260	3	VOA	40	HCL	

SAMPLE OBSERVATIONS

Color none Odor none Clarity Clear

Purge Volume: 4 gals

Tubing Volume:

Notes:

Groundwater Sampling Data Sheet

File No.	43654	Well ID:	MW-316S
Project	Tidewater	Sample Date:	10/25/2018
Location	city: Pawtucket State: RI	Sampler's name:	Sarah Mcleod
Weather:	Sunny, 40's		

WATER LEVEL OBSERVATIONS measurement date/time: 10/25/2018 0700

Point of measurement	PVC Riser [X] Casing [ ] Ground [ ]		
Total well depth (feet)	22.74	Standing water in well (feet)	-
Depth to LNAPL (feet)	-	Well Diameter (in.)	2
Depth to water (feet)	21.33	Sample Depth (feet bgs)	-
Depth to DNAPL (feet)	-	Standpipe TPVC to Ground (feet)	-
Well Screen (feet bgs)	10 to 20	Roadbox TPVC to Ground (feet)	-

Well Condition:
Protective casing [ ] poor [ ] good **Expansion cap** [ ] yes [X] no **Well ID** [X] yes [ ] no
lock [X] yes [ ] no **Concrete Collar** [ ] yes [X] no **Well** [ ] poor [X] good

EQUIPMENT

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

Pump Type: geopump No. 1

Meter Type: YSI No. 1 **Flow Thru Cell Vol (mL):**

INSTRUMENT MEASUREMENTS: Start time: 0800 Stop time: 1027

Time	Depth to water (ft) (drawdown	ORP (mV) (±10)	pH (s.u.) (±0.1)	Spec. Cond (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rds <0.5)	Temp. (°C) (±3%)	Turbidity (ntu) (±10% or <5 ntu)	Flow (mL/min) (<500)	Notes

SAMPLE TESTING INFORMATION **Sample time:**

Analysis	Method	No. bottles	Bottle type	Volume	Preservation	Handling
VOC	8260	3	VOA	40	HCL	

Groundwater Sampling Data Sheet

SAMPLE OBSERVATIONS

Color Odor Clarity

Purge Volume:

Tubing Volume:

Notes: Turned pump off at 0820 to let recharge for 2 hours because well pumped dry

turned pump back on at 1027, pumped dry at 1030- cannot sample

Groundwater Sampling Data Sheet

File No.	43654	Well ID:	MW-318D
Project	Tidewater	Sample Date:	10/24/2018
Location	city: Pawtucket State: RI	Sampler's name:	Sarah Mcleod
Weather:	Partly Cloudy, 40's		

WATER LEVEL OBSERVATIONS measurement date/time: 10/23/2018 1138

Point of measurement: PVC Riser [X] Casing [ ] Ground [ ]

Total well depth (feet)	38.33	Standing water in well (feet)	20.63
Depth to LNAPL (feet)	-	Well Diameter (in.)	2
Depth to water (feet)	17.7	Sample Depth (feet bgs)	32
Depth to DNAPL (feet)	-	Standpipe TPVC to Ground (feet)	-
Well Screen (feet bgs)	30 to 40	Roadbox TPVC to Ground (feet)	-

Well Condition:

Protective casing	[ ] poor	[X] good	**Expansion cap**	[X] yes	[ ] no	**Well ID**	[X] yes	[ ] no	
lock	[X] yes	[ ] no	**Concrete Collar**	[ ] yes	[X] no	**Well**	[ ] poor	[X] good	

EQUIPMENT

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

Pump Type: geopump No. 1

Meter Type: YSI No. 2 **Flow Thru Cell Vol (mL):** 250

INSTRUMENT MEASUREMENTS: Start time: 1250 Stop time: 1405

Time	Depth to water (ft) (drawdown <0.3 or stable)	ORP (mV) (±10)	pH (s.u.) (±0.1)	Spec. Cond (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rds <0.5)	Temp. (°C) (±3%)	Turbidity (ntu) (±10% or <5 ntu)	Flow (mL/min) (<500)	Notes
1255	18.7	341.6	5.84	545	1.84	13.4	30	300	
1355	19.43	338.8	5.9	547	1.32	13.2	<5	250	
1358	19.45	338.2	5.9	547	1.32	13.2	<5	250	
1401	19.45	338.3	5.9	547	1.40	13.2	<5	250	

SAMPLE TESTING INFORMATION **Sample time:** 1405

Analysis	Method	No. bottles	Bottle type	Volume	Preservation	Handling
VOC	8260	3	VOA	40	HCL	None

SAMPLE OBSERVATIONS

Color None Odor None Clarity Clear

Purge Volume: 3 gal

Tubing Volume:

Notes:

Groundwater Sampling Data Sheet

File No.	43654	Well ID:	MW-318S
Project	Tidewater	Sample Date:	10/24/2018
Location	city: Pawtucket State: RI	Sampler's name:	Sarah Mcleod
Weather:	Partly Cloudy, 40's		

WATER LEVEL OBSERVATIONS measurement date/time: 10/23/2017 1136

Point of measurement: PVC Riser [X] Casing [ ] Ground [ ]

Total well depth (feet)	26.85	Standing water in well (feet)	9.92
Depth to LNAPL (feet)	-	Well Diameter (in.)	2
Depth to water (feet)	16.93	Sample Depth (feet bgs)	26
Depth to DNAPL (feet)	-	Standpipe TPVC to Ground (feet)	-
Well Screen (feet bgs)	20 to 30	Roadbox TPVC to Ground (feet)	-

Well Condition: **Protective casing** [ ] poor [X] **Expansion cap** [X] yes [ ] no **Well ID** [X] yes [ ] no

lock [X] yes [ ] no **Concrete Collar** [ ] yes [X] no **Well** [ ] poor [X] good

EQUIPMENT

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

Pump Type: No.

Meter Type: YSI No. **Flow Thru Cell Vol (mL):** 25

INSTRUMENT MEASUREMENTS: Start time: 1325 Stop time: 1417

Time	Depth to water (ft) (drawdown <0.3 or stable)	ORP (mV) (±10)	pH (s.u.) (±0.1)	Spec. Cond (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rds <0.5)	Temp. (°C) (±3%)	Turbidity (ntu) (±10% or <5 ntu)	Flow (mL/min) (<500)	Notes
1329	17.08	394	2.79	1364	1.93	13.4	36	350	
1405	17.17	388.9	2.82	1360	0.4	14.3	<5	350	
1408	17.17	388.7	2.82	1359	0.36	14.4	<5	350	
1411	17.17	390.4	2.82	1361	0.39	14.4	<5	350	

SAMPLE TESTING INFORMATION **Sample time:** 1412

Analysis	Method	No. bottles	Bottle type	Volume	Preservation	Handling
VOC	8260	3	VOA	40	HCL	None

SAMPLE OBSERVATIONS

Color None Odor None Clarity Clear

Purge Volume: 5.5 gal

Tubing Volume:

Notes:

Groundwater Sampling Data Sheet

File No. 43654 | Well ID: MW-326D
Project Tidewater | Sample Date: 10/25/2018
Location city: Pawtucket State: RI | Sampler's name: Charlie Lindner
Weather: Sunny, 40's-50's

WATER LEVEL OBSERVATIONS measurement date/time: 10/23/2018 0856

Point of measurement: PVC Riser [X] Casing [ ] Ground [ ]

Total well depth (feet)	45.15	Standing water in well (feet)	36.21
Depth to LNAPL (feet)	-	Well Diameter (in.)	2
Depth to water (feet)	8.94	Sample Depth (feet bgs)	40
Depth to DNAPL (feet)	-	Standpipe TPVC to Ground (feet)	-
Well Screen (feet bgs)	23 to 43	Roadbox TPVC to Ground (feet)	-

Well Condition: **Protective casing** [ ] poor [X] good **Expansion cap** [X] yes [ ] no **Well ID** [X] yes [ ] no
lock [X] yes [ ] no **Concrete Collar** [ ] yes [X] no **Well** [ ] poor [X] good

EQUIPMENT

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

Pump Type: geopump No. 1

Meter Type: YSI No. 1 **Flow Thru Cell Vol (mL):** 250

INSTRUMENT MEASUREMENTS: Start time: 1215 Stop time: 1320

Time	Depth to water (ft) (drawdown <0.3 or stable)	ORP (mV) (±10)	pH (s.u.) (±0.1)	Spec. Cond (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rds <0.5)	Temp. (°C) (±3%)	Turbidity (ntu) (±10% or <5 ntu)	Flow (mL/min) (<500)	Notes
1215	12.3	-58.4	7.31	12555	4.34	15.2	94	250	
1305	12.3	-81.1	7.29	13144	4.50	14.2	<5	250	
1308	12.3	-81.4	7.29	13141	0.47	14.3	<5	250	
1311	12.3	-82.3	7.3	13147	0.42	14.3	<5	250	

SAMPLE TESTING INFORMATION **Sample time:** 1312

Analysis	Method	No. bottles	Bottle type	Volume	Preservation	Handling
VOC	8260	3	VOA	40	HCL	None

SAMPLE OBSERVATIONS

Color None Odor None Clarity Clear

Purge Volume: 3 gals
Tubing Volume:

Notes:

Groundwater Sampling Data Sheet

File No.	43654	Well ID:	MW-326S
Project	Tidewater	Sample Date:	10/25/2018
Location	city: Pawtucket State: RI	Sampler's name:	Sarah Mcleod
Weather:	Sunny, 40's-50's		

WATER LEVEL OBSERVATIONS measurement date/time: 10/23/2018 0858

Point of measurement: PVC Riser [X] Casing [ ] Ground [ ]

Total well depth (feet)	26.87	Standing water in well (feet)	16.92
Depth to LNAPL (feet)	trace	Well Diameter (in.)	2
Depth to water (feet)	9.95	Sample Depth (feet bgs)	17
Depth to DNAPL (feet)	-	Standpipe TPVC to Ground (feet)	-
Well Screen (feet bgs)	5 to 25	Roadbox TPVC to Ground (feet)	-

Well Condition: **Protective casing** [ ] poor [X] good **Expansion cap** [X] yes [ ] no **Well ID** [X] yes [ ] no

lock [X] yes [ ] no **Concrete Collar** [ ] yes [X] no **Well** [ ] poor [X] good

EQUIPMENT

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

Pump Type: geopump No. 1

Meter Type: YSI No. 1 **Flow Thru Cell Vol (mL):** 250

INSTRUMENT MEASUREMENTS: Start time: 1225 Stop time: 1400

Time	Depth to water (ft) (drawdown <0.3 or stable)	ORP (mV) (±10)	pH (s.u.) (±0.1)	Spec. Cond (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rds <0.5)	Temp. (°C) (±3%)	Turbidity (ntu) (±10% or <5 ntu)	Flow (mL/min) (<500)	Notes
1229	12.27	-33	6.22	1220	0.89	15.6	50	350	
1345	12.27	-62.2	6.39	1089	0.31	15.6	<5	250	
1348	12.27	-62.5	6.39	1090	0.31	15.4	<5	250	
1351	12.27	-62.3	6.39	1089	0.31	15.4	<5	250	

SAMPLE TESTING INFORMATION **Sample time:** 1355

Analysis	Method	No. bottles	Bottle type	Volume	Preservation	Handling
VOC	8260	3	VOA	40	HCL	ICE

SAMPLE OBSERVATIONS

Color None Odor petroleum like Clarity Sheen

Purge Volume: 4.5 gals

Tubing Volume:

Notes:

Groundwater Sampling Data Sheet

File No. 43654 | Well ID: MW-333D
Project Tidewater | Sample Date: 10/25/2018
Location city: Pawtucket State: RI | Sampler's name: Sarah Mcleod
Weather: Sunny, 40's-50's

WATER LEVEL OBSERVATIONS measurement date/time: 10/23/2018 0850

Point of measurement: PVC Riser [X] Casing [ ] Ground [ ]

Total well depth (feet)	45.05	Standing water in well (feet)	35.95
Depth to LNAPL (feet)	-	Well Diameter (in.)	2
Depth to water (feet)	9.1	Sample Depth (feet bgs)	40
Depth to DNAPL (feet)	-	Standpipe TPVC to Ground (feet)	-
Well Screen (feet bgs)	35 to 45	Roadbox TPVC to Ground (feet)	-

Well Condition: **Protective casing** [ ] poor [X] good **Expansion cap** [X] yes [ ] no **Well ID** [X] yes [ ] no
lock [X] yes [ ] no **Concrete Collar** [ ] yes [X] no **Well** [ ] poor [X] good

EQUIPMENT

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

Pump Type: geopump No. 1

Meter Type: YSI No. 1 **Flow Thru Cell Vol (mL):** 250

INSTRUMENT MEASUREMENTS: Start time: 1425 Stop time: 1500

Time	Depth to water (ft) (drawdown <0.3 or stable)	ORP (mV) (±10)	pH (s.u.) (±0.1)	Spec. Cond (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rds <0.5)	Temp. (°C) (±3%)	Turbidity (ntu) (±10% or <5 ntu)	Flow (mL/min) (<500)	Notes
1425	13.8	-24.6	6.76	3350	2.25	14.1	10.5	250	
1445	13.78	-118	7.12	2336	1.28	13.4	<5	250	
1448	13.77	-120.3	7.14	2331	1.27	13.4	<5	250	
1451	13.77	-123	7.14	2335	1.26	13.4	<5	250	

SAMPLE TESTING INFORMATION **Sample time:** 1455

Analysis	Method	No. bottles	Bottle type	Volume	Preservation	Handling
VOC	8260	3	VOA	40	HCL	ICE

SAMPLE OBSERVATIONS

Color None Odor None Clarity Clear **Purge Volume:** 2 gal
Tubing Volume:

Notes:

Groundwater Sampling Data Sheet

File No. 43654 | Well ID: MW-333S
Project Tidewater | Sample Date: 10/25/2018
Location city: Pawtucket State: RI | Sampler's name: Sarah Mcleod
Weather: Sunny, 40's-50's

WATER LEVEL OBSERVATIONS measurement date/time: 10/25/2018 0852

Point of measurement: PVC Riser [X] Casing [ ] Ground [ ]

Total well depth (feet)	17.45	Standing water in well (feet)	8.3
Depth to LNAPL (feet)	-	Well Diameter (in.)	2
Depth to water (feet)	9.15	Sample Depth (feet bgs)	14
Depth to DNAPL (feet)	-	Standpipe TPVC to Ground (feet)	-
Well Screen (feet bgs)	8 to 18	Roadbox TPVC to Ground (feet)	-

Well Condition: **Protective casing** [ ] poor [X] good **Expansion cap** [X] yes [ ] no **Well ID** [X] yes [ ] no
lock [X] yes [ ] no **Concrete Collar** [X] yes [ ] no **Well** [ ] poor [X] good

EQUIPMENT

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

Pump Type: geopump No. 1

Meter Type: YSI No. 1 **Flow Thru Cell Vol (mL):** 250

INSTRUMENT MEASUREMENTS: Start time: 1350 Stop time: 1439

Time	Depth to water (ft) (drawdown <0.3 or stable)	ORP (mV) (±10)	pH (s.u.) (±0.1)	Spec. Cond (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rds <0.5)	Temp. (°C) (±3%)	Turbidity (ntu) (±10% or <5 ntu)	Flow (mL/min) (<500)	Notes
1355	11.6	25.5	7.78	6280	7.31	16.3	100	400	
1430	11.6	-129.5	6.68	5150	0.42	15.6	<5	400	
1433	11.6	-129.7	6.68	5154	0.42	15.6	<5	400	
1436	11.6	131.7	6.68	5141	0.37	15.5	<5	400	

SAMPLE TESTING INFORMATION **Sample time:** 1438

Analysis	Method	No. bottles	Bottle type	Volume	Preservation	Handling
VOC	8260	3	VOA	40	HCL	ICE

SAMPLE OBSERVATIONS

Color none Odor none Clarity clear **Purge Volume:** 5 gals
Tubing Volume:

Notes:

Groundwater Sampling Data Sheet

File No.	43654	Well ID:	MW-334D
Project	Tidewater	Sample Date:	10/24/2018
Location	city: Pawtucket State: RI	Sampler's name:	Sarah Mcleod
Weather:	Partly Cloudy, 40's		

WATER LEVEL OBSERVATIONS measurement date/time: 10/23/2018 1130

Point of measurement: PVC Riser [X] Casing [ ] Ground [ ]

Total well depth (feet)	43.40	Standing water in well (feet)	23.35
Depth to LNAPL (feet)	-	Well Diameter (in.)	2"
Depth to water (feet)	20.05	Sample Depth (feet bgs)	35
Depth to DNAPL (feet)	-	Standpipe TPVC to Ground (feet)	-
Well Screen (feet bgs)	32 to 42	Roadbox TPVC to Ground (feet)	-

Well Condition: **Protective casing** [ ] poor [X] good **Expansion cap** [X] yes [ ] no **Well ID** [X] yes [ ] no

lock [ ] yes [X] no **Concrete Collar** [X] yes [ ] no **Well** [ ] poor [X] good

EQUIPMENT

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

Pump Type: Dedicated Submersible No. 1

Meter Type: YSI No. 2 **Flow Thru Cell Vol (mL):** 250

INSTRUMENT MEASUREMENTS: Start time: 1155 Stop time: 1259

Time	Depth to water (ft) (drawdown <0.3 or stable)	ORP (mV) (±10)	pH (s.u.) (±0.1)	Spec. Cond (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rds <0.5)	Temp. (°C) (±3%)	Turbidity (ntu) (±10% or <5 ntu)	Flow (mL/min) (<500)	Notes
1156	20.1	432.3	2.56	2070	0.57	13.6	40	250	
1217	20.43	431.2	2.57	2048	0.55	13.7	<5	250	
1220	20.43	431.5	2.57	2048	0.53	13.7	<5	250	
1223	20.43	431.6	2.56	2072	0.73	13.7	<5	250	
1226	20.43	431.8	2.56	2069	0.70	13.9	<5	250	
1247	20.90	429.8	2.56	2100	0.53	13.8	<5	250	
1250	20.90	429.8	2.56	2102	0.53	13.8	<5	250	
1253	20.90	429.7	2.56	2102	0.53	13.8	<5	250	

SAMPLE TESTING INFORMATION **Sample time:** 1255

Analysis	Method	No. bottles	Bottle type	Volume	Preservation	Handling
VOC	8260	3	VOA	40	HCL	ICE

SAMPLE OBSERVATIONS

Color none Odor none Clarity clear **Purge Volume:** 2gal

Tubing Volume:

Notes: BD-102418

Groundwater Sampling Data Sheet

File No. 43654 | Well ID: MW-334S
Project Tidewater | Sample Date: 10/24/2018
Location city: Pawtucket State: RI | Sampler's name: Charlie Lindner
Weather: Partly Cloudy, 40's

WATER LEVEL OBSERVATIONS measurement date/time: 10/23/2018 1127

Point of measurement: PVC Riser [X] Casing [ ] Ground [ ]

Total well depth (feet)	28.07	Standing water in well (feet)	8.85
Depth to LNAPL (feet)	-	Well Diameter (in.)	2
Depth to water (feet)	19.22	Sample Depth (feet bgs)	25
Depth to DNAPL (feet)	-	Standpipe TPVC to Ground (feet)	-
Well Screen (feet bgs)	20 to 30	Roadbox TPVC to Ground (feet)	-

Well Condition:
Protective casing [ ] poor [X] good **Expansion cap** [X] yes [ ] no **Well ID** [X] yes [ ] no
lock [ ] yes [X] no **Concrete Collar** [ ] yes [X] no **Well** [ ] poor [X] good

EQUIPMENT

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

Pump Type: Solinst No. 1

Meter Type: YSI No. 1 **Flow Thru Cell Vol (mL):** 250

INSTRUMENT MEASUREMENTS: Start time: 1040 Stop time: 1110

Time	Depth to water (ft) (drawdown <0.3 or stable)	ORP (mV) (±10)	pH (s.u.) (±0.1)	Spec. Cond (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rds <0.5)	Temp. (°C) (±3%)	Turbidity (ntu) (±10% or <5 ntu)	Flow (mL/min) (<500)	Notes
1045	19.2	398.9	2.66	2652	0.62	14.1	5.2	250	
1055	19.2	398.2	2.65	2659	0.51	14.2	<5	250	
1058	19.2	399.2	2.65	2662	0.48	14.1	<5	250	
1101	19.2	399.2	2.64	2661	0.47	14.1	<5	250	

SAMPLE TESTING INFORMATION **Sample time:** 1105

Analysis	Method	No. bottles	Bottle type	Volume	Preservation	Handling
VOC	8260	3	VOA	40	HCL	ICE

SAMPLE OBSERVATIONS

Color none Odor none Clarity clear **Purge Volume:** 2.5 gal
Tubing Volume:

Notes:

Groundwater Sampling Data Sheet

File No. 43654 | Well ID: MW-337
Project Tidewater | Sample Date: 10/24/2018
Location city: Pawtucket State: RI | Sampler's name: Charlie Lindner
Weather: Partly Cloudy, 40's

WATER LEVEL OBSERVATIONS measurement date/time: 10/23/2018 1048

Point of measurement: PVC Riser [X] Casing [ ] Ground [ ]

Total well depth (feet)	19.94	Standing water in well (feet)	8.38
Depth to LNAPL (feet)	-	Well Diameter (in.)	2
Depth to water (feet)	11.56	Sample Depth (feet bgs)	15
Depth to DNAPL (feet)	-	Standpipe TPVC to Ground (feet)	-
Well Screen (feet bgs)	10 to 20	Roadbox TPVC to Ground (feet)	-

Well Condition:
Protective casing [ ] poor [X] good **Expansion cap** [X] yes [ ] no **Well ID** [X] yes [ ] no
lock [X] yes [ ] no **Concrete Collar** [ ] yes [X] no **Well** [ ] poor [X] good

EQUIPMENT

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

Pump Type: Solinst No. 1

Meter Type: YSI No. 1 **Flow Thru Cell Vol (mL):** 250

INSTRUMENT MEASUREMENTS: Start time: 930 Stop time: 952

Time	Depth to water (ft) (drawdown <0.3 or stable)	ORP (mV) (±10)	pH (s.u.) (±0.1)	Spec. Cond (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rds <0.5)	Temp. (°C) (±3%)	Turbidity (ntu) (±10% or <5 ntu)	Flow (mL/min) (<500)	Notes
930	11.6	-17.5	5.98	996	0.32	15.9	8.1	250	
945	11.65	-25.2	6.00	995	0.23	15.3	<5	250	
948	11.65	-25.4	6.00	994	0.22	15.3	<5	250	
951	11.66	-26.2	6.00	997	0.22	15.2	<5	250	

SAMPLE TESTING INFORMATION **Sample time:** 1430

Analysis	Method	No. bottles	Bottle type	Volume	Preservation	Handling
VOC	8260	3	VOA	40	HCL	ICE

SAMPLE OBSERVATIONS

Color none Odor none Clarity clear **Purge Volume:** 3 gal
Tubing Volume:

Notes:

Groundwater Sampling Data Sheet

File No.	43654	Well ID:	MW-339D
Project	Tidewater	Sample Date:	10/25/2018
Location	city: Pawtucket State: RI	Sampler's name:	Charlie Lindner
Weather:	Sunny, 40's-50's		

WATER LEVEL OBSERVATIONS measurement date/time: 10/23/2018 1325

Point of measurement: PVC Riser [X] Casing [ ] Ground [ ]

Total well depth (feet)	21.3	Standing water in well (feet)	15.38
Depth to LNAPL (feet)	-	Well Diameter (in.)	2
Depth to water (feet)	5.92	Sample Depth (feet bgs)	13
Depth to DNAPL (feet)	trace	Standpipe TPVC to Ground (feet)	-
Well Screen (feet bgs)	12	Roadbox TPVC to Ground (feet)	-

Well Condition: **Protective casing** [ ] poor [X] good **Expansion cap** [X] yes [ ] no **Well ID** [X] yes [ ] no

lock [X] yes [ ] no **Concrete Collar** [X] yes [ ] no **Well** [ ] poor [X] good

EQUIPMENT

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

Pump Type: geopump No. 1

Meter Type: YSI No. 1 **Flow Thru Cell Vol (mL):** 250

INSTRUMENT MEASUREMENTS: Start time: 1120 Stop time: 1150

Time	Depth to water (ft) (drawdown <0.3 or stable)	ORP (mV) (±10)	pH (s.u.) (±0.1)	Spec. Cond (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rds <0.5)	Temp. (°C) (±3%)	Turbidity (ntu) (±10% or <5 ntu)	Flow (mL/min) (<500)	Notes
1126	6 ft 6.15	52.5	6.49	440.2	2.64	14.5	10	250	
1141	6.25	99.1	5.55	588	0.39	14.4	<5	250	
1144	6.25	100.3	5.55	588	0.35	14.4	<5	250	
1147	6.25	99.4	5.56	513	0.31	14.4	<5	250	

SAMPLE TESTING INFORMATION **Sample time:** 1150

Analysis	Method	No. bottles	Bottle type	Volume	Preservation	Handling
VOC	8260	3	VOA	40	HCL	None

