



**GROUNDWATER MONITORING REPORT - 2014  
FORMER TIDEWATER FACILITY  
AND MERRY STREET  
PAWTUCKET, RHODE ISLAND**

**PREPARED FOR:**  
RIDEM  
Providence, Rhode Island

**PREPARED BY:**  
GZA GeoEnvironmental, Inc.  
Providence, Rhode Island

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**Via E-Mail and U.S. Mail**



530 Broadway  
Providence  
Rhode Island  
02909  
401-421-4140  
FAX 401-751-8613  
<http://www.gza.com>

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

Re: 2014 Groundwater Monitoring Report  
Former Tidewater Facility  
200 Taft Street  
Pawtucket, Rhode Island

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 *2014 Groundwater Monitoring Report*. This *Groundwater Monitoring Report* describes groundwater monitoring activities that were performed at the above-referenced Site during the 2014 calendar year.

For the 2015 monitoring activities, groundwater elevation and NAPL thickness gauging has been completed in January 2015, April 2015, July 2015, and November 2015. Groundwater sampling was completed in November 2015. Results of the 2015 groundwater monitoring events will be presented in a *Groundwater Monitoring Report* which is anticipated to be submitted to RIDEM during the first quarter of 2016.

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

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

A handwritten signature in blue ink, appearing to read "Margaret S. Kilpatrick".

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

A handwritten signature in blue ink, appearing to read "James J. Clark".

James J. Clark, P.E.  
Senior Principal

MSK/JJC

Attachment: *2014 Groundwater Monitoring Report*

cc: Michele Leone, National Grid

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## 1.00 INTRODUCTION



On behalf of our client, The Narragansett Electric Company, d/b/a National Grid (National Grid), GeoEnvironmental, Inc. (GZA) is pleased to provide this 2014 *Groundwater Monitoring Report* related to the former Tidewater facility located at the terminus of Tidewater and Merry Streets in Pawtucket, Rhode Island ("the Site"). This report serves to provide a description of field activities and present the laboratory data generated from the groundwater sampling round performed in October 2014. In addition, this report summarizes groundwater elevations, non-aqueous phase liquid (NAPL) gauging, and surface water observations made during 2014.

The groundwater analytical results were compared to applicable and available Method 1 (or Method 2 as appropriate) objectives as established in the Department's Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Remediation Regulations). Portions of this report include information previously presented in reports prepared by Vanasse Hangen Brustlin, Inc. (VHB), on behalf of National Grid and Atlantic Environmental Services, Inc. (AES), on behalf of predecessors of National Grid and submitted to the Department.

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

### 1.10 SITE DESCRIPTION

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

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

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

### 1.20 SITE BACKGROUND

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



years of operation (1954 until the late-1960s), the MGP produced gas using oil and propane for peak shaving purposes.

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

GZA prepared and submitted to the Department a January 2011 *Site Investigation Data Report* (SIDR) and a July 2011 *Remedial Alternative Evaluation Report* (RAE). These reports served to complete the *Site Investigation Report* (SIR) for the Site consistent with the requirements of Section 7.08 of the Remediation Regulations.<sup>1</sup>

As described in the RAE, groundwater elevation and NAPL gauging and groundwater quality monitoring are anticipated to be part of the final remedy for this Site. The following sections describe shoreline observations, groundwater elevation and NAPL gauging and groundwater quality monitoring performed in 2014. As described further herein, the results of this 2014 monitoring were generally consistent with previous data and do not alter the information presented or recommendations made in the July 2011 RAE.

## **2.00 SHORELINE OBSERVATIONS**

The Site is visited on an at least a twice-monthly basis to record observations of any sheens along the shoreline. The shoreline of the Site is approximately 2,280 feet long and consists largely of manmade bulkheads. Certain portions of the shoreline, primarily the northern and southern extents, consists of natural slopes to the adjacent Seekonk River. Between January 2014 and December 2014, sheens on the surface water have been intermittently observed in limited areas of the Seekonk River adjacent to the shoreline of the FGPA and the FPPA.<sup>2</sup> Sheen observations have been limited to the following two general shoreline areas:

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

Sheens observed in the FGPA near MW-326S and TB-12/MW-3 are generally observed as bright to dull localized bands less than 2 feet in width observed between the shoreline and remnants of wooden sheet piling (associated with a former dock). Sheens observed in the FPPA proximate to the NBC CSO near MW-103 are generally observed as bright to dull localized spots less than 3 feet in diameter observed very close to the shoreline. Sheens at the Site have generally been observed at mid- or low-tide only. Given the limited occurrence and extent of observed sheens, it is difficult to distinguish between sheening resulting from existing outfalls and subsurface impacts. Sheens observed during 2014 were generally consistent with previous observations as documented in the

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<sup>1</sup> A SIR Addendum was prepared and submitted to the Department in July 2014.

<sup>2</sup> On July 1, 2014, slight bands of dull sheen were observed in the NFA, near the northern property boundary. The sheen was noted as originating from an upstream, off-Site area.



January 2011 SIDR, the July 2011 RAE and the 2013 Groundwater Monitoring Report. There were no sheens observed proximate to MW-4 where the cap was installed in 2009<sup>3</sup>, the SFA or the bulkhead area proximate to the FPPA in 2014. Sheen observations are summarized in Table 1.

### 3.00 GROUNDWATER AND NAPL MONITORING PROGRAM

In addition to the shoreline observations presented above, the monitoring program consists of gauging the monitoring well network for groundwater elevation and the presence of NAPL and groundwater sampling/analytical testing of select monitoring wells. Groundwater elevation and NAPL gauging of available monitoring wells was conducted on a quarterly basis in 2014 (January 2014, April 2014, July 2014, and October 2014). Twenty seven (27) monitoring wells were included in the October 2014 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 2014 groundwater sampling round are highlighted on Figures 2A and 2B.

Groundwater samples were analyzed for volatile organic compounds (VOCs) via EPA Method 8260B, total petroleum hydrocarbons (TPH) via EPA Method 8100M, polycyclic aromatic hydrocarbons (PAHs) via EPA Method 8260B, total cyanide and dissolved free cyanide via EPA Method 9014. Figures 2A and 2B, *Exploration Location Plans*, indicate the wells included in the October 2014 groundwater sampling round: four (4) in the NFA (MW-5, MW-7, MW-310S and MW-310D), ten (10) in the FGPA (MW-201, MW-208, MW-312S, MW-312D, MW-326S, MW-326D, MW-333S, MW-333D, MW-339S, and MW-339D), eight (8) in the FPPA (M&E MW-2, MW-6, MW-109, MW-314S, MW-314D, MW-316S, MW-316D, and MW-337) and five (5) in the SFA (MW-107, MW-318S, MW-318D, MW-334S and MW-334D).<sup>4</sup> These well locations were chosen to provide a representative evaluation of overall Site groundwater quality.

#### 3.10 OBSERVATIONS OF NAPL

Between January 2014 and December 2014, GZA performed quarterly NAPL monitoring and recovery evaluations. These field activities were performed to assess the presence and relative mobility and recoverability of NAPL.

A comprehensive gauging round of the existing groundwater monitoring well network was completed during each of the quarterly monitoring events. Comprehensive groundwater elevation and NAPL gauging data are included as Tables 2A and 2B, respectively, for the period from January 2014 through December 2014. A summary of wells exhibiting light Non-Aqueous Phase Liquid (LNAPL) and dense non-aqueous phase liquids (DNAPL) thicknesses since April 2009 are presented in Tables 2C and 2D and are shown on Figures 4A and 4B, respectively. Wells

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<sup>3</sup> A shoreline cap was installed during 2009 in response to a sheen outbreak in this area. This work is documented in the February 2010 *Short Term Response Action Summary Report* which was prepared by GZA and submitted to the Department.

<sup>4</sup> MW-5 and MW-316S are included in the original 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 2014 monitoring event. Twenty five (25) groundwater samples were able to be collected as part of the October 2014 groundwater sampling round.



exhibiting LNAPL are observed in the FGPA and FPPA and wells exhibiting DNAPL are observed in the FGPA and SFA. Observations of LNAPL and DNAPL thicknesses within these monitoring wells during 2014 were generally consistent with previously observations *with* a few minor deviations, as described below.

During the 2014 monitoring events, in certain wells where measurable levels of NAPL were present, an effort was made to recover NAPL and monitor its relative rate of return (if any). LNAPL and DNAPL recovery was performed using a peristaltic pump with dedicated tubing positioned directly 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 of the LNAPL and/or DNAPL was then monitored with an oil/water interface probe. Tables 3A and 3B summarize the results of the LNAPL and DNAPL recovery efforts, respectively. Consistent with previous years, GZA removed approximately 9 gallons of NAPL/groundwater in 2014. As described further in this section, NAPL recovery was not practical in certain wells due to the viscosity of the material. The NAPL/groundwater was containerized in a drum which is stored in a secure on-Site location for subsequent off-Site disposal.

Figures 4A and 4B, *Groundwater Analytical Data* depict well locations where either measurable LNAPL or DNAPL were observed during the 2014 groundwater monitoring activities.

In addition to the NAPL thicknesses shown in Tables 2C and 2D, during the 2014 annual groundwater sampling event, evidence of sheen was observed on purge water from monitoring wells MW-312S, MW-109, and MW-339D. Purge waters generated from wells MW-312S, MW-326S, MW-326D and MW-109 were observed to exhibit a petroleum-like odor and purge waters from MW-310S, MW-310D, MW-208, MW-312D, MW-339S, MW-339D, MW-334S, and MW-334D were observed to exhibit a coal-tar like odor. Refer to groundwater sampling logs in Appendix C for observations related to sheens and odors during the 2014 sampling event.

Notable NAPL observations in 2014 are as follows:

- **LNAPL:** Between January 2014 and December 2014, measurable levels of LNAPL (defined as equal to or greater than 0.01 feet) were detected in six (6) monitoring wells: five (5) in the FGPA and one (1) in the FPPA. As presented in Tables 2C and 3A, LNAPL thicknesses ranges varied in each well – in the FGPA: MW-3 {non-detect to 0.01 feet}, MW-210 {non-detect to 2.43 feet}, MW-312S {0.03 to 1.38 feet}, MW-313S {non-detect to 0.05 feet} and MW-326S {non-detect to 0.02 feet}; and in the FPPA: M&E MW-5 {trace to 1.97 feet}. There were no new detections of LNAPL since the January 2011 SIDR. The well locations where LNAPL was detected in the FGPA are in the area of the former MGP processes and the former piping raceway footprint. On the FPPA, the well is located in the vicinity of the former service USTs (M&E MW-5).

During the quarterly monitoring events in 2014, LNAPL recovery evaluations were attempted at three (3) wells: M&E MW-5, MW-210 and MW-312S. These wells are located on the FGPA and FPPA portions of the Site. Consistent with historic observations, LNAPL appears to recover relatively slowly. In addition, observed LNAPL thicknesses appear to be highly dependent upon the tidal cycle at the time of gauging. As presented in Table 3A, the rate of LNAPL recovery appears to be on the order of 1 to 2 months (or more) (timeframe over which recorded thickness appears to return to original measurement).



In general, LNAPL thicknesses and recoverability are consistent with historic observations, as presented in the January 2011 SIDR, the July 2011 RAE and the 2013 Groundwater Monitoring Report and summarized in Table 2C and 3A, with some minor deviations. LNAPL in monitoring wells MW-103, MW-326S, MW-313S and MW-3 have decreased from measurable thicknesses of several feet in January 2011 to less than 0.10 feet since October 2011, suggesting that only localized LNAPL may have collected in these wells. These variations may be attributable to the observed tidal stage at the time of measurement (*i.e.*, LNAPL thicknesses measured at low tide were typically greater).

- **DNAPL:** Between January 2014 and December 2014, measurable levels of DNAPL (defined as equal to or greater than 0.01 feet) were detected in five (5) monitoring wells: three (3) in the FGPA and two (2) in the SFA. As presented in Tables 2D and 3B, DNAPL thicknesses varied in each well - in the FGPA: MW-4 {trace amounts to 1.44 feet}, MW-303 {1.5 to 5.59 feet} and MW-341 {1.85 to 2.65 feet}; and in the SFA: MW-320S {trace amounts to 1.15 feet} and MW-320D {13.4 to 13.9 feet}. Consistent with the 2010 Site investigations presented in the January 2011 SIDR, DNAPL was detected in the FGPA in wells in the area of the former MGP processes, particularly those related to separation and tar processes (*i.e.*, clarification tanks, separators, boiling tanks) and in the SFA. In addition, measureable DNAPL has been detected consistently (since early 2011) at monitoring well MW-341, which is located downgradient of the former Gasholders No. 7 and 8. It should be noted that monitoring well MW-103, which was the only well on the FPPA where measureable DNAPL was detected during the 2010 Site investigations, has not shown evidence of DNAPL since 2011.

Based on the measurable quantities, physical characteristics of the DNAPL, and results of historic DNAPL recovery attempts, recovery evaluations were attempted at two (2) well locations only in 2014 (MW-303 and MW-341 installed on the FGPA portion of the Site). During the 2014 recovery rounds, 0.5 to 1 gallon of DNAPL was recovered each quarter from MW-341. DNAPL recovery at MW-303 was limited to approximately 0.1 gallons due to the viscosity of the DNAPL in this well.

In general, DNAPL thicknesses and recoverability rates observed during 2014 are consistent with historic observations. It should be noted that the measured DNAPL thickness in MW-320D has increased. DNAPL thickness in MW-320D was detected between 1.05 and 10 feet between 2009 and 2013, while DNAPL thickness ranged between 13.4 and 13.9 feet in 2014. Similar to observations of LNAPL, DNAPL is observed in only certain wells suggesting the presence of localized pockets and not a contiguous layer. Based on the results of attempted recovery and the viscous nature of the materials, the 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. Although thicknesses of DNAPL were observed to increase in MW-320D during 2014, GZA has not observed the presence of sheen in the waterfront area adjacent to MW-320D, indicating that the DNAPL in this well is not particularly mobile.

### 3.20 GROUNDWATER FLOW DIRECTION



Between April 2009 and October 2014, GZA recorded depth to groundwater readings at Site monitoring wells on a quarterly basis. Depths to groundwater measurements were obtained using an electronic water level/oil water interface probe accurate to within 0.01 feet. The groundwater elevations at each monitoring well were subsequently calculated using the casing and PVC elevations. Table 2A presents the depth to groundwater readings for each well gauged in 2014. The groundwater elevations recorded during the October 2014 gauging round were used to construct the *Groundwater Elevation Contour Plan* presented as Figure 3. Groundwater elevations during the 2014 gauging events are generally consistent with those recorded during previous monitoring events. As expected, review of groundwater elevations recorded during the 2014 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 1 and 11 feet, 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 elevations tend to flatten along the eastern side of the Site closer to the Seekonk River.

### 3.30 GROUNDWATER SAMPLING TECHNIQUES

During the 2014 annual event, groundwater samples were collected from twenty-five (25) of the twenty-seven (27) wells included in the program<sup>5</sup>. Groundwater samples were collected in general accordance with EPA's January 19, 2010 *Low Stress (low flow) Purging and Sampling Procedure* (Low Flow SOP). Prior to sampling, the depth to static groundwater and NAPL present was measured in each well using an ORS electronic oil/water interface probe. During groundwater sampling, a variable speed peristaltic pump or submersible pump was utilized to control the rate of purging. Dedicated 3/8-inch polyethylene tubing installed in each of the wells was utilized as the intake and discharge tubing for the pump. This tubing has the potential to become brittle when exposed to UV light (sunlight) and where necessary this tubing was replaced with new dedicated tubing as indicated on the field sampling logs (Appendix C). Pharmaceutical grade tubing was utilized as the pump head tubing and connected to the intake and discharge tubing by clamps sufficient to prevent the introduction of air into the sample. If NAPL was noted in the monitoring well prior to sampling, new tubing was installed in the monitoring well. In order to limit the potential for LNAPL to enter the sampling tubing during the collection of the sample, a peristaltic pump was used to force air through the tubing as it passed through the LNAPL/groundwater interface. If DNAPL was noted in the well, the sampling tubing was installed in these wells carefully so that the DNAPL layer was not intercepted.

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

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<sup>5</sup> MW-5 and MW-316S are included in the original 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 2014 monitoring event.





Samples were placed in laboratory-provided, hydrochloric acid-preserved 40 mL glass vials with septa caps for VOC analysis via EPA Method 8260B, 1000 mL amber glass bottles for PAHs analysis via EPA Method 8270C, 1000 mL amber glass bottles for TPH analysis via EPA Method 8100M and sodium hydroxide-preserved 250 mL plastic bottles for total cyanide analysis via EPA Method 9014. A sample was also field-filtered and placed in a laboratory-provided, sodium hydroxide-preserved 250 mL plastic bottle for dissolved cyanide analysis via EPA Method 9014. Samples were then packed in an ice chest and transported under chain-of-custody protocol to ESS Laboratory located in Cranston, Rhode Island.

### 3.40 INVESTIGATION-DERIVED WASTE MANAGEMENT

As described previously, NAPL/groundwater that was recovered during 2014 NAPL monitoring/recovery was containerized in a drum stored securely on-Site for subsequent off-Site disposal. One (1) drum of purgewater was also generated during the October 2014 sampling event. This purgewater was containerized in a labeled 55-gallon steel drum. Once the sampling event was complete, the drum was removed from the Site by Clean Harbors Environmental Services, Inc. (CHES) of East Providence, Rhode Island for proper off-Site disposal. A copy of the disposal manifest is included in Appendix B.

### 3.50 QA/QC SAMPLING AND ANALYSIS

During the 2014 sampling round, twenty-five (25) groundwater samples, two (2) blind duplicate samples and one (1) trip blank was submitted to ESS Laboratory in Cranston, Rhode Island for analysis. The samples were transported to the laboratory under chain of custody protocol. As indicated on page 2 of each laboratory report, the samples were received intact, within the proper temperature range and appropriately preserved. Analytical results for the trip blank was below the laboratory reporting limit for all 67 targeted compounds. Two duplicate sample sets (Set #1 – M&E MW-2 and BD#1 and Set #2 – MW-312D and MW-BD-102314) were also submitted for VOCs, PAH, TPH, total cyanide and dissolved free cyanide analysis to evaluate sample reproducibility. The relative percent difference (RPD) was calculated for each compound. Elevated RPDs (more than 40% difference) were noted for 1,3,5-Trimethylbenzene, 4-Isopropyltoluene, Isopropylbenzene, n-Propylbenzene, sec-Butylbenzene, and Anthracene in one sample set (MW-312D and MW-BD-102314). Elevated RPDs in laboratory control samples were noted for TPH and Dibenzo (a,h) Anthracene. Given the nature of the observed Site impacts, the variability in the results in these samples does not significantly affect data usability. These results are shown in Tables 4C (VOCs) and 4D (TPH, PAHs, total and dissolved cyanide). Copies of the original laboratory data, laboratory quality assurance/quality control (QA/QC), methods, and chain-of-custody forms are provided in Appendix D.

### 3.60 GROUNDWATER ANALYTICAL RESULTS

Groundwater quality at the Site is generally characterized by few isolated exceedances of the GB Groundwater Objectives for benzene, ethylbenzene and naphthalene, primarily in areas of the Site where former MGP features were located in the FGPA (MW-312D, MW-326S and MW-333D), downgradient of former Nos. 7 and 8 gasholders in the FGPA (MW-339D) and in the NFA (MW-310D). No exceedances of the applicable RIDEM groundwater standards have been detected over large areas of the Site, including the FPPA, the western portion of the FGPA and the western



portion of the SFA. Figures 4A and 4B, *Analytical Groundwater Data*, present the total VOC concentrations detected in groundwater samples during the October 2014 sampling round and wells with GB groundwater exceedances. As indicated on these figures, exceedances of the standards are limited to the following compounds: ethylbenzene, benzene, and naphthalene.

Analytical data from the 2014 sampling event is summarized in Tables 4A (VOCs) and 4B (TPH, PAHs, total and dissolved cyanide). Historic analytical summaries by monitoring well dating back to 1996 are presented in Tables 5A through 5AA. These tables include comparisons to Method 1 (or Method 2 as appropriate) GB Groundwater Objectives and Upper Concentration Limits (UCL). In general, the analytical results reported during the 2014 event were consistent with levels detected in previous sampling results. A summary of the 2014 data is presented below.

### **Volatile Organic Compounds**

As indicated in Table 4A, VOCs were detected in twenty-one of the groundwater samples analyzed (21/25) in 2014. The total VOC concentrations detected during the 2014 monitoring event ranged from 0.0013 mg/L to 17.1 mg/L. Five wells (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.

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 2014 exceeded UCLs. The following sections discuss the dissolved-phased VOC analytical results for the 2014 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 2014 monitoring event and analyzed for VOCs. The groundwater sample from MW-310D had eight VOC detections, with two exceedances of the GB Groundwater Objectives for benzene and naphthalene. Benzene was detected in MW-310D at a concentration of 0.652 mg/L, exceeding the GB Groundwater Objective of 0.14 mg/L. Naphthalene was detected in MW-310D at a concentration of 8.96 mg/L, exceeding the Method 2 derived GB Groundwater Objective of 2.67 mg/L. Ethylbenzene was detected at a concentration of 0.918 mg/L, below the GB Groundwater Objective of 1.6 mg/L. There were no other exceedances of GB Groundwater Objectives. VOC compounds were not detected in MW-7 and only two VOC compounds were detected in MW-310S. Benzene was detected in MW-310S at a concentration of 0.002 mg/L, well below the GB Groundwater Objective. Naphthalene was detected in MW-310S at a concentration of 0.0013 mg/L, well below the GB Groundwater Objective. Ethylbenzene was not detected in MW-310S.

The concentrations of both benzene and naphthalene exceeded the GB Groundwater Objectives in MW-310D (refer to Table 5D) during the previous sampling rounds (June 2010, July 2011, July 2012 and August 2013), consistent with the 2014 monitoring event.





This well is located in the historic cove of the NFA and visual/olfactory impacts have been observed in this area.

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

Ten (10) groundwater samples (MW-201, MW-208, MW-312S, MW-312D, MW-326S, MW-326D, MW-333S, MW-333D, MW-339S, and MW-339D) were collected in this area during the 2014 monitoring event and analyzed for 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 eight samples (8/10) at concentrations ranging from 0.0016 mg/L to 5.98 mg/L, with three samples (3/10) exceeding the GB Groundwater Objective (MW-312D, 5.98 mg/L; MW-326S, 0.352 mg/L; and MW-333D, 1.76 mg/L). Naphthalene was detected in eight samples (8/10) at concentrations ranging from 0.0026 mg/L to 8.17 mg/L, with two samples (2/10) exceeding the GB Groundwater Objective (MW-312D, 8.17 mg/L; and MW-339D, 4.29 mg/L). Ethylbenzene was detected in seven samples (7/10) at concentrations ranging from 0.0012 mg/L to 1.93 mg/L, with one sample (1/10) exceeding the GB Groundwater Objective (MW-312D, 1.93 mg/L).

Dissolved phase VOC results for the FGPA in 2014 were consistent with historic groundwater results, with exceedances of the GB Groundwater Objectives limited to naphthalene, ethylbenzene and benzene. The entirety of the above identified groundwater exceedances are located in the southeastern corner of the FGPA in the vicinity of the former processing houses for the MGP (*i.e.*, MW-312D, MW-326D, MW-333D), with one exception. Monitoring well MW-339D, which exhibited exceedances of the GB Groundwater Objectives for naphthalene, is located east of the location of the former Gasholders No. 7 and 8.

*FPPA (A.P. 65B Lot 645)*

Seven (7) groundwater samples were collected in this area during the 2014 monitoring event for VOC analysis (M&E MW-2, MW-6, MW-109, MW-314S, MW-314D, MW-316D and MW-337). Two samples (2/7; MW-314D and MW-316D) were non-detect for VOCs during the 2014 event. For the targeted<sup>6</sup> VOCs within the eight groundwater samples collected, benzene was detected in two samples (MW-6 – 0.0115 mg/L and MW-109 – 0.135 mg/L), naphthalene was detected in four samples (M&E MW-2 – 0.0112 mg/L, MW-6 – 0.0024 mg/L, MW-109 – 0.248 mg/L and MW-314S – 0.0014 mg/L) and ethylbenzene was detected in two samples (MW-6 – 0.0079 mg/L and MW-109 – 0.0349 mg/L).

Consistent with historic results, there were no exceedances of the GB Groundwater Objectives in the FPPA.

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<sup>6</sup> For the context of this report, “targeted VOCs” means compounds that have detected in excess of RIDEM GB Groundwater Objectives: benzene, ethylbenzene and naphthalene.