SAMPLE OBSERVATIONS

Color None Odor Slight Coal-tar like Clarity Sheen

Purge Volume: 2 gals

Tubing Volume:

Notes:

Groundwater Sampling Data Sheet

File No.	43654	Well ID:	MW-339S
Project	Tidewater	Sample Date:	10/25/2018
Location	city: Pawtucket State: RI	Sampler's name:	Sarah Mcleod
Weather:	Sunny, 40's-50's		

WATER LEVEL OBSERVATIONS measurement date/time: 10/23/2018 1315

Point of measurement: PVC Riser [X] Casing [ ] Ground [ ]

Total well depth (feet)	12.25	Standing water in well (feet)	6.35
Depth to LNAPL (feet)	-	Well Diameter (in.)	2
Depth to water (feet)	5.9	Sample Depth (feet bgs)	7.5
Depth to DNAPL (feet)	-	Standpipe TPVC to Ground (feet)	-
Well Screen (feet bgs)	3 to 10	Roadbox TPVC to Ground (feet)	-

Well Condition: **Protective casing** [ ] poor [X] good **Expansion cap** [X] yes [ ] no **Well ID** [X] yes [ ] no

lock [X] yes [ ] no **Concrete Collar** [X] yes [ ] no **Well** [ ] poor [X] good

EQUIPMENT

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

Pump Type: geopump No. 1

Meter Type: YSI No. 1 **Flow Thru Cell Vol (mL):** 250

INSTRUMENT MEASUREMENTS: Start time: 1039 Stop time: 1140

Time	Depth to water (ft) (drawdown <0.3 or stable)	ORP (mV) (±10)	pH (s.u.) (±0.1)	Spec. Cond (µS/cm) (±3%)	DO (mg/L) (±10% or 3 rds <0.5)	Temp. (°C) (±3%)	Turbidity (ntu) (±10% or <5 ntu)	Flow (mL/min) (<500)	Notes
1040	5.60	464.6	3.14	1197	0.83	15.3	<5	300	
1109	6.13	438.7	3.11	1108	0.32	15.1	<5	300	
1112	6.13	436.7	3.11	1095	0.39	14.9	<5	300	
1115	6.13	435.9	3.11	1093	1.6	14.9	<5	300	
1125	6.13	434.3	3.11	1079	0.41	15.4	<5	300	
1128	6.13	429.3	3.11	1081	0.35	15.2	<5	300	
1131	6.13	428.8	3.11	1080	0.34	15.2	<5	300	

SAMPLE TESTING INFORMATION **Sample time:** 1135

Analysis	Method	No. bottles	Bottle type	Volume	Preservation	Handling
VOC	8260	3	VOA	40	HCL	None

SAMPLE OBSERVATIONS

Color None Odor None Clarity Clear

Purge Volume: 3 gals

Tubing Volume:

Notes:

APPENDIX C
INVESTIGATION-DERIVED WASTE DISPOSAL DOCUMENTATION

TRUCK # 621134

Please print or type. RI1S0607S942-001 SC PPW 7/12/2018 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	012509911 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 Services, Inc. — U.S. EPA ID Number: MAD039322250

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Clean Harbors Environmental Services, 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)	002	DM	55	G	R015		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1. T26781RIR
2 x 55

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: JIM STEWOLF #1315 AGENT FOR NARRAGANSETT ELECTRIC — Signature: JStewolf — #1315 AGENT FOR TNEC — Month 11 Day 30 Year 18

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: Greg Lynn — Signature: Greg Lynn — Month 11 Day 30 Year 18
Transporter 2 Printed/Typed Name — Signature — Month Day Year

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 MERSIT — Signature — Month 12 Day 19 Year 18

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete. DESIGNATED FACILITY TO EPA's e-MANIFEST SYSTEM

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

TRUCK # 621134

RI1S060 5942-001 SC PPW 7 12 2018

Please print or type. 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	012509912 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 Services, Inc. — U.S. EPA ID Number: MAD039322250

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Clean Harbors El Dorado LLC
309 American Circle
El Dorado, AR 71730
Facility's Phone: (870) 863-7173
U.S. EPA ID Number: ARD069748192

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		
x	1. NA3082, HAZARDOUS WASTE, LIQUID, N.O.S., (BENZENE), 9, PG III	001	DM	40	G	D018		
	2. NON DOT REGULATED MATERIAL, (OILY DEBRIS)	001	DM	30	P	R015		
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1.CR075269R ERG#171
2.R40179RIR 1 x 55
1 x 55

Contact retained by generator prefers agency authority or initial transporter to add or substitute additional transporters on generator's behalf.

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: #1215 AGENT FOR JIM BENOLT NARRAGANSETT ELECTRIC — Signature: #1215 AGENT FOR JNEC — Month: 11 Day: 30 Year: 18

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: GREG LUNN — Signature: Greg Lunn — Month: 11 Day: 30 Year: 18

Transporter 2 Printed/Typed Name — Signature — Month: Day: Year:

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.
H040	H040		

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: Jimmie Jerry — Signature: Jimmie Jerry — Month: 12 Day: 14 Year: 18

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete. DESIGNATED FACILITY TO EPA's e-MANIFEST SYSTEM

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

CleanHarbors
ENVIRONMENTAL SERVICES®

Land Disposal Restriction Notification Form

Printed Date :Nov 29, 2018

MANIFEST INFORMATION

Generator : Narragansett Electric Company

Address: 200 Taft Street
Pawtucket,RI 02862

EPA ID #: R I P 0 0 0 0 3 6 4 6 2

Manifest Tracking Info.

012509912FLE

Sales Order No: 1806075942-001

LINE ITEM INFORMATION

Line Item:	Page No:	Profile No:	Treatability Group:	LDR Disposal Category
1.	1	CH075269N	NON-WASTEWATER	2 (This is subject to LDR.)

EPA Waste Code	EPA Waste SubCategory
D018	NONE

LDR Chemical Data

Chemical	Underlying Hazardous Constituents	Constituents of Concern	Contaminants Subject to Treatment
BENZENE	Y	N	N

Certification

	Applies to Manifest Line Items
Pursuant to 40 CFR 268.7(a), I hereby notify that this shipment contains waste restricted under 40 CFR Part 268.	1.
This waste is not restricted as specified in 40 CFR 268 Subpart D.	2.

Waste analysis data, where available, is attached.

Signature : [signature] EHSQ #1015

Print Name : Jim DeWolf #1015

Title : AGENT FOR TNEC

Date : 11-30-18

APPENDIX D
LABORATORY REPORTS

CERTIFICATE OF ANALYSIS

Sarah McLeod
GZA GeoEnvironmental, Inc.
188 Valley Street
Providence, RI 02909

RE: Former Tidewater Facility (05.0043654.00)
ESS Laboratory Work Order Number: 1810775

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 4:34 pm, Nov 02, 2018

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 TNI and relative state standards, 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: Former Tidewater Facility

ESS Laboratory Work Order: 1810775

SAMPLE RECEIPT

The following samples were received on October 26, 2018 for the analyses specified on the enclosed Chain of Custody Record.

Lab Number	Sample Name	Matrix	Analysis
1810775-01	MW-318S	Ground Water	8260B
1810775-02	MW-310D	Ground Water	8260B
1810775-03	MW-310S	Ground Water	8260B
1810775-04	MW-316D	Ground Water	8260B
1810775-05	MW-7	Ground Water	8260B
1810775-06	MW-208	Ground Water	8260B
1810775-07	MW-201	Ground Water	8260B
1810775-08	MW-339S	Ground Water	8260B
1810775-09	MW-339D	Ground Water	8260B
1810775-10	MW-326D	Ground Water	8260B

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810775

PROJECT NARRATIVE

8260B Volatile Organic Compounds

CJ82959-BSD1 **Blank Spike recovery is below lower control limit (B-).**
Naphthalene (69% @ 70-130%), Tetrahydrofuran (68% @ 70-130%), trans-1,3-Dichloropropene (65% @ 70-130%)

CJ82959-BSD1 **Relative percent difference for duplicate is outside of criteria (D+).**
Tetrahydrofuran (42% @ 25%)

CJ83143-BS1 **Blank Spike recovery is below lower control limit (B-).**
4-Methyl-2-Pentanone (68% @ 70-130%), Tetrahydrofuran (67% @ 70-130%), trans-1,3-Dichloropropene (64% @ 70-130%)

CJ83143-BSD1 **Blank Spike recovery is below lower control limit (B-).**
4-Methyl-2-Pentanone (69% @ 70-130%)

CJ83143-BSD1 **Relative percent difference for duplicate is outside of criteria (D+).**
Tetrahydrofuran (29% @ 25%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

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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: Former Tidewater Facility

ESS Laboratory Work Order: 1810775

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
8015C - 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
MADEP 04-2.1 - 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: Former Tidewater Facility
Client Sample ID: MW-318S
Date Sampled: 10/24/18 14:12
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-01
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
1,1-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
1,1-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
1,1-Dichloropropene	ND (0.0020)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
1,2,4-Trimethylbenzene	**0.0325** (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
1,2-Dibromoethane	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
1,2-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
1,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
1,3,5-Trimethylbenzene	**0.0138** (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
1,3-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
1,4-Dioxane - Screen	ND (0.500)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
1-Chlorohexane	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
2,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
2-Butanone	ND (0.0100)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
2-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
2-Hexanone	ND (0.0100)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
4-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
4-Isopropyltoluene	**0.0011** (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Acetone	ND (0.0100)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Benzene	**0.0758** (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Bromobenzene	ND (0.0020)		8260B		1	10/29/18 21:38	C8J0641	CJ82959

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-318S
Date Sampled: 10/24/18 14:12
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-01
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Bromodichloromethane	ND (0.0006)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Bromoform	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Bromomethane	ND (0.0020)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Carbon Disulfide	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Carbon Tetrachloride	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Chlorobenzene	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Chloroethane	ND (0.0020)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Chloroform	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Chloromethane	ND (0.0020)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Dibromochloromethane	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Dibromomethane	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Dichlorodifluoromethane	ND (0.0020)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Diethyl Ether	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Di-isopropyl ether	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Ethylbenzene	**0.0084** (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Hexachlorobutadiene	ND (0.0006)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Hexachloroethane	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Isopropylbenzene	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Methylene Chloride	ND (0.0020)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Naphthalene	**0.842** (0.0500)		8260B		50	10/30/18 13:39	C8J0641	CJ82959
n-Butylbenzene	**0.0024** (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
n-Propylbenzene	**0.0015** (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
sec-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Styrene	**0.0066** (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
tert-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Tetrachloroethene	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-318S
Date Sampled: 10/24/18 14:12
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-01
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Toluene	**0.0640** (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Trichloroethene	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Trichlorofluoromethane	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Vinyl Acetate	ND (0.0050)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Vinyl Chloride	ND (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Xylene O	**0.0354** (0.0010)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Xylene P,M	**0.0811** (0.0020)		8260B		1	10/29/18 21:38	C8J0641	CJ82959
Xylenes (Total)	**0.116** (0.0020)		8260B		1	10/29/18 21:38		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*110 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*107 %*		*70-130*
Surrogate: Dibromofluoromethane	*102 %*		*70-130*
Surrogate: Toluene-d8	*95 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-310D
Date Sampled: 10/24/18 15:40
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-02
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
1,1-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
1,1-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
1,1-Dichloropropene	ND (0.0020)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
1,2,4-Trimethylbenzene	**0.338** (0.100)		8260B		100	10/30/18 14:05	C8J0641	CJ82959
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
1,2-Dibromoethane	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
1,2-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
1,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
1,3,5-Trimethylbenzene	**0.114** (0.100)		8260B		100	10/30/18 14:05	C8J0641	CJ82959
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
1,3-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
1,4-Dioxane - Screen	ND (0.500)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
1-Chlorohexane	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
2,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
2-Butanone	ND (0.0100)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
2-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
2-Hexanone	ND (0.0100)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
4-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
4-Isopropyltoluene	**0.0134** (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Acetone	ND (0.0100)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Benzene	**0.419** (0.100)		8260B		100	10/30/18 14:05	C8J0641	CJ82959
Bromobenzene	ND (0.0020)		8260B		1	10/29/18 22:04	C8J0641	CJ82959

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-310D
Date Sampled: 10/24/18 15:40
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-02
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Bromodichloromethane	ND (0.0006)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Bromoform	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Bromomethane	ND (0.0020)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Carbon Disulfide	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Carbon Tetrachloride	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Chlorobenzene	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Chloroethane	ND (0.0020)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Chloroform	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Chloromethane	ND (0.0020)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Dibromochloromethane	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Dibromomethane	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Dichlorodifluoromethane	ND (0.0020)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Diethyl Ether	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Di-isopropyl ether	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Ethylbenzene	**0.579** (0.100)		8260B		100	10/30/18 14:05	C8J0641	CJ82959
Hexachlorobutadiene	ND (0.0006)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Hexachloroethane	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Isopropylbenzene	**0.0947** (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Methylene Chloride	ND (0.0020)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Naphthalene	**8.60** (0.100)		8260B		100	10/30/18 14:05	C8J0641	CJ82959
n-Butylbenzene	**0.0134** (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
n-Propylbenzene	**0.0354** (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
sec-Butylbenzene	**0.0025** (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Styrene	**0.0153** (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
tert-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Tetrachloroethene	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-310D
Date Sampled: 10/24/18 15:40
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-02
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Toluene	**0.115** (0.100)		8260B		100	10/30/18 14:05	C8J0641	CJ82959
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Trichloroethene	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Trichlorofluoromethane	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Vinyl Acetate	ND (0.0050)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Vinyl Chloride	ND (0.0010)		8260B		1	10/29/18 22:04	C8J0641	CJ82959
Xylene O	**0.372** (0.100)		8260B		100	10/30/18 14:05	C8J0641	CJ82959
Xylene P,M	**0.408** (0.200)		8260B		100	10/30/18 14:05	C8J0641	CJ82959
Xylenes (Total)	**0.780** (0.200)		8260B		100	10/30/18 14:05		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*92 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*116 %*		*70-130*
Surrogate: Dibromofluoromethane	*91 %*		*70-130*
Surrogate: Toluene-d8	*98 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-310S
Date Sampled: 10/24/18 16:10
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-03
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
1,1-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
1,1-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
1,1-Dichloropropene	ND (0.0020)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
1,2,4-Trimethylbenzene	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
1,2-Dibromoethane	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
1,2-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
1,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
1,3-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
1,4-Dioxane - Screen	ND (0.500)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
1-Chlorohexane	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
2,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
2-Butanone	ND (0.0100)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
2-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
2-Hexanone	ND (0.0100)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
4-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
4-Isopropyltoluene	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Acetone	ND (0.0100)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Benzene	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Bromobenzene	ND (0.0020)		8260B		1	10/29/18 21:12	C8J0641	CJ82959

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-310S
Date Sampled: 10/24/18 16:10
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-03
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Bromodichloromethane	ND (0.0006)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Bromoform	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Bromomethane	ND (0.0020)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Carbon Disulfide	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Carbon Tetrachloride	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Chlorobenzene	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Chloroethane	ND (0.0020)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Chloroform	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Chloromethane	ND (0.0020)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Dibromochloromethane	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Dibromomethane	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Dichlorodifluoromethane	ND (0.0020)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Diethyl Ether	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Di-isopropyl ether	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Ethylbenzene	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Hexachlorobutadiene	ND (0.0006)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Hexachloroethane	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Isopropylbenzene	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Methylene Chloride	ND (0.0020)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Naphthalene	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
n-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
n-Propylbenzene	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
sec-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Styrene	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
tert-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Tetrachloroethene	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-310S
Date Sampled: 10/24/18 16:10
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-03
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Toluene	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Trichloroethene	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Trichlorofluoromethane	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Vinyl Acetate	ND (0.0050)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Vinyl Chloride	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Xylene O	ND (0.0010)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Xylene P,M	ND (0.0020)		8260B		1	10/29/18 21:12	C8J0641	CJ82959
Xylenes (Total)	ND (0.0020)		8260B		1	10/29/18 21:12		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*113 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*86 %*		*70-130*
Surrogate: Dibromofluoromethane	*105 %*		*70-130*
Surrogate: Toluene-d8	*100 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-316D
Date Sampled: 10/25/18 08:52
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-04
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
1,1-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
1,1-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
1,1-Dichloropropene	ND (0.0020)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
1,2,4-Trimethylbenzene	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
1,2-Dibromoethane	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
1,2-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
1,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
1,3-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
1,4-Dioxane - Screen	ND (0.500)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
1-Chlorohexane	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
2,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
2-Butanone	ND (0.0100)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
2-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
2-Hexanone	ND (0.0100)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
4-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
4-Isopropyltoluene	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Acetone	ND (0.0100)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Benzene	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Bromobenzene	ND (0.0020)		8260B		1	10/29/18 20:46	C8J0641	CJ82959

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-316D
Date Sampled: 10/25/18 08:52
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-04
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Bromodichloromethane	ND (0.0006)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Bromoform	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Bromomethane	ND (0.0020)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Carbon Disulfide	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Carbon Tetrachloride	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Chlorobenzene	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Chloroethane	ND (0.0020)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Chloroform	**0.0043** (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Chloromethane	ND (0.0020)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Dibromochloromethane	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Dibromomethane	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Dichlorodifluoromethane	ND (0.0020)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Diethyl Ether	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Di-isopropyl ether	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Ethylbenzene	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Hexachlorobutadiene	ND (0.0006)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Hexachloroethane	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Isopropylbenzene	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Methylene Chloride	ND (0.0020)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Naphthalene	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
n-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
n-Propylbenzene	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
sec-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Styrene	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
tert-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Tetrachloroethene	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-316D
Date Sampled: 10/25/18 08:52
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-04
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Toluene	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Trichloroethene	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Trichlorofluoromethane	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Vinyl Acetate	ND (0.0050)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Vinyl Chloride	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Xylene O	ND (0.0010)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Xylene P,M	ND (0.0020)		8260B		1	10/29/18 20:46	C8J0641	CJ82959
Xylenes (Total)	ND (0.0020)		8260B		1	10/29/18 20:46		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*110 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*86 %*		*70-130*
Surrogate: Dibromofluoromethane	*101 %*		*70-130*
Surrogate: Toluene-d8	*100 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-7
Date Sampled: 10/25/18 10:18
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-05
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
1,1-Dichloroethane	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
1,1-Dichloroethene	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
1,1-Dichloropropene	ND (0.0020)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
1,2,4-Trimethylbenzene	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
1,2-Dibromoethane	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
1,2-Dichloroethane	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
1,2-Dichloropropane	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
1,3-Dichloropropane	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
1,4-Dioxane - Screen	ND (0.500)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
1-Chlorohexane	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
2,2-Dichloropropane	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
2-Butanone	ND (0.0100)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
2-Chlorotoluene	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
2-Hexanone	ND (0.0100)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
4-Chlorotoluene	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
4-Isopropyltoluene	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Acetone	ND (0.0100)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Benzene	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Bromobenzene	ND (0.0020)		8260B		1	10/30/18 18:02	C8J0668	CJ83046

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-7
Date Sampled: 10/25/18 10:18
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-05
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Bromodichloromethane	ND (0.0006)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Bromoform	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Bromomethane	ND (0.0020)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Carbon Disulfide	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Carbon Tetrachloride	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Chlorobenzene	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Chloroethane	ND (0.0020)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Chloroform	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Chloromethane	ND (0.0020)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Dibromochloromethane	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Dibromomethane	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Dichlorodifluoromethane	ND (0.0020)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Diethyl Ether	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Di-isopropyl ether	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Ethylbenzene	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Hexachlorobutadiene	ND (0.0006)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Hexachloroethane	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Isopropylbenzene	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Methylene Chloride	ND (0.0020)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Naphthalene	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
n-Butylbenzene	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
n-Propylbenzene	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
sec-Butylbenzene	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Styrene	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
tert-Butylbenzene	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Tetrachloroethene	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-7
Date Sampled: 10/25/18 10:18
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-05
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Toluene	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Trichloroethene	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Trichlorofluoromethane	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Vinyl Acetate	ND (0.0050)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Vinyl Chloride	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Xylene O	ND (0.0010)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Xylene P,M	ND (0.0020)		8260B		1	10/30/18 18:02	C8J0668	CJ83046
Xylenes (Total)	ND (0.0020)		8260B		1	10/30/18 18:02		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*114 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*86 %*		*70-130*
Surrogate: Dibromofluoromethane	*110 %*		*70-130*
Surrogate: Toluene-d8	*99 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-208
Date Sampled: 10/25/18 09:35
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-06
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
1,1-Dichloroethane	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
1,1-Dichloroethene	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
1,1-Dichloropropene	ND (0.0020)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
1,2,4-Trimethylbenzene	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
1,2-Dibromoethane	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
1,2-Dichloroethane	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
1,2-Dichloropropane	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
1,3-Dichloropropane	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
1,4-Dioxane - Screen	ND (0.500)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
1-Chlorohexane	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
2,2-Dichloropropane	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
2-Butanone	ND (0.0100)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
2-Chlorotoluene	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
2-Hexanone	ND (0.0100)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
4-Chlorotoluene	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
4-Isopropyltoluene	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Acetone	ND (0.0100)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Benzene	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Bromobenzene	ND (0.0020)		8260B		1	10/30/18 18:28	C8J0668	CJ83046

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-208
Date Sampled: 10/25/18 09:35
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-06
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Bromodichloromethane	ND (0.0006)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Bromoform	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Bromomethane	ND (0.0020)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Carbon Disulfide	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Carbon Tetrachloride	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Chlorobenzene	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Chloroethane	ND (0.0020)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Chloroform	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Chloromethane	ND (0.0020)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Dibromochloromethane	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Dibromomethane	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Dichlorodifluoromethane	ND (0.0020)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Diethyl Ether	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Di-isopropyl ether	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Ethylbenzene	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Hexachlorobutadiene	ND (0.0006)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Hexachloroethane	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Isopropylbenzene	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Methylene Chloride	ND (0.0020)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Naphthalene	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
n-Butylbenzene	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
n-Propylbenzene	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
sec-Butylbenzene	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Styrene	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
tert-Butylbenzene	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Tetrachloroethene	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-208
Date Sampled: 10/25/18 09:35
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-06
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Toluene	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Trichloroethene	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Trichlorofluoromethane	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Vinyl Acetate	ND (0.0050)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Vinyl Chloride	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Xylene O	ND (0.0010)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Xylene P,M	ND (0.0020)		8260B		1	10/30/18 18:28	C8J0668	CJ83046
Xylenes (Total)	ND (0.0020)		8260B		1	10/30/18 18:28		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*111 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*96 %*		*70-130*
Surrogate: Dibromofluoromethane	*103 %*		*70-130*
Surrogate: Toluene-d8	*95 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-201
Date Sampled: 10/25/18 10:50
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-07
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
1,1-Dichloroethane	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
1,1-Dichloroethene	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
1,1-Dichloropropene	ND (0.0020)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
1,2,4-Trimethylbenzene	**0.0011** (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
1,2-Dibromoethane	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
1,2-Dichloroethane	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
1,2-Dichloropropane	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
1,3-Dichloropropane	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
1,4-Dioxane - Screen	ND (0.500)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
1-Chlorohexane	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
2,2-Dichloropropane	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
2-Butanone	ND (0.0100)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
2-Chlorotoluene	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
2-Hexanone	ND (0.0100)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
4-Chlorotoluene	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
4-Isopropyltoluene	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Acetone	ND (0.0100)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Benzene	**0.0182** (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Bromobenzene	ND (0.0020)		8260B		1	10/31/18 12:45	C8J0698	CJ83143

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-201
Date Sampled: 10/25/18 10:50
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-07
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Bromodichloromethane	ND (0.0006)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Bromoform	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Bromomethane	ND (0.0020)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Carbon Disulfide	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Carbon Tetrachloride	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Chlorobenzene	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Chloroethane	ND (0.0020)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Chloroform	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Chloromethane	ND (0.0020)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Dibromochloromethane	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Dibromomethane	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Dichlorodifluoromethane	ND (0.0020)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Diethyl Ether	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Di-isopropyl ether	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Ethylbenzene	**0.0025** (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Hexachlorobutadiene	ND (0.0006)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Hexachloroethane	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Isopropylbenzene	**0.0073** (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Methylene Chloride	ND (0.0020)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Naphthalene	**0.0018** (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
n-Butylbenzene	**0.0033** (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
n-Propylbenzene	**0.0061** (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
sec-Butylbenzene	**0.0010** (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Styrene	**0.0043** (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
tert-Butylbenzene	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Tetrachloroethene	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-201
Date Sampled: 10/25/18 10:50
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-07
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Toluene	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Trichloroethene	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Trichlorofluoromethane	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Vinyl Acetate	ND (0.0050)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Vinyl Chloride	ND (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Xylene O	**0.0016** (0.0010)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Xylene P,M	ND (0.0020)		8260B		1	10/31/18 12:45	C8J0698	CJ83143
Xylenes (Total)	ND (0.0020)		8260B		1	10/31/18 12:45		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*105 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*102 %*		*70-130*
Surrogate: Dibromofluoromethane	*101 %*		*70-130*
Surrogate: Toluene-d8	*92 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-339S
Date Sampled: 10/25/18 11:35
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-08
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
1,1-Dichloroethane	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
1,1-Dichloroethene	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
1,1-Dichloropropene	ND (0.0020)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
1,2,4-Trimethylbenzene	**0.0198** (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
1,2-Dibromoethane	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
1,2-Dichloroethane	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
1,2-Dichloropropane	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
1,3,5-Trimethylbenzene	**0.0066** (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
1,3-Dichloropropane	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
1,4-Dioxane - Screen	ND (0.500)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
1-Chlorohexane	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
2,2-Dichloropropane	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
2-Butanone	ND (0.0100)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
2-Chlorotoluene	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
2-Hexanone	ND (0.0100)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
4-Chlorotoluene	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
4-Isopropyltoluene	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Acetone	ND (0.0100)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Benzene	**0.0017** (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Bromobenzene	ND (0.0020)		8260B		1	10/30/18 18:53	C8J0668	CJ83046

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-339S
Date Sampled: 10/25/18 11:35
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-08
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Bromodichloromethane	ND (0.0006)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Bromoform	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Bromomethane	ND (0.0020)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Carbon Disulfide	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Carbon Tetrachloride	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Chlorobenzene	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Chloroethane	ND (0.0020)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Chloroform	**0.0018** (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Chloromethane	ND (0.0020)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Dibromochloromethane	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Dibromomethane	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Dichlorodifluoromethane	ND (0.0020)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Diethyl Ether	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Di-isopropyl ether	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Ethylbenzene	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Hexachlorobutadiene	ND (0.0006)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Hexachloroethane	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Isopropylbenzene	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Methylene Chloride	ND (0.0020)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Naphthalene	**0.842** (0.0200)		8260B		20	10/31/18 14:03	C8J0668	CJ83046
n-Butylbenzene	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
n-Propylbenzene	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
sec-Butylbenzene	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Styrene	**0.0011** (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
tert-Butylbenzene	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Tetrachloroethene	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-339S
Date Sampled: 10/25/18 11:35
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-08
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Toluene	**0.0012** (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Trichloroethene	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Trichlorofluoromethane	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Vinyl Acetate	ND (0.0050)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Vinyl Chloride	ND (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Xylene O	**0.0020** (0.0010)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Xylene P,M	**0.0030** (0.0020)		8260B		1	10/30/18 18:53	C8J0668	CJ83046
Xylenes (Total)	**0.0050** (0.0020)		8260B		1	10/30/18 18:53		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*111 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*93 %*		*70-130*
Surrogate: Dibromofluoromethane	*101 %*		*70-130*
Surrogate: Toluene-d8	*95 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-339D
Date Sampled: 10/25/18 11:50
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-09
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
1,1-Dichloroethane	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
1,1-Dichloroethene	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
1,1-Dichloropropene	ND (0.0020)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
1,2,4-Trimethylbenzene	**0.421** (0.100)		8260B		100	10/31/18 17:13	C8J0668	CJ83046
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
1,2-Dibromoethane	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
1,2-Dichloroethane	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
1,2-Dichloropropane	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
1,3,5-Trimethylbenzene	**0.135** (0.100)		8260B		100	10/31/18 17:13	C8J0668	CJ83046
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
1,3-Dichloropropane	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
1,4-Dioxane - Screen	ND (0.500)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
1-Chlorohexane	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
2,2-Dichloropropane	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
2-Butanone	ND (0.0100)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
2-Chlorotoluene	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
2-Hexanone	ND (0.0100)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
4-Chlorotoluene	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
4-Isopropyltoluene	**0.0105** (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Acetone	**0.272** (0.0100)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Benzene	**0.0011** (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Bromobenzene	ND (0.0020)		8260B		1	10/30/18 20:12	C8J0668	CJ83046

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-339D
Date Sampled: 10/25/18 11:50
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-09
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Bromodichloromethane	ND (0.0006)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Bromoform	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Bromomethane	ND (0.0020)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Carbon Disulfide	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Carbon Tetrachloride	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Chlorobenzene	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Chloroethane	ND (0.0020)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Chloroform	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Chloromethane	ND (0.0020)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Dibromochloromethane	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Dibromomethane	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Dichlorodifluoromethane	ND (0.0020)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Diethyl Ether	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Di-isopropyl ether	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Ethylbenzene	**0.0613** (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Hexachlorobutadiene	ND (0.0006)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Hexachloroethane	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Isopropylbenzene	**0.0665** (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Methylene Chloride	**0.0030** (0.0020)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Naphthalene	**5.18** (0.100)		8260B		100	10/31/18 17:13	C8J0668	CJ83046
n-Butylbenzene	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
n-Propylbenzene	**0.0353** (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
sec-Butylbenzene	**0.0019** (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Styrene	**0.0156** (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
tert-Butylbenzene	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Tetrachloroethene	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-339D
Date Sampled: 10/25/18 11:50
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-09
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Toluene	**0.0332** (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Trichloroethene	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Trichlorofluoromethane	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Vinyl Acetate	ND (0.0050)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Vinyl Chloride	ND (0.0010)		8260B		1	10/30/18 20:12	C8J0668	CJ83046
Xylene O	**0.237** (0.100)		8260B		100	10/31/18 17:13	C8J0668	CJ83046
Xylene P,M	**0.301** (0.200)		8260B		100	10/31/18 17:13	C8J0668	CJ83046
Xylenes (Total)	**0.538** (0.200)		8260B		100	10/31/18 17:13		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*100 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*125 %*		*70-130*
Surrogate: Dibromofluoromethane	*96 %*		*70-130*
Surrogate: Toluene-d8	*99 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-326D
Date Sampled: 10/25/18 13:12
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-10
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
1,1-Dichloroethane	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
1,1-Dichloroethene	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
1,1-Dichloropropene	ND (0.0020)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
1,2,4-Trimethylbenzene	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
1,2-Dibromoethane	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
1,2-Dichloroethane	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
1,2-Dichloropropane	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
1,3-Dichloropropane	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
1,4-Dioxane - Screen	ND (0.500)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
1-Chlorohexane	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
2,2-Dichloropropane	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
2-Butanone	ND (0.0100)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
2-Chlorotoluene	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
2-Hexanone	ND (0.0100)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
4-Chlorotoluene	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
4-Isopropyltoluene	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Acetone	ND (0.0100)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Benzene	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Bromobenzene	ND (0.0020)		8260B		1	10/31/18 13:11	C8J0698	CJ83143

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-326D
Date Sampled: 10/25/18 13:12
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-10
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Bromodichloromethane	ND (0.0006)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Bromoform	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Bromomethane	ND (0.0020)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Carbon Disulfide	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Carbon Tetrachloride	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Chlorobenzene	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Chloroethane	ND (0.0020)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Chloroform	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Chloromethane	ND (0.0020)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Dibromochloromethane	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Dibromomethane	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Dichlorodifluoromethane	ND (0.0020)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Diethyl Ether	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Di-isopropyl ether	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Ethylbenzene	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Hexachlorobutadiene	ND (0.0006)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Hexachloroethane	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Isopropylbenzene	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Methylene Chloride	ND (0.0020)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Naphthalene	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
n-Butylbenzene	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
n-Propylbenzene	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
sec-Butylbenzene	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Styrene	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
tert-Butylbenzene	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Tetrachloroethene	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-326D
Date Sampled: 10/25/18 13:12
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810775
ESS Laboratory Sample ID: 1810775-10
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Toluene	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Trichloroethene	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Trichlorofluoromethane	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Vinyl Acetate	ND (0.0050)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Vinyl Chloride	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Xylene O	ND (0.0010)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Xylene P,M	ND (0.0020)		8260B		1	10/31/18 13:11	C8J0698	CJ83143
Xylenes (Total)	ND (0.0020)		8260B		1	10/31/18 13:11		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*102 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*88 %*		*70-130*
Surrogate: Dibromofluoromethane	*98 %*		*70-130*
Surrogate: Toluene-d8	*101 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810775

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ82959 - 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: Former Tidewater Facility

ESS Laboratory Work Order: 1810775

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ82959 - 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							
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							
Surrogate: 1,2-Dichloroethane-d4	*0.0268*		mg/L	*0.02500*		*107*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0212*		mg/L	*0.02500*		*85*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0254*		mg/L	*0.02500*		*102*	*70-130*			
Surrogate: Toluene-d8	*0.0249*		mg/L	*0.02500*		*100*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	9.29		ug/L	10.00		93	70-130			
1,1,1-Trichloroethane	9.03		ug/L	10.00		90	70-130			
1,1,2,2-Tetrachloroethane	9.02		ug/L	10.00		90	70-130			
1,1,2-Trichloroethane	8.36		ug/L	10.00		84	70-130			
1,1-Dichloroethane	8.47		ug/L	10.00		85	70-130			
1,1-Dichloroethene	8.79		ug/L	10.00		88	70-130			
1,1-Dichloropropene	8.93		ug/L	10.00		89	70-130			
1,2,3-Trichlorobenzene	9.27		ug/L	10.00		93	70-130			
1,2,3-Trichloropropane	8.13		ug/L	10.00		81	70-130			
1,2,4-Trichlorobenzene	9.50		ug/L	10.00		95	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
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ESS Laboratory Work Order: 1810775

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ82959 - 5030B										
1,2,4-Trimethylbenzene	7.68		ug/L	10.00		77	70-130			
1,2-Dibromo-3-Chloropropane	8.26		ug/L	10.00		83	70-130			
1,2-Dibromoethane	9.07		ug/L	10.00		91	70-130			
1,2-Dichlorobenzene	8.83		ug/L	10.00		88	70-130			
1,2-Dichloroethane	9.28		ug/L	10.00		93	70-130			
1,2-Dichloropropane	7.82		ug/L	10.00		78	70-130			
1,3,5-Trimethylbenzene	7.99		ug/L	10.00		80	70-130			
1,3-Dichlorobenzene	9.20		ug/L	10.00		92	70-130			
1,3-Dichloropropane	9.32		ug/L	10.00		93	70-130			
1,4-Dichlorobenzene	9.44		ug/L	10.00		94	70-130			
1,4-Dioxane - Screen	159		ug/L	200.0		80	0-332			
1-Chlorohexane	7.47		ug/L	10.00		75	70-130			
2,2-Dichloropropane	9.21		ug/L	10.00		92	70-130			
2-Butanone	43.0		ug/L	50.00		86	70-130			
2-Chlorotoluene	8.75		ug/L	10.00		88	70-130			
2-Hexanone	43.5		ug/L	50.00		87	70-130			
4-Chlorotoluene	9.01		ug/L	10.00		90	70-130			
4-Isopropyltoluene	9.21		ug/L	10.00		92	70-130			
4-Methyl-2-Pentanone	38.6		ug/L	50.00		77	70-130			
Acetone	42.4		ug/L	50.00		85	70-130			
Benzene	8.43		ug/L	10.00		84	70-130			
Bromobenzene	9.12		ug/L	10.00		91	70-130			
Bromochloromethane	9.21		ug/L	10.00		92	70-130			
Bromodichloromethane	8.70		ug/L	10.00		87	70-130			
Bromoform	10.0		ug/L	10.00		100	70-130			
Bromomethane	12.9		ug/L	10.00		129	70-130			
Carbon Disulfide	8.27		ug/L	10.00		83	70-130			
Carbon Tetrachloride	9.31		ug/L	10.00		93	70-130			
Chlorobenzene	9.14		ug/L	10.00		91	70-130			
Chloroethane	11.3		ug/L	10.00		113	70-130			
Chloroform	8.93		ug/L	10.00		89	70-130			
Chloromethane	10.2		ug/L	10.00		102	70-130			
cis-1,2-Dichloroethene	8.96		ug/L	10.00		90	70-130			
cis-1,3-Dichloropropene	8.33		ug/L	10.00		83	70-130			
Dibromochloromethane	8.94		ug/L	10.00		89	70-130			
Dibromomethane	8.85		ug/L	10.00		88	70-130			
Dichlorodifluoromethane	8.41		ug/L	10.00		84	70-130			
Diethyl Ether	8.53		ug/L	10.00		85	70-130			
Di-isopropyl ether	8.35		ug/L	10.00		84	70-130			
Ethyl tertiary-butyl ether	7.86		ug/L	10.00		79	70-130			
Ethylbenzene	8.73		ug/L	10.00		87	70-130			
Hexachlorobutadiene	10.2		ug/L	10.00		102	70-130			
Hexachloroethane	9.00		ug/L	10.00		90	70-130			
Isopropylbenzene	8.34		ug/L	10.00		83	70-130			
Methyl tert-Butyl Ether	8.94		ug/L	10.00		89	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810775

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ82959 - 5030B										
Methylene Chloride	8.45		ug/L	10.00		84	70-130			
Naphthalene	7.81		ug/L	10.00		78	70-130			
n-Butylbenzene	8.30		ug/L	10.00		83	70-130			
n-Propylbenzene	8.29		ug/L	10.00		83	70-130			
sec-Butylbenzene	8.53		ug/L	10.00		85	70-130			
Styrene	9.31		ug/L	10.00		93	70-130			
tert-Butylbenzene	7.65		ug/L	10.00		76	70-130			
Tertiary-amyl methyl ether	8.00		ug/L	10.00		80	70-130			
Tetrachloroethene	8.59		ug/L	10.00		86	70-130			
Tetrahydrofuran	10.4		ug/L	10.00		104	70-130			
Toluene	8.65		ug/L	10.00		86	70-130			
trans-1,2-Dichloroethene	7.99		ug/L	10.00		80	70-130			
trans-1,3-Dichloropropene	7.25		ug/L	10.00		72	70-130			
Trichloroethene	8.63		ug/L	10.00		86	70-130			
Trichlorofluoromethane	9.55		ug/L	10.00		96	70-130			
Vinyl Acetate	8.72		ug/L	10.00		87	70-130			
Vinyl Chloride	11.1		ug/L	10.00		111	70-130			
Xylene O	8.15		ug/L	10.00		82	70-130			
Xylene P,M	16.4		ug/L	20.00		82	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0249*		mg/L	*0.02500*		*99*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0247*		mg/L	*0.02500*		*99*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0238*		mg/L	*0.02500*		*95*	*70-130*			
Surrogate: Toluene-d8	*0.0241*		mg/L	*0.02500*		*96*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	9.19		ug/L	10.00		92	70-130	1	25	
1,1,1-Trichloroethane	9.12		ug/L	10.00		91	70-130	1	25	
1,1,2,2-Tetrachloroethane	8.75		ug/L	10.00		88	70-130	3	25	
1,1,2-Trichloroethane	8.25		ug/L	10.00		82	70-130	1	25	
1,1-Dichloroethane	7.96		ug/L	10.00		80	70-130	6	25	
1,1-Dichloroethene	8.63		ug/L	10.00		86	70-130	2	25	
1,1-Dichloropropene	8.67		ug/L	10.00		87	70-130	3	25	
1,2,3-Trichlorobenzene	8.49		ug/L	10.00		85	70-130	9	25	
1,2,3-Trichloropropane	8.05		ug/L	10.00		80	70-130	1	25	
1,2,4-Trichlorobenzene	8.63		ug/L	10.00		86	70-130	10	25	
1,2,4-Trimethylbenzene	7.65		ug/L	10.00		76	70-130	0.4	25	
1,2-Dibromo-3-Chloropropane	7.81		ug/L	10.00		78	70-130	6	25	
1,2-Dibromoethane	9.08		ug/L	10.00		91	70-130	0.1	25	
1,2-Dichlorobenzene	8.67		ug/L	10.00		87	70-130	2	25	
1,2-Dichloroethane	8.80		ug/L	10.00		88	70-130	5	25	
1,2-Dichloropropane	7.19		ug/L	10.00		72	70-130	8	25	
1,3,5-Trimethylbenzene	7.53		ug/L	10.00		75	70-130	6	25	
1,3-Dichlorobenzene	8.79		ug/L	10.00		88	70-130	5	25	
1,3-Dichloropropane	9.00		ug/L	10.00		90	70-130	3	25	
1,4-Dichlorobenzene	9.39		ug/L	10.00		94	70-130	0.5	25	
1,4-Dioxane - Screen	174		ug/L	200.0		87	0-332	9	200	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810775

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ82959 - 5030B										
1-Chlorohexane	7.99		ug/L	10.00		80	70-130	7	25	
2,2-Dichloropropane	9.05		ug/L	10.00		90	70-130	2	25	
2-Butanone	38.1		ug/L	50.00		76	70-130	12	25	
2-Chlorotoluene	8.62		ug/L	10.00		86	70-130	1	25	
2-Hexanone	38.1		ug/L	50.00		76	70-130	13	25	
4-Chlorotoluene	9.11		ug/L	10.00		91	70-130	1	25	
4-Isopropyltoluene	8.89		ug/L	10.00		89	70-130	4	25	
4-Methyl-2-Pentanone	35.1		ug/L	50.00		70	70-130	9	25	
Acetone	38.6		ug/L	50.00		77	70-130	9	25	
Benzene	8.38		ug/L	10.00		84	70-130	0.6	25	
Bromobenzene	8.85		ug/L	10.00		88	70-130	3	25	
Bromochloromethane	9.04		ug/L	10.00		90	70-130	2	25	
Bromodichloromethane	8.20		ug/L	10.00		82	70-130	6	25	
Bromoform	9.76		ug/L	10.00		98	70-130	3	25	
Bromomethane	11.7		ug/L	10.00		117	70-130	9	25	
Carbon Disulfide	8.29		ug/L	10.00		83	70-130	0.2	25	
Carbon Tetrachloride	9.21		ug/L	10.00		92	70-130	1	25	
Chlorobenzene	9.08		ug/L	10.00		91	70-130	0.7	25	
Chloroethane	11.8		ug/L	10.00		118	70-130	4	25	
Chloroform	8.66		ug/L	10.00		87	70-130	3	25	
Chloromethane	9.96		ug/L	10.00		100	70-130	2	25	
cis-1,2-Dichloroethene	8.32		ug/L	10.00		83	70-130	7	25	
cis-1,3-Dichloropropene	7.84		ug/L	10.00		78	70-130	6	25	
Dibromochloromethane	8.70		ug/L	10.00		87	70-130	3	25	
Dibromomethane	8.80		ug/L	10.00		88	70-130	0.6	25	
Dichlorodifluoromethane	8.14		ug/L	10.00		81	70-130	3	25	
Diethyl Ether	7.95		ug/L	10.00		80	70-130	7	25	
Di-isopropyl ether	8.04		ug/L	10.00		80	70-130	4	25	
Ethyl tertiary-butyl ether	7.49		ug/L	10.00		75	70-130	5	25	
Ethylbenzene	8.69		ug/L	10.00		87	70-130	0.5	25	
Hexachlorobutadiene	10.3		ug/L	10.00		103	70-130	0.7	25	
Hexachloroethane	8.58		ug/L	10.00		86	70-130	5	25	
Isopropylbenzene	8.53		ug/L	10.00		85	70-130	2	25	
Methyl tert-Butyl Ether	8.13		ug/L	10.00		81	70-130	9	25	
Methylene Chloride	7.51		ug/L	10.00		75	70-130	12	25	
Naphthalene	6.93		ug/L	10.00		69	70-130	12	25	B-
n-Butylbenzene	8.41		ug/L	10.00		84	70-130	1	25	
n-Propylbenzene	7.94		ug/L	10.00		79	70-130	4	25	
sec-Butylbenzene	8.49		ug/L	10.00		85	70-130	0.5	25	
Styrene	9.42		ug/L	10.00		94	70-130	1	25	
tert-Butylbenzene	8.00		ug/L	10.00		80	70-130	4	25	
Tertiary-amyl methyl ether	7.60		ug/L	10.00		76	70-130	5	25	
Tetrachloroethene	8.40		ug/L	10.00		84	70-130	2	25	
Tetrahydrofuran	6.80		ug/L	10.00		68	70-130	42	25	B-, D+
Toluene	8.70		ug/L	10.00		87	70-130	0.6	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
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ESS Laboratory Work Order: 1810775

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ82959 - 5030B										
trans-1,2-Dichloroethene	7.97		ug/L	10.00		80	70-130	0.3	25	
trans-1,3-Dichloropropene	6.52		ug/L	10.00		65	70-130	11	25	B-
Trichloroethene	8.37		ug/L	10.00		84	70-130	3	25	
Trichlorofluoromethane	9.22		ug/L	10.00		92	70-130	4	25	
Vinyl Acetate	7.87		ug/L	10.00		79	70-130	10	25	
Vinyl Chloride	11.7		ug/L	10.00		117	70-130	6	25	
Xylene O	8.28		ug/L	10.00		83	70-130	2	25	
Xylene P,M	16.4		ug/L	20.00		82	70-130	0.2	25	
Surrogate: 1,2-Dichloroethane-d4	*0.0251*		mg/L	*0.02500*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0254*		mg/L	*0.02500*		*102*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0234*		mg/L	*0.02500*		*94*	*70-130*			
Surrogate: Toluene-d8	*0.0243*		mg/L	*0.02500*		*97*	*70-130*			
Batch CJ83046 - 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							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810775

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ83046 - 5030B										
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							
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							
Surrogate: 1,2-Dichloroethane-d4	*0.0264*		mg/L	*0.02500*		*106*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0213*		mg/L	*0.02500*		*85*	*70-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
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ESS Laboratory Work Order: 1810775

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ83046 - 5030B										
Surrogate: Dibromofluoromethane	*0.0251*		mg/L	*0.02500*		*100*	*70-130*			
Surrogate: Toluene-d8	*0.0246*		mg/L	*0.02500*		*99*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0095	0.0010	mg/L	0.01000		95	70-130			
1,1,1-Trichloroethane	0.0095	0.0010	mg/L	0.01000		95	70-130			
1,1,2,2-Tetrachloroethane	0.0100	0.0005	mg/L	0.01000		100	70-130			
1,1,2-Trichloroethane	0.0091	0.0010	mg/L	0.01000		91	70-130			
1,1-Dichloroethane	0.0084	0.0010	mg/L	0.01000		84	70-130			
1,1-Dichloroethene	0.0090	0.0010	mg/L	0.01000		90	70-130			
1,1-Dichloropropene	0.0094	0.0020	mg/L	0.01000		94	70-130			
1,2,3-Trichlorobenzene	0.0099	0.0010	mg/L	0.01000		99	70-130			
1,2,3-Trichloropropane	0.0087	0.0010	mg/L	0.01000		87	70-130			
1,2,4-Trichlorobenzene	0.0098	0.0010	mg/L	0.01000		98	70-130			
1,2,4-Trimethylbenzene	0.0082	0.0010	mg/L	0.01000		82	70-130			
1,2-Dibromo-3-Chloropropane	0.0091	0.0050	mg/L	0.01000		91	70-130			
1,2-Dibromoethane	0.0094	0.0010	mg/L	0.01000		94	70-130			
1,2-Dichlorobenzene	0.0098	0.0010	mg/L	0.01000		98	70-130			
1,2-Dichloroethane	0.0094	0.0010	mg/L	0.01000		94	70-130			
1,2-Dichloropropane	0.0082	0.0010	mg/L	0.01000		82	70-130			
1,3,5-Trimethylbenzene	0.0089	0.0010	mg/L	0.01000		89	70-130			
1,3-Dichlorobenzene	0.0096	0.0010	mg/L	0.01000		96	70-130			
1,3-Dichloropropane	0.0100	0.0010	mg/L	0.01000		100	70-130			
1,4-Dichlorobenzene	0.0101	0.0010	mg/L	0.01000		101	70-130			
1,4-Dioxane - Screen	ND	0.500	mg/L	0.2000		0	0-332			
1-Chlorohexane	0.0078	0.0010	mg/L	0.01000		78	70-130			
2,2-Dichloropropane	0.0099	0.0010	mg/L	0.01000		99	70-130			
2-Butanone	0.0446	0.0100	mg/L	0.05000		89	70-130			
2-Chlorotoluene	0.0098	0.0010	mg/L	0.01000		98	70-130			
2-Hexanone	0.0485	0.0100	mg/L	0.05000		97	70-130			
4-Chlorotoluene	0.0101	0.0010	mg/L	0.01000		101	70-130			
4-Isopropyltoluene	0.0099	0.0010	mg/L	0.01000		99	70-130			
4-Methyl-2-Pentanone	0.0446	0.0250	mg/L	0.05000		89	70-130			
Acetone	0.0444	0.0100	mg/L	0.05000		89	70-130			
Benzene	0.0091	0.0010	mg/L	0.01000		91	70-130			
Bromobenzene	0.0098	0.0020	mg/L	0.01000		98	70-130			
Bromochloromethane	0.0091	0.0010	mg/L	0.01000		91	70-130			
Bromodichloromethane	0.0088	0.0006	mg/L	0.01000		88	70-130			
Bromoform	0.0104	0.0010	mg/L	0.01000		104	70-130			
Bromomethane	0.0090	0.0020	mg/L	0.01000		90	70-130			
Carbon Disulfide	0.0085	0.0010	mg/L	0.01000		85	70-130			
Carbon Tetrachloride	0.0094	0.0010	mg/L	0.01000		94	70-130			
Chlorobenzene	0.0096	0.0010	mg/L	0.01000		96	70-130			
Chloroethane	0.0116	0.0020	mg/L	0.01000		116	70-130			
Chloroform	0.0089	0.0010	mg/L	0.01000		89	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810775