*SFA (A.P. 65B Lots 647 and 649, portions of A.P. 65B Lot 648 and portions of A.P. 67B Lot 11)* Five (5) groundwater samples were collected from this area during the 2014 sampling event (MW-107, MW-318S, MW-318D, MW-334S, MW-334D). MW-107 was non-detect for VOCs during the 2014 event. For the targeted VOCs within the five groundwater samples collected, benzene was detected in three samples (MW-318S – 0.0516 mg/L, MW-334S – 0.0032 mg/L and MW-334D – 0.0084 mg/L), naphthalene was detected in four samples (MW-318S – 0.883 mg/L, MW-318D – 0.0013 mg/L, MW-334S – 0.0692 mg/L and MW-334D – 0.0178 mg/L) and ethylbenzene was detected in one sample (MW-318S – 0.0062 mg/L).

Similar to the FPPA and consistent with historic data, no VOCs were detected in excess of the GB Groundwater Objectives in the SFA during the 2014 sampling event.

### **Cyanide**

As indicated in Table 4B, low levels of total cyanide were detected in each of the groundwater samples analyzed (25/25) in 2014. The total cyanide concentrations detected ranged between 0.011 mg/L to 1.16 mg/L (MW-201, located in the FGPA). Dissolved and total cyanide results were generally similar in concentration. The dissolved cyanide concentrations detected ranged between 0.01 mg/L to 1 mg/L. The total and dissolved cyanide levels detected in 2014 are consistent with (or lower than) historic detection at the Site and are typical of former MGP sites. The predominant forms of cyanide compounds at former MGP sites are typically iron–cyanide solids which are detected as part of the total cyanide analysis used at the Tidewater Site. Cyanide can be present in several forms, including free cyanide (HCN, or CN<sup>-</sup>) and metal-cyanide complexes, such as the iron-cyanides typically seen at former MGP sites. With respect to potential risk to human health and aquatic life, cyanide toxicity is mainly associated with free cyanide. Metal-cyanide complexes, especially the strong complexes with iron seen at MGP sites, are essentially non-toxic. Since there are no current potable use of groundwater at this Site, the potential for human health risk associated with impacts to groundwater are limited.

### **Polycyclic Aromatic Hydrocarbons (PAHs)**

As indicated in Table 4B, PAHs were detected in twenty-four groundwater samples (24/25). Of the groundwater samples submitted for PAH analysis, two samples (MW-310D – 4.87 mg/L and MW-312D – 3.02 mg/L) exceeded the Method 2 derived GB Groundwater Objective (2.67 mg/L) for naphthalene. MW-310 is located in the SFA and MW-312 is located in the FGPA. PAHs results in 2014 were consistent with historic monitoring events. The most significant PAHs concentrations were detected in the following wells: MW-310D (located along the riverfront in the NFA, within the footprint of the historic cove); MW-312S, MW-312D, MW-333D (located in the FGPA in the southeastern portion of the Site proximate to the historic MGP features); and MW-339D (located east of the former Gasholders No. 7 and 8).

### **Total Petroleum Hydrocarbons (TPH)**

As indicated in Table 4B, TPH was detected in sixteen groundwater samples (16/25) at concentrations ranging from 0.2 mg/L to 11.6 mg/L. The wells where elevated groundwater TPH concentrations (greater than 5 mg/L) were detected were as follows:



MW-310D (located along the riverfront in the NFA, within the footprint of the historic cove); MW-312S, MW-312D, MW-326S, and MW-339D (located east of the former Gasholders No. 7 and 8). The highest dissolved phase petroleum hydrocarbon impacts (greater than 10 mg/L) was detected in MW-310D in the NFA at a concentration of 11.6 mg/L.

#### **4.00 CONCLUSIONS**

As part of the annual groundwater monitoring for 2014, twenty-five (25) monitoring wells were sampled in October 2014, all accessible wells were gauged for groundwater elevation and the presence of NAPL on a quarterly basis, and inspections of 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 2014 were consistent with historic results.

- Sheens were observed in areas consistent with historic observations, primarily near the bulkhead area in the central portion of the shoreline in the FPPA and FGPA. More substantial sheens have generally been observed at mid- or low-tide consisted of bright to dull spots and bands. Sheens observed at high tide were generally much less substantial and observed very intermittently.
- Eleven (11) monitoring wells exhibited the presence of measureable NAPL in 2014, with six (6/11) monitoring wells exhibiting LNAPL thicknesses up to 2.43 feet and five (5/11) monitoring wells exhibiting DNAPL thicknesses up to 13.9 feet. Approximately 9 gallons of NAPL/groundwater was recovered from Site monitoring wells and was containerized for subsequent off-Site disposal. Observations of both LNAPL and DNAPL continue to be localized and do not indicated the presence of significant contiguous layers in the subsurface. In addition and typical of MGP sites, recovery attempts suggest that observed NAPLs are unlikely to be significantly mobile.
- Exceedances of the GB Groundwater Objectives were limited to five (5) wells sampled during the 2014 monitoring round. Compounds detected in excess of the GB Groundwater Objectives were limited to naphthalene, benzene and ethylbenzene. The presence of these compounds in groundwater samples is typical for former MGP and power plant sites. The most significant dissolved phase groundwater impacts were generally detected in the FGPA and NFA.

For 2015 and going forward (consistent with the July 2011 RAE), groundwater samples were submitted of analysis of VOCs only. There were no other changes to the existing monitoring program. It is anticipated that this monitoring program will continue until the Site remedy has been implemented at which time the program will be reevaluated in coordination with RIDEM.

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## TABLES

**TABLE 1**  
**SUMMARY OF SHEEN OBSERVATIONS**

File No. 05.00043654.00  
6/2/2015

Former Tidewater Facility  
Pawtucket, Rhode Island

| Date       | Time                                                           | Approximate Tidal Stage | Sheen Observation Location                                                     | Sheen Characteristics                            |
|------------|----------------------------------------------------------------|-------------------------|--------------------------------------------------------------------------------|--------------------------------------------------|
| 1/13/2014  | 14:30                                                          | Low to Mid              | 54" CSO pipe outfall washout adjacent to MW-103                                | Slight bands of dull sheen                       |
| 1/30/2014  | No sheens observed - shoreline is frozen                       |                         |                                                                                |                                                  |
| 2/20/2014  | No sheens observed - shoreline is frozen                       |                         |                                                                                |                                                  |
| 2/28/2014  | No sheens observed - shoreline is frozen                       |                         |                                                                                |                                                  |
| 3/11/2014  | 14:30                                                          | Mid                     | 54" CSO pipe outfall washout adjacent to MW-103                                | Slight bands of dull to bright sheen             |
| 3/28/2014  | No sheens observed - high wind                                 |                         |                                                                                |                                                  |
| 4/2/2014   | 8:15                                                           | Mid                     | 54" CSO pipe outfall washout adjacent to MW-103                                | Slight bright bands of sheen                     |
| 4/9/2014   | 11:50                                                          | Low                     | 54" CSO pipe outfall washout adjacent to MW-103                                | Slight bands of dull sheen                       |
| 4/22/2014  | No sheens observed - high tide and high wind                   |                         |                                                                                |                                                  |
| 4/24/2014  | 10:30                                                          | Low                     | 54" CSO pipe outfall washout adjacent to MW-103                                | Slight bands of dull sheen                       |
| 4/29/2014  | No sheens observed at high tide.                               |                         |                                                                                |                                                  |
| 5/8/2014   | 9:00                                                           | Low                     | 54" CSO pipe outfall washout adjacent to MW-103                                | Slight bands of dull sheen                       |
| 5/15/2014  | 9:40                                                           | High                    | 54" CSO pipe outfall washout adjacent to MW-103                                | Slight bands of dull sheen                       |
| 5/22/2014  | 10:40                                                          | Low to Mid              | 54" CSO pipe outfall washout adjacent to MW-103                                | Very slight bands of dull sheen                  |
| 5/22/2014  | 11:15                                                          | Low to Mid              | Adjacent to MW-326 S/D                                                         | Slight bands of dull sheen                       |
| 6/25/2014  | No sheens observed at high tide.                               |                         |                                                                                |                                                  |
| 6/30/2014  | No sheens observed at high tide.                               |                         |                                                                                |                                                  |
| 7/1/2014   | 8:55                                                           | Mid                     | Along edge of Site near NFA - appears to be coming from upgradient of the Site | Slight bands of dull sheen                       |
| 7/23/2014  | No sheens observed at high tide.                               |                         |                                                                                |                                                  |
| 7/28/2014  | No sheens observed at mid tide.                                |                         |                                                                                |                                                  |
| 7/30/2014  | No sheens observed at high tide.                               |                         |                                                                                |                                                  |
| 8/8/2014   | No sheens observed at high tide.                               |                         |                                                                                |                                                  |
| 8/28/2014  | No sheens observed at high tide.                               |                         |                                                                                |                                                  |
| 9/5/2014   | No sheens observed at mid tide.                                |                         |                                                                                |                                                  |
| 9/12/2014  | No sheens observed at high tide.                               |                         |                                                                                |                                                  |
| 10/15/2014 | No sheens observed at high tide.                               |                         |                                                                                |                                                  |
| 10/22/2014 | No sheens observed at mid tide - very rainy and windy.         |                         |                                                                                |                                                  |
| 10/24/2014 | No sheens observed at mid tide - very rainy and windy.         |                         |                                                                                |                                                  |
| 11/4/2014  | No sheens observed at mid to low tide.                         |                         |                                                                                |                                                  |
| 11/21/2014 | 13:30                                                          | Low                     | 54" CSO pipe outfall washout adjacent to MW-103                                | Slight to moderate bands of bright to dull sheen |
| 11/21/2014 | 14:00                                                          | Low                     | Adjacent to MW-326 S/D                                                         | Slight bands of dull sheen                       |
| 12/4/2014  | 11:45                                                          | Low                     | Adjacent to MW-326 S/D                                                         | Bright spots of sheen                            |
| 12/16/2014 | 11:30                                                          | Mid                     | 54" CSO pipe outfall washout adjacent to MW-103                                | Slight bright bands of sheen                     |
| 12/30/2014 | No sheens observed at mid to high tide - very rainy and windy. |                         |                                                                                |                                                  |

Notes:

1. SFA refers to the South Fill Area.
2. FPPA refers to the Former Power Plant Area.
3. FGPA refers to the Former Gas Plant Area.
4. NFA refers to the North Fill Area.
5. This table shows observations that were made along the Site shoreline. Observations were made at least twice a month.
6. This table shows observations that were made during 2014. The January 2011 SIDR, July 2011 RAE and previous groundwater monitoring reports presents sheen observations between 2009 and 2013.

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

File No. 05.0043654.00  
6/2/2015

| Site Area | Well ID      | Measured Well Depth (Feet below Top of PVC) | Top of PVC Elevation (Feet) | Range of LNAPL Observed (feet) | Range of DNAPL Observed (feet) | January 2014 Groundwater Gauging Information |                       |                     |                        |                        |                                        | April 2014 Groundwater Gauging Information |                       |                     |                        |                        |                                        | July 2014 Groundwater Gauging Information |                       |                     |                        |                        |                                        | October 2014 Groundwater Gauging Information |                       |                     |                        |                        |                                        |
|-----------|--------------|---------------------------------------------|-----------------------------|--------------------------------|--------------------------------|----------------------------------------------|-----------------------|---------------------|------------------------|------------------------|----------------------------------------|--------------------------------------------|-----------------------|---------------------|------------------------|------------------------|----------------------------------------|-------------------------------------------|-----------------------|---------------------|------------------------|------------------------|----------------------------------------|----------------------------------------------|-----------------------|---------------------|------------------------|------------------------|----------------------------------------|
|           |              |                                             |                             |                                |                                | Depth To Water (ft)                          | Total Well Depth (ft) | GW Elevation (feet) | LNAPL Thickness (feet) | DNAPL Thickness (feet) | Corrected Groundwater Elevation (feet) | Depth To Water (ft)                        | Total Well Depth (ft) | GW Elevation (feet) | LNAPL Thickness (feet) | DNAPL Thickness (feet) | Corrected Groundwater Elevation (feet) | Depth To Water (ft)                       | Total Well Depth (ft) | GW Elevation (feet) | LNAPL Thickness (feet) | DNAPL Thickness (feet) | Corrected Groundwater Elevation (feet) | Depth To Water (ft)                          | Total Well Depth (ft) | GW Elevation (feet) | LNAPL Thickness (feet) | DNAPL Thickness (feet) | Corrected Groundwater Elevation (feet) |
| NFA       | MW-5         | 11.60                                       | 32.23                       | NP                             | NP                             | dry                                          | 11.85                 | dry                 | NP                     | NP                     | dry                                    | dry                                        | 11.75                 | dry                 | NP                     | NP                     | dry                                    | dry                                       | 11.9                  | dry                 | NP                     | NP                     | dry                                    | dry                                          | 12.1                  | dry                 | NP                     | NP                     | dry                                    |
| NFA       | MW-7         | 27.45                                       | 31.98                       | NP                             | NP                             | 21.21                                        | 27.5                  | 10.77               | NP                     | NP                     | 10.77                                  | 17.02                                      | 27.5                  | 14.96               | NP                     | NP                     | 14.96                                  | 20.31                                     | 27.45                 | 11.67               | NP                     | NP                     | 11.67                                  | 22.42                                        | 27.6                  | 9.56                | NP                     | NP                     | 9.56                                   |
| NFA       | MW-204       | 16.77                                       | 9.47                        | NP                             | NP                             | 8.17                                         | 16.8                  | 1.30                | NP                     | NP                     | 1.30                                   | 6.07                                       | 16.75                 | 3.40                | NP                     | NP                     | 3.40                                   | 7.29                                      | 16.85                 | 2.18                | NP                     | NP                     | 2.18                                   | 6.75                                         | 17                    |                     | NP                     | NP                     | 2.72                                   |
| NFA       | MW-205       | 15.00                                       | 12.20                       | NP                             | NP                             | 2.34                                         | 15.1                  | 9.86                | NP                     | NP                     | 9.86                                   | 1.62                                       | 15                    | 10.58               | NP                     | NP                     | 10.58                                  | Not Accessible                            |                       |                     |                        |                        |                                        | Not Accessible                               |                       |                     |                        |                        |                                        |
| NFA       | MW-206       | 28.77                                       | 37.22                       | NP                             | NP                             | 27.25                                        | 29                    | 9.97                | NP                     | NP                     | 9.97                                   | 24.97                                      | 29.1                  | 12.25               | NP                     | NP                     | 12.25                                  | 26.85                                     | 29.1                  | 10.37               | NP                     | NP                     | 10.37                                  | 28.37                                        | 29.25                 | 8.85                | NP                     | NP                     | 8.85                                   |
| NFA       | MW-310S      | 17.35                                       | 9.59                        | NP                             | NP                             | 7.94                                         | 16.8                  | 1.65                | NP                     | NP                     | 1.65                                   | 5.89                                       | 16.7                  | 3.70                | NP                     | NP                     | 3.70                                   | 7.19                                      | 16.9                  | 2.40                | NP                     | NP                     | 2.40                                   | 6.81                                         | 16.3                  | 2.78                | NP                     | NP                     | 2.78                                   |
| NFA       | MW-310D      | 36.20                                       | 9.18                        | NP                             | NP                             | 7.51                                         | 36.2                  | 1.67                | NP                     | NP                     | 1.67                                   | 5.47                                       | 39.2                  | 3.71                | NP                     | NP                     | 3.71                                   | 6.56                                      | 36.3                  | 2.62                | NP                     | NP                     | 2.62                                   | 6.3                                          | 36.3                  | 2.88                | NP                     | NP                     | 2.88                                   |
| NFA       | MW-311       | 22.00                                       | 10.26                       | NP                             | NP                             | 8.3                                          | 21.9                  | 1.96                | NP                     | NP                     | 1.96                                   | 7.46                                       | 21.85                 | 2.80                | NP                     | NP                     | 2.80                                   | 7.82                                      | 21.85                 | 2.44                | NP                     | NP                     | 2.44                                   | 7.64                                         | 22                    | 2.62                | NP                     | NP                     | 2.62                                   |
| FGPA      | MW-201       | 15.00                                       | 13.76                       | NP                             | NP                             | 8.97                                         | 15.1                  | 4.79                | NP                     | NP                     | 4.79                                   | 7.59                                       | 15                    | 6.17                | NP                     | NP                     | 6.17                                   | 10.72                                     | 12.22                 | 3.04                | NP                     | NP                     | 3.04                                   | 12.26                                        | 15.25                 | 1.50                | NP                     | NP                     | 1.50                                   |
| FGPA      | MW-202       | 13.80                                       | 14.39                       | NP                             | NP                             | 5.24                                         | 13.9                  | 9.15                | NP                     | NP                     | 9.15                                   | 2.12                                       | 12.8                  | 12.27               | NP                     | NP                     | 12.27                                  | 3.36                                      | 12.8                  | 11.03               | NP                     | NP                     | 11.03                                  | 6.40                                         | 14.10                 | 7.99                | NP                     | NP                     | 7.99                                   |
| FGPA      | MW-203       | 14.80                                       | 10.29                       | NP                             | NP                             | 8.8                                          | 14.85                 | 1.49                | NP                     | NP                     | 1.49                                   | 7.05                                       | 14.9                  | 3.24                | NP                     | NP                     | 3.24                                   | 8.9                                       | 14.95                 | 1.39                | NP                     | NP                     | 1.39                                   | 8.74                                         | 15                    | 1.55                | NP                     | NP                     | 1.55                                   |
| FGPA      | MW-207 (2)   | 11.75                                       | 14.50                       | NP                             | NP                             | Destroyed                                    |                       |                     |                        |                        |                                        | Destroyed                                  |                       |                     |                        |                        |                                        | Destroyed                                 |                       |                     |                        |                        |                                        | Destroyed                                    |                       |                     |                        |                        |                                        |
| FGPA      | MW-208       | 21.75                                       | 28.23                       | NP                             | NP                             | 17.05                                        | 21.9                  | 11.18               | NP                     | NP                     | 11.18                                  | 12.13                                      | 21.8                  | 16.10               | NP                     | NP                     | 16.10                                  | 15.78                                     | 21.8                  | 12.45               | NP                     | NP                     | 12.45                                  | 18.18                                        | 21.95                 | 10.05               | NP                     | NP                     | 10.05                                  |
| FGPA      | MW-209       | 21.05                                       | 24.74                       | NP                             | NP                             | 13.78                                        | 21.1                  | 10.96               | NP                     | NP                     | 10.96                                  | 9.35                                       | 21                    | 15.39               | NP                     | NP                     | 15.39                                  | 12.58                                     | 21.05                 | 12.16               | NP                     | NP                     | 12.16                                  | 14.84                                        | 21.15                 | 9.90                | NP                     | NP                     | 9.90                                   |
| FGPA      | MW-210       | 17.28                                       | 11.35                       | trace-2.54                     | NP                             | 10.28                                        | 17.2                  | 1.07                | 0.8                    | NP                     | 1.75                                   | 9                                          | 17.3                  | 2.35                | 2.43                   | NP                     | 4.42                                   | 9.66                                      | 17.25                 | 1.69                | 0.01                   | NP                     | 1.70                                   | 9.76                                         | 17.4                  | 1.59                | NP                     | NP                     | 1.59                                   |
| FGPA      | MW-3         | 17.00                                       | 11.46                       | trace - 5.57                   | NP                             | 10.86                                        | 17                    | 0.60                | NP                     | NP                     | 0.60                                   | 8.73                                       | 17                    | 2.73                | 0.01                   | NP                     | 2.74                                   | 9.32                                      | 17                    | 2.14                | 0.01                   | NP                     | 2.15                                   | 9.86                                         | 16.9                  | 1.60                | 0.01                   | NP                     | 1.61                                   |
| FGPA      | MW-4         | 17.65                                       | 10.58                       | NP                             | trace - 1.44                   | 11.36                                        | 17.65                 | -0.78               | NP                     | 1.44                   | -0.78                                  | 7.31                                       | 16.2                  | 3.27                | NP                     | trace                  | 3.27                                   | 8.07                                      | 18                    | 2.51                | NP                     | 0.05                   | 2.51                                   | 8.15                                         | 17.65                 | 2.43                | NP                     | 0.05                   | 2.43                                   |
| FGPA      | MW-303       | 41.85                                       | 9.07                        | NP                             | trace - 5.59                   | 9.5                                          | 41.85                 | -0.43               | NP                     | 5.35                   | -0.43                                  | 5.64                                       | 41.9                  | 3.43                | NP                     | 5.59                   | 3.43                                   | 6.6                                       | 42                    | 2.47                | NP                     | 1.5                    | 2.47                                   | 6.6                                          | 41.9                  | 2.47                | NP                     | 2.9                    | 2.47                                   |
| FGPA      | MW-312S      | 23.55                                       | 10.64                       | trace - 1.38                   | trace                          | 9.77                                         | 23.5                  | 0.87                | 0.03                   | NP                     | 0.90                                   | 8.03                                       | 23.4                  | 2.61                | 0.24                   | NP                     | 2.81                                   | 10.37                                     | 23.4                  | 0.27                | 1.38                   | NP                     | 1.44                                   | 9                                            | 23.5                  | 1.64                | 0.39                   | NP                     | 1.97                                   |
| FGPA      | MW-312D      | 31.90                                       | 10.57                       | NP                             | trace                          | 10.68                                        | 32                    | -0.11               | NP                     | NP                     | -0.11                                  | 7.07                                       | 31.9                  | 3.50                | NP                     | NP                     | 3.50                                   | 8.31                                      | 31.95                 | 2.26                | NP                     | NP                     | 2.26                                   | 8.03                                         | 31.8                  | 2.54                | NP                     | NP                     | 2.54                                   |
| FGPA      | MW-313S      | 24.90                                       | 11.74                       | trace - 4.52                   | trace                          | 11.62                                        | 24.78                 | 0.12                | trace                  | NP                     | 0.12                                   | 8.85                                       | 24.6                  | 2.89                | 0.05                   | NP                     | 2.93                                   | 9.37                                      | 24.6                  | 2.37                | 0.01                   | NP                     | 2.38                                   | 9.98                                         | 24.8                  | 1.76                | NP                     | NP                     | 1.76                                   |
| FGPA      | MW-313D      | 47.35                                       | 12.01                       | NP                             | NP                             | 11.76                                        | 47.32                 | 0.25                | NP                     | NP                     | 0.25                                   | 8.74                                       | 47.25                 | 3.27                | NP                     | NP                     | 3.27                                   | 9.45                                      | 47.3                  | 2.56                | NP                     | NP                     | 2.56                                   | 10.11                                        | 47.3                  | 1.90                | NP                     | NP                     | 1.90                                   |
| FGPA      | MW-326S      | 26.60                                       | 12.61                       | trace - 0.3                    | NP                             | 12.55                                        | 26.6                  | 0.06                | trace                  | NP                     | 0.06                                   | 8.99                                       | 26.6                  | 3.62                | 0.02                   | NP                     | 3.64                                   | 10.2                                      | 26.62                 | 2.41                | NP                     | NP                     | 2.41                                   | 11.06                                        | 26.6                  | 1.55                | NP                     | NP                     | 1.55                                   |
| FGPA      | MW-326D      | 45.05                                       | 11.91                       | NP                             | NP                             | 11.48                                        | 45.05                 | 0.43                | NP                     | NP                     | 0.43                                   | 8.85                                       | 45.1                  | 3.06                | NP                     | NP                     | 3.06                                   | 9.45                                      | 45.1                  | 2.46                | NP                     | NP                     | 2.46                                   | 10.09                                        | 45.2                  | 1.82                | NP                     | NP                     | 1.82                                   |
| FGPA      | MW-333S      | 18.30                                       | 12.30                       | NP                             | NP                             | 10.61                                        | 17.7                  | 1.69                | NP                     | NP                     | 1.69                                   | 8.88                                       | 17.7                  | 3.42                | NP                     | NP                     | 3.42                                   | 12.64                                     | 17.92                 | -0.34               | NP                     | NP                     | -0.34                                  | 10.2                                         | 17.8                  | 2.10                | NP                     | NP                     | 2.10                                   |
| FGPA      | MW-333D      | 45.20                                       | 12.30                       | NP                             | NP                             | 10.68                                        | 44.9                  | 1.62                | NP                     | NP                     | 1.62                                   | 8.91                                       | 44.9                  | 3.39                | NP                     | NP                     | 3.39                                   | 9.8                                       | 44.91                 | 2.50                | NP                     | NP                     | 2.50                                   | 10.06                                        | 45.2                  | 2.24                | NP                     | NP                     | 2.24                                   |
| FGPA      | MW-335S      | 15.75                                       | 11.50                       | NP                             | NP                             | 9.8                                          | 15.65                 | 1.70                | NP                     | NP                     | 1.70                                   | 8.14                                       | 15.75                 | 3.36                | NP                     | NP                     | 3.36                                   | 10.24                                     | 15.84                 | 1.26                | NP                     | NP                     | 1.26                                   | 9.78                                         | 15.8                  | 1.72                | NP                     | NP                     | 1.72                                   |
| FGPA      | MW-335D      | 36.50                                       | 11.96                       | NP                             | NP                             | 10.19                                        | 36                    | 1.77                | NP                     | NP                     | 1.77                                   | 8.42                                       | 36                    | 3.54                | NP                     | NP                     | 3.54                                   | 9.49                                      | 36                    | 2.47                | NP                     | NP                     | 2.47                                   | 9.35                                         | 36                    | 2.61                | NP                     | NP                     | 2.61                                   |
| FGPA      | MW-336       | 15.00                                       | 12.73                       | NP                             | NP                             | 12.08                                        | 15.1                  | 0.65                | NP                     | NP                     | 0.65                                   | 10.03                                      | 15.4                  | 2.70                | NP                     | NP                     | 2.70                                   | 10.21                                     | 15.1                  | 2.52                | NP                     | NP                     | 2.52                                   | 11.47                                        | 15.2                  | 1.26                | NP                     | NP                     | 1.26                                   |
| FGPA      | MW-339S      | 12.35                                       | 15.26                       | NP                             | NP                             | 7.98                                         | 12.5                  | 7.28                | NP                     | NP                     | 7.28                                   | 4.71                                       | 12.3                  | 10.55               | NP                     | NP                     | 10.55                                  | 7.06                                      | 12.55                 | 8.20                | NP                     | NP                     | 8.20                                   | 8.77                                         | 11.6                  | 6.49                | NP                     | NP                     | 6.49                                   |
| FGPA      | MW-339D      | 20.95                                       | 15.42                       | NP                             | trace                          | 7.63                                         | 21.1                  | 7.79                | NP                     | trace                  | 7.79                                   | 4.47                                       | 21.15                 | 10.95               | NP                     | trace                  | 10.95                                  | 6.78                                      | 21.2                  | 8.64                | NP                     | trace                  | 8.64                                   | 8.43                                         | 21.2                  | 6.99                | NP                     | trace                  | 6.99                                   |
| FGPA      | MW-341       | 30.10                                       | 19.62                       | NP                             | trace - 2.65                   | 10.15                                        | 30.15                 | 9.47                | NP                     | 1.85                   | 9.47                                   | 6.08                                       | 30.15                 | 13.54               | NP                     | 1.91                   | 13.54                                  | 9.1                                       | 30.15                 | 10.52               | NP                     | 2.1                    | 10.52                                  | 11.18                                        | 30.15                 | 8.44                | NP                     | 2.65                   | 8.44                                   |
| FPPA      | M&E MW-1     | 15.05                                       | 9.36                        | NP                             | NP                             | 7.79                                         | 17.42                 | 1.57                | NP                     | NP                     | 1.57                                   | 8.27                                       | 16.1                  | 1.09                | NP                     | NP                     | 1.09                                   | Not Accessible                            |                       |                     |                        |                        |                                        | 8.03                                         | 15.3                  | 1.33                | NP                     | NP                     | 1.33                                   |
| FPPA      | M&E MW-2     | 13.85                                       | 10.81                       | NP                             | NP                             | 8.34                                         | 13.87                 | 2.47                | NP                     | NP                     | 2.47                                   | 11.11                                      | 13.8                  | -0.30               | NP                     | NP                     | -0.30                                  | 8.68                                      | 13.94                 | 2.13                | NP                     | NP                     | 2.13                                   | 8.75                                         | 13.6                  | 2.06                | NP                     | NP                     | 2.06                                   |
| FPPA      | M&E MW-4 (1) | 7.81                                        |                             | NP                             | NP                             | Not Found                                    |                       |                     |                        |                        |                                        | Not Found                                  |                       |                     |                        |                        |                                        | Not Found                                 |                       |                     |                        |                        |                                        | Not Found                                    |                       |                     |                        |                        |                                        |
| FPPA      | M&E MW-5 (3) | 16.88                                       | 8.92                        | trace - 3.24                   | NP                             | 6.8                                          | 14.65                 | 2.12                | trace                  | NP                     | 2.12                                   | 9.55                                       | 14.65                 | -0.63               | 1.97                   | NP                     | 1.04                                   | 7.05                                      | 14.65                 | 1.87                | 0.05                   | NP                     | 1.91                                   | 7.36                                         | 14.65                 | 1.56                | 0.04                   | NP                     | 1.59                                   |
| FPPA      | MW-6         | 19.03                                       | 13.49                       | NP                             | NP                             | 12.16                                        | 18.8                  | 1.33                | NP                     | NP                     | 1.33                                   | 11.61                                      | 19.05                 | 1.88                | NP                     | NP                     | 1.88                                   | 11.9                                      | 19.1                  | 1.59                | NP                     | NP                     | 1.59                                   | 11.                                          |                       |                     |                        |                        |                                        |