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ83046 - 5030B										
Chloromethane	0.0094	0.0020	mg/L	0.01000		94	70-130			
cis-1,2-Dichloroethene	0.0087	0.0010	mg/L	0.01000		87	70-130			
cis-1,3-Dichloropropene	0.0083	0.0004	mg/L	0.01000		83	70-130			
Dibromochloromethane	0.0092	0.0010	mg/L	0.01000		92	70-130			
Dibromomethane	0.0094	0.0010	mg/L	0.01000		94	70-130			
Dichlorodifluoromethane	0.0090	0.0020	mg/L	0.01000		90	70-130			
Diethyl Ether	0.0087	0.0010	mg/L	0.01000		87	70-130			
Di-isopropyl ether	0.0090	0.0010	mg/L	0.01000		90	70-130			
Ethyl tertiary-butyl ether	0.0082	0.0010	mg/L	0.01000		82	70-130			
Ethylbenzene	0.0095	0.0010	mg/L	0.01000		95	70-130			
Hexachlorobutadiene	0.0112	0.0006	mg/L	0.01000		112	70-130			
Hexachloroethane	0.0090	0.0010	mg/L	0.01000		90	70-130			
Isopropylbenzene	0.0092	0.0010	mg/L	0.01000		92	70-130			
Methyl tert-Butyl Ether	0.0093	0.0010	mg/L	0.01000		93	70-130			
Methylene Chloride	0.0080	0.0020	mg/L	0.01000		80	70-130			
Naphthalene	0.0088	0.0010	mg/L	0.01000		88	70-130			
n-Butylbenzene	0.0092	0.0010	mg/L	0.01000		92	70-130			
n-Propylbenzene	0.0090	0.0010	mg/L	0.01000		90	70-130			
sec-Butylbenzene	0.0095	0.0010	mg/L	0.01000		95	70-130			
Styrene	0.0098	0.0010	mg/L	0.01000		98	70-130			
tert-Butylbenzene	0.0086	0.0010	mg/L	0.01000		86	70-130			
Tertiary-amyl methyl ether	0.0082	0.0010	mg/L	0.01000		82	70-130			
Tetrachloroethene	0.0088	0.0010	mg/L	0.01000		88	70-130			
Tetrahydrofuran	0.0092	0.0050	mg/L	0.01000		92	70-130			
Toluene	0.0091	0.0010	mg/L	0.01000		91	70-130			
trans-1,2-Dichloroethene	0.0086	0.0010	mg/L	0.01000		86	70-130			
trans-1,3-Dichloropropene	0.0073	0.0004	mg/L	0.01000		73	70-130			
Trichloroethene	0.0090	0.0010	mg/L	0.01000		90	70-130			
Trichlorofluoromethane	0.0101	0.0010	mg/L	0.01000		101	70-130			
Vinyl Acetate	0.0092	0.0050	mg/L	0.01000		92	70-130			
Vinyl Chloride	0.0120	0.0010	mg/L	0.01000		120	70-130			
Xylene O	0.0088	0.0010	mg/L	0.01000		88	70-130			
Xylene P,M	0.0174	0.0020	mg/L	0.02000		87	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0254*		mg/L	*0.02500*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0267*		mg/L	*0.02500*		*107*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0244*		mg/L	*0.02500*		*98*	*70-130*			
Surrogate: Toluene-d8	*0.0245*		mg/L	*0.02500*		*98*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0102	0.0010	mg/L	0.01000		102	70-130	6	25	
1,1,1-Trichloroethane	0.0098	0.0010	mg/L	0.01000		98	70-130	3	25	
1,1,2,2-Tetrachloroethane	0.0103	0.0005	mg/L	0.01000		103	70-130	3	25	
1,1,2-Trichloroethane	0.0089	0.0010	mg/L	0.01000		89	70-130	3	25	
1,1-Dichloroethane	0.0091	0.0010	mg/L	0.01000		91	70-130	7	25	
1,1-Dichloroethene	0.0093	0.0010	mg/L	0.01000		93	70-130	3	25	
1,1-Dichloropropene	0.0098	0.0020	mg/L	0.01000		98	70-130	4	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810775

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ83046 - 5030B										
1,2,3-Trichlorobenzene	0.0099	0.0010	mg/L	0.01000		99	70-130	0.1	25	
1,2,3-Trichloropropane	0.0089	0.0010	mg/L	0.01000		89	70-130	3	25	
1,2,4-Trichlorobenzene	0.0099	0.0010	mg/L	0.01000		99	70-130	1	25	
1,2,4-Trimethylbenzene	0.0085	0.0010	mg/L	0.01000		85	70-130	4	25	
1,2-Dibromo-3-Chloropropane	0.0093	0.0050	mg/L	0.01000		93	70-130	2	25	
1,2-Dibromoethane	0.0102	0.0010	mg/L	0.01000		102	70-130	9	25	
1,2-Dichlorobenzene	0.0098	0.0010	mg/L	0.01000		98	70-130	0.1	25	
1,2-Dichloroethane	0.0100	0.0010	mg/L	0.01000		100	70-130	6	25	
1,2-Dichloropropane	0.0081	0.0010	mg/L	0.01000		81	70-130	0.6	25	
1,3,5-Trimethylbenzene	0.0087	0.0010	mg/L	0.01000		87	70-130	2	25	
1,3-Dichlorobenzene	0.0098	0.0010	mg/L	0.01000		98	70-130	2	25	
1,3-Dichloropropane	0.0106	0.0010	mg/L	0.01000		106	70-130	6	25	
1,4-Dichlorobenzene	0.0103	0.0010	mg/L	0.01000		103	70-130	2	25	
1,4-Dioxane - Screen	ND	0.500	mg/L	0.2000		0	0-332		200	
1-Chlorohexane	0.0085	0.0010	mg/L	0.01000		85	70-130	8	25	
2,2-Dichloropropane	0.0101	0.0010	mg/L	0.01000		101	70-130	3	25	
2-Butanone	0.0428	0.0100	mg/L	0.05000		86	70-130	4	25	
2-Chlorotoluene	0.0100	0.0010	mg/L	0.01000		100	70-130	2	25	
2-Hexanone	0.0473	0.0100	mg/L	0.05000		95	70-130	3	25	
4-Chlorotoluene	0.0102	0.0010	mg/L	0.01000		102	70-130	2	25	
4-Isopropyltoluene	0.0098	0.0010	mg/L	0.01000		98	70-130	1	25	
4-Methyl-2-Pentanone	0.0432	0.0250	mg/L	0.05000		86	70-130	3	25	
Acetone	0.0454	0.0100	mg/L	0.05000		91	70-130	2	25	
Benzene	0.0092	0.0010	mg/L	0.01000		92	70-130	0.9	25	
Bromobenzene	0.0101	0.0020	mg/L	0.01000		101	70-130	3	25	
Bromochloromethane	0.0091	0.0010	mg/L	0.01000		91	70-130	0.4	25	
Bromodichloromethane	0.0091	0.0006	mg/L	0.01000		91	70-130	3	25	
Bromoform	0.0108	0.0010	mg/L	0.01000		108	70-130	3	25	
Bromomethane	0.0094	0.0020	mg/L	0.01000		94	70-130	4	25	
Carbon Disulfide	0.0090	0.0010	mg/L	0.01000		90	70-130	6	25	
Carbon Tetrachloride	0.0097	0.0010	mg/L	0.01000		97	70-130	3	25	
Chlorobenzene	0.0098	0.0010	mg/L	0.01000		98	70-130	2	25	
Chloroethane	0.0119	0.0020	mg/L	0.01000		119	70-130	3	25	
Chloroform	0.0094	0.0010	mg/L	0.01000		94	70-130	6	25	
Chloromethane	0.0098	0.0020	mg/L	0.01000		98	70-130	5	25	
cis-1,2-Dichloroethene	0.0092	0.0010	mg/L	0.01000		92	70-130	5	25	
cis-1,3-Dichloropropene	0.0088	0.0004	mg/L	0.01000		88	70-130	6	25	
Dibromochloromethane	0.0095	0.0010	mg/L	0.01000		95	70-130	4	25	
Dibromomethane	0.0094	0.0010	mg/L	0.01000		94	70-130	0.1	25	
Dichlorodifluoromethane	0.0091	0.0020	mg/L	0.01000		91	70-130	2	25	
Diethyl Ether	0.0093	0.0010	mg/L	0.01000		93	70-130	7	25	
Di-isopropyl ether	0.0087	0.0010	mg/L	0.01000		87	70-130	4	25	
Ethyl tertiary-butyl ether	0.0082	0.0010	mg/L	0.01000		82	70-130	0.2	25	
Ethylbenzene	0.0093	0.0010	mg/L	0.01000		93	70-130	2	25	
Hexachlorobutadiene	0.0117	0.0006	mg/L	0.01000		117	70-130	4	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810775

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ83046 - 5030B										
Hexachloroethane	0.0091	0.0010	mg/L	0.01000		91	70-130	0.9	25	
Isopropylbenzene	0.0096	0.0010	mg/L	0.01000		96	70-130	4	25	
Methyl tert-Butyl Ether	0.0089	0.0010	mg/L	0.01000		89	70-130	5	25	
Methylene Chloride	0.0079	0.0020	mg/L	0.01000		79	70-130	1	25	
Naphthalene	0.0090	0.0010	mg/L	0.01000		90	70-130	2	25	
n-Butylbenzene	0.0093	0.0010	mg/L	0.01000		93	70-130	0.9	25	
n-Propylbenzene	0.0093	0.0010	mg/L	0.01000		93	70-130	3	25	
sec-Butylbenzene	0.0095	0.0010	mg/L	0.01000		95	70-130	0.5	25	
Styrene	0.0098	0.0010	mg/L	0.01000		98	70-130	1	25	
tert-Butylbenzene	0.0087	0.0010	mg/L	0.01000		87	70-130	2	25	
Tertiary-amyl methyl ether	0.0087	0.0010	mg/L	0.01000		87	70-130	6	25	
Tetrachloroethene	0.0091	0.0010	mg/L	0.01000		91	70-130	4	25	
Tetrahydrofuran	0.0077	0.0050	mg/L	0.01000		77	70-130	18	25	
Toluene	0.0091	0.0010	mg/L	0.01000		91	70-130	0.1	25	
trans-1,2-Dichloroethene	0.0086	0.0010	mg/L	0.01000		86	70-130	0.2	25	
trans-1,3-Dichloropropene	0.0070	0.0004	mg/L	0.01000		70	70-130	4	25	
Trichloroethene	0.0090	0.0010	mg/L	0.01000		90	70-130	0.1	25	
Trichlorofluoromethane	0.0105	0.0010	mg/L	0.01000		105	70-130	3	25	
Vinyl Acetate	0.0093	0.0050	mg/L	0.01000		93	70-130	2	25	
Vinyl Chloride	0.0123	0.0010	mg/L	0.01000		123	70-130	2	25	
Xylene O	0.0091	0.0010	mg/L	0.01000		91	70-130	3	25	
Xylene P,M	0.0181	0.0020	mg/L	0.02000		91	70-130	4	25	
Surrogate: 1,2-Dichloroethane-d4	*0.0254*		mg/L	*0.02500*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0252*		mg/L	*0.02500*		*101*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0241*		mg/L	*0.02500*		*96*	*70-130*			
Surrogate: Toluene-d8	*0.0247*		mg/L	*0.02500*		*99*	*70-130*			
Batch CJ83143 - 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							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810775

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ83143 - 5030B										
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							
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							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810775

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ83143 - 5030B										
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							
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							
Surrogate: 1,2-Dichloroethane-d4	*0.0267*		mg/L	*0.02500*		*107*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0214*		mg/L	*0.02500*		*85*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0249*		mg/L	*0.02500*		*100*	*70-130*			
Surrogate: Toluene-d8	*0.0237*		mg/L	*0.02500*		*95*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	9.00		ug/L	10.00		90	70-130			
1,1,1-Trichloroethane	9.01		ug/L	10.00		90	70-130			
1,1,2,2-Tetrachloroethane	8.97		ug/L	10.00		90	70-130			
1,1,2-Trichloroethane	8.26		ug/L	10.00		83	70-130			
1,1-Dichloroethane	8.43		ug/L	10.00		84	70-130			
1,1-Dichloroethene	8.45		ug/L	10.00		84	70-130			
1,1-Dichloropropene	8.50		ug/L	10.00		85	70-130			
1,2,3-Trichlorobenzene	9.49		ug/L	10.00		95	70-130			
1,2,3-Trichloropropane	7.69		ug/L	10.00		77	70-130			
1,2,4-Trichlorobenzene	9.16		ug/L	10.00		92	70-130			
1,2,4-Trimethylbenzene	7.64		ug/L	10.00		76	70-130			
1,2-Dibromo-3-Chloropropane	7.69		ug/L	10.00		77	70-130			
1,2-Dibromoethane	8.39		ug/L	10.00		84	70-130			
1,2-Dichlorobenzene	8.89		ug/L	10.00		89	70-130			
1,2-Dichloroethane	8.71		ug/L	10.00		87	70-130			
1,2-Dichloropropane	7.47		ug/L	10.00		75	70-130			
1,3,5-Trimethylbenzene	7.79		ug/L	10.00		78	70-130			
1,3-Dichlorobenzene	9.04		ug/L	10.00		90	70-130			
1,3-Dichloropropane	8.77		ug/L	10.00		88	70-130			
1,4-Dichlorobenzene	9.65		ug/L	10.00		96	70-130			
1,4-Dioxane - Screen	149		ug/L	200.0		75	0-332			
1-Chlorohexane	7.68		ug/L	10.00		77	70-130			
2,2-Dichloropropane	9.05		ug/L	10.00		90	70-130			
2-Butanone	38.3		ug/L	50.00		77	70-130			
2-Chlorotoluene	8.98		ug/L	10.00		90	70-130			
2-Hexanone	36.8		ug/L	50.00		74	70-130			
4-Chlorotoluene	9.44		ug/L	10.00		94	70-130			
4-Isopropyltoluene	9.46		ug/L	10.00		95	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810775

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ83143 - 5030B										
4-Methyl-2-Pentanone	34.2		ug/L	50.00		68	70-130			B-
Acetone	37.8		ug/L	50.00		76	70-130			
Benzene	8.27		ug/L	10.00		83	70-130			
Bromobenzene	8.76		ug/L	10.00		88	70-130			
Bromochloromethane	8.35		ug/L	10.00		84	70-130			
Bromodichloromethane	8.18		ug/L	10.00		82	70-130			
Bromoform	8.92		ug/L	10.00		89	70-130			
Bromomethane	9.66		ug/L	10.00		97	70-130			
Carbon Disulfide	8.03		ug/L	10.00		80	70-130			
Carbon Tetrachloride	9.04		ug/L	10.00		90	70-130			
Chlorobenzene	8.89		ug/L	10.00		89	70-130			
Chloroethane	10.3		ug/L	10.00		103	70-130			
Chloroform	8.52		ug/L	10.00		85	70-130			
Chloromethane	10.7		ug/L	10.00		107	70-130			
cis-1,2-Dichloroethene	8.51		ug/L	10.00		85	70-130			
cis-1,3-Dichloropropene	7.68		ug/L	10.00		77	70-130			
Dibromochloromethane	8.25		ug/L	10.00		82	70-130			
Dibromomethane	8.49		ug/L	10.00		85	70-130			
Dichlorodifluoromethane	10.2		ug/L	10.00		102	70-130			
Diethyl Ether	8.36		ug/L	10.00		84	70-130			
Di-isopropyl ether	7.86		ug/L	10.00		79	70-130			
Ethyl tertiary-butyl ether	7.34		ug/L	10.00		73	70-130			
Ethylbenzene	8.58		ug/L	10.00		86	70-130			
Hexachlorobutadiene	10.6		ug/L	10.00		106	70-130			
Hexachloroethane	8.85		ug/L	10.00		88	70-130			
Isopropylbenzene	8.52		ug/L	10.00		85	70-130			
Methyl tert-Butyl Ether	7.87		ug/L	10.00		79	70-130			
Methylene Chloride	7.42		ug/L	10.00		74	70-130			
Naphthalene	7.32		ug/L	10.00		73	70-130			
n-Butylbenzene	8.68		ug/L	10.00		87	70-130			
n-Propylbenzene	8.41		ug/L	10.00		84	70-130			
sec-Butylbenzene	9.07		ug/L	10.00		91	70-130			
Styrene	9.18		ug/L	10.00		92	70-130			
tert-Butylbenzene	8.21		ug/L	10.00		82	70-130			
Tertiary-amyl methyl ether	7.14		ug/L	10.00		71	70-130			
Tetrachloroethene	7.98		ug/L	10.00		80	70-130			
Tetrahydrofuran	6.69		ug/L	10.00		67	70-130			B-
Toluene	8.70		ug/L	10.00		87	70-130			
trans-1,2-Dichloroethene	7.77		ug/L	10.00		78	70-130			
trans-1,3-Dichloropropene	6.42		ug/L	10.00		64	70-130			B-
Trichloroethene	8.09		ug/L	10.00		81	70-130			
Trichlorofluoromethane	9.52		ug/L	10.00		95	70-130			
Vinyl Acetate	8.70		ug/L	10.00		87	70-130			
Vinyl Chloride	11.5		ug/L	10.00		115	70-130			
Xylene O	8.21		ug/L	10.00		82	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810775

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ83143 - 5030B										
Xylene P,M	15.9		ug/L	20.00		79	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0234*		mg/L	*0.02500*		*94*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0242*		mg/L	*0.02500*		*97*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0225*		mg/L	*0.02500*		*90*	*70-130*			
Surrogate: Toluene-d8	*0.0233*		mg/L	*0.02500*		*93*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	8.82		ug/L	10.00		88	70-130	2	25	
1,1,1-Trichloroethane	9.17		ug/L	10.00		92	70-130	2	25	
1,1,2,2-Tetrachloroethane	8.40		ug/L	10.00		84	70-130	7	25	
1,1,2-Trichloroethane	8.58		ug/L	10.00		86	70-130	4	25	
1,1-Dichloroethane	8.63		ug/L	10.00		86	70-130	2	25	
1,1-Dichloroethene	8.66		ug/L	10.00		87	70-130	2	25	
1,1-Dichloropropene	9.19		ug/L	10.00		92	70-130	8	25	
1,2,3-Trichlorobenzene	9.01		ug/L	10.00		90	70-130	5	25	
1,2,3-Trichloropropane	7.56		ug/L	10.00		76	70-130	2	25	
1,2,4-Trichlorobenzene	8.99		ug/L	10.00		90	70-130	2	25	
1,2,4-Trimethylbenzene	7.77		ug/L	10.00		78	70-130	2	25	
1,2-Dibromo-3-Chloropropane	7.39		ug/L	10.00		74	70-130	4	25	
1,2-Dibromoethane	8.46		ug/L	10.00		85	70-130	0.8	25	
1,2-Dichlorobenzene	8.77		ug/L	10.00		88	70-130	1	25	
1,2-Dichloroethane	9.29		ug/L	10.00		93	70-130	6	25	
1,2-Dichloropropane	7.81		ug/L	10.00		78	70-130	4	25	
1,3,5-Trimethylbenzene	7.87		ug/L	10.00		79	70-130	1	25	
1,3-Dichlorobenzene	8.97		ug/L	10.00		90	70-130	0.8	25	
1,3-Dichloropropane	8.83		ug/L	10.00		88	70-130	0.7	25	
1,4-Dichlorobenzene	9.49		ug/L	10.00		95	70-130	2	25	
1,4-Dioxane - Screen	167		ug/L	200.0		84	0-332	11	200	
1-Chlorohexane	7.39		ug/L	10.00		74	70-130	4	25	
2,2-Dichloropropane	9.23		ug/L	10.00		92	70-130	2	25	
2-Butanone	37.7		ug/L	50.00		75	70-130	1	25	
2-Chlorotoluene	9.07		ug/L	10.00		91	70-130	1	25	
2-Hexanone	37.0		ug/L	50.00		74	70-130	0.4	25	
4-Chlorotoluene	9.40		ug/L	10.00		94	70-130	0.4	25	
4-Isopropyltoluene	9.32		ug/L	10.00		93	70-130	1	25	
4-Methyl-2-Pentanone	34.5		ug/L	50.00		69	70-130	0.8	25	B-
Acetone	39.2		ug/L	50.00		78	70-130	4	25	
Benzene	8.56		ug/L	10.00		86	70-130	3	25	
Bromobenzene	9.02		ug/L	10.00		90	70-130	3	25	
Bromochloromethane	8.54		ug/L	10.00		85	70-130	2	25	
Bromodichloromethane	8.35		ug/L	10.00		84	70-130	2	25	
Bromoform	8.93		ug/L	10.00		89	70-130	0.1	25	
Bromomethane	9.48		ug/L	10.00		95	70-130	2	25	
Carbon Disulfide	8.46		ug/L	10.00		85	70-130	5	25	
Carbon Tetrachloride	9.70		ug/L	10.00		97	70-130	7	25	
Chlorobenzene	8.91		ug/L	10.00		89	70-130	0.2	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810775

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ83143 - 5030B										
Chloroethane	12.2		ug/L	10.00		122	70-130	17	25	
Chloroform	9.05		ug/L	10.00		90	70-130	6	25	
Chloromethane	10.4		ug/L	10.00		104	70-130	3	25	
cis-1,2-Dichloroethene	8.94		ug/L	10.00		89	70-130	5	25	
cis-1,3-Dichloropropene	8.17		ug/L	10.00		82	70-130	6	25	
Dibromochloromethane	8.08		ug/L	10.00		81	70-130	2	25	
Dibromomethane	8.78		ug/L	10.00		88	70-130	3	25	
Dichlorodifluoromethane	10.4		ug/L	10.00		104	70-130	2	25	
Diethyl Ether	8.39		ug/L	10.00		84	70-130	0.4	25	
Di-isopropyl ether	8.29		ug/L	10.00		83	70-130	5	25	
Ethyl tertiary-butyl ether	7.42		ug/L	10.00		74	70-130	1	25	
Ethylbenzene	8.70		ug/L	10.00		87	70-130	1	25	
Hexachlorobutadiene	10.7		ug/L	10.00		107	70-130	1	25	
Hexachloroethane	8.48		ug/L	10.00		85	70-130	4	25	
Isopropylbenzene	8.62		ug/L	10.00		86	70-130	1	25	
Methyl tert-Butyl Ether	8.43		ug/L	10.00		84	70-130	7	25	
Methylene Chloride	7.76		ug/L	10.00		78	70-130	4	25	
Naphthalene	7.43		ug/L	10.00		74	70-130	1	25	
n-Butylbenzene	8.29		ug/L	10.00		83	70-130	5	25	
n-Propylbenzene	8.23		ug/L	10.00		82	70-130	2	25	
sec-Butylbenzene	8.82		ug/L	10.00		88	70-130	3	25	
Styrene	9.11		ug/L	10.00		91	70-130	0.8	25	
tert-Butylbenzene	7.78		ug/L	10.00		78	70-130	5	25	
Tertiary-amyl methyl ether	7.29		ug/L	10.00		73	70-130	2	25	
Tetrachloroethene	8.22		ug/L	10.00		82	70-130	3	25	
Tetrahydrofuran	8.97		ug/L	10.00		90	70-130	29	25	D+
Toluene	8.77		ug/L	10.00		88	70-130	0.8	25	
trans-1,2-Dichloroethene	7.86		ug/L	10.00		79	70-130	1	25	
trans-1,3-Dichloropropene	7.01		ug/L	10.00		70	70-130	9	25	
Trichloroethene	8.54		ug/L	10.00		85	70-130	5	25	
Trichlorofluoromethane	10.1		ug/L	10.00		101	70-130	6	25	
Vinyl Acetate	8.80		ug/L	10.00		88	70-130	1	25	
Vinyl Chloride	12.2		ug/L	10.00		122	70-130	5	25	
Xylene O	8.27		ug/L	10.00		83	70-130	0.7	25	
Xylene P,M	16.2		ug/L	20.00		81	70-130	2	25	
Surrogate: 1,2-Dichloroethane-d4	*0.0248*		mg/L	*0.02500*		*99*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0251*		mg/L	*0.02500*		*100*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0240*		mg/L	*0.02500*		*96*	*70-130*			
Surrogate: Toluene-d8	*0.0241*		mg/L	*0.02500*		*96*	*70-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility ESS Laboratory Work Order: 1810775

Notes and Definitions

U	Analyte included in the analysis, but not detected
D+	Relative percent difference for duplicate is outside of criteria (D+).
D	Diluted.
B-	Blank Spike recovery is below lower control limit (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
RL	Reporting Limit
EDL	Estimated Detection Limit

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810775

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/dwp/partners/labCert.shtml

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.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GZA - Glastonbury CT - GZA/MM