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

File No. 05.0043654.00  
6/2/2015

| Site Area | Well ID      | Measured Well Depth (Feet below Top of PVC) | Top of PVC Elevation (Feet) | Range of LNAPL Observed (feet) | Range of DNAPL Observed (feet) | January 2014          |                       |                        |                       |                        | April 2014            |                       |                        |                       |                        | July 2014             |                       |                        |                       |                        | October 2014          |                       |                        |                       |                        |
|-----------|--------------|---------------------------------------------|-----------------------------|--------------------------------|--------------------------------|-----------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|-----------------------|------------------------|-----------------------|------------------------|
|           |              |                                             |                             |                                |                                | Depth to Water (feet) | Depth to LNAPL (feet) | LNAPL Thickness (feet) | Depth to DNAPL (feet) | DNAPL Thickness (feet) | Depth to Water (feet) | Depth to LNAPL (feet) | LNAPL Thickness (feet) | Depth to DNAPL (feet) | DNAPL Thickness (feet) | Depth to Water (feet) | Depth to LNAPL (feet) | LNAPL Thickness (feet) | Depth to DNAPL (feet) | DNAPL Thickness (feet) | Depth to Water (feet) | Depth to LNAPL (feet) | LNAPL Thickness (feet) | Depth to DNAPL (feet) | DNAPL Thickness (feet) |
| NFA       | MW-5         | 11.60                                       | 32.23                       | NP                             | NP                             | dry                   | -                     | NP                     | -                     | NP                     | dry                   | -                     | NP                     | -                     | NP                     | dry                   | -                     | NP                     | -                     | NP                     | dry                   | -                     | NP                     | -                     | NP                     |
| NFA       | MW-7         | 27.45                                       | 31.98                       | NP                             | NP                             | 21.21                 | -                     | NP                     | -                     | NP                     | 17.02                 | -                     | NP                     | -                     | NP                     | 20.31                 | -                     | NP                     | -                     | NP                     | 22.42                 | -                     | NP                     | -                     | NP                     |
| NFA       | MW-204       | 16.77                                       | 9.47                        | NP                             | NP                             | 8.17                  | -                     | NP                     | -                     | NP                     | 6.07                  | -                     | NP                     | -                     | NP                     | 7.29                  | -                     | NP                     | -                     | NP                     | 6.75                  | -                     | NP                     | -                     | NP                     |
| NFA       | MW-205       | 15.00                                       | 12.20                       | NP                             | NP                             | 2.34                  | -                     | NP                     | -                     | NP                     | 1.62                  | -                     | NP                     | -                     | NP                     | Not Accessible        |                       |                        |                       |                        | Not Accessible        |                       |                        |                       |                        |
| NFA       | MW-206       | 28.77                                       | 37.22                       | NP                             | NP                             | 27.25                 | -                     | NP                     | -                     | NP                     | 24.97                 | -                     | NP                     | -                     | NP                     | 26.85                 | -                     | NP                     | -                     | NP                     | 28.37                 | -                     | NP                     | -                     | NP                     |
| NFA       | MW-310S      | 17.35                                       | 9.59                        | NP                             | NP                             | 7.94                  | -                     | NP                     | -                     | NP                     | 5.89                  | -                     | NP                     | -                     | NP                     | 7.19                  | -                     | NP                     | -                     | NP                     | 6.81                  | -                     | NP                     | -                     | NP                     |
| NFA       | MW-310D      | 36.20                                       | 9.18                        | NP                             | NP                             | 7.51                  | -                     | NP                     | -                     | NP                     | 5.47                  | -                     | NP                     | -                     | NP                     | 6.56                  | -                     | NP                     | -                     | NP                     | 6.30                  | -                     | NP                     | -                     | NP                     |
| NFA       | MW-311       | 22.00                                       | 10.26                       | NP                             | NP                             | 8.30                  | -                     | NP                     | -                     | NP                     | 7.46                  | -                     | NP                     | -                     | NP                     | 7.82                  | -                     | NP                     | -                     | NP                     | 7.64                  | -                     | NP                     | -                     | NP                     |
|           |              |                                             |                             |                                |                                |                       |                       |                        |                       |                        |                       |                       |                        |                       |                        |                       |                       |                        |                       |                        |                       |                       |                        |                       |                        |
| FGPA      | MW-201       | 15.00                                       | 13.76                       | NP                             | NP                             | 8.97                  | -                     | NP                     | -                     | NP                     | 7.59                  | -                     | NP                     | -                     | NP                     | 10.72                 | -                     | NP                     | -                     | NP                     | 12.26                 | -                     | NP                     | -                     | NP                     |
| FGPA      | MW-202       | 13.80                                       | 14.39                       | NP                             | NP                             | 5.24                  | -                     | NP                     | -                     | NP                     | 2.12                  | -                     | NP                     | -                     | NP                     | 3.36                  | -                     | NP                     | -                     | NP                     | 6.40                  | -                     | NP                     | -                     | NP                     |
| FGPA      | MW-203       | 14.80                                       | 10.29                       | NP                             | NP                             | 8.80                  | -                     | NP                     | -                     | NP                     | 7.05                  | -                     | NP                     | -                     | NP                     | 8.90                  | -                     | NP                     | -                     | NP                     | 8.74                  | -                     | NP                     | -                     | NP                     |
| FGPA      | MW-207 (2)   | 11.75                                       | 14.50                       | NP                             | NP                             | Destroyed             |                       |                        |                       |                        | Destroyed             |                       |                        |                       |                        | Destroyed             |                       |                        |                       |                        | Destroyed             |                       |                        |                       |                        |
| FGPA      | MW-208       | 21.75                                       | 28.23                       | NP                             | NP                             | 17.05                 | -                     | NP                     | -                     | NP                     | 12.13                 | -                     | NP                     | -                     | NP                     | 15.78                 | -                     | NP                     | -                     | NP                     | 18.18                 | -                     | NP                     | -                     | NP                     |
| FGPA      | MW-209       | 21.05                                       | 24.74                       | NP                             | NP                             | 13.78                 | -                     | NP                     | -                     | NP                     | 9.35                  | -                     | NP                     | -                     | NP                     | 12.58                 | -                     | NP                     | -                     | NP                     | 14.84                 | -                     | NP                     | -                     | NP                     |
| FGPA      | MW-210       | 17.28                                       | 11.35                       | trace-2.54                     | NP                             | 10.28                 | 9.48                  | 0.8                    | -                     | NP                     | 9.00                  | 6.57                  | 2.43                   | -                     | NP                     | 9.66                  | 9.65                  | 0.01                   | -                     | NP                     | 9.76                  | -                     | NP                     | -                     | NP                     |
| FGPA      | MW-3         | 17.00                                       | 11.46                       | trace - 5.57                   | NP                             | 10.86                 | -                     | NP                     | -                     | NP                     | 8.73                  | 8.72                  | 0.01                   | -                     | NP                     | 9.32                  | 9.31                  | 0.01                   | -                     | NP                     | 9.86                  | 9.85                  | 0.01                   | -                     | NP                     |
| FGPA      | MW-4         | 17.65                                       | 10.58                       | NP                             | trace - 1.44                   | 11.36                 | -                     | NP                     | 16.21                 | 1.44                   | 7.31                  | -                     | NP                     | trace                 | trace                  | 8.07                  | -                     | NP                     | 17.95                 | 0.05                   | 8.15                  | -                     | NP                     | 17.6                  | 0.05                   |
| FGPA      | MW-303       | 41.85                                       | 9.07                        | NP                             | trace - 5.59                   | 9.50                  | -                     | NP                     | 36.5                  | 5.35                   | 5.64                  | -                     | NP                     | 36.31                 | 5.59                   | 6.60                  | -                     | NP                     | 40.5                  | 1.5                    | 6.60                  | -                     | NP                     | 39                    | 2.9                    |
| FGPA      | MW-312S      | 23.55                                       | 10.64                       | trace - 1.38                   | trace                          | 9.77                  | 9.74                  | 0.03                   | -                     | NP                     | 8.03                  | 7.79                  | 0.24                   | -                     | NP                     | 10.37                 | 8.99                  | 1.38                   | -                     | NP                     | 9.00                  | 8.61                  | 0.39                   | -                     | NP                     |
| FGPA      | MW-312D      | 31.90                                       | 10.57                       | NP                             | trace                          | 10.68                 | -                     | NP                     | -                     | NP                     | 7.07                  | -                     | NP                     | -                     | NP                     | 8.31                  | -                     | NP                     | -                     | NP                     | 8.03                  | -                     | NP                     | -                     | NP                     |
| FGPA      | MW-313S      | 24.90                                       | 11.74                       | trace - 4.52                   | trace                          | 11.62                 | trace                 | trace                  | -                     | NP                     | 8.85                  | 8.8                   | 0.05                   | -                     | NP                     | 9.37                  | 9.36                  | 0.01                   | -                     | NP                     | 9.98                  | -                     | NP                     | -                     | NP                     |
| FGPA      | MW-313D      | 47.35                                       | 12.01                       | NP                             | NP                             | 11.76                 | -                     | NP                     | -                     | NP                     | 8.74                  | -                     | NP                     | -                     | NP                     | 9.45                  | -                     | NP                     | -                     | NP                     | 10.11                 | -                     | NP                     | -                     | NP                     |
| FGPA      | MW-326S      | 26.60                                       | 12.61                       | trace - 0.3                    | NP                             | 12.55                 | trace                 | trace                  | -                     | NP                     | 8.99                  | 8.97                  | 0.02                   | -                     | NP                     | 10.20                 | -                     | NP                     | -                     | NP                     | 11.06                 | -                     | NP                     | -                     | NP                     |
| FGPA      | MW-326D      | 45.05                                       | 11.91                       | NP                             | NP                             | 11.48                 | -                     | NP                     | -                     | NP                     | 8.85                  | -                     | NP                     | -                     | NP                     | 9.45                  | -                     | NP                     | -                     | NP                     | 10.09                 | -                     | NP                     | -                     | NP                     |
| FGPA      | MW-333S      | 18.30                                       | 12.30                       | NP                             | NP                             | 10.61                 | -                     | NP                     | -                     | NP                     | 8.88                  | -                     | NP                     | -                     | NP                     | 12.64                 | -                     | NP                     | -                     | NP                     | 10.20                 | -                     | NP                     | -                     | NP                     |
| FGPA      | MW-333D      | 45.20                                       | 12.30                       | NP                             | NP                             | 10.68                 | -                     | NP                     | -                     | NP                     | 8.91                  | -                     | NP                     | -                     | NP                     | 9.80                  | -                     | NP                     | -                     | NP                     | 10.06                 | -                     | NP                     | -                     | NP                     |
| FGPA      | MW-335S      | 15.75                                       | 11.50                       | NP                             | NP                             | 9.80                  | -                     | NP                     | -                     | NP                     | 8.14                  | -                     | NP                     | -                     | NP                     | 10.24                 | -                     | NP                     | -                     | NP                     | 9.78                  | -                     | NP                     | -                     | NP                     |
| FGPA      | MW-335D      | 36.50                                       | 11.96                       | NP                             | NP                             | 10.19                 | -                     | NP                     | -                     | NP                     | 8.42                  | -                     | NP                     | -                     | NP                     | 9.49                  | -                     | NP                     | -                     | NP                     | 9.35                  | -                     | NP                     | -                     | NP                     |
| FGPA      | MW-336       | 15.00                                       | 12.73                       | NP                             | NP                             | 12.08                 | -                     | NP                     | -                     | NP                     | 10.03                 | -                     | NP                     | -                     | NP                     | 10.21                 | -                     | NP                     | -                     | NP                     | 11.47                 | -                     | NP                     | -                     | NP                     |
| FGPA      | MW-339S      | 12.35                                       | 15.26                       | NP                             | NP                             | 7.98                  | -                     | NP                     | -                     | NP                     | 4.71                  | -                     | NP                     | -                     | NP                     | 7.06                  | -                     | NP                     | -                     | NP                     | 8.77                  | -                     | NP                     | -                     | NP                     |
| FGPA      | MW-339D      | 20.95                                       | 15.42                       | NP                             | trace                          | 7.63                  | -                     | NP                     | trace                 | trace                  | 4.47                  | -                     | NP                     | trace                 | trace                  | 6.78                  | -                     | NP                     | trace                 | trace                  | 8.43                  | -                     | NP                     | trace                 | trace                  |
| FGPA      | MW-341       | 30.10                                       | 19.62                       | NP                             | trace - 2.57                   | 10.15                 | -                     | NP                     | 28.3                  | 1.85                   | 6.08                  | -                     | NP                     | 28.24                 | 1.91                   | 9.10                  | -                     | NP                     | 28.05                 | 2.1                    | 11.18                 | -                     | NP                     | 27.5                  | 2.65                   |
|           |              |                                             |                             |                                |                                |                       |                       |                        |                       |                        |                       |                       |                        |                       |                        |                       |                       |                        |                       |                        |                       |                       |                        |                       |                        |
| FPPA      | M&E MW-1     | 15.05                                       | 9.36                        | NP                             | NP                             | 7.79                  | -                     | NP                     | -                     | NP                     | 8.27                  | -                     | NP                     | -                     | NP                     | Not Accessible        |                       |                        |                       |                        | 8.03                  | -                     | NP                     | -                     | NP                     |
| FPPA      | M&E MW-2     | 13.85                                       | 10.81                       | NP                             | NP                             | 8.34                  | -                     | NP                     | -                     | NP                     | 11.11                 | -                     | NP                     | -                     | NP                     | 8.68                  | -                     | NP                     | -                     | NP                     | 8.75                  | -                     | NP                     | -                     | NP                     |
| FPPA      | M&E MW-4 (1) | 7.81                                        |                             | NP                             | NP                             | Not Found             |                       |                        |                       |                        | Not Found             |                       |                        |                       |                        | Not Found             |                       |                        |                       |                        | Not Found             |                       |                        |                       |                        |
| FPPA      | M&E MW-5 (3) | 16.88                                       | 8.92                        | trace - 3.24                   | NP                             | 6.80                  | trace                 | trace                  | -                     | NP                     | 9.55                  | 7.58                  | 1.97                   | -                     | NP                     | 7.05                  | 7                     | 0.05                   | -                     | NP                     | 7.36                  | 7.32                  | 0.04                   | -                     | NP                     |
| FPPA      | MW-6         | 19.03                                       | 13.49                       | NP                             | NP                             | 12.16                 | -                     | NP                     | -                     | NP                     | 11.61                 | -                     | NP                     | -                     | NP                     | 11.90                 | -                     | NP                     | -                     | NP                     | 11.86                 | -                     | NP                     | -                     | NP                     |
| FPPA      | MW-101       | 16.00                                       | 10.94                       | NP                             | NP                             | 11.58                 | -                     | NP                     | -                     | NP                     | 9.88                  | -                     | NP                     | -                     | NP                     | 9.45                  | -                     | NP                     | -                     | NP                     | 9.39                  | -                     | NP                     | -                     | NP                     |
| FPPA      | MW-102       | 26.80                                       | 19.74                       | NP                             | NP                             | 18.13                 | -                     | NP                     | -                     | NP                     | 18.02                 | -                     | NP                     | -                     | NP                     | 17.96                 | -                     | NP                     | -                     | NP                     | 17.97                 | -                     | NP                     | -                     | NP                     |
| FPPA      | MW-103       | 16.90                                       | 11.33                       | trace - 0.31                   | trace - 0.08                   | 9.18                  | -                     | NP                     | -                     | NP                     | 9.79                  | -                     | NP                     | -                     | NP                     | 9.30                  | -                     | NP                     | -                     | NP                     | 8.89                  | trace                 | trace                  | -                     | NP                     |
| FPPA      | MW-104       | 14.90                                       | 11.77                       | NP                             | NP                             | 9.01                  | -                     | NP                     | -                     | NP                     | Not Found             |                       |                        |                       |                        | 10.25                 | -                     | NP                     | -                     | NP                     | 10.29                 | -                     | NP                     | -                     | NP                     |
| FPPA      | MW-105       | 27.55                                       | 22.14                       | NP                             | NP                             | 20.49                 | -                     | NP                     | -                     | NP                     | 19.51                 | -                     | NP                     | -                     | NP                     | 20.16                 | -                     | NP                     | -                     | NP                     | 20.28                 | -                     | NP                     | -                     | NP                     |
| FPPA      | MW-109       | 19.30                                       | 14.09                       | NP                             | NP                             | 12.09                 | -                     | NP                     | -                     | NP                     | 10.45                 | -                     | NP                     | -                     | NP                     | 11.76                 | -                     | NP                     | -                     | NP                     | 11.99                 | -                     | NP                     | -                     | NP                     |
| FPPA      | MW-314S      | 24.50                                       | 10.37                       | 0.01                           | NP                             | 9.82                  | -                     | NP                     | -                     | NP                     | 10.87                 | -                     | NP                     | -                     | NP                     | 8.19                  | -                     | NP                     | -                     | NP                     | 8.76                  | -                     | NP                     | -                     | NP                     |
| FPPA      | MW-314D      | 43.40                                       | 10.38                       | NP                             | NP                             | 7.73                  | -                     | NP                     | -                     | NP                     | 11.14                 | -                     | NP                     | -                     | NP                     | 8.12                  | -                     | NP                     | -                     | NP                     | 8.80                  | -                     | NP                     | -                     | NP                     |
| FPPA      | MW-315S      | 26.40                                       | 10.98                       | NP                             | NP                             | 8.58                  | -                     | NP                     | -                     | NP                     | 11.96                 | -                     | NP                     | -                     | NP                     | 8.90                  | -                     | NP                     | -                     | NP                     | 8.22                  | -                     | NP                     | -                     | NP                     |
| FPPA      | MW-315D      | 41.70                                       | 10.69                       | NP                             | NP                             | 8.45                  | -                     | NP                     | -                     | NP                     | 11.81                 | -                     | NP                     | -                     | NP                     | 8.80                  | -                     | NP                     | -                     | NP                     | 8.03                  | -                     | NP                     | -                     | NP                     |
| FPPA      | MW-316S      | 22.30                                       | 24.52                       | NP                             | NP                             | 22.27                 | -                     | NP                     | -                     | NP                     | 20.53                 | -                     | NP                     | -                     | NP                     | 21.72                 | -                     | NP                     | -                     | NP                     | 22.38                 | -                     | NP                     | -                     | NP                     |
| FPPA      | MW-316D      | 31.55                                       | 24.68                       | NP                             | NP                             | 22.38                 | -                     | NP                     | -                     | NP                     | 21.12                 | -                     | NP                     | -                     | NP                     | 21.75                 | -                     | NP                     | -                     | NP                     | 23.32                 | -                     | NP                     | -                     | NP                     |
| FPPA      | MW-317S      | 27.40                                       | 25.35                       | NP                             | NP                             | 23.78                 | -                     | NP                     | -                     | NP                     | 22.94                 | -                     | NP                     | -                     | NP                     | 23.40                 | -                     | NP                     | -                     | NP                     | 23.50                 | -                     | NP                     | -                     | NP                     |
| FPPA      | MW-317D      | 36.20                                       | 25.47                       | NP                             |                                |                       |                       |                        |                       |                        |                       |                       |                        |                       |                        |                       |                       |                        |                       |                        |                       |                       |                        |                       |                        |



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

6/1/2015  
GZA File 05.00043654.00

Former Tidewater Facility  
Pawtucket, Rhode Island

|                | LNAPL Thickness (feet)  |           |           |           |           |           |            |           |           |           |           |           |          |  |
|----------------|-------------------------|-----------|-----------|-----------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|----------|--|
| Date           | 4/23/2009               | 6/18/2009 | 5/17/2010 | 5/20/2010 | 6/16/2010 | 11/2/2010 | 11/19/2010 | 12/3/2010 | 1/24/2011 | 2/17/2011 | 3/29/2011 | 4/26/2011 | 5/4/2011 |  |
|                | 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     |  |
| MW-4 (2) (3)   |                         | 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     |  |
| MW-312S        |                         |           |           | NP        | NP        | 0.45      | 0.13       | trace     | trace     | trace     | trace     | 0.20      | 0.28     |  |
| MW-313S        |                         |           | 0.10      |           | trace     | NP        | NP         | NP        | 4.52      | 0.22      | 0.04      | 0.05      | 0.02     |  |
| MW-326S        |                         |           |           |           | NP        | trace     | 0.30       | trace     | NP        | trace     | trace     | 0.03      | 0.01     |  |
|                | Former Power Plant Area |           |           |           |           |           |            |           |           |           |           |           |          |  |
| M&E MW-5 (5)   | 1.35                    | 0.44      |           |           | NP        | 0.04      | 1.17       |           |           |           | 3.24      | 3.16      | 1.12     |  |
| MW-102 (4) (6) | 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     |  |
| MW-109 (4)     | NP                      | NP        |           |           | NP        | NP        |            | NP        |           | NP        |           | NP        |          |  |
| MW-314S        |                         |           | 0.01      | NP        | NP        | NP        | NP         | NP        | NP        |           | NP        | NP        | NP       |  |

Notes: Blank cells indicate well was not gauged during the event.  
trace - trace amounts of NAPL were found on the probe  
NP - No Product was detected

Well is Located in Former Gas Plant Area

Well is Located in Former Power Plant Area

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

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

6/1/2015  
GZA File 05.00043654.00

Former Tidewater Facility  
Pawtucket, Rhode Island

|                | LNAPL Thickness (feet)         |           |           |            |           |           |           |            |           |           |          |            |           |           |           |            |
|----------------|--------------------------------|-----------|-----------|------------|-----------|-----------|-----------|------------|-----------|-----------|----------|------------|-----------|-----------|-----------|------------|
| Date           | 6/3/2011                       | 6/29/2011 | 7/26/2011 | 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 |
|                | <b>Former Gas Plant Area</b>   |           |           |            |           |           |           |            |           |           |          |            |           |           |           |            |
| MW-3 (1) (3)   | 0.80                           | 0.03      | 0.15      | 0.05       | 0.02      | 0.03      | 0.02      | trace      | NP        | NP        | 0.05     | trace      | NP        | 0.01      | 0.01      | 0.01       |
| MW-4 (2) (3)   | NP                             | NP        | NP        | NP         | NP        | NP        | NP        | NP         | NP        | NP        | NP       | NP         | NP        | NP        | NP        | NP         |
| MW-210 (3)     | 1.00                           | 0.33      | 0.13      | 1.03       | 2.25      | NP        | 0.11      | NP         | 0.04      | 1.44      | 0.08     | trace      | 0.8       | 2.43      | 0.01      | NP         |
| MW-312S        | 0.01                           | 0.14      | 0.25      | 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       |
| MW-313S        | trace                          | 0.01      | 0.02      | 0.09       | NP        | NP        | trace     | NP         | NP        | NP        | trace    | NP         | trace     | 0.05      | 0.01      | NP         |
| MW-326S        | trace                          | 0.01      | 0.02      | 0.03       | NP        | NP        | NP        | NP         | NP        | NP        | NP       | trace      | trace     | 0.02      | NP        | NP         |
|                | <b>Former Power Plant Area</b> |           |           |            |           |           |           |            |           |           |          |            |           |           |           |            |
| M&E MW-5 (5)   | 1.20                           | 0.40      | 0.13      | 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       |
| MW-102 (4) (6) |                                |           | NP        | NP         | NP        | NP        | NP        | NP         | NP        | NP        | NP       | NP         | NP        | NP        | NP        | NP         |
| MW-103 (4)     | 0.09                           | 0.01      | 0.02      | trace      | 0.02      | trace     | trace     | trace      | trace     | trace     | trace    | trace      | NP        | NP        | NP        | trace      |
| MW-109 (4)     |                                |           | NP        | NP         | NP        | NP        | NP        | NP         | NP        | NP        | NP       | NP         | NP        | NP        | NP        | NP         |
| MW-314S        | NP                             | NP        | NP        | NP         | NP        | NP        | NP        | NP         | NP        | NP        | NP       | NP         | NP        | NP        | NP        | NP         |

Notes: Blank cells indicate well was not gauged during the event.  
trace - trace amounts of NAPL were found on the probe  
NP - No Product was detected

Well is Located in Former Gas Plant Area

Well is Located in Former Power Plant Area

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

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

6/1/2015  
GZA File 05.00043654.00

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 |  |
|              | Former Gas Plant Area   |           |           |           |           |           |            |           |           |           |           |           |          |  |
| MW-4 (1) (4) |                         | NP        |           |           | trace     | trace     | trace      | trace     | 1.15      | trace     | trace     | trace     | trace    |  |
| MW-303       |                         |           | NP        |           | trace     | 2.53      | 0.55       | 0.50      | trace     | 0.88      | 0.15      | 0.55      | 0.75     |  |
| MW-312S      |                         |           |           | NP        | trace     | NP        | NP         | NP        | NP        | NP        | NP        | NP        | NP       |  |
| MW-312D      |                         |           |           | NP        | trace     | NP        |            | NP        | NP        |           | NP        | NP        | NP       |  |
| MW-313S      |                         |           | NP        |           | NP        | trace     | NP         | NP        | NP        | NP        | NP        | NP        | NP       |  |
| MW-339D      |                         |           |           |           |           |           |            | NP        | NP        | NP        | trace     | trace     | NP       |  |
| MW-341       |                         |           |           |           |           |           |            | trace     | 1.45      | 1.00      | 1.75      | 1.45      | 1.95     |  |
|              | Former Power Plant Area |           |           |           |           |           |            |           |           |           |           |           |          |  |
| MW-103       | NP                      | NP        |           |           | NP        | trace     | 0.08       | 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      |          |  |
| MW-320S      |                         |           | 0.18      |           | NP        | 1.88      | NP         | 0.20      | trace     | trace     | trace     | trace     |          |  |
| MW-320D      |                         |           | 3.70      |           | 1.10      | 8.98      | 1.50       | 10.00     | 3.20      | 2.15      | 4.15      | 3.38      |          |  |

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 gauged 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<br>below ground surface) | DNAPL Thickness (feet) |
|------------|-----------------------------------------------|------------------------|
| 10/30/2009 | 11.25                                         | 0.2                    |
| 11/3/2009  | 11.29                                         | NP                     |
| 11/4/2009  | 11.46                                         | 0.1                    |
| 11/12/2009 | 11.3                                          | 0.27                   |
| 1/21/2010  | 8.75                                          | 0.15                   |

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

6/1/2015  
GZA File 05.00043654.00

Former Tidewater Facility  
Pawtucket, Rhode Island

|              | DNAPL Thickness (feet)         |           |           |            |           |           |           |            |           |           |          |            |           |           |           |            |
|--------------|--------------------------------|-----------|-----------|------------|-----------|-----------|-----------|------------|-----------|-----------|----------|------------|-----------|-----------|-----------|------------|
| Date         | 6/3/2011                       | 6/29/2011 | 7/26/2011 | 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 |
|              | <b>Former Gas Plant Area</b>   |           |           |            |           |           |           |            |           |           |          |            |           |           |           |            |
| MW-4 (1) (4) | trace                          | trace     | trace     | trace      | NP        | NP        | 0.25      | trace      | trace     | trace     | 0.7      | NP         | 1.44      | trace     | 0.05      | 0.05       |
| MW-303       | 0.13                           | 0.30      | trace     | 0.80       | 0.32      | 1.35      | 1.19      | 3.74       | 2.29      | 5.55      | 5.25     | 4.6        | 5.35      | 5.59      | 1.5       | 2.9        |
| 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                             | NP        | NP        | NP         | NP        | trace     | NP        | trace      | NP        | NP        | NP       | NP         | NP        | NP        | NP        | NP         |
| MW-339D      | NP                             | NP        | NP        | trace      | trace     | trace     | trace     | NP         | trace     | trace     | NP       | trace      | trace     | trace     | trace     | trace      |
| MW-341       | 1.50                           | 1.25      | 0.95      | 1.68       | 1.48      | 1.38      | 1.08      | 1.5        | 1.4       | 1.95      | 2.57     | 2          | 1.85      | 1.91      | 2.1       | 2.65       |
|              | <b>Former Power Plant Area</b> |           |           |            |           |           |           |            |           |           |          |            |           |           |           |            |
| MW-103       | NP                             | NP        | NP        | NP         | NP        | NP        | NP        | NP         | NP        | NP        | NP       | NP         | NP        | NP        | NP        | NP         |
|              | <b>South Fill Area</b>         |           |           |            |           |           |           |            |           |           |          |            |           |           |           |            |
| MW-1 (2) (3) | 0.15                           | 0.60      | trace     | trace      | trace     | trace     | NP        | NP         | trace     | trace     | NP       | NP         | NP        | NP        | NP        | NP         |
| MW-320S      | trace                          | trace     | trace     | 0.98       | 0.1       | 0.05      | trace     | 0.75       | trace     | trace     | trace    | 0.18       | trace     | 0.15      | trace     | 1.15       |
| MW-320D      | 4.50                           | 4.50      | 2.50      | 7.05       | 1.1       | 8.67      | 1.05      | 2.56       | 8.45      | 8.15      | 7.85     | 8.14       | 13.72     | 13.9      | 13.7      | 13.4       |

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 gauged 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<br>below ground surface) | DNAPL Thickness<br>(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

File No. 05.00043654.00  
6/1/2015

| Well ID  | Date       | Start Pumping | Depth to LNAPL (feet) | Depth to Water (feet) | Depth to Bottom (feet) | Estimated Volume Purged (gallons) | Tide Condition | Notes                              |
|----------|------------|---------------|-----------------------|-----------------------|------------------------|-----------------------------------|----------------|------------------------------------|
| MW-3     | 11/19/2010 | 9:22          | 10.47                 | 10.54                 | 17                     | 0.20                              | Mid            |                                    |
|          | 2/17/2011  | 10:40         | 9.21                  | 10.01                 | 16.72                  | 0.50                              | Mid            |                                    |
|          | 3/29/2011  | 11:59         | 10.6                  | 12.31                 | 17.05                  | 0.25                              | Low            |                                    |
|          | 5/5/2011   | 13:31         | 9.22                  | 9.49                  | 17.1                   | 0.20                              | Mid            |                                    |
|          | 6/3/2011   | 12:37         | 9.63                  | 10.43                 | 17.1                   | 0.10                              | Mid            |                                    |
| MW-210   | 7/2/2010   |               | 9.6                   | 9.75                  | 17.3                   | 0.05                              |                |                                    |
|          | 2/17/2011  | 12:14         | 8.42                  | 9.34                  | 17.15                  | 0.5                               | Low            |                                    |
|          | 3/29/2011  | 11:25         | 7.82                  | 10.36                 | 17.3                   | 0.5                               | Low            |                                    |
|          | 5/5/2011   | 11:10         | 7.01                  | 9.03                  | 17.3                   | 0.5                               | High           |                                    |
|          | 6/3/2011   | 11:50         | 8.05                  | 9.05                  | 17.3                   | 0.5                               | Mid            |                                    |
|          | 6/29/2011  | 10:45         | 8.65                  | 8.98                  | 17.3                   | 0.10                              | Mid            |                                    |
|          | 10/20/2011 | 11:14         | 7.12                  | 8.22                  | 17.3                   | 1.00                              | Mid            |                                    |
|          | 1/20/2012  | 11:05         | 8.14                  | 10.3                  | 17.3                   | 1.00                              | 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                   | 1.00                              | High           |                                    |
| 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            |                                    |
| MW-313S  | 2/17/2011  | 11:56         | 9.59                  | 9.81                  | 24.76                  | 0.10                              | Low            |                                    |
|          | 10/20/2011 | 12:35         | 8.85                  | 8.9                   | 24.76                  | 0.10                              | Mid/High       |                                    |
| MW-326S  | 11/19/2010 | 9:20          | 11.61                 | 11.91                 | 26.6                   | 0.25                              | Mid            |                                    |
| M&E MW-5 | 7/2/2010   |               | 6.43                  | 6.6                   | 14.6                   | 0.05                              |                |                                    |
|          | 11/19/2010 | 11:20         | 8.03                  | 9.2                   | 14.6                   | 0.35                              | Low            |                                    |
|          | 3/29/2011  | 15:28         | 10.29                 | 13.53                 | 16.88                  | 0.75                              | Mid            | elevations adjusted for broken PVC |
|          | 5/5/2011   | 9:32          | 9.63                  | 10.75                 | 16.88                  | 0.50                              | High           | elevations adjusted for broken PVC |
|          | 6/3/2011   | 14:15         | 7.20                  | 8.4                   | 14.65                  | 0.50                              | Low            | elevations adjusted for broken PVC |
|          | 6/29/2011  | 13:05         | 8.00                  | 8.4                   | 14.65                  | 0.50                              | Low            | elevations adjusted for broken PVC |
|          | 10/20/2011 | 9:22          | 7.33                  | 7.75                  | 14.65                  | 0.25                              | Low            | elevations adjusted for broken PVC |
|          | 1/20/2012  | 8:12          | 6.73                  | 6.95                  | 14.65                  | 0.10                              | Mid            | elevations adjusted for broken PVC |
|          | 10/24/2012 | 14:27         | 8.05                  | 8.22                  | 14.65                  | 0.20                              | Mid            | elevations adjusted for broken PVC |
|          | 4/26/2013  | 13:00         | 6.99                  | 7.13                  | 14.65                  | 0.25                              | Low            | elevations adjusted for broken PVC |
|          | 10/30/2013 | 8:00          | 7.97                  | 8.30                  | 14.65                  | 0.50                              | Mid            | elevations adjusted for broken PVC |
|          | 4/24/2014  | 14:00         | 7.58                  | 9.55                  | 14.65                  | 1.50                              | High           | elevations adjusted for broken PVC |
| MW-103   | 7/2/2010   |               | 10.31                 | 10.32                 | 16.82                  | trace                             |                |                                    |
|          | 11/19/2010 | 12:00         | 10.35                 | 10.36                 | 16.85                  | trace                             | Low            | Blebs in purge water               |

Notes:

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

Well is located in Former Gas Plant Area

Well is located in Former Power Plant Area

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

File No. 05.00043654.00  
6/1/2015

| 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. |
| 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  | 2/17/2011  | 14:25         | 8.68                  | 29.1                  | 30.1                   | 0.2                               | Low            |                                                                                                      |
|         | 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            |                                                                                                      |
| MW-1    | 7/2/2010   |               | 17.99                 | 22.9                  | 22.72                  | 0.25                              |                |                                                                                                      |
|         | 11/19/2010 | 12:30         | 17.86                 | trace                 | 22.75                  |                                   | Low            | DNAPL on probe (0.25")                                                                               |
| MW-320S | 7/2/2010   |               | 6.4                   | 9.23                  | 10.8                   | Trace                             |                |                                                                                                      |
|         | 11/19/2010 | 13:00         | 6.28                  | 9.68                  | 10.9                   |                                   | Low            | Did not pump due to viscosity of DNAPL.                                                              |
| MW-320D | 7/2/2010   |               | 8.15                  | 15.6                  | 23.2                   | 0.25                              |                |                                                                                                      |
|         | 11/2/2010  | 15:20         | 8.77                  | 16.72                 | 23.3                   |                                   | Mid            | Was not able to recover any DNAPL due to extreme viscosity                                           |
|         | 11/19/2010 | 13:15         | 10                    | 24.2                  | 26.4                   | 0.1                               | Low            | Measured from top of casing, DNAPL is very viscous                                                   |

Notes:

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

| <div>TABLE 4A</div> <div>SUMMARY OF GROUNDWATER VOC ANALYTICAL RESULTS</div> <div>Former Tidewater Facility</div> <div>Pawtucket, Rhode Island</div> |                             |       |                                |                                      |                                             |                                                |                                                |                                               |                                               |                                                |                                                |                                                |                                                |                                                |                                                |                                                |                                                |                                                     |                                             |                                               |                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-------|--------------------------------|--------------------------------------|---------------------------------------------|------------------------------------------------|------------------------------------------------|-----------------------------------------------|-----------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|-----------------------------------------------------|---------------------------------------------|-----------------------------------------------|------------------------------------------------|
|                                                                                                                                                      |                             | Units | RIDEM GB<br>Groundwater<br>UCL | RIDEM GB<br>Groundwater<br>Objective | MW-7<br>10/23/2014<br>1410604-03<br>Aqueous | MW-310S<br>10/23/2014<br>1410603-18<br>Aqueous | MW-310D<br>10/23/2014<br>1410603-19<br>Aqueous | MW-201<br>10/23/2014<br>1410604-06<br>Aqueous | MW-208<br>10/23/2014<br>1410604-07<br>Aqueous | MW-312S<br>10/23/2014<br>1410604-01<br>Aqueous | MW-312D<br>10/23/2014<br>1410604-02<br>Aqueous | MW-326S<br>10/22/2014<br>1410603-04<br>Aqueous | MW-326D<br>10/22/2014<br>1410603-05<br>Aqueous | MW-333S<br>10/22/2014<br>1410603-06<br>Aqueous | MW-333D<br>10/22/2014<br>1410603-07<br>Aqueous | MW-339S<br>10/23/2014<br>1410604-04<br>Aqueous | MW-339D<br>10/23/2014<br>1410604-05<br>Aqueous | M and E MW-2<br>10/22/2014<br>1410603-03<br>Aqueous | MW-6<br>10/23/2014<br>1410603-15<br>Aqueous | MW-109<br>10/23/2014<br>1410603-16<br>Aqueous | MW-314S<br>10/22/2014<br>1410603-01<br>Aqueous |
| EPA 8260                                                                                                                                             | VOLATILE ORGANICS           |       |                                |                                      |                                             |                                                |                                                |                                               |                                               |                                                |                                                |                                                |                                                |                                                |                                                |                                                |                                                |                                                     |                                             |                                               |                                                |
|                                                                                                                                                      | 1,1,1,2-Tetrachloroethane   | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|                                                                                                                                                      | 1,1,1-Trichloroethane       | mg/L  | 68                             | 3.1                                  | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|                                                                                                                                                      | 1,1,2,2-Tetrachloroethane   | mg/L  | NE                             | NE                                   | <0.0005                                     | <0.0005                                        | <0.0500                                        | <0.0005                                       | <0.0005                                       | <0.0005                                        | <0.0005                                        | <0.0005                                        | <0.0005                                        | <0.0005                                        | <0.0005                                        | <0.0005                                        | <0.0005                                        | <0.0005                                             | <0.0005                                     | <0.0005                                       | <0.0005                                        |
|                                                                                                                                                      | 1,1,2-Trichloroethane       | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|                                                                                                                                                      | 1,1-Dichloroethane          | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|                                                                                                                                                      | 1,1-Dichloroethene          | mg/L  | 23                             | 0.007                                | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|                                                                                                                                                      | 1,1-Dichloropropene         | mg/L  | NE                             | NE                                   | <0.002                                      | <0.0020                                        | <0.200                                         | <0.002                                        | <0.002                                        | <0.002                                         | <0.002                                         | <0.0020                                        | <0.0020                                        | <0.0020                                        | <0.0020                                        | <0.002                                         | <0.002                                         | <0.0020                                             | <0.0020                                     | <0.0020                                       | <0.0020                                        |
|                                                                                                                                                      | 1,2,3-Trichlorobenzene      | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|                                                                                                                                                      | 1,2,3-Trichloropropane      | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|                                                                                                                                                      | 1,2,4-Trichlorobenzene      | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|                                                                                                                                                      | 1,2,4-Trimethylbenzene      | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | 0.652                                          | 0.0066                                        | <0.001                                        | 0.114                                          | 0.378                                          | 0.0183                                         | <0.0010                                        | <0.0010                                        | 0.155                                          | 0.0082                                         | 0.4                                            | <0.0010                                             | <0.0010                                     | 0.14                                          | <0.0010                                        |
|                                                                                                                                                      | 1,2-Dibromo-3-Chloropropane | mg/L  | NE                             | 0.002                                | <0.005                                      | <0.0050                                        | <0.500                                         | <0.005                                        | <0.005                                        | <0.005                                         | <0.005                                         | <0.0050                                        | <0.0050                                        | <0.0050                                        | <0.0050                                        | <0.005                                         | <0.005                                         | <0.0050                                             | <0.0050                                     | <0.0050                                       | <0.0050                                        |
|                                                                                                                                                      | 1,2-Dibromoethane           | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|                                                                                                                                                      | 1,2-Dichlorobenzene         | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|                                                                                                                                                      | 1,2-Dichloroethane          | mg/L  | 670                            | 0.11                                 | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|                                                                                                                                                      | 1,2-Dichloropropane         | mg/L  | 140                            | 3                                    | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|                                                                                                                                                      | 1,3,5-Trimethylbenzene      | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | 0.162                                          | <0.001                                        | <0.001                                        | 0.0131                                         | 0.0182                                         | 0.0082                                         | <0.0010                                        | <0.0010                                        | 0.0024                                         | 0.0026                                         | 0.0855                                         | <0.0010                                             | <0.0010                                     | 0.005                                         | <0.0010                                        |
|                                                                                                                                                      | 1,3-Dichlorobenzene         | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|                                                                                                                                                      | 1,3-Dichloropropane         | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|                                                                                                                                                      | 1,4-Dichlorobenzene         | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|                                                                                                                                                      | 1,4-Dioxane - Screen        | mg/L  | NE                             | NE                                   | <0.5                                        | <0.500                                         | <50.0                                          | <0.5                                          | <0.5                                          | <0.5                                           | <0.5                                           | <0.500                                         | <0.500                                         | <0.500                                         | <0.500                                         | <0.5                                           | <0.5                                           | <0.500                                              | <0.500                                      | <0.500                                        | <0.500                                         |
|                                                                                                                                                      | 1-Chlorohexane              | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|                                                                                                                                                      | 2,2-Dichloropropane         | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|                                                                                                                                                      | 2-Butanone                  | mg/L  | NE                             | NE                                   | <0.01                                       | <0.0100                                        | <1.00                                          | <0.01                                         | <0.01                                         | <0.01                                          | <0.01                                          | <0.0100                                        | <0.0100                                        | <0.0100                                        | <0.0100                                        | <0.01                                          | <0.01                                          | <0.0100                                             | <0.0100                                     | <0.0100                                       | <0.0100                                        |
|                                                                                                                                                      | 2-Chlorotoluene             | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|                                                                                                                                                      | 2-Hexanone                  | mg/L  | NE                             | NE                                   | <0.01                                       | <0.0100                                        | <1.00                                          | <0.01                                         | <0.01                                         | <0.01                                          | <0.01                                          | <0.0100                                        | <0.0100                                        | <0.0100                                        | <0.0100                                        | <0.01                                          | <0.01                                          | <0.0100                                             | <0.0100                                     | <0.0100                                       | <0.0100                                        |
|                                                                                                                                                      | 4-Chlorotoluene             | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|                                                                                                                                                      | 4-Isopropyltoluene          | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | 0.0026                                         | 0.0063                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | 0.0022                                         | <0.001                                         | 0.0073                                         | <0.0010                                             | <0.0010                                     | 0.0037                                        | <0.0010                                        |
|                                                                                                                                                      | 4-Methyl-2-Pentanone        | mg/L  | NE                             | NE                                   | <0.025                                      | <0.0250                                        | <2.50                                          | <0.025                                        | <0.025                                        | <0.025                                         | <0.025                                         | <0.0250                                        | <0.0250                                        | <0.0250                                        | <0.0250                                        | <0.025                                         | <0.025                                         | <0.0250                                             | <0.0250                                     | <0.0250                                       | <0.0250                                        |
|                                                                                                                                                      | Acetone                     | mg/L  | NE                             | NE                                   | <0.01                                       | <0.0100                                        | <1.00                                          | <0.01                                         | <0.01                                         | 0.0347                                         | <0.01                                          | <0.0100                                        | <0.0100                                        | <0.0100                                        | <0.0100                                        | 0.0546                                         | <0.01                                          | <0.0100                                             | <0.0100                                     | <0.0100                                       | <0.0100                                        |
|                                                                                                                                                      | Benzene                     | mg/L  | 18                             | 0.14                                 | <0.001                                      | 0.002                                          | 0.652                                          | 0.133                                         | 0.0016                                        | 0.0437                                         | 5.98                                           | 0.352                                          | 0.0049                                         | <0.0010                                        | 1.76                                           | <0.001                                         | 0.0265                                         | <0.0010                                             | 0.0115                                      | 0.135                                         | <0.0010                                        |
|                                                                                                                                                      | Bromobenzene                | mg/L  | NE                             | NE                                   | <0.002                                      | <0.0020                                        | <0.200                                         | <0.002                                        | <0.002                                        | <0.002                                         | <0.002                                         | <0.0020                                        | <0.0020                                        | <0.0020                                        | <0.0020                                        | <0.002                                         | <0.002                                         | <0.0020                                             | <0.0020                                     | <0.0020                                       | <0.0020                                        |
|                                                                                                                                                      | Bromochloromethane          | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|                                                                                                                                                      | Bromodichloromethane        | mg/L  | NE                             | NE                                   | <0.0006                                     | <0.0006                                        | <0.0600                                        | <0.0006                                       | <0.0006                                       | <0.0006                                        | <0.0006                                        | <0.0006                                        | <0.0006                                        | <0.0006                                        | <0.0006                                        | <0.0006                                        | <0.0006                                        | <0.0006                                             | <0.0006                                     | <0.0006                                       | <0.0006                                        |
|                                                                                                                                                      | Bromoform                   | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|                                                                                                                                                      | Bromomethane                | mg/L  | NE                             | NE                                   | <0.002                                      | <0.0020                                        | <0.200                                         | <0.002                                        | <0.002                                        | <0.002                                         | <0.002                                         | <0.0020                                        | <0.0020                                        | <0.0020                                        | <0.0020                                        | <0.002                                         | <0.002                                         | <0.0020                                             | <0.0020                                     | <0.0020                                       | <0.0020                                        |
|                                                                                                                                                      | Carbon Disulfide            | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | <0.100                                         | 0.0094                                        | <0.001                                        | 0.0097                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | 0.0071                                         | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | 0.0015                                        | <0.0010                                        |
|                                                                                                                                                      | Carbon Tetrachloride        | mg/L  | NE                             | 0.07                                 | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|                                                                                                                                                      | Chlorobenzene               | mg/L  | 56                             | 3.2                                  | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|                                                                                                                                                      | Chloroethane                | mg/L  | NE                             | NE                                   | <0.002                                      | <0.0020                                        | <0.200                                         | <0.002                                        | <0.002                                        | <0.002                                         | <0.002                                         | <0.0020                                        | <0.0020                                        | <0.0020                                        | <0.0020                                        | <0.002                                         | <0.002                                         | <0.0020                                             | <0.0020                                     | <0.0020                                       | <0.0020                                        |
|                                                                                                                                                      | Chloroform                  | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|                                                                                                                                                      | Chloromethane               | mg/L  | NE                             | NE                                   | <0.002                                      | <0.0020                                        | <0.200                                         | <0.002                                        | <0.002                                        | <0.002                                         | <0.002                                         | <0.0020                                        | <0.0020                                        | <0.0020                                        | <0.0020                                        | <0.002                                         | <0.002                                         | <0.0020                                             | <0.0020                                     | <0.0020                                       | <0.0020                                        |
|                                                                                                                                                      | cis-1,2-Dichloroethene      | mg/L  | 69                             | 2.4                                  | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|                                                                                                                                                      | cis-1,3-Dichloropropene     | mg/L  | NE                             | NE                                   | <0.0004                                     | <0.0004                                        | <0.0400                                        | <0.0004                                       | <0.0004                                       | <0.0004                                        | <0.0004                                        | <0.0004                                        | <0.0004                                        | <0.0004                                        | <0.0004                                        | <0.0004                                        | <0.0004                                        | <0.0004                                             | <0.0004                                     | <0.0004                                       | <0.0004                                        |
|                                                                                                                                                      | Dibromochloromethane        | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |                                                |                                                |                                                     |                                             |                                               |                                                |