Shipped/Delivered Via: Client

ESS Project ID: 1810775
Date Received: 10/26/2018
Project Due Date: 11/2/2018
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 4.8 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** Yes / No / NA
10. Were any analyses received outside of hold time? Yes / No

11. Any Subcontracting needed? Yes / No
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? Yes / No
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? Yes / No / NA
13. Are the samples properly preserved? Yes / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes / No
    a. Was there a need to contact the client? Yes / No
    Who was contacted? Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	283332	Yes	No	Yes	VOA Vial - HCl	HCl	
01	283333	Yes	No	Yes	VOA Vial - HCl	HCl	
01	283334	Yes	No	Yes	VOA Vial - HCl	HCl	
02	283329	Yes	No	Yes	VOA Vial - HCl	HCl	
02	283330	Yes	No	Yes	VOA Vial - HCl	HCl	
02	283331	Yes	No	Yes	VOA Vial - HCl	HCl	
03	283326	Yes	No	Yes	VOA Vial - HCl	HCl	
03	283327	Yes	No	Yes	VOA Vial - HCl	HCl	
03	283328	Yes	No	Yes	VOA Vial - HCl	HCl	
04	283323	Yes	No	Yes	VOA Vial - HCl	HCl	
04	283324	Yes	No	Yes	VOA Vial - HCl	HCl	
04	283325	Yes	No	Yes	VOA Vial - HCl	HCl	
05	283320	Yes	No	Yes	VOA Vial - HCl	HCl	
05	283321	Yes	No	Yes	VOA Vial - HCl	HCl	
05	283322	Yes	No	Yes	VOA Vial - HCl	HCl	
06	283317	Yes	No	Yes	VOA Vial - HCl	HCl	
06	283318	Yes	No	Yes	VOA Vial - HCl	HCl	
06	283319	Yes	No	Yes	VOA Vial - HCl	HCl	
07	283314	Yes	No	Yes	VOA Vial - HCl	HCl	
07	283315	Yes	No	Yes	VOA Vial - HCl	HCl	
07	283316	Yes	No	Yes	VOA Vial - HCl	HCl	
08	283311	Yes	No	Yes	VOA Vial - HCl	HCl	
08	283312	Yes	No	Yes	VOA Vial - HCl	HCl	
08	283313	Yes	No	Yes	VOA Vial - HCl	HCl	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GZA - Glastonbury CT - GZA/MM

ESS Project ID: 1810775
Date Received: 10/26/2018

09	283308	Yes	No	Yes	VOA Vial - HCl	HCl
09	283309	Yes	No	Yes	VOA Vial - HCl	HCl
09	283310	Yes	No	Yes	VOA Vial - HCl	HCl
10	283305	Yes	No	Yes	VOA Vial - HCl	HCl
10	283306	Yes	No	Yes	VOA Vial - HCl	HCl
10	283307	Yes	No	Yes	VOA Vial - HCl	HCl

2nd Review

Are barcode labels on correct containers? (Yes) No
Are all necessary stickers attached? (Yes) No

Completed By: _____ Date & Time: 10/26/18 1517

Reviewed By: _____ Date & Time: 10/26/18 1542

Delivered By: _____ 10/26/18 1542

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston RI 02910
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # K610775

Turn Time	5-Day Rush
Regulatory State	Rhode Island
Is this project for any of the following?:	○ CT RCP ○ MA MCP ○ RGP
Reporting Limits	
Electonic Deliverables	☑ Limit Checker ☑ Standard Excel ☐ Other (Please Specify →)

Company Name	Project #	Project Name
GZA	05.0043654.00	Former Tidewater Facility
Contact Person	**Address**	
Dave Rusczyk	95 Glastonbury Boulevard, 3rd Floor	
City	**State**	**Zip Code** / **PO #**
Glastonbury	CT	06033 / 43654
Telephone Number	**FAX Number**	**Email Address**
860-858-3110	-	david.rusczyk@gza.com

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	Analysis: VOCs (8260B)
1	10/24/18	1412	Grab	GW	MW-318S	X
2	10/24/18	1540 (GW)	Grab	GW	MW-310D	X
3	10/24/18	1610	Grab	GW	MW-310S	X
4	10/25/18	0852	Grab	GW	MW-316D	X
5	10/25/18	1018	Grab	GW	MW-7	X
6	10/25/18	0935	Grab	GW	MW-208	X
7	10/25/18	1050	Grab	GW	MW-201	X
8	10/25/18	1135	Grab	GW	MW-339S	X
9	10/25/18	1150	Grab	GW	MW-339D	X
10	10/25/18	1312	Grab	GW	MW-326D	X

Container Type:	AC-Air Cassette	AG-Amber Glass	B-BOD Bottle	C-Cubitainer	G - Glass	O-Other	P-Poly	S-Sterile	V-Vial		✓
Container Volume:	1-100 mL	2-2.5 gal	3-250 mL	4-300 mL	5-500 mL	6-1L	7-VOA	8-2 oz	9-4 oz	10-8 oz	11-Other*	1
Preservation Code:	1-Non Preserved	2-HCl	3-H2SO4	4-HNO3	5-NaOH	6-Methanol	7-Na2S2O3	8-ZnAce, NaOH	9-NH4Cl	10-DI H2O	11-Other*	2
										Number of Containers per Sample:		3

Laboratory Use Only

Cooler Present: ✓
Seals Intact: ____
Cooler Temperature: 4.8 °C IR

Sampled by : Sarah McLeod, Charlie Lindner

Comments: Please specify "Other" preservative and containers types in this space

NGRID rates apply

Please email sarah.mcleod@gza.com also

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
Sarah McLeod 10/26/18 1203	10/26/18 1203		
Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)

CERTIFICATE OF ANALYSIS

Sarah McLeod
GZA GeoEnvironmental, Inc.
188 Valley Street
Providence, RI 02909

RE: Former Tidewater Facility (05.0043654.00)
ESS Laboratory Work Order Number: 1810776

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 4:49 pm, Nov 06, 2018

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 TNI and relative state standards, 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: Former Tidewater Facility

ESS Laboratory Work Order: 1810776

SAMPLE RECEIPT

The following samples were received on October 26, 2018 for the analyses specified on the enclosed Chain of Custody Record.

Lab Number	Sample Name	Matrix	Analysis
1810776-01	MW-314S	Ground Water	8260B
1810776-02	MW-314D	Ground Water	8260B
1810776-03	MW-109	Ground Water	8260B
1810776-04	M and E MW-2	Ground Water	8260B
1810776-05	MW-6	Ground Water	8260B
1810776-06	BD-102418	Ground Water	8260B
1810776-07	MW-337	Ground Water	8260B
1810776-08	MW-334S	Ground Water	8260B
1810776-09	MW-107	Ground Water	8260B
1810776-10	MW-334D	Ground Water	8260B
1810776-11	MW-326S	Ground Water	8260B
1810776-12	MW-333S	Ground Water	8260B
1810776-13	MW-333D	Ground Water	8260B
1810776-14	MW-312D	Ground Water	8260B
1810776-15	MW-312S	Ground Water	8260B
1810776-16	MW-318D	Ground Water	8260B
1810776-17	Trip Blank	Aqueous	8260B

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810776

PROJECT NARRATIVE

8260B Volatile Organic Compounds

C8J0642-CCV1	**Continuing Calibration %Diff/Drift is below control limit (CD-).**
	Diethyl Ether (33% @ 30%)
C8J0666-CCV1	**Continuing Calibration %Diff/Drift is below control limit (CD-).**
	Bromomethane (56% @ 30%)
CJ82960-BSD1	**Blank Spike recovery is below lower control limit (B-).**
	trans-1,3-Dichloropropene (69% @ 70-130%)
CJ83037-BS1	**Blank Spike recovery is below lower control limit (B-).**
	Bromomethane (60% @ 70-130%)
CJ83037-BSD1	**Blank Spike recovery is above upper control limit (B+).**
	Vinyl Chloride (131% @ 70-130%)
CJ83037-BSD1	**Blank Spike recovery is below lower control limit (B-).**
	Bromomethane (59% @ 70-130%), trans-1,3-Dichloropropene (68% @ 70-130%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: Former Tidewater Facility

ESS Laboratory Work Order: 1810776

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
8015C - 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
MADEP 04-2.1 - 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: Former Tidewater Facility
Client Sample ID: MW-314S
Date Sampled: 10/23/18 15:08
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-01
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
1,1-Dichloroethane	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
1,1-Dichloroethene	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
1,1-Dichloropropene	ND (0.0020)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
1,2,4-Trimethylbenzene	**0.0046** (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
1,2-Dibromoethane	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
1,2-Dichloroethane	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
1,2-Dichloropropane	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
1,3-Dichloropropane	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
1,4-Dioxane - Screen	ND (0.500)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
1-Chlorohexane	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
2,2-Dichloropropane	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
2-Butanone	ND (0.0100)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
2-Chlorotoluene	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
2-Hexanone	ND (0.0100)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
4-Chlorotoluene	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
4-Isopropyltoluene	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Acetone	ND (0.0100)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Benzene	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Bromobenzene	ND (0.0020)		8260B		1	10/30/18 12:30	C8J0666	CJ83037

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-314S
Date Sampled: 10/23/18 15:08
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-01
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Bromodichloromethane	ND (0.0006)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Bromoform	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Bromomethane	ND (0.0020)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Carbon Disulfide	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Carbon Tetrachloride	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Chlorobenzene	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Chloroethane	ND (0.0020)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Chloroform	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Chloromethane	ND (0.0020)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Dibromochloromethane	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Dibromomethane	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Dichlorodifluoromethane	ND (0.0020)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Diethyl Ether	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Di-isopropyl ether	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Ethylbenzene	**0.0016** (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Hexachlorobutadiene	ND (0.0006)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Hexachloroethane	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Isopropylbenzene	**0.0038** (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Methylene Chloride	ND (0.0020)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Naphthalene	**0.0044** (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
n-Butylbenzene	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
n-Propylbenzene	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
sec-Butylbenzene	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Styrene	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
tert-Butylbenzene	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Tetrachloroethene	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-314S
Date Sampled: 10/23/18 15:08
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-01
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Toluene	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Trichloroethene	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Trichlorofluoromethane	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Vinyl Acetate	ND (0.0050)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Vinyl Chloride	ND (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Xylene O	**0.0142** (0.0010)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Xylene P,M	ND (0.0020)		8260B		1	10/30/18 12:30	C8J0666	CJ83037
Xylenes (Total)	**0.0142** (0.0020)		8260B		1	10/30/18 12:30		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*111 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*104 %*		*70-130*
Surrogate: Dibromofluoromethane	*93 %*		*70-130*
Surrogate: Toluene-d8	*100 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-314D
Date Sampled: 10/23/18 16:13
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-02
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
1,1-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
1,1-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
1,1-Dichloropropene	ND (0.0020)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
1,2,4-Trimethylbenzene	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
1,2-Dibromoethane	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
1,2-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
1,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
1,3-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
1,4-Dioxane - Screen	ND (0.500)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
1-Chlorohexane	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
2,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
2-Butanone	ND (0.0100)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
2-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
2-Hexanone	ND (0.0100)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
4-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
4-Isopropyltoluene	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Acetone	ND (0.0100)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Benzene	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Bromobenzene	ND (0.0020)		8260B		1	10/29/18 15:38	C8J0642	CJ82960

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-314D
Date Sampled: 10/23/18 16:13
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-02
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Bromodichloromethane	ND (0.0006)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Bromoform	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Bromomethane	ND (0.0020)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Carbon Disulfide	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Carbon Tetrachloride	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Chlorobenzene	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Chloroethane	ND (0.0020)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Chloroform	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Chloromethane	ND (0.0020)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Dibromochloromethane	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Dibromomethane	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Dichlorodifluoromethane	ND (0.0020)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Diethyl Ether	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Di-isopropyl ether	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Ethylbenzene	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Hexachlorobutadiene	ND (0.0006)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Hexachloroethane	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Isopropylbenzene	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Methylene Chloride	ND (0.0020)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Naphthalene	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
n-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
n-Propylbenzene	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
sec-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Styrene	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
tert-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Tetrachloroethene	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-314D
Date Sampled: 10/23/18 16:13
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-02
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Toluene	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Trichloroethene	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Trichlorofluoromethane	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Vinyl Acetate	ND (0.0050)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Vinyl Chloride	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Xylene O	ND (0.0010)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Xylene P,M	ND (0.0020)		8260B		1	10/29/18 15:38	C8J0642	CJ82960
Xylenes (Total)	ND (0.0020)		8260B		1	10/29/18 15:38		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*112 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*90 %*		*70-130*
Surrogate: Dibromofluoromethane	*105 %*		*70-130*
Surrogate: Toluene-d8	*98 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-109
Date Sampled: 10/24/18 08:15
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-03
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
1,1-Dichloroethane	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
1,1-Dichloroethene	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
1,1-Dichloropropene	ND (0.0020)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
1,2,4-Trimethylbenzene	**0.0012** (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
1,2-Dibromoethane	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
1,2-Dichloroethane	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
1,2-Dichloropropane	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
1,3-Dichloropropane	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
1,4-Dioxane - Screen	ND (0.500)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
1-Chlorohexane	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
2,2-Dichloropropane	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
2-Butanone	ND (0.0100)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
2-Chlorotoluene	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
2-Hexanone	ND (0.0100)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
4-Chlorotoluene	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
4-Isopropyltoluene	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Acetone	ND (0.0100)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Benzene	**0.0455** (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Bromobenzene	ND (0.0020)		8260B		1	10/30/18 13:23	C8J0666	CJ83037

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-109
Date Sampled: 10/24/18 08:15
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-03
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Bromodichloromethane	ND (0.0006)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Bromoform	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Bromomethane	ND (0.0020)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Carbon Disulfide	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Carbon Tetrachloride	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Chlorobenzene	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Chloroethane	ND (0.0020)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Chloroform	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Chloromethane	ND (0.0020)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Dibromochloromethane	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Dibromomethane	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Dichlorodifluoromethane	ND (0.0020)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Diethyl Ether	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Di-isopropyl ether	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Ethylbenzene	**0.0159** (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Hexachlorobutadiene	ND (0.0006)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Hexachloroethane	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Isopropylbenzene	**0.0168** (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Methylene Chloride	ND (0.0020)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Naphthalene	**0.0070** (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
n-Butylbenzene	**0.0067** (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
n-Propylbenzene	**0.0090** (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
sec-Butylbenzene	**0.0022** (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Styrene	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
tert-Butylbenzene	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Tetrachloroethene	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-109
Date Sampled: 10/24/18 08:15
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-03
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Toluene	**0.0014** (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Trichloroethene	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Trichlorofluoromethane	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Vinyl Acetate	ND (0.0050)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Vinyl Chloride	ND (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Xylene O	**0.0113** (0.0010)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Xylene P,M	ND (0.0020)		8260B		1	10/30/18 13:23	C8J0666	CJ83037
Xylenes (Total)	**0.0113** (0.0020)		8260B		1	10/30/18 13:23		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*107 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*107 %*		*70-130*
Surrogate: Dibromofluoromethane	*94 %*		*70-130*
Surrogate: Toluene-d8	*83 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: M and E MW-2
Date Sampled: 10/24/18 08:25
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-04
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
1,1-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
1,1-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
1,1-Dichloropropene	ND (0.0020)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
1,2,4-Trimethylbenzene	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
1,2-Dibromoethane	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
1,2-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
1,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
1,3-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
1,4-Dioxane - Screen	ND (0.500)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
1-Chlorohexane	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
2,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
2-Butanone	ND (0.0100)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
2-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
2-Hexanone	ND (0.0100)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
4-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
4-Isopropyltoluene	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Acetone	ND (0.0100)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Benzene	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Bromobenzene	ND (0.0020)		8260B		1	10/29/18 16:05	C8J0642	CJ82960

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: M and E MW-2
Date Sampled: 10/24/18 08:25
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-04
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Bromodichloromethane	ND (0.0006)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Bromoform	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Bromomethane	ND (0.0020)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Carbon Disulfide	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Carbon Tetrachloride	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Chlorobenzene	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Chloroethane	ND (0.0020)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Chloroform	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Chloromethane	ND (0.0020)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Dibromochloromethane	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Dibromomethane	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Dichlorodifluoromethane	ND (0.0020)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Diethyl Ether	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Di-isopropyl ether	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Ethylbenzene	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Hexachlorobutadiene	ND (0.0006)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Hexachloroethane	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Isopropylbenzene	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Methylene Chloride	ND (0.0020)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Naphthalene	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
n-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
n-Propylbenzene	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
sec-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Styrene	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
tert-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Tetrachloroethene	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: M and E MW-2
Date Sampled: 10/24/18 08:25
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-04
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Toluene	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Trichloroethene	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Trichlorofluoromethane	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Vinyl Acetate	ND (0.0050)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Vinyl Chloride	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Xylene O	ND (0.0010)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Xylene P,M	ND (0.0020)		8260B		1	10/29/18 16:05	C8J0642	CJ82960
Xylenes (Total)	ND (0.0020)		8260B		1	10/29/18 16:05		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*112 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*91 %*		*70-130*
Surrogate: Dibromofluoromethane	*102 %*		*70-130*
Surrogate: Toluene-d8	*100 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-6
Date Sampled: 10/24/18 09:40
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-05
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
1,1-Dichloroethane	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
1,1-Dichloroethene	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
1,1-Dichloropropene	ND (0.0020)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
1,2,4-Trimethylbenzene	**0.0030** (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
1,2-Dibromoethane	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
1,2-Dichloroethane	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
1,2-Dichloropropane	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
1,3,5-Trimethylbenzene	**0.0014** (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
1,3-Dichloropropane	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
1,4-Dioxane - Screen	ND (0.500)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
1-Chlorohexane	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
2,2-Dichloropropane	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
2-Butanone	ND (0.0100)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
2-Chlorotoluene	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
2-Hexanone	ND (0.0100)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
4-Chlorotoluene	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
4-Isopropyltoluene	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Acetone	ND (0.0100)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Benzene	**0.0405** (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Bromobenzene	ND (0.0020)		8260B		1	10/30/18 13:51	C8J0666	CJ83037

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-6
Date Sampled: 10/24/18 09:40
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-05
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Bromodichloromethane	ND (0.0006)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Bromoform	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Bromomethane	ND (0.0020)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Carbon Disulfide	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Carbon Tetrachloride	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Chlorobenzene	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Chloroethane	ND (0.0020)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Chloroform	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Chloromethane	ND (0.0020)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Dibromochloromethane	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Dibromomethane	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Dichlorodifluoromethane	ND (0.0020)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Diethyl Ether	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Di-isopropyl ether	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Ethylbenzene	**0.0430** (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Hexachlorobutadiene	ND (0.0006)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Hexachloroethane	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Isopropylbenzene	**0.0045** (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Methylene Chloride	ND (0.0020)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Naphthalene	**0.0094** (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
n-Butylbenzene	**0.0016** (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
n-Propylbenzene	**0.0038** (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
sec-Butylbenzene	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Styrene	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
tert-Butylbenzene	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Tetrachloroethene	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-6
Date Sampled: 10/24/18 09:40
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-05
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Toluene	**0.0077** (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Trichloroethene	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Trichlorofluoromethane	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Vinyl Acetate	ND (0.0050)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Vinyl Chloride	ND (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Xylene O	**0.0499** (0.0010)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Xylene P,M	**0.0079** (0.0020)		8260B		1	10/30/18 13:51	C8J0666	CJ83037
Xylenes (Total)	**0.0579** (0.0020)		8260B		1	10/30/18 13:51		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*107 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*109 %*		*70-130*
Surrogate: Dibromofluoromethane	*93 %*		*70-130*
Surrogate: Toluene-d8	*98 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: BD-102418
Date Sampled: 10/24/18 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-06
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
1,1-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
1,1-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
1,1-Dichloropropene	ND (0.0020)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
1,2,4-Trimethylbenzene	**0.0012** (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
1,2-Dibromoethane	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
1,2-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
1,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
1,3-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
1,4-Dioxane - Screen	ND (0.500)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
1-Chlorohexane	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
2,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
2-Butanone	ND (0.0100)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
2-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
2-Hexanone	ND (0.0100)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
4-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
4-Isopropyltoluene	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Acetone	ND (0.0100)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Benzene	**0.0024** (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Bromobenzene	ND (0.0020)		8260B		1	10/29/18 16:32	C8J0642	CJ82960

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: BD-102418
Date Sampled: 10/24/18 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-06
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Bromodichloromethane	ND (0.0006)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Bromoform	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Bromomethane	ND (0.0020)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Carbon Disulfide	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Carbon Tetrachloride	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Chlorobenzene	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Chloroethane	ND (0.0020)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Chloroform	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Chloromethane	ND (0.0020)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Dibromochloromethane	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Dibromomethane	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Dichlorodifluoromethane	ND (0.0020)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Diethyl Ether	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Di-isopropyl ether	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Ethylbenzene	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Hexachlorobutadiene	ND (0.0006)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Hexachloroethane	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Isopropylbenzene	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Methylene Chloride	ND (0.0020)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Naphthalene	**0.0343** (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
n-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
n-Propylbenzene	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
sec-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Styrene	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
tert-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Tetrachloroethene	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: BD-102418
Date Sampled: 10/24/18 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-06
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Toluene	**0.0015** (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Trichloroethene	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Trichlorofluoromethane	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Vinyl Acetate	ND (0.0050)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Vinyl Chloride	ND (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Xylene O	**0.0012** (0.0010)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Xylene P,M	ND (0.0020)		8260B		1	10/29/18 16:32	C8J0642	CJ82960
Xylenes (Total)	ND (0.0020)		8260B		1	10/29/18 16:32		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*113 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*93 %*		*70-130*
Surrogate: Dibromofluoromethane	*106 %*		*70-130*
Surrogate: Toluene-d8	*98 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-337
Date Sampled: 10/24/18 09:55
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-07
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
1,1-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
1,1-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
1,1-Dichloropropene	ND (0.0020)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
1,2,4-Trimethylbenzene	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
1,2-Dibromoethane	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
1,2-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
1,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
1,3-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
1,4-Dioxane - Screen	ND (0.500)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
1-Chlorohexane	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
2,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
2-Butanone	ND (0.0100)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
2-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
2-Hexanone	ND (0.0100)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
4-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
4-Isopropyltoluene	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Acetone	ND (0.0100)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Benzene	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Bromobenzene	ND (0.0020)		8260B		1	10/29/18 16:58	C8J0642	CJ82960

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-337
Date Sampled: 10/24/18 09:55
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-07
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Bromodichloromethane	ND (0.0006)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Bromoform	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Bromomethane	ND (0.0020)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Carbon Disulfide	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Carbon Tetrachloride	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Chlorobenzene	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Chloroethane	ND (0.0020)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Chloroform	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Chloromethane	ND (0.0020)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Dibromochloromethane	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Dibromomethane	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Dichlorodifluoromethane	ND (0.0020)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Diethyl Ether	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Di-isopropyl ether	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Ethylbenzene	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Hexachlorobutadiene	ND (0.0006)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Hexachloroethane	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Isopropylbenzene	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Methylene Chloride	ND (0.0020)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Naphthalene	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
n-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
n-Propylbenzene	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
sec-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Styrene	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
tert-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Tetrachloroethene	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-337
Date Sampled: 10/24/18 09:55
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-07
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Toluene	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Trichloroethene	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Trichlorofluoromethane	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Vinyl Acetate	ND (0.0050)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Vinyl Chloride	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Xylene O	ND (0.0010)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Xylene P,M	ND (0.0020)		8260B		1	10/29/18 16:58	C8J0642	CJ82960
Xylenes (Total)	ND (0.0020)		8260B		1	10/29/18 16:58		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*108 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*93 %*		*70-130*
Surrogate: Dibromofluoromethane	*102 %*		*70-130*
Surrogate: Toluene-d8	*99 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-334S
Date Sampled: 10/24/18 11:05
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-08
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
1,1-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
1,1-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
1,1-Dichloropropene	ND (0.0020)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
1,2,4-Trimethylbenzene	**0.0012** (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
1,2-Dibromoethane	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
1,2-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
1,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
1,3-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
1,4-Dioxane - Screen	ND (0.500)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
1-Chlorohexane	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
2,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
2-Butanone	ND (0.0100)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
2-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
2-Hexanone	ND (0.0100)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
4-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
4-Isopropyltoluene	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Acetone	ND (0.0100)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Benzene	**0.0025** (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Bromobenzene	ND (0.0020)		8260B		1	10/29/18 17:25	C8J0642	CJ82960