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

|            |                            | Units | RIDEM GB<br>Groundwater<br>UCL | RIDEM GB<br>Groundwater<br>Objective | MW-7<br>10/23/2014<br>1410604-03<br>Aqueous | MW-310S<br>10/23/2014<br>1410603-18<br>Aqueous | MW-310D<br>10/23/2014<br>1410603-19<br>Aqueous | MW-201<br>10/23/2014<br>1410604-06<br>Aqueous | MW-208<br>10/23/2014<br>1410604-07<br>Aqueous | MW-312S<br>10/23/2014<br>1410604-01<br>Aqueous | MW-312D<br>10/23/2014<br>1410604-02<br>Aqueous | MW-326S<br>10/22/2014<br>1410603-04<br>Aqueous | MW-326D<br>10/22/2014<br>1410603-05<br>Aqueous | MW-333S<br>10/22/2014<br>1410603-06<br>Aqueous | MW-333D<br>10/22/2014<br>1410603-07<br>Aqueous | MW-339S<br>10/23/2014<br>1410604-04<br>Aqueous | MW-339D<br>10/23/2014<br>1410604-05<br>Aqueous | M and E MW-2<br>10/22/2014<br>1410603-03<br>Aqueous | MW-6<br>10/23/2014<br>1410603-15<br>Aqueous | MW-109<br>10/23/2014<br>1410603-16<br>Aqueous | MW-314S<br>10/22/2014<br>1410603-01<br>Aqueous |
|------------|----------------------------|-------|--------------------------------|--------------------------------------|---------------------------------------------|------------------------------------------------|------------------------------------------------|-----------------------------------------------|-----------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|-----------------------------------------------------|---------------------------------------------|-----------------------------------------------|------------------------------------------------|
| EPA 8260   | VOLATILE ORGANICS          |       |                                |                                      |                                             |                                                |                                                |                                               |                                               |                                                |                                                |                                                |                                                |                                                |                                                |                                                |                                                |                                                     |                                             |                                               |                                                |
|            | tert-Butylbenzene          | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|            | Tertiary-amyl methyl ether | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|            | Tetrachloroethene          | mg/L  | NE                             | 0.15                                 | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|            | Tetrahydrofuran            | mg/L  | NE                             | NE                                   | <0.005                                      | <0.0050                                        | <0.500                                         | <0.005                                        | <0.005                                        | <0.005                                         | <0.005                                         | <0.0050                                        | <0.0050                                        | <0.0050                                        | <0.0050                                        | <0.005                                         | <0.005                                         | <0.0050                                             | <0.0050                                     | <0.0050                                       | <0.0050                                        |
|            | Toluene                    | mg/L  | 21                             | 1.7                                  | <0.001                                      | <0.0010                                        | 0.173                                          | 0.0012                                        | <0.001                                        | 0.0069                                         | 0.0088                                         | 0.0011                                         | <0.0010                                        | <0.0010                                        | 0.0055                                         | <0.001                                         | 0.0398                                         | <0.0010                                             | <0.0010                                     | 0.003                                         | <0.0010                                        |
|            | trans-1,2-Dichloroethene   | mg/L  | 79                             | 2.8                                  | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|            | trans-1,3-Dichloropropene  | mg/L  | NE                             | NE                                   | <0.0004                                     | <0.0004                                        | <0.0400                                        | <0.0004                                       | <0.0004                                       | <0.0004                                        | <0.0004                                        | <0.0004                                        | <0.0004                                        | <0.0004                                        | <0.0004                                        | <0.0004                                        | <0.0004                                        | <0.0004                                             | <0.0004                                     | <0.0004                                       | <0.0004                                        |
|            | Trichloroethene            | mg/L  | 87                             | 0.54                                 | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|            | Trichlorofluoromethane     | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|            | Trihalomethanes (Total)    | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|            | Vinyl Acetate              | mg/L  | NE                             | NE                                   | <0.005                                      | <0.0050                                        | <0.500                                         | <0.005                                        | <0.005                                        | <0.005                                         | <0.005                                         | <0.0050                                        | <0.0050                                        | <0.0050                                        | <0.0050                                        | <0.005                                         | <0.005                                         | <0.0050                                             | <0.0050                                     | <0.0050                                       | <0.0050                                        |
|            | Vinyl Chloride             | mg/L  | NE                             | 0.002                                | <0.001                                      | <0.0010                                        | <0.100                                         | <0.001                                        | <0.001                                        | <0.001                                         | <0.001                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.001                                         | <0.001                                         | <0.0010                                             | <0.0010                                     | <0.0010                                       | <0.0010                                        |
|            | Xylene O                   | mg/L  | NE                             | NE                                   | <0.001                                      | <0.0010                                        | 0.646                                          | 0.0056                                        | <0.001                                        | 0.0935                                         | 0.515                                          | 0.0126                                         | <0.0010                                        | <0.0010                                        | 0.089                                          | 0.001                                          | 0.344                                          | <0.0010                                             | 0.0073                                      | 0.0185                                        | <0.0010                                        |
|            | Xylene P,M                 | mg/L  | NE                             | NE                                   | <0.002                                      | <0.0020                                        | 0.659                                          | <0.002                                        | <0.002                                        | 0.0263                                         | 0.0448                                         | 0.0059                                         | <0.0020                                        | <0.0020                                        | 0.0143                                         | <0.002                                         | 0.317                                          | <0.0020                                             | <0.0020                                     | 0.0082                                        | <0.0020                                        |
|            | Xylenes (Total)            | mg/L  | NE                             | NE                                   | <0.002                                      | <0.0020                                        | 1.3                                            | 0.0056                                        | <0.002                                        | 0.12                                           | 0.56                                           | 0.0186                                         | <0.0020                                        | <0.0020                                        | 0.103                                          | <0.002                                         | 0.661                                          | <0.0020                                             | 0.0073                                      | 0.0266                                        | <0.0020                                        |
| Total VOCs |                            | mg/L  | NE                             | NE                                   | <0.6445                                     | 0.0033                                         | 12.822                                         | 0.2232                                        | 0.0048                                        | 2.9975                                         | 17.1305                                        | 0.5179                                         | 0.0087                                         | 0.0071                                         | 4.9981                                         | 0.3664                                         | 5.7799                                         | 0.0112                                              | 0.0321                                      | 0.634                                         | 0.0014                                         |

Notes  
NE = Not Established  
"B" qualifier indicates that the analyte was present in the method blank  
"D" qualifier indicates analytes reported from a diluted run of the original analysis.  
"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.  
S = Shallow Screened Well  
D = Deep Screened Well  
NFA = North Fill Area  
FGPA = Former Gas Plant Area  
FPPA = Former Power Plant Area  
SFA = South Fill Area  
**Bold values** indicate that the concentration was detected above method reporting limits  
Blue shaded cells indicate detection limits equal to or exceeds the GB Groundwater Objective.  
Gray shaded cells indicate the concentration exceeds the GB Groundwater Objective.  
Underlined concentrations exceed the RIDEM GB Groundwater Upper Concentration Limit  
Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.  
This table presents analytical results from 2014. The January 2011 SIDR, the July 2011 RAE and previous groundwater monitoring reports presents historical analytical results.

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

|          |                             | Units | RIDEM GB<br>Groundwater<br>UCL | RIDEM GB<br>Groundwater<br>Objective | MW-314D<br>10/22/2014<br>1410603-02<br>Aqueous | MW-316D<br>10/23/2014<br>1410603-17<br>Aqueous | MW-337<br>10/23/2014<br>1410603-14<br>Aqueous | MW-107<br>10/23/2014<br>1410603-09<br>Aqueous | MW-318S<br>10/23/2014<br>1410603-12<br>Aqueous | MW-318D<br>10/23/2014<br>1410603-13<br>Aqueous | MW-334S<br>10/23/2014<br>1410603-10<br>Aqueous | MW-334D<br>10/23/2014<br>1410603-11<br>Aqueous |
|----------|-----------------------------|-------|--------------------------------|--------------------------------------|------------------------------------------------|------------------------------------------------|-----------------------------------------------|-----------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| EPA 8260 | VOLATILE ORGANICS           |       |                                |                                      |                                                |                                                |                                               |                                               |                                                |                                                |                                                |                                                |
|          | 1,1,1,2-Tetrachloroethane   | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | 1,1,1-Trichloroethane       | mg/L  | 68                             | 3.1                                  | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | 1,1,2,2-Tetrachloroethane   | mg/L  | NE                             | NE                                   | <0.0005                                        | <0.0005                                        | <0.0005                                       | <0.0005                                       | <0.0005                                        | <0.0005                                        | <0.0005                                        | <0.0005                                        |
|          | 1,1,2-Trichloroethane       | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | 1,1-Dichloroethane          | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | 1,1-Dichloroethene          | mg/L  | 23                             | 0.007                                | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | 1,1-Dichloropropene         | mg/L  | NE                             | NE                                   | <0.0020                                        | <0.0020                                        | <0.0020                                       | <0.0020                                       | <0.0020                                        | <0.0020                                        | <0.0020                                        | <0.0020                                        |
|          | 1,2,3-Trichlorobenzene      | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | 1,2,3-Trichloropropane      | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | 1,2,4-Trichlorobenzene      | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | 1,2,4-Trimethylbenzene      | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | 0.0303                                         | <0.0010                                        | 0.0015                                         | <0.0010                                        |
|          | 1,2-Dibromo-3-Chloropropane | mg/L  | NE                             | 0.002                                | <0.0050                                        | <0.0050                                        | <0.0050                                       | <0.0050                                       | <0.0050                                        | <0.0050                                        | <0.0050                                        | <0.0050                                        |
|          | 1,2-Dibromoethane           | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | 1,2-Dichlorobenzene         | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | 1,2-Dichloroethane          | mg/L  | 670                            | 0.11                                 | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | 1,2-Dichloropropane         | mg/L  | 140                            | 3                                    | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | 1,3,5-Trimethylbenzene      | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | 0.0124                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | 1,3-Dichlorobenzene         | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | 1,3-Dichloropropane         | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | 1,4-Dichlorobenzene         | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | 1,4-Dioxane - Screen        | mg/L  | NE                             | NE                                   | <0.500                                         | <0.500                                         | <0.500                                        | <0.500                                        | <0.500                                         | <0.500                                         | <0.500                                         | <0.500                                         |
|          | 1-Chlorohexane              | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | 2,2-Dichloropropane         | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | 2-Butanone                  | mg/L  | NE                             | NE                                   | <0.0100                                        | <0.0100                                        | <0.0100                                       | <0.0100                                       | <0.0100                                        | <0.0100                                        | <0.0100                                        | <0.0100                                        |
|          | 2-Chlorotoluene             | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | 2-Hexanone                  | mg/L  | NE                             | NE                                   | <0.0100                                        | <0.0100                                        | <0.0100                                       | <0.0100                                       | <0.0100                                        | <0.0100                                        | <0.0100                                        | <0.0100                                        |
|          | 4-Chlorotoluene             | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | 4-Isopropyltoluene          | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | 4-Methyl-2-Pentanone        | mg/L  | NE                             | NE                                   | <0.0250                                        | <0.0250                                        | <0.0250                                       | <0.0250                                       | <0.0250                                        | <0.0250                                        | <0.0250                                        | <0.0250                                        |
|          | Acetone                     | mg/L  | NE                             | NE                                   | <0.0100                                        | <0.0100                                        | <0.0100                                       | <0.0100                                       | <0.0100                                        | <0.0100                                        | <0.0100                                        | <0.0100                                        |
|          | Benzene                     | mg/L  | 18                             | 0.14                                 | <0.0010                                        | <0.0010                                        | 0.0036                                        | <0.0010                                       | 0.0516                                         | <0.0010                                        | 0.0032                                         | 0.0084                                         |
|          | Bromobenzene                | mg/L  | NE                             | NE                                   | <0.0020                                        | <0.0020                                        | <0.0020                                       | <0.0020                                       | <0.0020                                        | <0.0020                                        | <0.0020                                        | <0.0020                                        |
|          | Bromochloromethane          | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | Bromodichloromethane        | mg/L  | NE                             | NE                                   | <0.0006                                        | <0.0006                                        | <0.0006                                       | <0.0006                                       | <0.0006                                        | <0.0006                                        | <0.0006                                        | <0.0006                                        |
|          | Bromoform                   | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | Bromomethane                | mg/L  | NE                             | NE                                   | <0.0020                                        | <0.0020                                        | <0.0020                                       | <0.0020                                       | <0.0020                                        | <0.0020                                        | <0.0020                                        | <0.0020                                        |
|          | Carbon Disulfide            | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | Carbon Tetrachloride        | mg/L  | NE                             | 0.07                                 | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | Chlorobenzene               | mg/L  | 56                             | 3.2                                  | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | Chloroethane                | mg/L  | NE                             | NE                                   | <0.0020                                        | <0.0020                                        | <0.0020                                       | <0.0020                                       | <0.0020                                        | <0.0020                                        | <0.0020                                        | <0.0020                                        |
|          | Chloroform                  | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | Chloromethane               | mg/L  | NE                             | NE                                   | <0.0020                                        | <0.0020                                        | <0.0020                                       | <0.0020                                       | <0.0020                                        | <0.0020                                        | <0.0020                                        | <0.0020                                        |
|          | cis-1,2-Dichloroethene      | mg/L  | 69                             | 2.4                                  | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | 0.0013                                         |
|          | cis-1,3-Dichloropropene     | mg/L  | NE                             | NE                                   | <0.0004                                        | <0.0004                                        | <0.0004                                       | <0.0004                                       | <0.0004                                        | <0.0004                                        | <0.0004                                        | <0.0004                                        |
|          | Dibromochloromethane        | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | Dibromomethane              | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | Dichlorodifluoromethane     | mg/L  | NE                             | NE                                   | <0.0020                                        | <0.0020                                        | <0.0020                                       | <0.0020                                       | <0.0020                                        | <0.0020                                        | <0.0020                                        | <0.0020                                        |
|          | Diethyl Ether               | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | Di-isopropyl ether          | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | Ethyl tertiary-butyl ether  | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | Ethylbenzene                | mg/L  | 16                             | 1.6                                  | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | 0.0062                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | Hexachlorobutadiene         | mg/L  | NE                             | NE                                   | <0.0006                                        | <0.0006                                        | <0.0006                                       | <0.0006                                       | <0.0006                                        | <0.0006                                        | <0.0006                                        | <0.0006                                        |
|          | Hexachloroethane            | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | Isopropylbenzene            | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | Methyl tert-Butyl Ether     | mg/L  | NE                             | 5                                    | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | Methylene Chloride          | mg/L  | NE                             | NE                                   | <0.0020                                        | <0.0020                                        | <0.0020                                       | <0.0020                                       | <0.0020                                        | <0.0020                                        | <0.0020                                        | <0.0020                                        |
|          | Naphthalene                 | mg/L  | NE                             | 2.67                                 | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | 0.883                                          | 0.0013                                         | 0.0692                                         | 0.0178                                         |
|          | n-Butylbenzene              | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | n-Propylbenzene             | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | 0.0012                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | sec-Butylbenzene            | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|          | Styrene                     | mg/L  | 50                             | 2.2                                  | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | 0.0024                                         | <0.0010                                        | <0.0010                                        | <0.0010                                        |

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

|            |                            | Units | RIDEM GB<br>Groundwater<br>UCL | RIDEM GB<br>Groundwater<br>Objective | MW-314D<br>10/22/2014<br>1410603-02<br>Aqueous | MW-316D<br>10/23/2014<br>1410603-17<br>Aqueous | MW-337<br>10/23/2014<br>1410603-14<br>Aqueous | MW-107<br>10/23/2014<br>1410603-09<br>Aqueous | MW-318S<br>10/23/2014<br>1410603-12<br>Aqueous | MW-318D<br>10/23/2014<br>1410603-13<br>Aqueous | MW-334S<br>10/23/2014<br>1410603-10<br>Aqueous | MW-334D<br>10/23/2014<br>1410603-11<br>Aqueous |
|------------|----------------------------|-------|--------------------------------|--------------------------------------|------------------------------------------------|------------------------------------------------|-----------------------------------------------|-----------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| EPA 8260   | VOLATILE ORGANICS          |       |                                |                                      |                                                |                                                |                                               |                                               |                                                |                                                |                                                |                                                |
|            | tert-Butylbenzene          | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|            | Tertiary-amyl methyl ether | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|            | Tetrachloroethene          | mg/L  | NE                             | 0.15                                 | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|            | Tetrahydrofuran            | mg/L  | NE                             | NE                                   | <0.0050                                        | <0.0050                                        | <0.0050                                       | <0.0050                                       | <0.0050                                        | <0.0050                                        | <0.0050                                        | <0.0050                                        |
|            | Toluene                    | mg/L  | 21                             | 1.7                                  | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <b>0.0441</b>                                  | <0.0010                                        | <b>0.0016</b>                                  | <b>0.0012</b>                                  |
|            | trans-1,2-Dichloroethene   | mg/L  | 79                             | 2.8                                  | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|            | trans-1,3-Dichloropropene  | mg/L  | NE                             | NE                                   | <0.0004                                        | <0.0004                                        | <0.0004                                       | <0.0004                                       | <0.0004                                        | <0.0004                                        | <0.0004                                        | <0.0004                                        |
|            | Trichloroethene            | mg/L  | 87                             | 0.54                                 | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <b>0.0024</b>                                  |
|            | Trichlorofluoromethane     | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|            | Trihalomethanes (Total)    | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|            | Vinyl Acetate              | mg/L  | NE                             | NE                                   | <0.0050                                        | <0.0050                                        | <0.0050                                       | <0.0050                                       | <0.0050                                        | <0.0050                                        | <0.0050                                        | <0.0050                                        |
|            | Vinyl Chloride             | mg/L  | NE                             | 0.002                                | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <0.0010                                        | <0.0010                                        | <0.0010                                        | <0.0010                                        |
|            | Xylene O                   | mg/L  | NE                             | NE                                   | <0.0010                                        | <0.0010                                        | <0.0010                                       | <0.0010                                       | <b>0.0253</b>                                  | <0.0010                                        | <b>0.0013</b>                                  | <0.0010                                        |
|            | Xylene P,M                 | mg/L  | NE                             | NE                                   | <0.0020                                        | <0.0020                                        | <0.0020                                       | <0.0020                                       | <b>0.0556</b>                                  | <0.0020                                        | <b>0.0022</b>                                  | <0.0020                                        |
|            | Xylenes (Total)            | mg/L  | NE                             | NE                                   | <0.0020                                        | <0.0020                                        | <0.0020                                       | <0.0020                                       | <b>0.0809</b>                                  | <0.0020                                        | <b>0.0035</b>                                  | <0.0020                                        |
| Total VOCs |                            | mg/L  | NE                             | NE                                   | <0.6445                                        | <0.6445                                        | <b>0.0036</b>                                 | <0.6445                                       | <b>1.1121</b>                                  | <b>0.0013</b>                                  | <b>0.079</b>                                   | <b>0.0311</b>                                  |

**Notes**  
NE = Not Established  
"B" qualifier indicates that the analyte was present in the method blank  
"D" qualifier indicates analytes reported from a diluted run of the original analysis.  
"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.  
S = Shallow Screened Well  
D = Deep Screened Well  
NFA = North Fill Area  
FGPA = Former Gas Plant Area  
FPPA = Former Power Plant Area  
SFA = South Fill Area  
**Bold values** indicate that the concentration was detected above method reporting limits  
Blue shaded cells indicate detection limits equal to or exceeds the GB Groundwater Objective.  
Gray shaded cells indicate the concentration exceeds the GB Groundwater Objective.  
Underlined concentrations exceed the RIDEM GB Groundwater Upper Concentration Limit  
Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.  
This table presents analytical results from 2014. The January 2011 SIDR, the July 2011 RAE and previous groundwater monitoring reports presents historical analytical results.

TABLE 4B  
GROUNDWATER INORGANIC, TPH, PAH ANALYTICAL RESULTS  
Former Tidewater Facility  
Pawtucket, RI

|               |                             | Units | RIDEM GB<br>Groundwater<br>UCL | RIDEM GB<br>Groundwater<br>Objective | MW-7<br>10/23/2014<br>1410604-03<br>Aqueous | MW-310S<br>10/23/2014<br>1410603-18<br>Aqueous | MW-310D<br>10/23/2014<br>1410603-19<br>Aqueous | MW-201<br>10/23/2014<br>1410604-06<br>Aqueous | MW-208<br>10/23/2014<br>1410604-07<br>Aqueous | MW-312S<br>10/23/2014<br>1410604-01<br>Aqueous | MW-312D<br>10/23/2014<br>1410604-02<br>Aqueous | MW-326S<br>10/22/2014<br>1410603-04<br>Aqueous | MW-326D<br>10/22/2014<br>1410603-05<br>Aqueous | MW-333S<br>10/22/2014<br>1410603-06<br>Aqueous | MW-333D<br>10/22/2014<br>1410603-07<br>Aqueous | MW-339S<br>10/23/2014<br>1410604-04<br>Aqueous | MW-339D<br>10/23/2014<br>1410604-05<br>Aqueous |
|---------------|-----------------------------|-------|--------------------------------|--------------------------------------|---------------------------------------------|------------------------------------------------|------------------------------------------------|-----------------------------------------------|-----------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Mod. EPA 8100 | TOTAL PETROLEUM HYDROCARBON |       |                                |                                      |                                             |                                                |                                                |                                               |                                               |                                                |                                                |                                                |                                                |                                                |                                                |                                                |                                                |
|               | Hydrocarbon Content         | mg/L  | NE                             | NE                                   | <0.19                                       | <0.19                                          | 11.6                                           | 1.65                                          | 0.48                                          | 6.22                                           | 8.39                                           | 5.85                                           | <0.19                                          | <0.19                                          | 3.54                                           | 1.03                                           | 7.04                                           |
| EPA 8270      | PAHS BY GCMS                |       |                                |                                      |                                             |                                                |                                                |                                               |                                               |                                                |                                                |                                                |                                                |                                                |                                                |                                                |                                                |
|               | 2-Methylnaphthalene         | mg/L  | NE                             | NE                                   | <0.0002                                     | <0.0002                                        | 0.319                                          | 0.0002                                        | 0.0002                                        | 0.0309                                         | 0.13                                           | 0.0205                                         | <0.0002                                        | <0.0002                                        | 0.0145                                         | 0.0276                                         | 0.19                                           |
|               | Acenaphthene                | mg/L  | NE                             | NE                                   | <0.0002                                     | 0.0021                                         | 0.115                                          | 0.0052                                        | 0.0014                                        | 0.134                                          | 0.0905                                         | 0.0447                                         | <0.0002                                        | 0.0005                                         | 0.038                                          | 0.0005                                         | 0.0564                                         |
|               | Acenaphthylene              | mg/L  | NE                             | NE                                   | <0.0002                                     | 0.0003                                         | 0.0436                                         | 0.0011                                        | 0.0005                                        | 0.0087                                         | <0.0095                                        | 0.0003                                         | <0.0002                                        | 0.0003                                         | 0.001                                          | 0.0006                                         | 0.0696                                         |
|               | Anthracene                  | mg/L  | NE                             | NE                                   | <0.0002                                     | <0.0002                                        | <0.0093                                        | 0.0025                                        | 0.0002                                        | 0.0207                                         | 0.0219                                         | 0.0009                                         | <0.0002                                        | <0.0002                                        | 0.0013                                         | 0.0005                                         | 0.0037                                         |
|               | Benzo [a] Anthracene        | mg/L  | NE                             | NE                                   | <0.00005                                    | <0.00005                                       | <0.0023                                        | 0.0003                                        | <0.00005                                      | 0.0056                                         | <0.0024                                        | 0.0006                                         | <0.00005                                       | <0.00005                                       | 0.0003                                         | 0.0001                                         | <0.0002                                        |
|               | Benzo [a] Pyrene            | mg/L  | NE                             | NE                                   | <0.00005                                    | <0.00005                                       | <0.0023                                        | 0.0001                                        | <0.00005                                      | 0.0044                                         | <0.0024                                        | 0.0008                                         | <0.00005                                       | <0.00005                                       | 0.0002                                         | <0.00005                                       | <0.0002                                        |
|               | Benzo [b] Fluoranthene      | mg/L  | NE                             | NE                                   | <0.00005                                    | <0.00005                                       | <0.0023                                        | 0.0001                                        | <0.00005                                      | 0.0032                                         | <0.0024                                        | 0.0006                                         | <0.00005                                       | <0.00005                                       | 0.0002                                         | 0.00007                                        | <0.0002                                        |
|               | Benzo [g,h,i] Perylene      | mg/L  | NE                             | NE                                   | <0.0002                                     | <0.0002                                        | <0.0093                                        | <0.0002                                       | <0.0002                                       | 0.002                                          | <0.0095                                        | 0.0005                                         | <0.0002                                        | <0.0002                                        | <0.0002                                        | <0.0002                                        | <0.0009                                        |
|               | Benzo [k] Fluoranthene      | mg/L  | NE                             | NE                                   | <0.00005                                    | <0.00005                                       | <0.0023                                        | <0.00005                                      | <0.00005                                      | 0.0011                                         | <0.0024                                        | 0.0002                                         | <0.00005                                       | <0.00005                                       | 0.00006                                        | <0.00005                                       | <0.0002                                        |
|               | Chrysene                    | mg/L  | NE                             | NE                                   | <0.00005                                    | <0.00005                                       | <0.0023                                        | 0.0002                                        | <0.00005                                      | 0.0051                                         | <0.0024                                        | 0.0007                                         | <0.00005                                       | <0.00005                                       | 0.0003                                         | 0.0001                                         | <0.0002                                        |
|               | Dibenzo [a,h] Anthracene    | mg/L  | NE                             | NE                                   | <0.00005                                    | <0.00005                                       | <0.0023                                        | <0.00005                                      | <0.00005                                      | 0.0005                                         | <0.0024                                        | 0.0001                                         | <0.00005                                       | <0.00005                                       | <0.00005                                       | <0.00005                                       | <0.0002                                        |
|               | Fluoranthene                | mg/L  | NE                             | NE                                   | <0.0002                                     | <0.0002                                        | <0.0093                                        | 0.0015                                        | <0.0002                                       | 0.0128                                         | <0.0095                                        | 0.0013                                         | <0.0002                                        | <0.0002                                        | 0.001                                          | 0.0004                                         | 0.001                                          |
|               | Fluorene                    | mg/L  | NE                             | NE                                   | <0.0002                                     | 0.0006                                         | 0.0354                                         | 0.0103                                        | 0.002                                         | 0.0443                                         | 0.0233                                         | 0.004                                          | <0.0002                                        | <0.0002                                        | 0.0061                                         | 0.0011                                         | 0.0287                                         |
|               | Indeno [1,2,3-cd] Pyrene    | mg/L  | NE                             | NE                                   | <0.00005                                    | <0.00005                                       | <0.0023                                        | 0.00008                                       | <0.00005                                      | 0.002                                          | <0.0024                                        | 0.0004                                         | <0.00005                                       | <0.00005                                       | 0.0001                                         | <0.00005                                       | <0.0002                                        |
|               | Naphthalene                 | mg/L  | NE                             | 2.67                                 | 0.0012                                      | 0.0002                                         | 4.87                                           | 0.0065                                        | 0.0047                                        | 0.742                                          | 3.02                                           | 0.0042                                         | 0.0003                                         | 0.0002                                         | 0.433                                          | 0.101                                          | 1.42                                           |
|               | Phenanthrene                | mg/L  | NE                             | NE                                   | <0.0002                                     | <0.0002                                        | 0.0205                                         | 0.0075                                        | 0.0012                                        | 0.0817                                         | 0.0218                                         | 0.0021                                         | <0.0002                                        | <0.0002                                        | 0.0067                                         | 0.0014                                         | 0.0259                                         |
|               | Pyrene                      | mg/L  | NE                             | NE                                   | <0.0002                                     | <0.0002                                        | <0.0093                                        | 0.0019                                        | 0.0002                                        | 0.0186                                         | <0.0095                                        | 0.0025                                         | <0.0002                                        | <0.0002                                        | 0.0011                                         | 0.0005                                         | 0.0012                                         |
| EPA 9014      | SUBCONTRACTED ANALYTES      |       |                                |                                      |                                             |                                                |                                                |                                               |                                               |                                                |                                                |                                                |                                                |                                                |                                                |                                                |                                                |
|               | Dissolved Free Cyanide      | mg/L  | NE                             | NE                                   | 0.02                                        | 0.069                                          | 0.136                                          | 1                                             | 0.09                                          | 0.5                                            | 0.8                                            | 0.3                                            | 0.71                                           | 0.02                                           | 0.732                                          | 0.2                                            | 0.09                                           |
|               | Total Cyanide               | mg/L  | NE                             | NE                                   | 0.0454                                      | 0.0685                                         | 0.135                                          | 1.16                                          | 0.108                                         | 0.638                                          | 0.875                                          | 0.338                                          | 0.709                                          | 0.028                                          | 0.725                                          | 0.218                                          | 0.144                                          |

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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 2014. The January 2011 SIDR, the July 2011 RAE and previous groundwater monitoring reports presents historical analytical results.

TABLE 4B  
GROUNDWATER INORGANIC, TPH, PAH ANALYTICAL RESULTS  
Former Tidewater Facility  
Pawtucket, RI

|               |                             | Units | RIDEM GB<br>Groundwater<br>UCL | RIDEM GB<br>Groundwater<br>Objective | M and E MW-2<br>10/22/2014<br>1410603-03<br>Aqueous | MW-6<br>10/23/2014<br>1410603-15<br>Aqueous | MW-109<br>10/23/2014<br>1410603-16<br>Aqueous | MW-314S<br>10/22/2014<br>1410603-01<br>Aqueous | MW-314D<br>10/22/2014<br>1410603-02<br>Aqueous | MW-316D<br>10/23/2014<br>1410603-17<br>Aqueous | MW-337<br>10/23/2014<br>1410603-14<br>Aqueous | MW-107<br>10/23/2014<br>1410603-09<br>Aqueous | MW-318S<br>10/23/2014<br>1410603-12<br>Aqueous | MW-318D<br>10/23/2014<br>1410603-13<br>Aqueous | MW-334S<br>10/23/2014<br>1410603-10<br>Aqueous | MW-334D<br>10/23/2014<br>1410603-11<br>Aqueous |
|---------------|-----------------------------|-------|--------------------------------|--------------------------------------|-----------------------------------------------------|---------------------------------------------|-----------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|-----------------------------------------------|-----------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Mod. EPA 8100 | TOTAL PETROLEUM HYDROCARBON |       |                                |                                      |                                                     |                                             |                                               |                                                |                                                |                                                |                                               |                                               |                                                |                                                |                                                |                                                |
|               | Hydrocarbon Content         | mg/L  | NE                             | NE                                   | <0.19                                               | 1.47                                        | 1.81                                          | 0.57                                           | 0.37                                           | <0.19                                          | 1.32                                          | <0.19                                         | 1.51                                           | <0.19                                          | <0.19                                          | 0.2                                            |
| EPA 8270      | PAHS BY GCMS                |       |                                |                                      |                                                     |                                             |                                               |                                                |                                                |                                                |                                               |                                               |                                                |                                                |                                                |                                                |
|               | 2-Methylnaphthalene         | mg/L  | NE                             | NE                                   | <0.0002                                             | <0.0002                                     | 0.0105                                        | <0.0002                                        | <0.0002                                        | <0.0002                                        | <0.0002                                       | <0.0002                                       | 0.0544                                         | <0.0002                                        | 0.0007                                         | 0.0007                                         |
|               | Acenaphthene                | mg/L  | NE                             | NE                                   | <0.0002                                             | 0.0052                                      | 0.0024                                        | 0.0013                                         | 0.0013                                         | <0.0002                                        | 0.0015                                        | <0.0002                                       | 0.0057                                         | <0.0002                                        | 0.0004                                         | 0.0004                                         |
|               | Acenaphthylene              | mg/L  | NE                             | NE                                   | <0.0002                                             | 0.0317                                      | 0.0003                                        | <0.0002                                        | <0.0002                                        | <0.0002                                        | 0.0021                                        | <0.0002                                       | 0.022                                          | <0.0002                                        | <0.0002                                        | <0.0002                                        |
|               | Anthracene                  | mg/L  | NE                             | NE                                   | <0.0002                                             | 0.0003                                      | 0.0003                                        | <0.0002                                        | <0.0002                                        | <0.0002                                        | <0.0002                                       | <0.0002                                       | 0.005                                          | <0.0002                                        | 0.0004                                         | 0.0004                                         |
|               | Benzo [a] Anthracene        | mg/L  | NE                             | NE                                   | <0.00005                                            | 0.00006                                     | <0.00005                                      | <0.00005                                       | <0.00005                                       | <0.00005                                       | 0.00007                                       | <0.00005                                      | 0.0006                                         | <0.00005                                       | 0.00006                                        | 0.00006                                        |
|               | Benzo [a] Pyrene            | mg/L  | NE                             | NE                                   | <0.00005                                            | <0.00005                                    | <0.00005                                      | <0.00005                                       | <0.00005                                       | <0.00005                                       | <0.00005                                      | <0.00005                                      | 0.0006                                         | <0.00005                                       | <0.00005                                       | <0.00005                                       |
|               | Benzo [b] Fluoranthene      | mg/L  | NE                             | NE                                   | <0.00005                                            | <0.00005                                    | <0.00005                                      | <0.00005                                       | <0.00005                                       | <0.00005                                       | <0.00005                                      | <0.00005                                      | 0.0007                                         | <0.00005                                       | <0.00005                                       | <0.00005                                       |
|               | Benzo [g,h,i] Perylene      | mg/L  | NE                             | NE                                   | <0.0002                                             | <0.0002                                     | <0.0002                                       | <0.0002                                        | <0.0002                                        | <0.0002                                        | <0.0002                                       | <0.0002                                       | 0.0004                                         | <0.0002                                        | <0.0002                                        | <0.0002                                        |
|               | Benzo [k] Fluoranthene      | mg/L  | NE                             | NE                                   | <0.00005                                            | <0.00005                                    | <0.00005                                      | <0.00005                                       | <0.00005                                       | <0.00005                                       | <0.00005                                      | <0.00005                                      | 0.0003                                         | <0.00005                                       | <0.00005                                       | <0.00005                                       |
|               | Chrysene                    | mg/L  | NE                             | NE                                   | <0.00005                                            | <0.00005                                    | <0.00005                                      | <0.00005                                       | <0.00005                                       | <0.00005                                       | 0.00006                                       | <0.00005                                      | 0.0005                                         | <0.00005                                       | <0.00005                                       | <0.00005                                       |
|               | Dibenzo [a,h] Anthracene    | mg/L  | NE                             | NE                                   | <0.00005                                            | <0.00005                                    | <0.00005                                      | <0.00005                                       | <0.00005                                       | <0.00005                                       | <0.00005                                      | <0.00005                                      | 0.00009                                        | <0.00005                                       | <0.00005                                       | <0.00005                                       |
|               | Fluoranthene                | mg/L  | NE                             | NE                                   | <0.0002                                             | 0.0003                                      | <0.0002                                       | <0.0002                                        | <0.0002                                        | <0.0002                                        | 0.0011                                        | <0.0002                                       | 0.0027                                         | <0.0002                                        | 0.0005                                         | 0.0005                                         |
|               | Fluorene                    | mg/L  | NE                             | NE                                   | <0.0002                                             | 0.0058                                      | 0.0015                                        | 0.0003                                         | <0.0002                                        | <0.0002                                        | 0.0021                                        | <0.0002                                       | 0.0228                                         | <0.0002                                        | 0.0006                                         | 0.0006                                         |
|               | Indeno [1,2,3-cd] Pyrene    | mg/L  | NE                             | NE                                   | <0.00005                                            | <0.00005                                    | <0.00005                                      | <0.00005                                       | <0.00005                                       | <0.00005                                       | <0.00005                                      | <0.00005                                      | 0.0005                                         | <0.00005                                       | <0.00005                                       | <0.00005                                       |
|               | Naphthalene                 | mg/L  | NE                             | 2.67                                 | 0.0003                                              | 0.0003                                      | 0.0727                                        | <0.0002                                        | <0.0002                                        | <0.0002                                        | 0.0003                                        | <0.0002                                       | 0.43                                           | <0.0002                                        | 0.0044                                         | 0.0044                                         |
|               | Phenanthrene                | mg/L  | NE                             | NE                                   | <0.0002                                             | 0.0029                                      | 0.0015                                        | <0.0002                                        | <0.0002                                        | <0.0002                                        | <0.0002                                       | <0.0002                                       | 0.0235                                         | <0.0002                                        | 0.0027                                         | 0.0027                                         |
|               | Pyrene                      | mg/L  | NE                             | NE                                   | <0.0002                                             | 0.0002                                      | 0.0002                                        | 0.0003                                         | <0.0002                                        | <0.0002                                        | 0.0012                                        | <0.0002                                       | 0.0017                                         | <0.0002                                        | 0.0004                                         | 0.0004                                         |
| EPA 9014      | SUBCONTRACTED ANALYTES      |       |                                |                                      |                                                     |                                             |                                               |                                                |                                                |                                                |                                               |                                               |                                                |                                                |                                                |                                                |
|               | Dissolved Free Cyanide      | mg/L  | NE                             | NE                                   | 0.058                                               | 0.153                                       | 0.213                                         | 0.128                                          | 0.162                                          | <0.005                                         | 0.237                                         | 0.031                                         | 0.01                                           | 0.015                                          | 0.011                                          | 0.013                                          |
|               | Total Cyanide               | mg/L  | NE                             | NE                                   | 0.0734                                              | 0.178                                       | 0.212                                         | 0.176                                          | 0.16                                           | 0.011                                          | 0.328                                         | 0.0458                                        | 0.027                                          | 0.0234                                         | 0.0127                                         | 0.0229                                         |

Notes  
NE = Not Established  
"B" qualifier indicates that the analyte was present in the method blank  
"D" qualifier indicates analytes reported from a diluted run of the original analysis.  
"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.  
S = Shallow Screened Well  
D = Deep Screened Well  
NFA = North Fill Area  
FGPA = Former Gas Plant Area  
FPPA = Former Power Plant Area  
SFA = South Fill Area  
**Bold values** indicate that the concentration was detected above method reporting limits  
Blue shaded cells indicate detection limits equal to or exceeds the GB Groundwater Objective.  
Gray shaded cells indicate the concentration exceeds the GB Groundwater Objective.  
Underlined concentrations exceed the RIDEM GB Groundwater Upper Concentration Limit  
Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.  
This table presents analytical results from 2014. The January 2011 SIDR, the July 2011 RAE and previous groundwater monitoring reports presents historical analytical results.

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

|          |                             | Units | RIDEM GB<br>Groundwater<br>UCL | RIDEM GB<br>Groundwater<br>Objective | Trip Blank<br>10/22/2014<br>1410603-20<br>Aqueous | MW-312D<br>10/23/2014<br>1410604-02<br>Aqueous | MW-BD-102314<br>10/23/2014<br>1410604-08<br>Aqueous | M and E MW-2<br>10/22/2014<br>1410603-03<br>Aqueous | BD 1<br>10/22/2014<br>1410603-08<br>Aqueous |
|----------|-----------------------------|-------|--------------------------------|--------------------------------------|---------------------------------------------------|------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|---------------------------------------------|
| EPA 8260 | VOLATILE ORGANICS           |       |                                |                                      |                                                   |                                                |                                                     |                                                     |                                             |
|          | 1,1,1,2-Tetrachloroethane   | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | 1,1,1-Trichloroethane       | mg/L  | 68                             | 3.1                                  | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | 1,1,2,2-Tetrachloroethane   | mg/L  | NE                             | NE                                   | <0.0005                                           | <0.0005                                        | <0.0005                                             | <0.0005                                             | <0.0005                                     |
|          | 1,1,2-Trichloroethane       | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | 1,1-Dichloroethane          | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | 1,1-Dichloroethene          | mg/L  | 23                             | 0.007                                | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | 1,1-Dichloropropene         | mg/L  | NE                             | NE                                   | <0.0020                                           | <0.002                                         | <0.002                                              | <0.0020                                             | <0.0020                                     |
|          | 1,2,3-Trichlorobenzene      | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | 1,2,3-Trichloropropane      | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | 1,2,4-Trichlorobenzene      | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | 1,2,4-Trimethylbenzene      | mg/L  | NE                             | NE                                   | <0.0010                                           | 0.378                                          | 0.376                                               | <0.0010                                             | <0.0010                                     |
|          | 1,2-Dibromo-3-Chloropropane | mg/L  | NE                             | 0.002                                | <0.0050                                           | <0.005                                         | <0.005                                              | <0.0050                                             | <0.0050                                     |
|          | 1,2-Dibromoethane           | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | 1,2-Dichlorobenzene         | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | 1,2-Dichloroethane          | mg/L  | 670                            | 0.11                                 | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | 1,2-Dichloropropane         | mg/L  | 140                            | 3                                    | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | 1,3,5-Trimethylbenzene      | mg/L  | NE                             | NE                                   | <0.0010                                           | 0.0182                                         | 0.0274                                              | <0.0010                                             | <0.0010                                     |
|          | 1,3-Dichlorobenzene         | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | 1,3-Dichloropropane         | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | 1,4-Dichlorobenzene         | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | 1,4-Dioxane - Screen        | mg/L  | NE                             | NE                                   | <0.500                                            | <0.5                                           | <0.5                                                | <0.500                                              | <0.500                                      |
|          | 1-Chlorohexane              | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | 2,2-Dichloropropane         | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | 2-Butanone                  | mg/L  | NE                             | NE                                   | <0.0100                                           | <0.01                                          | <0.01                                               | <0.0100                                             | <0.0100                                     |
|          | 2-Chlorotoluene             | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | 2-Hexanone                  | mg/L  | NE                             | NE                                   | <0.0100                                           | <0.01                                          | <0.01                                               | <0.0100                                             | <0.0100                                     |
|          | 4-Chlorotoluene             | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | 4-Isopropyltoluene          | mg/L  | NE                             | NE                                   | <0.0010                                           | 0.0063                                         | 0.0096                                              | <0.0010                                             | <0.0010                                     |
|          | 4-Methyl-2-Pentanone        | mg/L  | NE                             | NE                                   | <0.0250                                           | <0.025                                         | <0.025                                              | <0.0250                                             | <0.0250                                     |
|          | Acetone                     | mg/L  | NE                             | NE                                   | <0.0100                                           | <0.01                                          | <0.01                                               | <0.0100                                             | <0.0100                                     |
|          | Benzene                     | mg/L  | 18                             | 0.14                                 | <0.0010                                           | 5.98                                           | 5.94                                                | <0.0010                                             | <0.0010                                     |
|          | Bromobenzene                | mg/L  | NE                             | NE                                   | <0.0020                                           | <0.002                                         | <0.002                                              | <0.0020                                             | <0.0020                                     |
|          | Bromochloromethane          | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | Bromodichloromethane        | mg/L  | NE                             | NE                                   | <0.0006                                           | <0.0006                                        | <0.0006                                             | <0.0006                                             | <0.0006                                     |
|          | Bromoform                   | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | Bromomethane                | mg/L  | NE                             | NE                                   | <0.0020                                           | <0.002                                         | <0.002                                              | <0.0020                                             | <0.0020                                     |
|          | Carbon Disulfide            | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | Carbon Tetrachloride        | mg/L  | NE                             | 0.07                                 | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | Chlorobenzene               | mg/L  | 56                             | 3.2                                  | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | Chloroethane                | mg/L  | NE                             | NE                                   | <0.0020                                           | <0.002                                         | <0.002                                              | <0.0020                                             | <0.0020                                     |
|          | Chloroform                  | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | Chloromethane               | mg/L  | NE                             | NE                                   | <0.0020                                           | <0.002                                         | <0.002                                              | <0.0020                                             | <0.0020                                     |
|          | cis-1,2-Dichloroethene      | mg/L  | 69                             | 2.4                                  | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | cis-1,3-Dichloropropene     | mg/L  | NE                             | NE                                   | <0.0004                                           | <0.0004                                        | <0.0004                                             | <0.0004                                             | <0.0004                                     |
|          | Dibromochloromethane        | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | Dibromomethane              | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | Dichlorodifluoromethane     | mg/L  | NE                             | NE                                   | <0.0020                                           | <0.002                                         | <0.002                                              | <0.0020                                             | <0.0020                                     |
|          | Diethyl Ether               | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | Di-isopropyl ether          | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | Ethyl tertiary-butyl ether  | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | Ethylbenzene                | mg/L  | 16                             | 1.6                                  | <0.0010                                           | 1.93                                           | 1.91                                                | <0.0010                                             | <0.0010                                     |
|          | Hexachlorobutadiene         | mg/L  | NE                             | NE                                   | <0.0006                                           | <0.0006                                        | <0.0006                                             | <0.0006                                             | <0.0006                                     |
|          | Hexachloroethane            | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | Isopropylbenzene            | mg/L  | NE                             | NE                                   | <0.0010                                           | 0.056                                          | 0.0862                                              | <0.0010                                             | <0.0010                                     |
|          | Methyl tert-Butyl Ether     | mg/L  | NE                             | 5                                    | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | Methylene Chloride          | mg/L  | NE                             | NE                                   | <0.0020                                           | <0.002                                         | <0.002                                              | <0.0020                                             | <0.0020                                     |
|          | Naphthalene                 | mg/L  | NE                             | 2.67                                 | <0.0010                                           | 8.17                                           | 8.13                                                | 0.0112                                              | 0.0139                                      |
|          | n-Butylbenzene              | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | n-Propylbenzene             | mg/L  | NE                             | NE                                   | <0.0010                                           | 0.0219                                         | 0.0337                                              | <0.0010                                             | <0.0010                                     |
|          | sec-Butylbenzene            | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | 0.0011                                              | <0.0010                                             | <0.0010                                     |
|          | Styrene                     | mg/L  | 50                             | 2.2                                  | <0.0010                                           | 0.0015                                         | 0.0017                                              | <0.0010                                             | <0.0010                                     |



TABLE 4C

SUMMARY OF GROUNDWATER VOC QA/QC ANALYTICAL RESULTS

Former Tidewater Facility

Pawtucket, Rhode Island

|          |                            | Units | RIDEM GB<br>Groundwater<br>UCL | RIDEM GB<br>Groundwater<br>Objective | Trip Blank<br>10/22/2014<br>1410603-20<br>Aqueous | MW-312D<br>10/23/2014<br>1410604-02<br>Aqueous | MW-BD-102314<br>10/23/2014<br>1410604-08<br>Aqueous | M and E MW-2<br>10/22/2014<br>1410603-03<br>Aqueous | BD 1<br>10/22/2014<br>1410603-08<br>Aqueous |
|----------|----------------------------|-------|--------------------------------|--------------------------------------|---------------------------------------------------|------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|---------------------------------------------|
| EPA 8260 | VOLATILE ORGANICS          |       |                                |                                      |                                                   |                                                |                                                     |                                                     |                                             |
|          | tert-Butylbenzene          | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | Tertiary-amyl methyl ether | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | Tetrachloroethene          | mg/L  | NE                             | 0.15                                 | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | Tetrahydrofuran            | mg/L  | NE                             | NE                                   | <0.0050                                           | <0.005                                         | <0.005                                              | <0.0050                                             | <0.0050                                     |
|          | Toluene                    | mg/L  | 21                             | 1.7                                  | <0.0010                                           | 0.0088                                         | 0.009                                               | <0.0010                                             | <0.0010                                     |
|          | trans-1,2-Dichloroethene   | mg/L  | 79                             | 2.8                                  | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | trans-1,3-Dichloropropene  | mg/L  | NE                             | NE                                   | <0.0004                                           | <0.0004                                        | <0.0004                                             | <0.0004                                             | <0.0004                                     |
|          | Trichloroethene            | mg/L  | 87                             | 0.54                                 | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | Trichlorofluoromethane     | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | Trihalomethanes (Total)    | mg/L  | NE                             | NE                                   | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | Vinyl Acetate              | mg/L  | NE                             | NE                                   | <0.0050                                           | <0.005                                         | <0.005                                              | <0.0050                                             | <0.0050                                     |
|          | Vinyl Chloride             | mg/L  | NE                             | 0.002                                | <0.0010                                           | <0.001                                         | <0.001                                              | <0.0010                                             | <0.0010                                     |
|          | Xylene O                   | mg/L  | NE                             | NE                                   | <0.0010                                           | 0.515                                          | 0.512                                               | <0.0010                                             | <0.0010                                     |
|          | Xylene P,M                 | mg/L  | NE                             | NE                                   | <0.0020                                           | 0.0448                                         | 0.0468                                              | <0.0020                                             | <0.0020                                     |
|          | Xylenes (Total)            | mg/L  | NE                             | NE                                   | <0.0020                                           | 0.56                                           | 0.559                                               | <0.0020                                             | <0.0020                                     |
|          | Total VOCs                 | mg/L  | NE                             | NE                                   | <0.6445                                           | 17.13                                          | 17.0835                                             | 0.0112                                              | 0.0139                                      |

Notes

NE = Not Established

"B" qualifier indicates that the analyte was present in the method blank

"D" qualifier indicates analytes reported from a diluted run of the original analysis.