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-334S
Date Sampled: 10/24/18 11:05
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-08
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Bromodichloromethane	ND (0.0006)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Bromoform	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Bromomethane	ND (0.0020)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Carbon Disulfide	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Carbon Tetrachloride	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Chlorobenzene	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Chloroethane	ND (0.0020)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Chloroform	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Chloromethane	ND (0.0020)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Dibromochloromethane	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Dibromomethane	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Dichlorodifluoromethane	ND (0.0020)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Diethyl Ether	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Di-isopropyl ether	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Ethylbenzene	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Hexachlorobutadiene	ND (0.0006)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Hexachloroethane	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Isopropylbenzene	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Methylene Chloride	ND (0.0020)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Naphthalene	**0.0384** (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
n-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
n-Propylbenzene	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
sec-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Styrene	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
tert-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Tetrachloroethene	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-334S
Date Sampled: 10/24/18 11:05
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-08
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Toluene	**0.0015** (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Trichloroethene	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Trichlorofluoromethane	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Vinyl Acetate	ND (0.0050)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Vinyl Chloride	ND (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Xylene O	**0.0014** (0.0010)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Xylene P,M	ND (0.0020)		8260B		1	10/29/18 17:25	C8J0642	CJ82960
Xylenes (Total)	ND (0.0020)		8260B		1	10/29/18 17:25		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*108 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*94 %*		*70-130*
Surrogate: Dibromofluoromethane	*104 %*		*70-130*
Surrogate: Toluene-d8	*99 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-107
Date Sampled: 10/24/18 12:03
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-09
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
1,1-Dichloroethane	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
1,1-Dichloroethene	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
1,1-Dichloropropene	ND (0.0020)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
1,2,4-Trimethylbenzene	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
1,2-Dibromoethane	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
1,2-Dichloroethane	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
1,2-Dichloropropane	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
1,3-Dichloropropane	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
1,4-Dioxane - Screen	ND (0.500)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
1-Chlorohexane	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
2,2-Dichloropropane	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
2-Butanone	ND (0.0100)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
2-Chlorotoluene	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
2-Hexanone	ND (0.0100)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
4-Chlorotoluene	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
4-Isopropyltoluene	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Acetone	ND (0.0100)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Benzene	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Bromobenzene	ND (0.0020)		8260B		1	10/30/18 12:57	C8J0666	CJ83037

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-107
Date Sampled: 10/24/18 12:03
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-09
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Bromodichloromethane	ND (0.0006)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Bromoform	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Bromomethane	ND (0.0020)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Carbon Disulfide	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Carbon Tetrachloride	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Chlorobenzene	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Chloroethane	ND (0.0020)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Chloroform	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Chloromethane	ND (0.0020)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Dibromochloromethane	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Dibromomethane	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Dichlorodifluoromethane	ND (0.0020)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Diethyl Ether	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Di-isopropyl ether	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Ethylbenzene	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Hexachlorobutadiene	ND (0.0006)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Hexachloroethane	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Isopropylbenzene	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Methylene Chloride	ND (0.0020)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Naphthalene	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
n-Butylbenzene	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
n-Propylbenzene	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
sec-Butylbenzene	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Styrene	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
tert-Butylbenzene	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Tetrachloroethene	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-107
Date Sampled: 10/24/18 12:03
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-09
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Toluene	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Trichloroethene	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Trichlorofluoromethane	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Vinyl Acetate	ND (0.0050)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Vinyl Chloride	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Xylene O	ND (0.0010)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Xylene P,M	ND (0.0020)		8260B		1	10/30/18 12:57	C8J0666	CJ83037
Xylenes (Total)	ND (0.0020)		8260B		1	10/30/18 12:57		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*107 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*99 %*		*70-130*
Surrogate: Dibromofluoromethane	*91 %*		*70-130*
Surrogate: Toluene-d8	*101 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-334D
Date Sampled: 10/24/18 12:55
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-10
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
1,1-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
1,1-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
1,1-Dichloropropene	ND (0.0020)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
1,2,4-Trimethylbenzene	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
1,2-Dibromoethane	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
1,2-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
1,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
1,3-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
1,4-Dioxane - Screen	ND (0.500)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
1-Chlorohexane	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
2,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
2-Butanone	ND (0.0100)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
2-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
2-Hexanone	ND (0.0100)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
4-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
4-Isopropyltoluene	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Acetone	ND (0.0100)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Benzene	**0.0014** (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Bromobenzene	ND (0.0020)		8260B		1	10/29/18 18:19	C8J0642	CJ82960

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-334D
Date Sampled: 10/24/18 12:55
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-10
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Bromodichloromethane	ND (0.0006)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Bromoform	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Bromomethane	ND (0.0020)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Carbon Disulfide	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Carbon Tetrachloride	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Chlorobenzene	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Chloroethane	ND (0.0020)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Chloroform	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Chloromethane	ND (0.0020)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
cis-1,2-Dichloroethene	**0.0012** (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Dibromochloromethane	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Dibromomethane	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Dichlorodifluoromethane	ND (0.0020)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Diethyl Ether	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Di-isopropyl ether	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Ethylbenzene	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Hexachlorobutadiene	ND (0.0006)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Hexachloroethane	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Isopropylbenzene	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Methylene Chloride	ND (0.0020)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Naphthalene	**0.0105** (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
n-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
n-Propylbenzene	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
sec-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Styrene	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
tert-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Tetrachloroethene	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-334D
Date Sampled: 10/24/18 12:55
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-10
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Toluene	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Trichloroethene	**0.0022** (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Trichlorofluoromethane	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Vinyl Acetate	ND (0.0050)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Vinyl Chloride	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Xylene O	ND (0.0010)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Xylene P,M	ND (0.0020)		8260B		1	10/29/18 18:19	C8J0642	CJ82960
Xylenes (Total)	ND (0.0020)		8260B		1	10/29/18 18:19		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*108 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*92 %*		*70-130*
Surrogate: Dibromofluoromethane	*101 %*		*70-130*
Surrogate: Toluene-d8	*100 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-326S
Date Sampled: 10/25/18 13:55
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-11
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
1,1-Dichloroethane	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
1,1-Dichloroethene	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
1,1-Dichloropropene	ND (0.0020)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
1,2,4-Trimethylbenzene	**0.0178** (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
1,2-Dibromoethane	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
1,2-Dichloroethane	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
1,2-Dichloropropane	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
1,3,5-Trimethylbenzene	**0.0092** (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
1,3-Dichloropropane	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
1,4-Dioxane - Screen	ND (0.500)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
1-Chlorohexane	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
2,2-Dichloropropane	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
2-Butanone	ND (0.0100)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
2-Chlorotoluene	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
2-Hexanone	ND (0.0100)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
4-Chlorotoluene	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
4-Isopropyltoluene	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Acetone	ND (0.0100)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Benzene	**0.189** (0.0100)		8260B		10	10/30/18 14:18	C8J0666	CJ83037
Bromobenzene	ND (0.0020)		8260B		1	10/30/18 16:05	C8J0666	CJ83037

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-326S
Date Sampled: 10/25/18 13:55
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-11
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Bromodichloromethane	ND (0.0006)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Bromoform	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Bromomethane	ND (0.0020)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Carbon Disulfide	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Carbon Tetrachloride	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Chlorobenzene	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Chloroethane	ND (0.0020)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Chloroform	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Chloromethane	ND (0.0020)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Dibromochloromethane	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Dibromomethane	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Dichlorodifluoromethane	ND (0.0020)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Diethyl Ether	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Di-isopropyl ether	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Ethylbenzene	**0.0456** (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Hexachlorobutadiene	ND (0.0006)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Hexachloroethane	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Isopropylbenzene	**0.0200** (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Methylene Chloride	ND (0.0020)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Naphthalene	**0.0120** (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
n-Butylbenzene	**0.0032** (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
n-Propylbenzene	**0.0070** (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
sec-Butylbenzene	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Styrene	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
tert-Butylbenzene	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Tetrachloroethene	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-326S
Date Sampled: 10/25/18 13:55
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-11
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Toluene	**0.0011** (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Trichloroethene	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Trichlorofluoromethane	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Vinyl Acetate	ND (0.0050)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Vinyl Chloride	ND (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Xylene O	**0.0146** (0.0010)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Xylene P,M	**0.0046** (0.0020)		8260B		1	10/30/18 16:05	C8J0666	CJ83037
Xylenes (Total)	**0.0192** (0.0020)		8260B		1	10/30/18 16:05		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*106 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*112 %*		*70-130*
Surrogate: Dibromofluoromethane	*93 %*		*70-130*
Surrogate: Toluene-d8	*99 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-333S
Date Sampled: 10/25/18 14:38
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-12
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
1,1-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
1,1-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
1,1-Dichloropropene	ND (0.0020)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
1,2,4-Trimethylbenzene	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
1,2-Dibromoethane	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
1,2-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
1,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
1,3-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
1,4-Dioxane - Screen	ND (0.500)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
1-Chlorohexane	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
2,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
2-Butanone	ND (0.0100)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
2-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
2-Hexanone	ND (0.0100)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
4-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
4-Isopropyltoluene	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Acetone	ND (0.0100)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Benzene	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Bromobenzene	ND (0.0020)		8260B		1	10/29/18 18:46	C8J0642	CJ82960

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-333S
Date Sampled: 10/25/18 14:38
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-12
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Bromodichloromethane	ND (0.0006)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Bromoform	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Bromomethane	ND (0.0020)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Carbon Disulfide	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Carbon Tetrachloride	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Chlorobenzene	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Chloroethane	ND (0.0020)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Chloroform	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Chloromethane	ND (0.0020)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Dibromochloromethane	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Dibromomethane	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Dichlorodifluoromethane	ND (0.0020)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Diethyl Ether	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Di-isopropyl ether	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Ethylbenzene	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Hexachlorobutadiene	ND (0.0006)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Hexachloroethane	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Isopropylbenzene	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Methylene Chloride	ND (0.0020)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Naphthalene	**0.0015** (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
n-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
n-Propylbenzene	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
sec-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Styrene	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
tert-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Tetrachloroethene	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-333S
Date Sampled: 10/25/18 14:38
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-12
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Toluene	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Trichloroethene	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Trichlorofluoromethane	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Vinyl Acetate	ND (0.0050)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Vinyl Chloride	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Xylene O	ND (0.0010)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Xylene P,M	ND (0.0020)		8260B		1	10/29/18 18:46	C8J0642	CJ82960
Xylenes (Total)	ND (0.0020)		8260B		1	10/29/18 18:46		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*109 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*91 %*		*70-130*
Surrogate: Dibromofluoromethane	*102 %*		*70-130*
Surrogate: Toluene-d8	*99 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-333D
Date Sampled: 10/25/18 14:55
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-13
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
1,1-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
1,1-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
1,1-Dichloropropene	ND (0.0020)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
1,2,4-Trimethylbenzene	**0.269** (0.100)		8260B		100	10/30/18 15:11	C8J0642	CJ82960
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
1,2-Dibromoethane	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
1,2-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
1,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
1,3,5-Trimethylbenzene	**0.0020** (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
1,3-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
1,4-Dioxane - Screen	ND (0.500)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
1-Chlorohexane	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
2,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
2-Butanone	ND (0.0100)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
2-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
2-Hexanone	ND (0.0100)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
4-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
4-Isopropyltoluene	**0.0024** (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Acetone	ND (0.0100)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Benzene	**0.775** (0.100)		8260B		100	10/30/18 15:11	C8J0642	CJ82960
Bromobenzene	ND (0.0020)		8260B		1	10/29/18 20:34	C8J0642	CJ82960

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-333D
Date Sampled: 10/25/18 14:55
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-13
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Bromodichloromethane	ND (0.0006)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Bromoform	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Bromomethane	ND (0.0020)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Carbon Disulfide	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Carbon Tetrachloride	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Chlorobenzene	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Chloroethane	ND (0.0020)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Chloroform	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Chloromethane	ND (0.0020)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Dibromochloromethane	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Dibromomethane	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Dichlorodifluoromethane	ND (0.0020)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Diethyl Ether	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Di-isopropyl ether	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Ethylbenzene	**0.607** (0.100)		8260B		100	10/30/18 15:11	C8J0642	CJ82960
Hexachlorobutadiene	ND (0.0006)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Hexachloroethane	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Isopropylbenzene	**0.0585** (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Methylene Chloride	ND (0.0020)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Naphthalene	**1.93** (0.100)		8260B		100	10/30/18 15:11	C8J0642	CJ82960
n-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
n-Propylbenzene	**0.0251** (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
sec-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Styrene	**0.0015** (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
tert-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Tetrachloroethene	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-333D
Date Sampled: 10/25/18 14:55
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-13
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Toluene	**0.0046** (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Trichloroethene	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Trichlorofluoromethane	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Vinyl Acetate	ND (0.0050)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Vinyl Chloride	ND (0.0010)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Xylene O	**0.183** (0.100)		8260B		100	10/30/18 15:11	C8J0642	CJ82960
Xylene P,M	**0.0250** (0.0020)		8260B		1	10/29/18 20:34	C8J0642	CJ82960
Xylenes (Total)	**0.208** (0.100)		8260B		100	10/30/18 15:11		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*94 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*114 %*		*70-130*
Surrogate: Dibromofluoromethane	*87 %*		*70-130*
Surrogate: Toluene-d8	*96 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-312D
Date Sampled: 10/25/18 15:50
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-14
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
1,1-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
1,1-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
1,1-Dichloropropene	ND (0.0020)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
1,2,4-Trimethylbenzene	**0.320** (0.100)		8260B		100	10/30/18 15:38	C8J0642	CJ82960
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
1,2-Dibromoethane	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
1,2-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
1,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
1,3,5-Trimethylbenzene	**0.0150** (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
1,3-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
1,4-Dioxane - Screen	ND (0.500)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
1-Chlorohexane	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
2,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
2-Butanone	ND (0.0100)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
2-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
2-Hexanone	ND (0.0100)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
4-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
4-Isopropyltoluene	**0.0080** (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Acetone	ND (0.0100)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Benzene	**5.28** (0.100)		8260B		100	10/30/18 15:38	C8J0642	CJ82960
Bromobenzene	ND (0.0020)		8260B		1	10/29/18 20:06	C8J0642	CJ82960

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-312D
Date Sampled: 10/25/18 15:50
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-14
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Bromodichloromethane	ND (0.0006)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Bromoform	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Bromomethane	ND (0.0020)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Carbon Disulfide	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Carbon Tetrachloride	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Chlorobenzene	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Chloroethane	ND (0.0020)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Chloroform	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Chloromethane	ND (0.0020)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Dibromochloromethane	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Dibromomethane	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Dichlorodifluoromethane	ND (0.0020)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Diethyl Ether	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Di-isopropyl ether	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Ethylbenzene	**1.76** (0.100)		8260B		100	10/30/18 15:38	C8J0642	CJ82960
Hexachlorobutadiene	ND (0.0006)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Hexachloroethane	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Isopropylbenzene	**0.0797** (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Methylene Chloride	ND (0.0020)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Naphthalene	**7.26** (0.100)		8260B		100	10/30/18 15:38	C8J0642	CJ82960
n-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
n-Propylbenzene	**0.0296** (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
sec-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Styrene	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
tert-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Tetrachloroethene	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-312D
Date Sampled: 10/25/18 15:50
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-14
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Toluene	**0.0070** (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Trichloroethene	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Trichlorofluoromethane	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Vinyl Acetate	ND (0.0050)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Vinyl Chloride	ND (0.0010)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Xylene O	**0.468** (0.100)		8260B		100	10/30/18 15:38	C8J0642	CJ82960
Xylene P,M	**0.0540** (0.0020)		8260B		1	10/29/18 20:06	C8J0642	CJ82960
Xylenes (Total)	**0.522** (0.100)		8260B		100	10/30/18 15:38		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*102 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*123 %*		*70-130*
Surrogate: Dibromofluoromethane	*90 %*		*70-130*
Surrogate: Toluene-d8	*101 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-312S
Date Sampled: 10/25/18 16:04
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-15
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
1,1-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
1,1-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
1,1-Dichloropropene	ND (0.0020)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
1,2,4-Trimethylbenzene	**0.106** (0.0200)		8260B		20	10/30/18 14:44	C8J0642	CJ82960
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
1,2-Dibromoethane	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
1,2-Dichloroethane	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
1,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
1,3,5-Trimethylbenzene	**0.0042** (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
1,3-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
1,4-Dioxane - Screen	ND (0.500)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
1-Chlorohexane	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
2,2-Dichloropropane	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
2-Butanone	ND (0.0100)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
2-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
2-Hexanone	ND (0.0100)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
4-Chlorotoluene	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
4-Isopropyltoluene	**0.0016** (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Acetone	ND (0.0100)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Benzene	**0.0104** (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Bromobenzene	ND (0.0020)		8260B		1	10/29/18 19:13	C8J0642	CJ82960

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-312S
Date Sampled: 10/25/18 16:04
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-15
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Bromodichloromethane	ND (0.0006)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Bromoform	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Bromomethane	ND (0.0020)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Carbon Disulfide	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Carbon Tetrachloride	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Chlorobenzene	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Chloroethane	ND (0.0020)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Chloroform	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Chloromethane	ND (0.0020)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Dibromochloromethane	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Dibromomethane	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Dichlorodifluoromethane	ND (0.0020)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Diethyl Ether	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Di-isopropyl ether	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Ethylbenzene	**0.363** (0.0200)		8260B		20	10/30/18 14:44	C8J0642	CJ82960
Hexachlorobutadiene	ND (0.0006)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Hexachloroethane	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Isopropylbenzene	**0.0231** (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Methylene Chloride	ND (0.0020)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Naphthalene	**0.392** (0.0200)		8260B		20	10/30/18 14:44	C8J0642	CJ82960
n-Butylbenzene	**0.0038** (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
n-Propylbenzene	**0.0098** (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
sec-Butylbenzene	**0.0014** (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Styrene	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
tert-Butylbenzene	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Tetrachloroethene	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-312S
Date Sampled: 10/25/18 16:04
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-15
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Toluene	**0.0024** (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Trichloroethene	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Trichlorofluoromethane	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Vinyl Acetate	ND (0.0050)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Vinyl Chloride	ND (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Xylene O	**0.0557** (0.0010)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Xylene P,M	**0.0087** (0.0020)		8260B		1	10/29/18 19:13	C8J0642	CJ82960
Xylenes (Total)	**0.0644** (0.0020)		8260B		1	10/29/18 19:13		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*103 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*111 %*		*70-130*
Surrogate: Dibromofluoromethane	*97 %*		*70-130*
Surrogate: Toluene-d8	*98 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-318D
Date Sampled: 10/25/18 14:05
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-16
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	11/05/18 20:49	C8K0072	CK80547
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
1,1-Dichloroethane	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
1,1-Dichloroethene	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
1,1-Dichloropropene	ND (0.0020)		8260B		1	11/05/18 20:49	C8K0072	CK80547
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
1,2,4-Trimethylbenzene	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	11/05/18 20:49	C8K0072	CK80547
1,2-Dibromoethane	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
1,2-Dichloroethane	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
1,2-Dichloropropane	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
1,3-Dichloropropane	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
1,4-Dioxane - Screen	ND (0.500)		8260B		1	11/05/18 20:49	C8K0072	CK80547
1-Chlorohexane	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
2,2-Dichloropropane	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
2-Butanone	ND (0.0100)		8260B		1	11/05/18 20:49	C8K0072	CK80547
2-Chlorotoluene	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
2-Hexanone	ND (0.0100)		8260B		1	11/05/18 20:49	C8K0072	CK80547
4-Chlorotoluene	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
4-Isopropyltoluene	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Acetone	ND (0.0100)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Benzene	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Bromobenzene	ND (0.0020)		8260B		1	11/05/18 20:49	C8K0072	CK80547

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-318D
Date Sampled: 10/25/18 14:05
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-16
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Bromodichloromethane	ND (0.0006)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Bromoform	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Bromomethane	ND (0.0020)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Carbon Disulfide	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Carbon Tetrachloride	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Chlorobenzene	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Chloroethane	ND (0.0020)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Chloroform	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Chloromethane	ND (0.0020)		8260B		1	11/05/18 20:49	C8K0072	CK80547
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Dibromochloromethane	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Dibromomethane	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Dichlorodifluoromethane	ND (0.0020)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Diethyl Ether	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Di-isopropyl ether	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Ethylbenzene	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Hexachlorobutadiene	ND (0.0006)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Hexachloroethane	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Isopropylbenzene	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Methylene Chloride	ND (0.0020)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Naphthalene	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
n-Butylbenzene	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
n-Propylbenzene	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
sec-Butylbenzene	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Styrene	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
tert-Butylbenzene	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Tetrachloroethene	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: MW-318D
Date Sampled: 10/25/18 14:05
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-16
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Toluene	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Trichloroethene	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Trichlorofluoromethane	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Vinyl Acetate	ND (0.0050)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Vinyl Chloride	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Xylene O	ND (0.0010)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Xylene P,M	ND (0.0020)		8260B		1	11/05/18 20:49	C8K0072	CK80547
Xylenes (Total)	ND (0.0020)		8260B		1	11/05/18 20:49		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*104 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*89 %*		*70-130*
Surrogate: Dibromofluoromethane	*97 %*		*70-130*
Surrogate: Toluene-d8	*103 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: Trip Blank
Date Sampled: 10/23/18 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-17
Sample Matrix: Aqueous
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	11/05/18 19:33	C8K0072	CK80547
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
1,1-Dichloroethane	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
1,1-Dichloroethene	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
1,1-Dichloropropene	ND (0.0020)		8260B		1	11/05/18 19:33	C8K0072	CK80547
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
1,2,4-Trimethylbenzene	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	11/05/18 19:33	C8K0072	CK80547
1,2-Dibromoethane	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
1,2-Dichloroethane	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
1,2-Dichloropropane	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
1,3-Dichloropropane	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
1,4-Dioxane - Screen	ND (0.500)		8260B		1	11/05/18 19:33	C8K0072	CK80547
1-Chlorohexane	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
2,2-Dichloropropane	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
2-Butanone	ND (0.0100)		8260B		1	11/05/18 19:33	C8K0072	CK80547
2-Chlorotoluene	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
2-Hexanone	ND (0.0100)		8260B		1	11/05/18 19:33	C8K0072	CK80547
4-Chlorotoluene	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
4-Isopropyltoluene	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Acetone	ND (0.0100)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Benzene	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Bromobenzene	ND (0.0020)		8260B		1	11/05/18 19:33	C8K0072	CK80547

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: Trip Blank
Date Sampled: 10/23/18 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-17
Sample Matrix: Aqueous
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Bromodichloromethane	ND (0.0006)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Bromoform	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Bromomethane	ND (0.0020)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Carbon Disulfide	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Carbon Tetrachloride	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Chlorobenzene	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Chloroethane	ND (0.0020)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Chloroform	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Chloromethane	ND (0.0020)		8260B		1	11/05/18 19:33	C8K0072	CK80547
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Dibromochloromethane	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Dibromomethane	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Dichlorodifluoromethane	ND (0.0020)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Diethyl Ether	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Di-isopropyl ether	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Ethylbenzene	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Hexachlorobutadiene	ND (0.0006)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Hexachloroethane	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Isopropylbenzene	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Methylene Chloride	ND (0.0020)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Naphthalene	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
n-Butylbenzene	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
n-Propylbenzene	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
sec-Butylbenzene	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Styrene	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
tert-Butylbenzene	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Tetrachloroethene	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility
Client Sample ID: Trip Blank
Date Sampled: 10/23/18 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 1810776
ESS Laboratory Sample ID: 1810776-17
Sample Matrix: Aqueous
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Toluene	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Trichloroethene	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Trichlorofluoromethane	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Vinyl Acetate	ND (0.0050)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Vinyl Chloride	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Xylene O	ND (0.0010)		8260B		1	11/05/18 19:33	C8K0072	CK80547
Xylene P,M	ND (0.0020)		8260B		1	11/05/18 19:33	C8K0072	CK80547

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*103 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*91 %*		*70-130*
Surrogate: Dibromofluoromethane	*95 %*		*70-130*
Surrogate: Toluene-d8	*104 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810776

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ82960 - 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: Former Tidewater Facility

ESS Laboratory Work Order: 1810776

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ82960 - 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							
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							
Surrogate: 1,2-Dichloroethane-d4	*0.0268*		mg/L	*0.02500*		*107*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0231*		mg/L	*0.02500*		*92*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0255*		mg/L	*0.02500*		*102*	*70-130*			
Surrogate: Toluene-d8	*0.0250*		mg/L	*0.02500*		*100*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	8.54		ug/L	10.00		85	70-130			
1,1,1-Trichloroethane	9.08		ug/L	10.00		91	70-130			
1,1,2,2-Tetrachloroethane	9.75		ug/L	10.00		98	70-130			
1,1,2-Trichloroethane	9.29		ug/L	10.00		93	70-130			
1,1-Dichloroethane	8.61		ug/L	10.00		86	70-130			
1,1-Dichloroethene	9.31		ug/L	10.00		93	70-130			
1,1-Dichloropropene	8.88		ug/L	10.00		89	70-130			
1,2,3-Trichlorobenzene	9.26		ug/L	10.00		93	70-130			
1,2,3-Trichloropropane	8.24		ug/L	10.00		82	70-130			
1,2,4-Trichlorobenzene	8.91		ug/L	10.00		89	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810776