"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.

S = Shallow Screened Well

D = Deep Screened Well

NFA = North Fill Area

FGPA = Former Gas Plant Area

FPPA = Former Power Plant Area

SFA = South Fill Area

**Bold values** indicate that the concentration was detected above method reporting limits

Blue shaded cells indicate detection limits equal to or exceeds the GB Groundwater Objective.

Gray shaded cells indicate the concentration exceeds the GB Groundwater Objective.

Underlined concentrations exceed the RIDEM GB Groundwater Upper Concentration Limit

Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.

Blind Duplicate sample MW-BD-102314 was collected from MW-312D

Blind Duplicate sample BD 1 was collected from M and E MW-2

**TABLE 4D**  
**GROUNDWATER INORGANIC, TPH, PAH QA/QC ANALYTICAL RESULTS**

Former Tidewater Facility  
Pawtucket, RI

File No. 05.0043654.00  
6/2/2015

|               |                             | Units | RIDEM GB<br>Groundwater<br>UCL | RIDEM GB<br>Groundwater<br>Objective | MW-312D<br>10/23/2014<br>1410604-02<br>Aqueous | MW-BD-102314<br>10/23/2014<br>1410604-08<br>Aqueous | M and E MW-2<br>10/22/2014<br>1410603-03<br>Aqueous | BD 1<br>10/22/2014<br>1410603-08<br>Aqueous |
|---------------|-----------------------------|-------|--------------------------------|--------------------------------------|------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|---------------------------------------------|
| Mod. EPA 8100 | TOTAL PETROLEUM HYDROCARBON |       |                                |                                      |                                                |                                                     |                                                     |                                             |
|               | Hydrocarbon Content         | mg/L  | NE                             | NE                                   | 8.39                                           | 10.1                                                | <0.19                                               | <0.19                                       |
| EPA 8270      | PAHS BY GCMS                |       |                                |                                      |                                                |                                                     |                                                     |                                             |
|               | 2-Methylnaphthalene         | mg/L  | NE                             | NE                                   | 0.13                                           | 0.159                                               | <0.0002                                             | <0.0002                                     |
|               | Acenaphthene                | mg/L  | NE                             | NE                                   | 0.0905                                         | 0.106                                               | <0.0002                                             | <0.0002                                     |
|               | Acenaphthylene              | mg/L  | NE                             | NE                                   | <0.0095                                        | <0.0093                                             | <0.0002                                             | <0.0002                                     |
|               | Anthracene                  | mg/L  | NE                             | NE                                   | 0.0219                                         | <0.0093                                             | <0.0002                                             | <0.0002                                     |
|               | Benzo [a] Anthracene        | mg/L  | NE                             | NE                                   | <0.0024                                        | <0.0023                                             | <0.00005                                            | <0.00005                                    |
|               | Benzo [a] Pyrene            | mg/L  | NE                             | NE                                   | <0.0024                                        | <0.0023                                             | <0.00005                                            | <0.00005                                    |
|               | Benzo [b] Fluoranthene      | mg/L  | NE                             | NE                                   | <0.0024                                        | <0.0023                                             | <0.00005                                            | <0.00005                                    |
|               | Benzo [g,h,i] Perylene      | mg/L  | NE                             | NE                                   | <0.0095                                        | <0.0093                                             | <0.0002                                             | <0.0002                                     |
|               | Benzo [k] Fluoranthene      | mg/L  | NE                             | NE                                   | <0.0024                                        | <0.0023                                             | <0.00005                                            | <0.00005                                    |
|               | Chrysene                    | mg/L  | NE                             | NE                                   | <0.0024                                        | <0.0023                                             | <0.00005                                            | <0.00005                                    |
|               | Dibenzo [a,h] Anthracene    | mg/L  | NE                             | NE                                   | <0.0024                                        | <0.0023                                             | <0.00005                                            | <0.00005                                    |
|               | Fluoranthene                | mg/L  | NE                             | NE                                   | <0.0095                                        | <0.0093                                             | <0.0002                                             | <0.0002                                     |
|               | Fluorene                    | mg/L  | NE                             | NE                                   | 0.0233                                         | 0.0261                                              | <0.0002                                             | <0.0002                                     |
|               | Indeno [1,2,3-cd] Pyrene    | mg/L  | NE                             | NE                                   | <0.0024                                        | <0.0023                                             | <0.00005                                            | <0.00005                                    |
|               | Naphthalene                 | mg/L  | NE                             | 2.67                                 | 3.02                                           | 3.26                                                | 0.0003                                              | 0.0009                                      |
|               | Phenanthrene                | mg/L  | NE                             | NE                                   | 0.0218                                         | 0.0232                                              | <0.0002                                             | 0.0003                                      |
|               | Pyrene                      | mg/L  | NE                             | NE                                   | <0.0095                                        | <0.0093                                             | <0.0002                                             | <0.0002                                     |
| EPA 9014      | SUBCONTRACTED ANALYTES      |       |                                |                                      |                                                |                                                     |                                                     |                                             |
|               | Total Cyanide               | mg/L  | NE                             | NE                                   | 0.8                                            | 0.7                                                 | 0.058                                               | 0.055                                       |
|               | Dissolved Free Cyanide      | mg/L  | NE                             | NE                                   | 0.875                                          | 0.902                                               | 0.0734                                              | 0.0653                                      |

**Notes**

NE = Not Established

"B" qualifier indicates that the analyte was present in the method blank

"D" qualifier indicates analytes reported from a diluted run of the original analysis.

"J" qualifier indicates analyte value was below the Method reporting Limit; Estimated value.

S = Shallow Screened Well

D = Deep Screened Well

NFA = North Fill Area

FGPA = Former Gas Plant Area

FPPA = Former Power Plant Area

SFA = South Fill Area

**Bold values** indicate that the concentration was detected above method reporting limits

Blue shaded cells indicate detection limits equal to or exceeds the GB Groundwater Objective.

Gray shaded cells indicate the concentration exceeds the GB Groundwater Objective.

Underlined concentrations exceed the RIDEM GB Groundwater Upper Concentration Limit

Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.

Blind Duplicate sample MW-BD-102314 was collected from MW-312D

Blind Duplicate sample BD 1 was collected from M and E MW-2



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

| ANALYTICAL                        | Sample ID:<br>Collected By:<br>Sample Date: |                           | MW-5     |          |              |       |           |  |               |  |           |           |             |              |
|-----------------------------------|---------------------------------------------|---------------------------|----------|----------|--------------|-------|-----------|--|---------------|--|-----------|-----------|-------------|--------------|
|                                   |                                             |                           | AES      | VHB      | GZA          |       | GZA       |  | GZA           |  | GZA       | GZA       | GZA         | GZA          |
|                                   |                                             |                           | 1996     | 2006     | January 2010 |       | July 2010 |  | December 2010 |  | July 2011 | July 2012 | August 2013 | October 2014 |
|                                   | RIDEM GB<br>GW UCL                          | RIDEM GB GW<br>Objectives | Note (5) | Note (5) |              |       | Note (2)  |  | Note (6)      |  | 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 |           |  |               |  |           |           |             |              |
| 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 |           |  |               |  |           |           |             |              |
| Tertiary-amyl methyl ether        | NE                                          | NE                        |          |          |              |       |           |  |               |  |           |           |             |              |
| 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                        |          |          | <            | 0.188 |           |  |               |  |           |           |             |              |
| 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.                                                   |
| J                 | "J" qualifier indicates analyte concentration is estimated                                                                               |
| B                 | "B" qualifier indicates that the analyte was present in the method blank                                                                 |
| NE                | Regulatory Limit is not established                                                                                                      |
| <b>Bold Value</b> | = concentration detected above the Method Reporting Limit.                                                                               |
|                   | = concentration equals or exceeds the RIDEM GB Groundwater Objective                                                                     |
|                   | =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

6/1/2015  
GZA File No. 05.00043654.00

| ANALYTICAL                        | Sample ID:<br>Collected By:<br>Sample Date: |                           | MW-7         |               |           |       |               |       |           |  |             |       |               |                 |               |  |
|-----------------------------------|---------------------------------------------|---------------------------|--------------|---------------|-----------|-------|---------------|-------|-----------|--|-------------|-------|---------------|-----------------|---------------|--|
|                                   |                                             |                           | AES          | VHB           | GZA       |       | GZA           |       | GZA       |  | GZA         |       | GZA           |                 | GZA           |  |
|                                   | 1996                                        | 2006                      | January 2010 |               | July 2010 |       | December 2010 |       | July 2011 |  | July 2012   |       | August 2013   |                 | October 2014  |  |
|                                   | RIDEM GB<br>GW UCL                          | RIDEM GB GW<br>Objectives |              |               |           |       |               |       | Note (6)  |  |             |       |               |                 |               |  |
| VOCs (ppm)                        |                                             |                           | Result       | Result        | Result    | DL    | Result        | DL    |           |  | Result      | DL    | Result        | Result          | Result        |  |
| 1,1,1,2-Tetrachloroethane         | NE                                          | NE                        |              |               | <         | 0.001 | <             | 0.001 |           |  | <           | 0.001 | <0.001        | <0.001          | <0.001        |  |
| 1,1-Dichloroethene                | 23                                          | 0.007                     |              |               | <         | 0.001 | <             | 0.001 |           |  | <           | 0.001 | <0.001        | <0.001          | <0.001        |  |
| 1,2,4-Trimethylbenzene            | NE                                          | NE                        | <0.02        | <0.001        | <         | 0.001 | <             | 0.001 |           |  | <           | 0.001 | <0.001        | <0.001          | <0.001        |  |
| 1,2-Dibromo-3-Chloropropane       | NE                                          | 0.002                     |              |               | <         | 0.005 | <             | 0.002 |           |  | <           | 0.002 | <0.005        | <0.005          | <0.005        |  |
| 1,3,5-Trimethylbenzene            | NE                                          | NE                        |              | <0.001        | <         | 0.001 | <             | 0.001 |           |  | <           | 0.001 | <0.001        | <0.001          | <0.001        |  |
| 4-Isopropyltoluene                | NE                                          | NE                        |              |               |           |       |               |       |           |  |             |       | <0.001        | <0.001          | <0.001        |  |
| Acetone                           | NE                                          | NE                        |              |               | <         | 0.025 | <             | 0.010 |           |  | <           | 0.010 | <0.01         | <0.01           | <0.01         |  |
| Benzene                           | 18                                          | 0.14                      | <0.02        | <0.001        | <         | 0.001 | <             | 0.001 |           |  | <           | 0.001 | <0.001        | <0.001          | <0.001        |  |
| Carbon Disulfide                  | NE                                          | NE                        |              |               |           |       |               |       |           |  | <           | 0.001 | <0.001        | <0.001          | <0.001        |  |
| Carbon Tetrachloride              | NE                                          | 0.07                      |              |               | <         | 0.001 | <             | 0.001 |           |  | <           | 0.001 | <0.001        | <0.001          | <0.001        |  |
| Chloroform                        | NE                                          | NE                        |              | <b>0.0048</b> | <         | 0.001 | <             | 0.001 |           |  | <           | 0.001 | <0.001        | <b>0.0018</b>   | <0.001        |  |
| cis-1,2-Dichloroethene            | 69                                          | 2.4                       |              |               | <         | 0.001 | <             | 0.001 |           |  | <           | 0.001 | <0.001        | <0.001          | <0.001        |  |
| Ethylbenzene                      | 16                                          | 1.6                       | <0.02        | <0.001        | <         | 0.001 | <             | 0.001 |           |  | <           | 0.001 | <0.001        | <0.001          | <0.001        |  |
| Isopropylbenzene                  | NE                                          | NE                        |              | <0.001        | <         | 0.001 | <             | 0.001 |           |  | <           | 0.001 | <0.001        | <0.001          | <0.001        |  |
| Methyl tert-Butyl Ether           | NE                                          | 5                         |              | <0.001        | <         | 0.001 | <             | 0.001 |           |  | <           | 0.001 | <0.001        | <0.001          | <0.001        |  |
| Naphthalene                       | NE                                          | 2.67                      |              | <0.001        | <         | 0.002 | <b>0.0035</b> | 0.002 |           |  | <           | 0.002 | <0.001        | <0.001          | <0.001        |  |
| n-Butylbenzene                    | NE                                          | NE                        |              | <0.001        | <         | 0.001 | <             | 0.001 |           |  | <           | 0.001 | <0.001        | <0.001          | <0.001        |  |
| n-Propylbenzene                   | NE                                          | NE                        |              | <0.001        | <         | 0.001 | <             | 0.001 |           |  | <           | 0.001 | <0.001        | <0.001          | <0.001        |  |
| sec-Butylbenzene                  | NE                                          | NE                        |              | <0.001        | <         | 0.001 | <             | 0.001 |           |  | <           | 0.001 | <0.001        | <0.001          | <0.001        |  |
| Styrene                           | 50                                          | 2.2                       | <0.02        |               | <         | 0.001 | <             | 0.001 |           |  | <           | 0.001 | <0.001        | <0.001          | <0.001        |  |
| Tertiary-amyl methyl ether        | NE                                          | NE                        |              |               |           |       |               |       |           |  |             |       | <0.001        | <0.001          | <0.001        |  |
| Tetrachloroethene                 | NE                                          | 0.15                      |              |               | <         | 0.001 | <             | 0.001 |           |  | <           | 0.001 | <0.001        | <0.001          | <0.001        |  |
| Toluene                           | 21                                          | 1.7                       | <0.02        |               | <         | 0.001 | <             | 0.001 |           |  | <           | 0.001 | <0.001        | <0.001          | <0.001        |  |
| Trichloroethene                   | 87                                          | 0.54                      |              |               | <         | 0.001 | <             | 0.001 |           |  | <           | 0.001 | <0.001        | <b>0.0003 J</b> | <0.001        |  |
| Vinyl Chloride                    | NE                                          | 0.002                     |              |               | <         | 0.001 | <             | 0.001 |           |  | <           | 0.001 | <0.001        | <0.001          | <0.001        |  |
| Xylene O                          | NE                                          | NE                        | <0.02        | <0.001        | <         | 0.001 | <             | 0.001 |           |  | <           | 0.001 | <0.001        | <0.001          | <0.001        |  |
| Xylene P,M                        | NE                                          | NE                        | <0.02        | <0.002        | <         | 0.002 | <             | 0.002 |           |  | <           | 0.002 | <0.002        | <0.002          | <0.002        |  |
| Xylenes (Total)                   | NE                                          | NE                        | <0.04        | <0.03         | <         | 0.003 | <             | 0.003 |           |  | <           | 0.003 | <0.003        | <0.002          | <0.003        |  |
| Total VOCs                        | NE                                          | NE                        | <0.14        | <b>0.0048</b> | <         | 0.188 | <b>0.0035</b> |       |           |  | <           | 0.122 | <0.6415       | <b>0.0021</b>   | <0.6445       |  |
| 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 | <b>0.001</b>  | <b>0.0004</b>   | <b>0.0012</b> |  |
| 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 |           |  | <b>0.02</b> | 0.010 | <b>0.0205</b> | <b>0.0316</b>   | <b>0.0454</b> |  |
| Dissolved Free Cyanide            | NE                                          | NE                        |              | <0.05         | <         | 0.010 | <             | 0.010 |           |  | <           | 0.010 | <0.005        | <b>0.0239</b>   | <b>0.02</b>   |  |
| 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                        | <b>0.023</b> | <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.                                                   |
| J                 | "J" qualifier indicates analyte concentration is estimated                                                                               |
| B                 | "B" qualifier indicates that the analyte was present in the method blank                                                                 |
| NE                | Regulatory Limit is not established                                                                                                      |
| <b>Bold Value</b> | = concentration detected above the Method Reporting Limit.                                                                               |
|                   | = concentration equals or exceeds the RIDEM GB Groundwater Objective                                                                     |
|                   | =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

6/1/2015  
GZA File No. 05.00043654.00

| ANALYTICAL                        | Sample ID:<br>Collected By:<br>Sample Date: |                           | MW-310S  |          |              |  |           |       |               |        |           |         |           |             |
|-----------------------------------|---------------------------------------------|---------------------------|----------|----------|--------------|--|-----------|-------|---------------|--------|-----------|---------|-----------|-------------|
|                                   |                                             |                           | AES      | VHB      | GZA          |  | GZA       |       | GZA           | GZA    | GZA       | GZA     | GZA       |             |
|                                   |                                             |                           | 1996     | 2006     | January 2010 |  | June 2010 |       | December 2010 |        | July 2011 |         | July 2012 | August 2013 |
|                                   | RIDEM GB<br>GW UCL                          | RIDEM GB GW<br>Objectives | Note (4) | Note (4) | Note (4)     |  |           |       | Note (6)      |        |           |         |           |             |
| VOCs (ppm)                        |                                             |                           |          |          |              |  | Result    | DL    |               | Result | DL        | Result  | Result    |             |
| 1,1,1,2-Tetrachloroethane         | NE                                          | NE                        |          |          |              |  | <         | 0.001 |               | <      | 0.001     | <0.001  | <0.001    | <0.0010     |
| 1,1-Dichloroethene                | 23                                          | 0.007                     |          |          |              |  | <         | 0.001 |               | <      | 0.001     | <0.001  | <0.001    | <0.0010     |
| 1,2,4-Trimethylbenzene            | NE                                          | NE                        |          |          |              |  | <         | 0.001 |               | <      | 0.001     | <0.001  | <0.001    | <0.0010     |
| 1,2-Dibromo-3-Chloropropane       | NE                                          | 0.002                     |          |          |              |  | <         | 0.002 |               | <      | 0.002     | <0.005  | <0.005    | <0.0050     |
| 1,3,5-Trimethylbenzene            | NE                                          | NE                        |          |          |              |  | <         | 0.001 |               | <      | 0.001     | <0.001  | <0.001    | <0.0010     |
| 4-Isopropyltoluene                | NE                                          | NE                        |          |          |              |  |           |       |               |        |           | <0.001  | <0.001    | <0.0010     |
| Acetone                           | NE                                          | NE                        |          |          |              |  | <         | 0.01  |               | <      | 0.01      | <0.01   | <0.01     | <0.0100     |
| Benzene                           | 18                                          | 0.14                      |          |          |              |  | <         | 0.001 |               | <      | 0.001     | 0.0029  | 0.0035    | 0.002       |
| Carbon Disulfide                  | NE                                          | NE                        |          |          |              |  |           |       |               | <      | 0.001     | <0.001  | <0.001    | <0.0010     |
| Carbon Tetrachloride              | NE                                          | 0.07                      |          |          |              |  | <         | 0.001 |               | <      | 0.001     | <0.001  | <0.001    | <0.0010     |
| Chloroform                        | NE                                          | NE                        |          |          |              |  | <         | 0.001 |               | <      | 0.001     | <0.001  | <0.001    | <0.0010     |
| cis-1,2-Dichloroethene            | 69                                          | 2.4                       |          |          |              |  | <         | 0.001 |               | <      | 0.001     | <0.001  | <0.001    | <0.0010     |
| Ethylbenzene                      | 16                                          | 1.6                       |          |          |              |  | <         | 0.001 |               | <      | 0.001     | 0.0012  | 0.0004 J  | <0.0010     |
| Isopropylbenzene                  | NE                                          | NE                        |          |          |              |  | <         | 0.001 |               | <      | 0.001     | <0.001  | 0.0004 J  | <0.0010     |
| Methyl tert-Butyl Ether           | NE                                          | 5                         |          |          |              |  | <         | 0.001 |               | <      | 0.001     | <0.001  | <0.001    | <0.0010     |
| Naphthalene                       | NE                                          | 2.67                      |          |          |              |  | <         | 0.002 |               | <      | 0.002     | <0.001  | <0.001    | 0.0013      |
| n-Butylbenzene                    | NE                                          | NE                        |          |          |              |  | <         | 0.001 |               | <      | 0.001     | <0.001  | <0.001    | <0.0010     |
| n-Propylbenzene                   | NE                                          | NE                        |          |          |              |  | <         | 0.001 |               | <      | 0.001     | <0.001  | <0.001    | <0.0010     |
| sec-Butylbenzene                  | NE                                          | NE                        |          |          |              |  | <         | 0.001 |               | <      | 0.001     | <0.001  | <0.001    | <0.0010     |
| Styrene                           | 50                                          | 2.2                       |          |          |              |  | <         | 0.001 |               | <      | 0.001     | <0.001  | <0.001    | <0.0010     |
| Tertiary-amyl methyl ether        | NE                                          | NE                        |          |          |              |  |           |       |               |        |           | <0.001  | <0.001    | <0.0010     |
| Tetrachloroethene                 | NE                                          | 0.15                      |          |          |              |  | <         | 0.001 |               | <      | 0.001     | <0.001  | <0.001    | <0.0010     |
| Toluene                           | 21                                          | 1.7                       |          |          |              |  | <         | 0.001 |               | <      | 0.001     | <0.001  | <0.001    | <0.0010     |
| Trichloroethene                   | 87                                          | 0.54                      |          |          |              |  | <         | 0.001 |               | <      | 0.001     | <0.001  | <0.001    | <0.0010     |
| Vinyl Chloride                    | NE                                          | 0.002                     |          |          |              |  | <         | 0.001 |               | <      | 0.001     | <0.001  | <0.001    | <0.0010     |
| Xylene O                          | NE                                          | NE                        |          |          |              |  | <         | 0.001 |               | <      | 0.001     | <0.001  | 0.0006 J  | <0.0010     |
| Xylene P,M                        | NE                                          | NE                        |          |          |              |  | <         | 0.002 |               | <      | 0.002     | <0.002  | <0.002    | <0.0020     |
| Xylenes (Total)                   | NE                                          | NE                        |          |          |              |  | <         | 0.003 |               | <      | 0.003     | <0.003  | 0.0006 J  | <0.003      |
| Total VOCs                        | NE                                          | NE                        |          |          |              |  | <         | 0.122 |               | <      | 0.122     | 0.0041  | 0.0049    | 0.0033      |
| 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.                                                   |
| J                 | "J" qualifier indicates analyte concentration is estimated                                                                               |
| B                 | "B" qualifier indicates that the analyte was present in the method blank                                                                 |
| NE                | Regulatory Limit is not established                                                                                                      |
| <b>Bold Value</b> | = concentration detected above the Method Reporting Limit.                                                                               |
|                   | = concentration equals or exceeds the RIDEM GB Groundwater Objective                                                                     |
|                   | =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