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ82960 - 5030B										
1,2,4-Trimethylbenzene	9.26		ug/L	10.00		93	70-130			
1,2-Dibromo-3-Chloropropane	11.1		ug/L	10.00		111	70-130			
1,2-Dibromoethane	9.27		ug/L	10.00		93	70-130			
1,2-Dichlorobenzene	9.44		ug/L	10.00		94	70-130			
1,2-Dichloroethane	9.10		ug/L	10.00		91	70-130			
1,2-Dichloropropane	8.83		ug/L	10.00		88	70-130			
1,3,5-Trimethylbenzene	9.05		ug/L	10.00		90	70-130			
1,3-Dichlorobenzene	9.01		ug/L	10.00		90	70-130			
1,3-Dichloropropane	8.42		ug/L	10.00		84	70-130			
1,4-Dichlorobenzene	9.06		ug/L	10.00		91	70-130			
1,4-Dioxane - Screen	195		ug/L	200.0		97	0-332			
1-Chlorohexane	8.25		ug/L	10.00		82	70-130			
2,2-Dichloropropane	8.45		ug/L	10.00		84	70-130			
2-Butanone	46.3		ug/L	50.00		93	70-130			
2-Chlorotoluene	8.83		ug/L	10.00		88	70-130			
2-Hexanone	44.4		ug/L	50.00		89	70-130			
4-Chlorotoluene	9.30		ug/L	10.00		93	70-130			
4-Isopropyltoluene	9.23		ug/L	10.00		92	70-130			
4-Methyl-2-Pentanone	46.6		ug/L	50.00		93	70-130			
Acetone	48.0		ug/L	50.00		96	70-130			
Benzene	8.62		ug/L	10.00		86	70-130			
Bromobenzene	8.97		ug/L	10.00		90	70-130			
Bromochloromethane	9.13		ug/L	10.00		91	70-130			
Bromodichloromethane	8.76		ug/L	10.00		88	70-130			
Bromoform	8.86		ug/L	10.00		89	70-130			
Bromomethane	7.93		ug/L	10.00		79	70-130			
Carbon Disulfide	9.27		ug/L	10.00		93	70-130			
Carbon Tetrachloride	9.41		ug/L	10.00		94	70-130			
Chlorobenzene	9.39		ug/L	10.00		94	70-130			
Chloroethane	11.2		ug/L	10.00		112	70-130			
Chloroform	9.16		ug/L	10.00		92	70-130			
Chloromethane	9.42		ug/L	10.00		94	70-130			
cis-1,2-Dichloroethene	9.23		ug/L	10.00		92	70-130			
cis-1,3-Dichloropropene	7.72		ug/L	10.00		77	70-130			
Dibromochloromethane	8.10		ug/L	10.00		81	70-130			
Dibromomethane	9.46		ug/L	10.00		95	70-130			
Dichlorodifluoromethane	9.12		ug/L	10.00		91	70-130			
Diethyl Ether	7.84		ug/L	10.00		78	70-130			
Di-isopropyl ether	8.22		ug/L	10.00		82	70-130			
Ethyl tertiary-butyl ether	7.47		ug/L	10.00		75	70-130			
Ethylbenzene	9.00		ug/L	10.00		90	70-130			
Hexachlorobutadiene	10.3		ug/L	10.00		103	70-130			
Hexachloroethane	9.36		ug/L	10.00		94	70-130			
Isopropylbenzene	8.56		ug/L	10.00		86	70-130			
Methyl tert-Butyl Ether	8.45		ug/L	10.00		84	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810776

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ82960 - 5030B										
Methylene Chloride	8.82		ug/L	10.00		88	70-130			
Naphthalene	7.85		ug/L	10.00		78	70-130			
n-Butylbenzene	8.81		ug/L	10.00		88	70-130			
n-Propylbenzene	9.02		ug/L	10.00		90	70-130			
sec-Butylbenzene	9.02		ug/L	10.00		90	70-130			
Styrene	8.88		ug/L	10.00		89	70-130			
tert-Butylbenzene	9.04		ug/L	10.00		90	70-130			
Tertiary-amyl methyl ether	7.91		ug/L	10.00		79	70-130			
Tetrachloroethene	8.44		ug/L	10.00		84	70-130			
Tetrahydrofuran	8.50		ug/L	10.00		85	70-130			
Toluene	9.15		ug/L	10.00		92	70-130			
trans-1,2-Dichloroethene	8.49		ug/L	10.00		85	70-130			
trans-1,3-Dichloropropene	7.12		ug/L	10.00		71	70-130			
Trichloroethene	9.26		ug/L	10.00		93	70-130			
Trichlorofluoromethane	11.2		ug/L	10.00		112	70-130			
Vinyl Acetate	8.50		ug/L	10.00		85	70-130			
Vinyl Chloride	11.5		ug/L	10.00		115	70-130			
Xylene O	9.38		ug/L	10.00		94	70-130			
Xylene P,M	18.6		ug/L	20.00		93	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0250*		mg/L	*0.02500*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0255*		mg/L	*0.02500*		*102*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0254*		mg/L	*0.02500*		*101*	*70-130*			
Surrogate: Toluene-d8	*0.0237*		mg/L	*0.02500*		*95*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	8.94		ug/L	10.00		89	70-130	5	25	
1,1,1-Trichloroethane	9.13		ug/L	10.00		91	70-130	0.5	25	
1,1,2,2-Tetrachloroethane	9.56		ug/L	10.00		96	70-130	2	25	
1,1,2-Trichloroethane	9.95		ug/L	10.00		100	70-130	7	25	
1,1-Dichloroethane	8.66		ug/L	10.00		87	70-130	0.6	25	
1,1-Dichloroethene	9.21		ug/L	10.00		92	70-130	1	25	
1,1-Dichloropropene	8.65		ug/L	10.00		86	70-130	3	25	
1,2,3-Trichlorobenzene	9.13		ug/L	10.00		91	70-130	1	25	
1,2,3-Trichloropropane	8.19		ug/L	10.00		82	70-130	0.6	25	
1,2,4-Trichlorobenzene	8.43		ug/L	10.00		84	70-130	6	25	
1,2,4-Trimethylbenzene	9.18		ug/L	10.00		92	70-130	0.9	25	
1,2-Dibromo-3-Chloropropane	9.20		ug/L	10.00		92	70-130	19	25	
1,2-Dibromoethane	8.98		ug/L	10.00		90	70-130	3	25	
1,2-Dichlorobenzene	9.26		ug/L	10.00		93	70-130	2	25	
1,2-Dichloroethane	9.74		ug/L	10.00		97	70-130	7	25	
1,2-Dichloropropane	9.37		ug/L	10.00		94	70-130	6	25	
1,3,5-Trimethylbenzene	9.09		ug/L	10.00		91	70-130	0.4	25	
1,3-Dichlorobenzene	9.29		ug/L	10.00		93	70-130	3	25	
1,3-Dichloropropane	8.96		ug/L	10.00		90	70-130	6	25	
1,4-Dichlorobenzene	9.17		ug/L	10.00		92	70-130	1	25	
1,4-Dioxane - Screen	184		ug/L	200.0		92	0-332	5	200	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810776

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ82960 - 5030B										
1-Chlorohexane	8.39		ug/L	10.00		84	70-130	2	25	
2,2-Dichloropropane	8.92		ug/L	10.00		89	70-130	5	25	
2-Butanone	44.7		ug/L	50.00		89	70-130	3	25	
2-Chlorotoluene	8.94		ug/L	10.00		89	70-130	1	25	
2-Hexanone	41.1		ug/L	50.00		82	70-130	8	25	
4-Chlorotoluene	9.24		ug/L	10.00		92	70-130	0.6	25	
4-Isopropyltoluene	9.25		ug/L	10.00		92	70-130	0.2	25	
4-Methyl-2-Pentanone	44.4		ug/L	50.00		89	70-130	5	25	
Acetone	43.5		ug/L	50.00		87	70-130	10	25	
Benzene	8.73		ug/L	10.00		87	70-130	1	25	
Bromobenzene	9.00		ug/L	10.00		90	70-130	0.3	25	
Bromochloromethane	9.07		ug/L	10.00		91	70-130	0.7	25	
Bromodichloromethane	8.91		ug/L	10.00		89	70-130	2	25	
Bromoform	8.87		ug/L	10.00		89	70-130	0.1	25	
Bromomethane	8.04		ug/L	10.00		80	70-130	1	25	
Carbon Disulfide	9.34		ug/L	10.00		93	70-130	0.8	25	
Carbon Tetrachloride	9.47		ug/L	10.00		95	70-130	0.6	25	
Chlorobenzene	9.47		ug/L	10.00		95	70-130	0.8	25	
Chloroethane	10.5		ug/L	10.00		105	70-130	7	25	
Chloroform	8.98		ug/L	10.00		90	70-130	2	25	
Chloromethane	9.07		ug/L	10.00		91	70-130	4	25	
cis-1,2-Dichloroethene	8.96		ug/L	10.00		90	70-130	3	25	
cis-1,3-Dichloropropene	8.03		ug/L	10.00		80	70-130	4	25	
Dibromochloromethane	8.66		ug/L	10.00		87	70-130	7	25	
Dibromomethane	9.29		ug/L	10.00		93	70-130	2	25	
Dichlorodifluoromethane	9.31		ug/L	10.00		93	70-130	2	25	
Diethyl Ether	7.30		ug/L	10.00		73	70-130	7	25	
Di-isopropyl ether	8.32		ug/L	10.00		83	70-130	1	25	
Ethyl tertiary-butyl ether	7.37		ug/L	10.00		74	70-130	1	25	
Ethylbenzene	9.12		ug/L	10.00		91	70-130	1	25	
Hexachlorobutadiene	9.78		ug/L	10.00		98	70-130	5	25	
Hexachloroethane	8.65		ug/L	10.00		86	70-130	8	25	
Isopropylbenzene	8.86		ug/L	10.00		89	70-130	3	25	
Methyl tert-Butyl Ether	8.53		ug/L	10.00		85	70-130	0.9	25	
Methylene Chloride	8.75		ug/L	10.00		88	70-130	0.8	25	
Naphthalene	7.21		ug/L	10.00		72	70-130	8	25	
n-Butylbenzene	8.98		ug/L	10.00		90	70-130	2	25	
n-Propylbenzene	9.36		ug/L	10.00		94	70-130	4	25	
sec-Butylbenzene	9.02		ug/L	10.00		90	70-130	0	25	
Styrene	9.03		ug/L	10.00		90	70-130	2	25	
tert-Butylbenzene	9.37		ug/L	10.00		94	70-130	4	25	
Tertiary-amyl methyl ether	8.07		ug/L	10.00		81	70-130	2	25	
Tetrachloroethene	8.77		ug/L	10.00		88	70-130	4	25	
Tetrahydrofuran	7.96		ug/L	10.00		80	70-130	7	25	
Toluene	9.42		ug/L	10.00		94	70-130	3	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810776

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ82960 - 5030B										
trans-1,2-Dichloroethene	8.39		ug/L	10.00		84	70-130	1	25	
trans-1,3-Dichloropropene	6.90		ug/L	10.00		69	70-130	3	25	B-
Trichloroethene	9.43		ug/L	10.00		94	70-130	2	25	
Trichlorofluoromethane	11.0		ug/L	10.00		110	70-130	2	25	
Vinyl Acetate	8.50		ug/L	10.00		85	70-130	0	25	
Vinyl Chloride	11.9		ug/L	10.00		119	70-130	3	25	
Xylene O	9.64		ug/L	10.00		96	70-130	3	25	
Xylene P,M	19.2		ug/L	20.00		96	70-130	3	25	
Surrogate: 1,2-Dichloroethane-d4	*0.0254*		mg/L	*0.02500*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0259*		mg/L	*0.02500*		*104*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0243*		mg/L	*0.02500*		*97*	*70-130*			
Surrogate: Toluene-d8	*0.0244*		mg/L	*0.02500*		*98*	*70-130*			
Batch CJ83037 - 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							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ83037 - 5030B										
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							
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							
Surrogate: 1,2-Dichloroethane-d4	*0.0267*		mg/L	*0.02500*		*107*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0236*		mg/L	*0.02500*		*94*	*70-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810776

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ83037 - 5030B										
Surrogate: Dibromofluoromethane	*0.0239*		mg/L	*0.02500*		*96*	*70-130*			
Surrogate: Toluene-d8	*0.0247*		mg/L	*0.02500*		*99*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	8.71		ug/L	10.00		87	70-130			
1,1,1-Trichloroethane	8.70		ug/L	10.00		87	70-130			
1,1,2,2-Tetrachloroethane	9.80		ug/L	10.00		98	70-130			
1,1,2-Trichloroethane	8.84		ug/L	10.00		88	70-130			
1,1-Dichloroethane	8.39		ug/L	10.00		84	70-130			
1,1-Dichloroethene	10.8		ug/L	10.00		108	70-130			
1,1-Dichloropropene	8.80		ug/L	10.00		88	70-130			
1,2,3-Trichlorobenzene	9.31		ug/L	10.00		93	70-130			
1,2,3-Trichloropropane	8.23		ug/L	10.00		82	70-130			
1,2,4-Trichlorobenzene	8.93		ug/L	10.00		89	70-130			
1,2,4-Trimethylbenzene	9.56		ug/L	10.00		96	70-130			
1,2-Dibromo-3-Chloropropane	11.5		ug/L	10.00		115	70-130			
1,2-Dibromoethane	9.37		ug/L	10.00		94	70-130			
1,2-Dichlorobenzene	9.48		ug/L	10.00		95	70-130			
1,2-Dichloroethane	10.1		ug/L	10.00		101	70-130			
1,2-Dichloropropane	9.14		ug/L	10.00		91	70-130			
1,3,5-Trimethylbenzene	9.84		ug/L	10.00		98	70-130			
1,3-Dichlorobenzene	9.34		ug/L	10.00		93	70-130			
1,3-Dichloropropane	9.21		ug/L	10.00		92	70-130			
1,4-Dichlorobenzene	9.42		ug/L	10.00		94	70-130			
1,4-Dioxane - Screen	187		ug/L	200.0		93	0-332			
1-Chlorohexane	9.35		ug/L	10.00		94	70-130			
2,2-Dichloropropane	8.78		ug/L	10.00		88	70-130			
2-Butanone	45.2		ug/L	50.00		90	70-130			
2-Chlorotoluene	9.45		ug/L	10.00		94	70-130			
2-Hexanone	47.4		ug/L	50.00		95	70-130			
4-Chlorotoluene	9.57		ug/L	10.00		96	70-130			
4-Isopropyltoluene	9.54		ug/L	10.00		95	70-130			
4-Methyl-2-Pentanone	44.4		ug/L	50.00		89	70-130			
Acetone	51.8		ug/L	50.00		104	70-130			
Benzene	8.26		ug/L	10.00		83	70-130			
Bromobenzene	9.21		ug/L	10.00		92	70-130			
Bromochloromethane	8.83		ug/L	10.00		88	70-130			
Bromodichloromethane	8.41		ug/L	10.00		84	70-130			
Bromoform	8.42		ug/L	10.00		84	70-130			
Bromomethane	6.00		ug/L	10.00		60	70-130			B-
Carbon Disulfide	8.86		ug/L	10.00		89	70-130			
Carbon Tetrachloride	9.22		ug/L	10.00		92	70-130			
Chlorobenzene	9.40		ug/L	10.00		94	70-130			
Chloroethane	10.7		ug/L	10.00		107	70-130			
Chloroform	9.12		ug/L	10.00		91	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810776

Quality Control Data

8260B Volatile Organic Compounds

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch CJ83037 - 5030B										
Chloromethane	9.70		ug/L	10.00		97	70-130			
cis-1,2-Dichloroethene	8.60		ug/L	10.00		86	70-130			
cis-1,3-Dichloropropene	7.80		ug/L	10.00		78	70-130			
Dibromochloromethane	8.00		ug/L	10.00		80	70-130			
Dibromomethane	8.97		ug/L	10.00		90	70-130			
Dichlorodifluoromethane	9.77		ug/L	10.00		98	70-130			
Diethyl Ether	9.39		ug/L	10.00		94	70-130			
Di-isopropyl ether	8.44		ug/L	10.00		84	70-130			
Ethyl tertiary-butyl ether	7.69		ug/L	10.00		77	70-130			
Ethylbenzene	9.27		ug/L	10.00		93	70-130			
Hexachlorobutadiene	10.0		ug/L	10.00		100	70-130			
Hexachloroethane	8.37		ug/L	10.00		84	70-130			
Isopropylbenzene	9.49		ug/L	10.00		95	70-130			
Methyl tert-Butyl Ether	8.92		ug/L	10.00		89	70-130			
Methylene Chloride	8.65		ug/L	10.00		86	70-130			
Naphthalene	8.45		ug/L	10.00		84	70-130			
n-Butylbenzene	9.69		ug/L	10.00		97	70-130			
n-Propylbenzene	9.52		ug/L	10.00		95	70-130			
sec-Butylbenzene	9.53		ug/L	10.00		95	70-130			
Styrene	9.34		ug/L	10.00		93	70-130			
tert-Butylbenzene	9.85		ug/L	10.00		98	70-130			
Tertiary-amyl methyl ether	8.29		ug/L	10.00		83	70-130			
Tetrachloroethene	9.16		ug/L	10.00		92	70-130			
Tetrahydrofuran	8.11		ug/L	10.00		81	70-130			
Toluene	8.99		ug/L	10.00		90	70-130			
trans-1,2-Dichloroethene	8.30		ug/L	10.00		83	70-130			
trans-1,3-Dichloropropene	7.27		ug/L	10.00		73	70-130			
Trichloroethene	8.43		ug/L	10.00		84	70-130			
Trichlorofluoromethane	11.0		ug/L	10.00		110	70-130			
Vinyl Acetate	9.39		ug/L	10.00		94	70-130			
Vinyl Chloride	12.2		ug/L	10.00		122	70-130			
Xylene O	9.69		ug/L	10.00		97	70-130			
Xylene P,M	18.8		ug/L	20.00		94	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0255*		mg/L	*0.02500*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0256*		mg/L	*0.02500*		*102*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0232*		mg/L	*0.02500*		*93*	*70-130*			
Surrogate: Toluene-d8	*0.0242*		mg/L	*0.02500*		*97*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	9.03		ug/L	10.00		90	70-130	4	25	
1,1,1-Trichloroethane	9.03		ug/L	10.00		90	70-130	4	25	
1,1,2,2-Tetrachloroethane	9.21		ug/L	10.00		92	70-130	6	25	
1,1,2-Trichloroethane	8.73		ug/L	10.00		87	70-130	1	25	
1,1-Dichloroethane	8.20		ug/L	10.00		82	70-130	2	25	
1,1-Dichloroethene	9.02		ug/L	10.00		90	70-130	18	25	
1,1-Dichloropropene	9.01		ug/L	10.00		90	70-130	2	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810776

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ83037 - 5030B										
1,2,3-Trichlorobenzene	9.27		ug/L	10.00		93	70-130	0.4	25	
1,2,3-Trichloropropane	8.05		ug/L	10.00		80	70-130	2	25	
1,2,4-Trichlorobenzene	9.02		ug/L	10.00		90	70-130	1	25	
1,2,4-Trimethylbenzene	9.73		ug/L	10.00		97	70-130	2	25	
1,2-Dibromo-3-Chloropropane	9.33		ug/L	10.00		93	70-130	21	25	
1,2-Dibromoethane	9.60		ug/L	10.00		96	70-130	2	25	
1,2-Dichlorobenzene	9.19		ug/L	10.00		92	70-130	3	25	
1,2-Dichloroethane	9.83		ug/L	10.00		98	70-130	3	25	
1,2-Dichloropropane	9.02		ug/L	10.00		90	70-130	1	25	
1,3,5-Trimethylbenzene	10.0		ug/L	10.00		100	70-130	2	25	
1,3-Dichlorobenzene	9.47		ug/L	10.00		95	70-130	1	25	
1,3-Dichloropropane	9.70		ug/L	10.00		97	70-130	5	25	
1,4-Dichlorobenzene	9.16		ug/L	10.00		92	70-130	3	25	
1,4-Dioxane - Screen	171		ug/L	200.0		85	0-332	9	200	
1-Chlorohexane	9.24		ug/L	10.00		92	70-130	1	25	
2,2-Dichloropropane	8.92		ug/L	10.00		89	70-130	2	25	
2-Butanone	44.1		ug/L	50.00		88	70-130	2	25	
2-Chlorotoluene	9.25		ug/L	10.00		92	70-130	2	25	
2-Hexanone	44.5		ug/L	50.00		89	70-130	6	25	
4-Chlorotoluene	9.58		ug/L	10.00		96	70-130	0.1	25	
4-Isopropyltoluene	9.80		ug/L	10.00		98	70-130	3	25	
4-Methyl-2-Pentanone	42.6		ug/L	50.00		85	70-130	4	25	
Acetone	48.7		ug/L	50.00		97	70-130	6	25	
Benzene	8.67		ug/L	10.00		87	70-130	5	25	
Bromobenzene	9.41		ug/L	10.00		94	70-130	2	25	
Bromochloromethane	8.94		ug/L	10.00		89	70-130	1	25	
Bromodichloromethane	8.26		ug/L	10.00		83	70-130	2	25	
Bromoform	9.00		ug/L	10.00		90	70-130	7	25	
Bromomethane	5.91		ug/L	10.00		59	70-130	2	25	B-
Carbon Disulfide	8.98		ug/L	10.00		90	70-130	1	25	
Carbon Tetrachloride	9.37		ug/L	10.00		94	70-130	2	25	
Chlorobenzene	10.2		ug/L	10.00		102	70-130	8	25	
Chloroethane	12.1		ug/L	10.00		121	70-130	12	25	
Chloroform	9.17		ug/L	10.00		92	70-130	0.5	25	
Chloromethane	10.2		ug/L	10.00		102	70-130	5	25	
cis-1,2-Dichloroethene	8.62		ug/L	10.00		86	70-130	0.2	25	
cis-1,3-Dichloropropene	7.98		ug/L	10.00		80	70-130	2	25	
Dibromochloromethane	8.38		ug/L	10.00		84	70-130	5	25	
Dibromomethane	8.84		ug/L	10.00		88	70-130	1	25	
Dichlorodifluoromethane	9.80		ug/L	10.00		98	70-130	0.3	25	
Diethyl Ether	8.36		ug/L	10.00		84	70-130	12	25	
Di-isopropyl ether	8.89		ug/L	10.00		89	70-130	5	25	
Ethyl tertiary-butyl ether	7.86		ug/L	10.00		79	70-130	2	25	
Ethylbenzene	9.89		ug/L	10.00		99	70-130	6	25	
Hexachlorobutadiene	10.2		ug/L	10.00		102	70-130	2	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810776

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ83037 - 5030B										
Hexachloroethane	8.34		ug/L	10.00		83	70-130	0.4	25	
Isopropylbenzene	9.41		ug/L	10.00		94	70-130	0.8	25	
Methyl tert-Butyl Ether	8.76		ug/L	10.00		88	70-130	2	25	
Methylene Chloride	8.31		ug/L	10.00		83	70-130	4	25	
Naphthalene	8.11		ug/L	10.00		81	70-130	4	25	
n-Butylbenzene	9.47		ug/L	10.00		95	70-130	2	25	
n-Propylbenzene	9.36		ug/L	10.00		94	70-130	2	25	
sec-Butylbenzene	9.26		ug/L	10.00		93	70-130	3	25	
Styrene	9.92		ug/L	10.00		99	70-130	6	25	
tert-Butylbenzene	9.89		ug/L	10.00		99	70-130	0.4	25	
Tertiary-amyl methyl ether	8.30		ug/L	10.00		83	70-130	0.1	25	
Tetrachloroethene	9.47		ug/L	10.00		95	70-130	3	25	
Tetrahydrofuran	9.89		ug/L	10.00		99	70-130	20	25	
Toluene	9.15		ug/L	10.00		92	70-130	2	25	
trans-1,2-Dichloroethene	8.77		ug/L	10.00		88	70-130	6	25	
trans-1,3-Dichloropropene	6.84		ug/L	10.00		68	70-130	6	25	B-
Trichloroethene	9.30		ug/L	10.00		93	70-130	10	25	
Trichlorofluoromethane	11.4		ug/L	10.00		114	70-130	4	25	
Vinyl Acetate	9.18		ug/L	10.00		92	70-130	2	25	
Vinyl Chloride	13.1		ug/L	10.00		131	70-130	8	25	B+
Xylene O	10.4		ug/L	10.00		104	70-130	7	25	
Xylene P,M	19.8		ug/L	20.00		99	70-130	5	25	
Surrogate: 1,2-Dichloroethane-d4	*0.0255*		mg/L	*0.02500*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0265*		mg/L	*0.02500*		*106*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0233*		mg/L	*0.02500*		*93*	*70-130*			
Surrogate: Toluene-d8	*0.0253*		mg/L	*0.02500*		*101*	*70-130*			
Batch CK80547 - 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							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810776

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK80547 - 5030B										
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							
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							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810776

Quality Control Data

8260B Volatile Organic Compounds

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch CK80547 - 5030B										
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							
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							
Surrogate: 1,2-Dichloroethane-d4	*0.0256*		mg/L	*0.02500*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0226*		mg/L	*0.02500*		*90*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0237*		mg/L	*0.02500*		*95*	*70-130*			
Surrogate: Toluene-d8	*0.0259*		mg/L	*0.02500*		*103*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	9.29		ug/L	10.00		93	70-130			
1,1,1-Trichloroethane	9.50		ug/L	10.00		95	70-130			
1,1,2,2-Tetrachloroethane	10.3		ug/L	10.00		103	70-130			
1,1,2-Trichloroethane	9.14		ug/L	10.00		91	70-130			
1,1-Dichloroethane	9.35		ug/L	10.00		94	70-130			
1,1-Dichloroethene	9.52		ug/L	10.00		95	70-130			
1,1-Dichloropropene	9.89		ug/L	10.00		99	70-130			
1,2,3-Trichlorobenzene	11.0		ug/L	10.00		110	70-130			
1,2,3-Trichloropropane	9.83		ug/L	10.00		98	70-130			
1,2,4-Trichlorobenzene	10.8		ug/L	10.00		108	70-130			
1,2,4-Trimethylbenzene	10.4		ug/L	10.00		104	70-130			
1,2-Dibromo-3-Chloropropane	8.83		ug/L	10.00		88	70-130			
1,2-Dibromoethane	9.47		ug/L	10.00		95	70-130			
1,2-Dichlorobenzene	9.76		ug/L	10.00		98	70-130			
1,2-Dichloroethane	9.22		ug/L	10.00		92	70-130			
1,2-Dichloropropane	9.04		ug/L	10.00		90	70-130			
1,3,5-Trimethylbenzene	10.7		ug/L	10.00		107	70-130			
1,3-Dichlorobenzene	10.0		ug/L	10.00		100	70-130			
1,3-Dichloropropane	9.39		ug/L	10.00		94	70-130			
1,4-Dichlorobenzene	9.94		ug/L	10.00		99	70-130			
1,4-Dioxane - Screen	190		ug/L	200.0		95	0-332			
1-Chlorohexane	8.59		ug/L	10.00		86	70-130			
2,2-Dichloropropane	9.94		ug/L	10.00		99	70-130			
2-Butanone	47.7		ug/L	50.00		95	70-130			
2-Chlorotoluene	10.2		ug/L	10.00		102	70-130			
2-Hexanone	48.2		ug/L	50.00		96	70-130			
4-Chlorotoluene	10.5		ug/L	10.00		105	70-130			
4-Isopropyltoluene	10.2		ug/L	10.00		102	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810776

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK80547 - 5030B										
4-Methyl-2-Pentanone	47.9		ug/L	50.00		96	70-130			
Acetone	44.3		ug/L	50.00		89	70-130			
Benzene	9.47		ug/L	10.00		95	70-130			
Bromobenzene	10.0		ug/L	10.00		100	70-130			
Bromochloromethane	9.50		ug/L	10.00		95	70-130			
Bromodichloromethane	8.72		ug/L	10.00		87	70-130			
Bromoform	9.17		ug/L	10.00		92	70-130			
Bromomethane	11.4		ug/L	10.00		114	70-130			
Carbon Disulfide	9.91		ug/L	10.00		99	70-130			
Carbon Tetrachloride	8.52		ug/L	10.00		85	70-130			
Chlorobenzene	9.39		ug/L	10.00		94	70-130			
Chloroethane	9.23		ug/L	10.00		92	70-130			
Chloroform	9.49		ug/L	10.00		95	70-130			
Chloromethane	8.88		ug/L	10.00		89	70-130			
cis-1,2-Dichloroethene	9.73		ug/L	10.00		97	70-130			
cis-1,3-Dichloropropene	7.75		ug/L	10.00		78	70-130			
Dibromochloromethane	8.05		ug/L	10.00		80	70-130			
Dibromomethane	9.47		ug/L	10.00		95	70-130			
Dichlorodifluoromethane	8.82		ug/L	10.00		88	70-130			
Diethyl Ether	9.77		ug/L	10.00		98	70-130			
Di-isopropyl ether	9.90		ug/L	10.00		99	70-130			
Ethyl tertiary-butyl ether	9.35		ug/L	10.00		94	70-130			
Ethylbenzene	9.58		ug/L	10.00		96	70-130			
Hexachlorobutadiene	9.86		ug/L	10.00		99	70-130			
Hexachloroethane	10.3		ug/L	10.00		103	70-130			
Isopropylbenzene	10.4		ug/L	10.00		104	70-130			
Methyl tert-Butyl Ether	9.82		ug/L	10.00		98	70-130			
Methylene Chloride	9.27		ug/L	10.00		93	70-130			
Naphthalene	9.03		ug/L	10.00		90	70-130			
n-Butylbenzene	10.7		ug/L	10.00		107	70-130			
n-Propylbenzene	10.4		ug/L	10.00		104	70-130			
sec-Butylbenzene	10.6		ug/L	10.00		106	70-130			
Styrene	8.43		ug/L	10.00		84	70-130			
tert-Butylbenzene	10.4		ug/L	10.00		104	70-130			
Tertiary-amyl methyl ether	9.70		ug/L	10.00		97	70-130			
Tetrachloroethene	8.74		ug/L	10.00		87	70-130			
Tetrahydrofuran	9.37		ug/L	10.00		94	70-130			
Toluene	9.49		ug/L	10.00		95	70-130			
trans-1,2-Dichloroethene	9.20		ug/L	10.00		92	70-130			
trans-1,3-Dichloropropene	7.97		ug/L	10.00		80	70-130			
Trichloroethene	9.07		ug/L	10.00		91	70-130			
Trichlorofluoromethane	9.83		ug/L	10.00		98	70-130			
Vinyl Acetate	9.30		ug/L	10.00		93	70-130			
Vinyl Chloride	9.59		ug/L	10.00		96	70-130			
Xylene O	9.98		ug/L	10.00		100	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810776

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK80547 - 5030B										
Xylene P,M	20.2		ug/L	20.00		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0241*		mg/L	*0.02500*		*97*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0246*		mg/L	*0.02500*		*99*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0246*		mg/L	*0.02500*		*98*	*70-130*			
Surrogate: Toluene-d8	*0.0246*		mg/L	*0.02500*		*98*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	9.76		ug/L	10.00		98	70-130	5	25	
1,1,1-Trichloroethane	9.75		ug/L	10.00		98	70-130	3	25	
1,1,2,2-Tetrachloroethane	10.1		ug/L	10.00		101	70-130	2	25	
1,1,2-Trichloroethane	9.07		ug/L	10.00		91	70-130	0.8	25	
1,1-Dichloroethane	9.52		ug/L	10.00		95	70-130	2	25	
1,1-Dichloroethene	9.87		ug/L	10.00		99	70-130	4	25	
1,1-Dichloropropene	9.90		ug/L	10.00		99	70-130	0.1	25	
1,2,3-Trichlorobenzene	10.9		ug/L	10.00		109	70-130	2	25	
1,2,3-Trichloropropane	9.56		ug/L	10.00		96	70-130	3	25	
1,2,4-Trichlorobenzene	10.8		ug/L	10.00		108	70-130	0.6	25	
1,2,4-Trimethylbenzene	10.7		ug/L	10.00		107	70-130	3	25	
1,2-Dibromo-3-Chloropropane	7.81		ug/L	10.00		78	70-130	12	25	
1,2-Dibromoethane	9.47		ug/L	10.00		95	70-130	0	25	
1,2-Dichlorobenzene	9.81		ug/L	10.00		98	70-130	0.5	25	
1,2-Dichloroethane	9.32		ug/L	10.00		93	70-130	1	25	
1,2-Dichloropropane	9.09		ug/L	10.00		91	70-130	0.6	25	
1,3,5-Trimethylbenzene	10.9		ug/L	10.00		109	70-130	2	25	
1,3-Dichlorobenzene	10.3		ug/L	10.00		103	70-130	3	25	
1,3-Dichloropropane	9.56		ug/L	10.00		96	70-130	2	25	
1,4-Dichlorobenzene	10.1		ug/L	10.00		101	70-130	1	25	
1,4-Dioxane - Screen	173		ug/L	200.0		86	0-332	10	200	
1-Chlorohexane	9.18		ug/L	10.00		92	70-130	7	25	
2,2-Dichloropropane	10.1		ug/L	10.00		101	70-130	1	25	
2-Butanone	46.8		ug/L	50.00		94	70-130	2	25	
2-Chlorotoluene	10.6		ug/L	10.00		106	70-130	4	25	
2-Hexanone	46.8		ug/L	50.00		94	70-130	3	25	
4-Chlorotoluene	10.8		ug/L	10.00		108	70-130	3	25	
4-Isopropyltoluene	10.4		ug/L	10.00		104	70-130	3	25	
4-Methyl-2-Pentanone	45.4		ug/L	50.00		91	70-130	6	25	
Acetone	42.3		ug/L	50.00		85	70-130	5	25	
Benzene	9.74		ug/L	10.00		97	70-130	3	25	
Bromobenzene	10.3		ug/L	10.00		103	70-130	2	25	
Bromochloromethane	9.52		ug/L	10.00		95	70-130	0.2	25	
Bromodichloromethane	8.83		ug/L	10.00		88	70-130	1	25	
Bromoform	9.23		ug/L	10.00		92	70-130	0.7	25	
Bromomethane	11.6		ug/L	10.00		116	70-130	1	25	
Carbon Disulfide	10.3		ug/L	10.00		103	70-130	4	25	
Carbon Tetrachloride	8.71		ug/L	10.00		87	70-130	2	25	
Chlorobenzene	9.85		ug/L	10.00		98	70-130	5	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810776

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CK80547 - 5030B										
Chloroethane	9.36		ug/L	10.00		94	70-130	1	25	
Chloroform	9.63		ug/L	10.00		96	70-130	1	25	
Chloromethane	8.98		ug/L	10.00		90	70-130	1	25	
cis-1,2-Dichloroethene	9.96		ug/L	10.00		100	70-130	2	25	
cis-1,3-Dichloropropene	7.90		ug/L	10.00		79	70-130	2	25	
Dibromochloromethane	8.32		ug/L	10.00		83	70-130	3	25	
Dibromomethane	9.46		ug/L	10.00		95	70-130	0.1	25	
Dichlorodifluoromethane	8.96		ug/L	10.00		90	70-130	2	25	
Diethyl Ether	9.72		ug/L	10.00		97	70-130	0.5	25	
Di-isopropyl ether	10.0		ug/L	10.00		100	70-130	1	25	
Ethyl tertiary-butyl ether	9.37		ug/L	10.00		94	70-130	0.2	25	
Ethylbenzene	10.1		ug/L	10.00		101	70-130	5	25	
Hexachlorobutadiene	9.91		ug/L	10.00		99	70-130	0.5	25	
Hexachloroethane	10.4		ug/L	10.00		104	70-130	0.9	25	
Isopropylbenzene	10.9		ug/L	10.00		109	70-130	5	25	
Methyl tert-Butyl Ether	9.93		ug/L	10.00		99	70-130	1	25	
Methylene Chloride	9.29		ug/L	10.00		93	70-130	0.2	25	
Naphthalene	8.44		ug/L	10.00		84	70-130	7	25	
n-Butylbenzene	10.8		ug/L	10.00		108	70-130	0.4	25	
n-Propylbenzene	10.7		ug/L	10.00		107	70-130	3	25	
sec-Butylbenzene	11.0		ug/L	10.00		110	70-130	3	25	
Styrene	8.88		ug/L	10.00		89	70-130	5	25	
tert-Butylbenzene	10.8		ug/L	10.00		108	70-130	3	25	
Tertiary-amyl methyl ether	9.77		ug/L	10.00		98	70-130	0.7	25	
Tetrachloroethene	9.19		ug/L	10.00		92	70-130	5	25	
Tetrahydrofuran	9.17		ug/L	10.00		92	70-130	2	25	
Toluene	9.86		ug/L	10.00		99	70-130	4	25	
trans-1,2-Dichloroethene	9.44		ug/L	10.00		94	70-130	3	25	
trans-1,3-Dichloropropene	7.91		ug/L	10.00		79	70-130	0.8	25	
Trichloroethene	9.45		ug/L	10.00		94	70-130	4	25	
Trichlorofluoromethane	10.1		ug/L	10.00		101	70-130	3	25	
Vinyl Acetate	9.09		ug/L	10.00		91	70-130	2	25	
Vinyl Chloride	9.63		ug/L	10.00		96	70-130	0.4	25	
Xylene O	10.5		ug/L	10.00		105	70-130	5	25	
Xylene P,M	21.4		ug/L	20.00		107	70-130	6	25	
Surrogate: 1,2-Dichloroethane-d4	*0.0237*		mg/L	*0.02500*		*95*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0251*		mg/L	*0.02500*		*100*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0242*		mg/L	*0.02500*		*97*	*70-130*			
Surrogate: Toluene-d8	*0.0252*		mg/L	*0.02500*		*101*	*70-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility ESS Laboratory Work Order: 1810776

Notes and Definitions

U	Analyte included in the analysis, but not detected
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-).
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
RL	Reporting Limit
EDL	Estimated Detection Limit

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Former Tidewater Facility

ESS Laboratory Work Order: 1810776

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/dwp/partners/labCert.shtml

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.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GZA - Glastonbury CT - GZA/MM

Shipped/Delivered Via: Client

ESS Project ID: 1810776
Date Received: 10/26/2018
Project Due Date: 11/2/2018
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 4.8 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? No
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** Yes / No / NA
10. Were any analyses received outside of hold time? Yes / No

11. Any Subcontracting needed? Yes / No
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? Yes / No
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? Yes / No / NA
13. Are the samples properly preserved? Yes / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

COC=M&E MW-1 collected10/24/18@0825, Rec'd=M&E MW-2 collected10/24/18@0825

14. Was there a need to contact Project Manager? Yes / No
    a. Was there a need to contact the client? Yes / No
    Who was contacted: Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	283381	Yes	No	Yes	VOA Vial - HCl	HCl	
01	283382	Yes	No	Yes	VOA Vial - HCl	HCl	
01	283383	Yes	No	Yes	VOA Vial - HCl	HCl	
02	283378	Yes	No	Yes	VOA Vial - HCl	HCl	
02	283379	Yes	No	Yes	VOA Vial - HCl	HCl	
02	283380	Yes	No	Yes	VOA Vial - HCl	HCl	
03	283375	Yes	No	Yes	VOA Vial - HCl	HCl	
03	283376	Yes	No	Yes	VOA Vial - HCl	HCl	
03	283377	Yes	No	Yes	VOA Vial - HCl	HCl	
04	283372	Yes	No	Yes	VOA Vial - HCl	HCl	
04	283373	Yes	No	Yes	VOA Vial - HCl	HCl	
04	283374	Yes	No	Yes	VOA Vial - HCl	HCl	
05	283369	Yes	No	Yes	VOA Vial - HCl	HCl	
05	283370	Yes	No	Yes	VOA Vial - HCl	HCl	
05	283371	Yes	No	Yes	VOA Vial - HCl	HCl	
06	283366	Yes	No	Yes	VOA Vial - HCl	HCl	
06	283367	Yes	No	Yes	VOA Vial - HCl	HCl	
06	283368	Yes	No	Yes	VOA Vial - HCl	HCl	
07	283363	Yes	No	Yes	VOA Vial - HCl	HCl	
07	283364	Yes	No	Yes	VOA Vial - HCl	HCl	
07	283365	Yes	No	Yes	VOA Vial - HCl	HCl	
08	283360	Yes	No	Yes	VOA Vial - HCl	HCl	
08	283361	Yes	No	Yes	VOA Vial - HCl	HCl	
08	283362	Yes	No	Yes	VOA Vial - HCl	HCl	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GZA - Glastonbury CT - GZA/MM

ESS Project ID: 1810776

Date Received: 10/26/2018

09	283357	Yes	No	Yes	VOA Vial - HCl	HCl
09	283358	Yes	No	Yes	VOA Vial - HCl	HCl
09	283359	Yes	No	Yes	VOA Vial - HCl	HCl
10	283354	Yes	No	Yes	VOA Vial - HCl	HCl
10	283355	Yes	No	Yes	VOA Vial - HCl	HCl
10	283356	Yes	No	Yes	VOA Vial - HCl	HCl
11	283351	Yes	No	Yes	VOA Vial - HCl	HCl
11	283352	Yes	No	Yes	VOA Vial - HCl	HCl
11	283353	Yes	No	Yes	VOA Vial - HCl	HCl
12	283348	Yes	No	Yes	VOA Vial - HCl	HCl
12	283349	Yes	No	Yes	VOA Vial - HCl	HCl
12	283350	Yes	No	Yes	VOA Vial - HCl	HCl
13	283345	Yes	No	Yes	VOA Vial - HCl	HCl
13	283346	Yes	No	Yes	VOA Vial - HCl	HCl
13	283347	Yes	No	Yes	VOA Vial - HCl	HCl
14	283342	Yes	No	Yes	VOA Vial - HCl	HCl
14	283343	Yes	No	Yes	VOA Vial - HCl	HCl
14	283344	Yes	No	Yes	VOA Vial - HCl	HCl
15	283339	Yes	No	Yes	VOA Vial - HCl	HCl
15	283340	Yes	No	Yes	VOA Vial - HCl	HCl
15	283341	Yes	No	Yes	VOA Vial - HCl	HCl
16	283336	Yes	No	Yes	VOA Vial - HCl	HCl
16	283337	Yes	No	Yes	VOA Vial - HCl	HCl
16	283338	Yes	No	Yes	VOA Vial - HCl	HCl
17	283335	Yes	No	Yes	VOA Vial - HCl	HCl
17	283449	Yes	No	Yes	VOA Vial - HCl	HCl

2nd Review

Are barcode labels on correct containers? ~~Yes~~ / No

Are all necessary stickers attached? Yes / No

Completed By: _____ Date & Time: 10/26/18 1532

Reviewed By: _____ Date & Time: 10/26/18 1540

Delivered By: _____ 10/26/18 1540

* Changes made per client - 10/30/18 PRB

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston RI 02910
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 1810776

Reporting Limits

Turn Time	5-Day Rush
Regulatory State	Rhode Island
Is this project for any of the following?:	○ CT RCP ○ MA MCP ○ RGP
Electonic Deliverables	☑ Limit Checker ☑ Standard Excel ☐ Other (Please Specify →)

Company Name	Project #	Project Name
GZA	05.0043654.00	Former Tidewater Facility

Contact Person	Address
Dave Rusczyk	95 Glastonbury Boulevard, 3rd Floor

City	State	Zip Code	PO #
Glastonbury	CT	06033	43654

Telephone Number	FAX Number	Email Address
860-858-3110	-	david.rusczyk@gza.com

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	Analysis: VOCs (8260B)
1	10/23/18	1508	Grab	GW	MW-314S	X
2	10/23/18	1613	Grab	GW	MW-314D	X
3	10/24/18	0815	Grab	GW	MW-109	X
4	10/24/18	0825	Grab	GW	~~M&E MW-1~~ M&E MW-2*	X
5	10/24/18	0940	Grab	GW	MW-6	X
6	10/24/18	-	Grab	GW	BD-102418	X
7	10/24/18	0955	Grab	GW	MW-337	X
8	10/24/18	1105	Grab	GW	MW-334S	X
9	10/24/18	1203	Grab	GW	MW-107	X
10	10/24/18	1255	Grab	GW	MW-334D	X

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer G - Glass O-Other P-Poly S-Sterile V-Vial — V

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 7

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 2

Number of Containers per Sample: 7

Laboratory Use Only

Cooler Present: ✓
Seals Intact: ~~Y~~
Cooler Temperature: 4.8 °C IR

Sampled by : Sarah McLeod, Charlie Lindner

Comments: Please specify "Other" preservative and containers types in this space

NGRID rates apply

Please email sarah.mcleod@gza.com also

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
10/26/18 1200	10/26/18 1203		
Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)

ESS Laboratory
Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston RI 02910
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 1810776

Turn Time	5-Day Rush
Regulatory State	Rhode Island
Is this project for any of the following?:	○ CT RCP ○ MA MCP ○ RGP
Reporting Limits	
Electonic Deliverables	☑ Limit Checker ☑ Standard Excel ☐ Other (Please Specify →)

Company Name	Project #	Project Name
GZA	05.0043654.00	Former Tidewater Facility
Contact Person	**Address**	
Dave Rusczyk	95 Glastonbury Boulevard, 3rd Floor	
City	**State**	**Zip Code** / **PO #**
Glastonbury	CT	06033 / 43654
Telephone Number	**FAX Number**	**Email Address**
860-858-3110	-	david.rusczyk@gza.com

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	Analysis: VOCs (8260B)
11	10/25/18	1355	Grab	GW	MW-326S	X
12	10/25/18	1438	Grab	GW	MW-333S	X
13	10/25/18	1455	Grab	GW	MW-333D	X
14	10/25/18	1550	Grab	GW	MW-312D	X
15	10/25/18	1604	Grab	GW	MW-312S	X
17	10/23/18	1400			TB-102318	X
16	10/24/18	1406	Grab	GW	MW-318D	X

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer G - Glass O-Other P-Poly S-Sterile V-Vial — V
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 7
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 2
Number of Containers per Sample: 3

Laboratory Use Only
Cooler Present: ✓
Seals Intact:
Cooler Temperature: 4.8 °C ice

Sampled by : Sarah McLeod, Charlie Lindner

Comments: Please specify "Other" preservative and containers types in this space
NGRID rates apply
Please email sarah.mcleod@gza.com also

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
Sarah McLeod 10/26/18 1203	10/26/18 1203		
Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)

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185 Frances Avenue, Cranston RI 02910
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 161077C

Turn Time	5-Day Rush
Regulatory State	Rhode Island
Is this project for any of the following?:	○ CT RCP ○ MA MCP ○ RGP
Reporting Limits	
Electonic Deliverables	☑ Limit Checker ☑ Standard Excel ☐ Other (Please Specify →)

Company Name	Project #	Project Name
GZA	05.0043654.00	Former Tidewater Facility

Contact Person	Address
Dave Rusczyk	95 Glastonbury Boulevard, 3rd Floor

City	State	Zip Code	PO #
Glastonbury	CT	06033	43654

Telephone Number	FAX Number	Email Address
860-858-3110	-	david.rusczyk@gza.com

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	Analysis: VOCs (8260B)
1	10/23/18	1508	Grab	GW	MW-314S	X
2	10/23/18	1613	Grab	GW	MW-314D	X
3	10/24/18	0815	Grab	GW	MW-109	X
4	10/24/18	0825	Grab	GW	M&E MW-1	X
5	10/24/18	0940	Grab	GW	MW-6	X
6	10/24/18	-	Grab	GW	BD-102418	X
7	10/24/18	0955	Grab	GW	MW-337	X
8	10/24/18	1105	Grab	GW	MW-334S	X
9	10/24/18	1203	Grab	GW	MW-107	X
10	10/24/18	1255	Grab	GW	MW-334D	X

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer G - Glass O-Other P-Poly S-Sterile V-Vial — V

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 7

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 2

Number of Containers per Sample: 2

Laboratory Use Only

Cooler Present: ✓
Seals Intact: ~~Y~~ ~~N~~
Cooler Temperature: 4.8 °C IR

Sampled by : Sarah McLeod, Charlie Lindner

Comments: Please specify "Other" preservative and containers types in this space

NGRID rates apply

Please email sarah.mcleod@gza.com also

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
10/26/18 1205	10/26/18 1205		
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

ESS Lab # 1810776

Turn Time	5-Day Rush
Regulatory State	Rhode Island
Is this project for any of the following?:	○ CT RCP ○ MA MCP ○ RGP
Reporting Limits	
Electonic Deliverables	☑ Limit Checker ☑ Standard Excel ☐ Other (Please Specify →)

Company Name	Project #	Project Name
GZA	05.0043654.00	Former Tidewater Facility

Contact Person	Address
Dave Rusczyk	95 Glastonbury Boulevard, 3rd Floor

City	State	Zip Code	PO #
Glastonbury	CT	06033	43654

Telephone Number	FAX Number	Email Address
860-858-3110	-	david.rusczyk@gza.com

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	Analysis: VOCs (8260B)
11	10/25/18	1355	Grab	GW	MW-326S	X
12	10/25/18	1438	Grab	GW	MW-333S	X
13	10/25/18	1455	Grab	GW	MW-333D	X
14	10/25/18	1550	Grab	GW	MW-312D	X
15	10/25/18	1604	Grab	GW	MW-312S	X
17	10/23/18	1400			TB-102318	X
16	10/24/18	1406	Grab	GW	MW-318D	X

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer G - Glass O-Other P-Poly S-Sterile V-Vial — V
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 7
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 2
Number of Containers per Sample: 3

Laboratory Use Only

Cooler Present: ✓
Seals Intact: ____
Cooler Temperature: 4.8 °C ice

Sampled by : Sarah McLeod, Charlie Lindner

Comments: Please specify "Other" preservative and containers types in this space

NGRID rates apply

Please email sarah.mcleod@gza.com also

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
Sarah McLeod 10/26/18 1203	10/26/18 1203		
Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)

GZA GeoEnvironmental, Inc.