6/1/2015  
GZA File No. 05.00043654.00

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

"J" qualifier indicates analyte concentration is estimated
- 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
- =detection limit equals or exceeds the RIDEM GB Groundwater Objective
- (1)

Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations.
- (2)

Well was not sampled because there was limited water
- (3)

NAPL was noted to be present
- (4)

Well was not sampled because it had not been installed yet.
- (5)

Well was not sampled because of an unknown reason
- (6)

Well was not included in this sampling round

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

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

6/1/2015  
GZA File No. 05.00043654.00

| ANALYTICAL                        | Sample ID:<br>Collected By:<br>Sample Date: |                           | MW-201   |                |               |       |               |       |               |                 |       |               |                   |                |
|-----------------------------------|---------------------------------------------|---------------------------|----------|----------------|---------------|-------|---------------|-------|---------------|-----------------|-------|---------------|-------------------|----------------|
|                                   |                                             |                           | AES      | VHB            | GZA           |       | GZA           |       | GZA           | GZA             |       | GZA           | GZA               | GZA            |
|                                   |                                             |                           | 1996     | 2006           | January 2010  |       | June 2010     |       | December 2010 | July 2011       |       | July 2012     | August 2013       | October 2014   |
|                                   | RIDEM GB<br>GW UCL                          | RIDEM GB GW<br>Objectives | Note (4) |                |               |       |               |       | Note (6)      |                 |       |               |                   |                |
| VOCs (ppm)                        |                                             |                           |          | Result         | Result        | DL    | Result        | DL    |               | Result          | DL    | Result        | Result            | Result         |
| 1,1,1,2-Tetrachloroethane         | NE                                          | NE                        |          |                | <             | 0.001 | <             | 0.001 |               | <               | 0.001 | <0.001        | <0.001            | <0.001         |
| 1,1-Dichloroethene                | 23                                          | 0.007                     |          |                | <             | 0.001 | <             | 0.001 |               | <               | 0.001 | <0.001        | <0.001            | <0.001         |
| 1,2,4-Trimethylbenzene            | NE                                          | NE                        |          | <b>0.0907</b>  | <b>0.017</b>  | 0.001 | <b>0.0094</b> | 0.001 |               | <b>0.0047</b>   | 0.001 | <b>0.0019</b> | <b>0.0248</b>     | <b>0.0066</b>  |
| 1,2-Dibromo-3-Chloropropane       | NE                                          | 0.002                     |          |                | <             | 0.005 | <             | 0.005 |               | <               | 0.005 | <0.005        | <0.005            | <0.005         |
| 1,3,5-Trimethylbenzene            | NE                                          | NE                        |          | <b>0.0024</b>  | <             | 0.001 | <             | 0.001 |               | <               | 0.001 | <0.001        | <b>0.0024</b>     | <0.001         |
| 4-Isopropyltoluene                | NE                                          | NE                        |          |                |               |       |               |       |               |                 |       | <0.001        | <0.001            | <0.001         |
| Acetone                           | NE                                          | NE                        |          |                | <             | 0.025 | <             | 0.025 |               | <               | 0.025 | <0.01         | <0.01             | <0.01          |
| Benzene                           | 18                                          | 0.14                      |          | <b>0.0047</b>  | <b>0.032</b>  | 0.001 | <b>0.050</b>  | 0.001 |               | <b>0.050</b>    | 0.001 | <b>0.0397</b> | <b>0.0948 D</b>   | <b>0.133</b>   |
| Carbon Disulfide                  | NE                                          | NE                        |          |                |               |       |               |       |               | <               | 0.001 | <0.001        | <0.001            | <b>0.0094</b>  |
| Carbon Tetrachloride              | NE                                          | 0.07                      |          |                | <             | 0.001 | <             | 0.001 |               | <               | 0.001 | <0.001        | <0.001            | <0.001         |
| Chloroform                        | NE                                          | NE                        |          | <0.001         | <             | 0.001 | <             | 0.001 |               | <               | 0.001 | <0.001        | <0.001            | <0.001         |
| cis-1,2-Dichloroethene            | 69                                          | 2.4                       |          |                | <             | 0.001 | <             | 0.001 |               | <               | 0.001 | <0.001        | <0.001            | <0.001         |
| Ethylbenzene                      | 16                                          | 1.6                       |          | <b>0.0228</b>  | <b>0.055</b>  | 0.001 | <b>0.064</b>  | 0.001 |               | <b>0.035</b>    | 0.001 | <b>0.0163</b> | <b>0.0658</b>     | <b>0.0166</b>  |
| Isopropylbenzene                  | NE                                          | NE                        |          | <b>0.0164</b>  | <b>0.025</b>  | 0.001 | <b>0.020</b>  | 0.001 |               | <b>0.017</b>    | 0.001 | <b>0.0129</b> | <b>0.0274</b>     | <b>0.0172</b>  |
| Methyl tert-Butyl Ether           | NE                                          | 5                         |          | <0.001         | <             | 0.001 | <             | 0.001 |               | <               | 0.001 | <0.001        | <0.001            | <0.001         |
| Naphthalene                       | NE                                          | 2.67                      |          | <b>0.0028</b>  | <b>0.019</b>  | 0.002 | <b>0.020</b>  | 0.002 |               | <b>0.010</b>    | 0.002 | <b>0.0032</b> | <b>0.0781</b>     | <b>0.0115</b>  |
| n-Butylbenzene                    | NE                                          | NE                        |          | <0.001         | <b>0.0067</b> | 0.001 | <b>0.0062</b> | 0.001 |               | <b>0.0056</b>   | 0.001 | <b>0.0056</b> | <b>0.0068</b>     | <b>0.0048</b>  |
| n-Propylbenzene                   | NE                                          | NE                        |          | <b>0.0149</b>  | <b>0.018</b>  | 0.001 | <b>0.018</b>  | 0.001 |               | <b>0.015</b>    | 0.001 | <b>0.0124</b> | <b>0.0227</b>     | <b>0.0142</b>  |
| sec-Butylbenzene                  | NE                                          | NE                        |          | <b>0.0031</b>  | <b>0.0024</b> | 0.001 | <b>0.0024</b> | 0.001 |               | <b>0.0021</b>   | 0.001 | <b>0.0018</b> | <b>0.0026</b>     | <b>0.0016</b>  |
| Styrene                           | 50                                          | 2.2                       |          |                | <             | 0.001 | <             | 0.001 |               | <               | 0.001 | <0.001        | <b>0.0043</b>     | <b>0.0015</b>  |
| Tertiary-amyl methyl ether        | NE                                          | NE                        |          |                |               |       |               |       |               |                 |       | <0.001        | <0.001            | <0.001         |
| Tetrachloroethene                 | NE                                          | 0.15                      |          |                | <             | 0.001 | <             | 0.001 |               | <               | 0.001 | <0.001        | <0.001            | <0.001         |
| Toluene                           | 21                                          | 1.7                       |          | <b>0.0018</b>  | <             | 0.001 | <b>0.0024</b> | 0.001 |               | <               | 0.001 | <0.001        | <0.001            | <b>0.0012</b>  |
| Trichloroethene                   | 87                                          | 0.54                      |          |                | <             | 0.001 | <             | 0.001 |               | <               | 0.001 | <0.001        | <0.001            | <0.001         |
| Vinyl Chloride                    | NE                                          | 0.002                     |          |                | <             | 0.001 | <             | 0.001 |               | <               | 0.001 | <0.001        | <0.001            | <0.001         |
| Xylene O                          | NE                                          | NE                        |          | <b>0.0113</b>  | <b>0.021</b>  | 0.001 | <b>0.0062</b> | 0.001 |               | <b>0.0053</b>   | 0.001 | <b>0.0021</b> | <b>0.0252</b>     | <b>0.0056</b>  |
| Xylene P,M                        | NE                                          | NE                        |          | <b>0.0024</b>  | <             | 0.002 | <             | 0.002 |               | <               | 0.002 | <0.002        | <b>0.0051</b>     | <0.002         |
| Xylenes (Total)                   | NE                                          | NE                        |          | <b>0.0137</b>  | <b>0.021</b>  | 0.003 | <b>0.0062</b> | 0.003 |               | <b>0.0053</b>   | 0.003 | <b>0.0021</b> | <b>0.0303</b>     | <b>0.0056</b>  |
| Total VOCs                        | NE                                          | NE                        |          | <b>0.1733</b>  | <b>0.1961</b> | 0.188 | <b>0.1986</b> | 0.188 |               | <b>0.1447</b>   | 0.188 | <b>0.0959</b> | <b>0.3987</b>     | <b>0.2232</b>  |
| TOTAL PETROLEUM HYDROCARBON (ppm) |                                             |                           |          |                |               |       |               |       |               |                 |       |               |                   |                |
| Hydrocarbon Content               | NE                                          | NE                        |          |                | <b>0.66</b>   | 0.2   | <             | 0.2   |               | <b>0.6</b>      | 0.2   | <b>1.77</b>   | <b>1.86</b>       | <b>1.65</b>    |
| PAHS BY GCMS (ppm)                |                                             |                           |          |                |               |       |               |       |               |                 |       |               |                   |                |
| 2-Methylnaphthalene               | NE                                          | NE                        |          | <b>0.00076</b> | <             | 0.002 | <b>0.0068</b> | 0.002 |               | <               | 0.002 | <0.0002       | <b>0.0004</b>     | <b>0.0002</b>  |
| Acenaphthene                      | NE                                          | NE                        |          | <b>0.0088</b>  | <b>0.0052</b> | 0.002 | <             | 0.002 |               | <b>0.0053 D</b> | 0.002 | <b>0.006</b>  | <b>0.0061</b>     | <b>0.0052</b>  |
| Acenaphthylene                    | NE                                          | NE                        |          | <b>0.00209</b> | <             | 0.002 | <             | 0.002 |               | <               | 0.002 | <b>0.002</b>  | <b>0.0019</b>     | <b>0.0011</b>  |
| Anthracene                        | NE                                          | NE                        |          | <b>0.0035</b>  | <             | 0.002 | <             | 0.002 |               | <               | 0.002 | <b>0.004</b>  | <b>0.003</b>      | <b>0.0025</b>  |
| Benzo [a] Anthracene              | NE                                          | NE                        |          | <b>0.00102</b> | <             | 0.002 | <             | 0.002 |               | <               | 0.002 | <b>0.0004</b> | <b>0.0005</b>     | <b>0.0003</b>  |
| Benzo [a] Pyrene                  | NE                                          | NE                        |          | <b>0.00085</b> | <             | 0.002 | <             | 0.002 |               | <               | 0.002 | <b>0.0003</b> | <b>0.0003</b>     | <b>0.0001</b>  |
| Benzo [b] Fluoranthene            | NE                                          | NE                        |          | <b>0.00051</b> | <             | 0.002 | <             | 0.002 |               | <               | 0.002 | <b>0.0003</b> | <b>0.0003</b>     | <b>0.0001</b>  |
| Benzo [g,h,i] Perylene            | NE                                          | NE                        |          | <b>0.00035</b> | <             | 0.002 | <             | 0.002 |               | <               | 0.002 | <0.0002       | <0.0002           | <0.0002        |
| Benzo [k] Fluoranthene            | NE                                          | NE                        |          | <b>0.00063</b> | <             | 0.002 | <             | 0.002 |               | <               | 0.002 | <0.0002       | <b>0.0001</b>     | <0.00005       |
| Chrysene                          | NE                                          | NE                        |          | <b>0.00112</b> | <             | 0.002 | <             | 0.002 |               | <               | 0.002 | <b>0.0004</b> | <b>0.0005</b>     | <b>0.0002</b>  |
| Dibenzo [a,h] Anthracene          | NE                                          | NE                        |          | <b>0.00023</b> | <             | 0.002 | <             | 0.002 |               | <               | 0.002 | <0.0002       | <b>0.00006</b>    | <0.00005       |
| Fluoranthene                      | NE                                          | NE                        |          | <b>0.00503</b> | <             | 0.002 | <             | 0.002 |               | <               | 0.002 | <b>0.002</b>  | <b>0.0014</b>     | <b>0.0015</b>  |
| Fluorene                          | NE                                          | NE                        |          | <b>0.014</b>   | <b>0.011</b>  | 0.002 | <             | 0.002 |               | <b>0.011 D</b>  | 0.002 | <b>0.012</b>  | <b>0.0108</b>     | <b>0.0103</b>  |
| Indeno [1,2,3-cd] Pyrene          | NE                                          | NE                        |          | <b>0.00039</b> | <             | 0.002 | <             | 0.002 |               | <               | 0.002 | <0.0002       | <b>0.0002</b>     | <b>0.00008</b> |
| Naphthalene                       | NE                                          | 2.67                      |          | <b>0.012</b>   | <b>0.0069</b> | 0.002 | <             | 0.002 |               | <b>0.0042 D</b> | 0.002 | <b>0.002</b>  | <b>0.0306 B D</b> | <b>0.0065</b>  |
| Phenanthrene                      | NE                                          | NE                        |          | <b>0.012</b>   | <b>0.085</b>  | 0.002 | <             | 0.002 |               | <b>0.086 D</b>  | 0.002 | <b>0.012</b>  | <b>0.0094</b>     | <b>0.0075</b>  |
| Pyrene                            | NE                                          | NE                        |          | <b>0.00356</b> | <             | 0.002 | <             | 0.002 |               | <               | 0.002 | <b>0.003</b>  | <b>0.0024</b>     | <b>0.0019</b>  |
| INORGANICS (ppm)                  |                                             |                           |          |                |               |       |               |       |               |                 |       |               |                   |                |
| Total Cyanide                     | NE                                          | NE                        |          | <b>2.52</b>    | <b>4.1</b>    | 0.010 | <b>3.5</b>    | 0.010 |               | <b>4.0</b>      | 0.010 | <b>0.0075</b> | <b>3.68 D</b>     | <b>1.16</b>    |
| Dissolved Free Cyanide            | NE                                          | NE                        |          | <0.05          | <b>0.020</b>  | 0.010 | <b>0.15</b>   | 0.010 |               | <b>0.13</b>     | 0.010 | <b>0.0067</b> | <b>2.37 D</b>     | <b>1</b>       |
| Physiologically Available Cyanide | NE                                          | NE                        |          | <b>0.215</b>   |               |       |               |       |               |                 |       |               |                   |                |
| Arsenic                           | NE                                          | NE                        |          | <0.0050        |               |       |               |       |               |                 |       |               |                   |                |
| Beryllium                         | NE                                          | NE                        |          | <0.001         |               |       |               |       |               |                 |       |               |                   |                |
| Chromium                          | NE                                          | NE                        |          | <0.020         |               |       |               |       |               |                 |       |               |                   |                |
| Copper                            | NE                                          | NE                        |          | <0.020         |               |       |               |       |               |                 |       |               |                   |                |
| Lead                              | NE                                          | NE                        |          | <b>0.0181</b>  |               |       |               |       |               |                 |       |               |                   |                |
| 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.                                                   |
| J                 | "J" qualifier indicates analyte concentration is estimated                                                                               |
| B                 | "B" qualifier indicates that the analyte was present in the method blank                                                                 |
| NE                | Regulatory Limit is not established                                                                                                      |
| <b>Bold Value</b> | = concentration detected above the Method Reporting Limit.                                                                               |
|                   | = concentration equals or exceeds the RIDEM GB Groundwater Objective                                                                     |
|                   | =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

6/1/2015  
GZA File No. 05.00043654.00

| ANALYTICAL                        | Sample ID:<br>Collected By:<br>Sample Date: |                           | MW-208      |                |                     |       |                  |       |                      |                  |       |                  |                    |                     |
|-----------------------------------|---------------------------------------------|---------------------------|-------------|----------------|---------------------|-------|------------------|-------|----------------------|------------------|-------|------------------|--------------------|---------------------|
|                                   | RIDEM GB<br>GW UCL                          | RIDEM GB GW<br>Objectives | AES<br>1996 | VHB<br>2006    | GZA<br>January 2010 |       | GZA<br>June 2010 |       | GZA<br>December 2010 | GZA<br>July 2011 |       | GZA<br>July 2012 | GZA<br>August 2013 | GZA<br>October 2014 |
|                                   |                                             |                           | Note (4)    |                |                     |       |                  |       | Note (6)             |                  |       |                  |                    |                     |
| VOCs (ppm)                        |                                             |                           |             | Result         | Result              | DL    | Result           | DL    |                      | Result           | DL    | Result           | Result             | Result              |
| 1,1,1,2-Tetrachloroethane         | NE                                          | NE                        |             |                | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.001              |
| 1,1-Dichloroethene                | 23                                          | 0.007                     |             |                | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.001              |
| 1,2,4-Trimethylbenzene            | NE                                          | NE                        |             | <0.001         | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.001              |
| 1,2-Dibromo-3-Chloropropane       | NE                                          | 0.002                     |             |                | <                   | 0.002 | <                | 0.002 |                      | <                | 0.002 | <0.005           | <0.005             | <0.005              |
| 1,3,5-Trimethylbenzene            | NE                                          | NE                        |             | <0.001         | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.001              |
| 4-Isopropyltoluene                | NE                                          | NE                        |             |                |                     |       |                  |       |                      |                  |       | <0.001           | <b>0.0009 J</b>    | <0.001              |
| Acetone                           | NE                                          | NE                        |             |                | <                   | 0.025 | <                | 0.01  |                      | <                | 0.01  | <0.01            | <0.01              | <0.01               |
| Benzene                           | 18                                          | 0.14                      |             | <b>0.0016</b>  | <b>0.004</b>        | 0.001 | <                | 0.001 |                      | <                | 0.001 | <b>0.0017</b>    | <b>0.0006 J</b>    | <b>0.0016</b>       |
| Carbon Disulfide                  | NE                                          | NE                        |             |                |                     |       |                  |       |                      |                  |       |                  |                    | <0.001              |
| Carbon Tetrachloride              | NE                                          | 0.07                      |             |                | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.001              |
| Chloroform                        | NE                                          | NE                        |             | <0.001         | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.001              |
| cis-1,2-Dichloroethene            | 69                                          | 2.4                       |             |                | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.001              |
| Ethylbenzene                      | 16                                          | 1.6                       |             | <b>0.0012</b>  | <b>0.0033</b>       | 0.001 | <                | 0.001 |                      | <b>0.0037</b>    | 0.001 | <b>0.005</b>     | <b>0.0096</b>      | <0.001              |
| Isopropylbenzene                  | NE                                          | NE                        |             | <b>0.0126</b>  | <b>0.011</b>        | 0.001 | <                | 0.001 |                      | <b>0.0037</b>    | 0.001 | <b>0.0037</b>    | <b>0.0027</b>      | <0.001              |
| Methyl tert-Butyl Ether           | NE                                          | 5                         |             | <0.001         | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.001              |
| Naphthalene                       | NE                                          | 2.67                      |             | <b>0.0014</b>  | <b>0.0023</b>       | 0.002 | <                | 0.002 |                      | <b>0.0021</b>    | 0.002 | <b>0.0028</b>    | <0.001             | <0.001              |
| n-Butylbenzene                    | NE                                          | NE                        |             | <0.001         | <b>0.015</b>        | 0.001 | <b>0.0012</b>    | 0.001 |                      | <b>0.0076</b>    | 0.001 | <b>0.0154</b>    | <b>0.0132</b>      | <0.001              |
| n-Propylbenzene                   | NE                                          | NE                        |             | <b>0.0075</b>  | <b>0.0090</b>       | 0.001 | <                | 0.001 |                      | <b>0.0021</b>    | 0.001 | <b>0.0019</b>    | <b>0.0012</b>      | <0.001              |
| sec-Butylbenzene                  | NE                                          | NE                        |             | <b>0.0092</b>  | <b>0.0074</b>       | 0.001 | <                | 0.001 |                      | <b>0.0068</b>    | 0.001 | <b>0.0077</b>    | <b>0.0066</b>      | <b>0.0032</b>       |
| Styrene                           | 50                                          | 2.2                       |             |                | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.001              |
| Tertiary-amyl methyl ether        | NE                                          | NE                        |             |                |                     |       |                  |       |                      |                  |       | <0.001           | <0.001             | <0.001              |
| Tetrachloroethene                 | NE                                          | 0.15                      |             |                | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.001              |
| Toluene                           | 21                                          | 1.7                       |             | <0.001         | <b>0.0017</b>       | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <b>0.0004 J</b>    | <0.001              |
| Trichloroethene                   | 87                                          | 0.54                      |             |                | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.001              |
| Vinyl Chloride                    | NE                                          | 0.002                     |             |                | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.001              |
| Xylene O                          | NE                                          | NE                        |             | <b>0.0036</b>  | <b>0.0025</b>       | 0.001 | <                | 0.001 |                      | <b>0.002</b>     | 0.001 | <b>0.0039</b>    | <b>0.0044</b>      | <0.001              |
| Xylene P,M                        | NE                                          | NE                        |             | <0.002         | <                   | 0.002 | <                | 0.002 |                      | <                | 0.002 | <0.002           | <b>0.0009 J</b>    | <0.002              |
| Xylenes (Total)                   | NE                                          | NE                        |             | <b>0.0036</b>  | <b>0.0025</b>       | 0.003 | <                | 0.003 |                      | <b>0.002</b>     | 0.003 | <b>0.0039</b>    | <b>0.0053</b>      | <0.003              |
| Total VOCs                        | NE                                          | NE                        |             | <b>0.0371</b>  | <b>0.056</b>        | 0.185 | <b>0.0012</b>    | 0.122 |                      | <b>0.028</b>     | 0.122 | <b>0.0421</b>    | <b>0.0405</b>      | <b>0.0048</b>       |
| TOTAL PETROLEUM HYDROCARBON (ppm) |                                             |                           |             |                |                     |       |                  |       |                      |                  |       |                  |                    |                     |
| Hydrocarbon Content               | NE                                          | NE                        |             |                | <b>0.57</b>         | 0.2   | <b>0.8</b>       | 0.2   |                      | <b>0.31</b>      | 0.2   | <b>1</b>         | <b>0.9</b>         | <b>0.48</b>         |
| PAHS BY GCMS (ppm)                |                                             |                           |             |                |                     |       |                  |       |                      |                  |       |                  |                    |                     |
| 2-Methylnaphthalene               | NE                                          | NE                        |             | <0.0002        | <                   | 0.002 | <b>0.033</b>     | 0.002 |                      | <                | 0.002 | <0.0002          | <0.0002            | <b>0.0002</b>       |
| Acenaphthene                      | NE                                          | NE                        |             | <b>0.00156</b> | <                   | 0.002 | <b>0.0067</b>    | 0.002 |                      | <                | 0.002 | <b>0.003</b>     | <b>0.0023</b>      | <b>0.0014</b>       |
| Acenaphthylene                    | NE                                          | NE                        |             | <b>0.0013</b>  | <                   | 0.002 | <                | 0.002 |                      | <                | 0.002 | <b>0.002</b>     | <b>0.002</b>       | <b>0.0005</b>       |
| Anthracene                        | NE                                          | NE                        |             | <0.0002        | <                   | 0.002 | <                | 0.002 |                      | <                | 0.002 | <b>0.0005</b>    | <b>0.0005</b>      | <b>0.0002</b>       |
| 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 | <b>0.0003</b>    | <b>0.0002</b>      | <0.0002             |
| Fluorene                          | NE                                          | NE                        |             | <b>0.00139</b> | <                   | 0.002 | <b>0.011</b>     | 0.002 |                      | <                | 0.002 | <b>0.002</b>     | <b>0.0015</b>      | <b>0.002</b>        |
| 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                      |             | <b>0.00094</b> | <                   | 0.002 | <b>0.0076</b>    | 0.002 |                      | <                | 0.002 | <b>0.002</b>     | <b>0.0013</b>      | <b>0.0047</b>       |
| Phenanthrene                      | NE                                          | NE                        |             | <b>0.00074</b> | <                   | 0.002 | <b>0.01</b>      | 0.002 |                      | <                | 0.002 | <b>0.002</b>     | <b>0.002</b>       | <b>0.0012</b>       |
| Pyrene                            | NE                                          | NE                        |             | <b>0.00027</b> | <                   | 0.002 | <                | 0.002 |                      | <                | 0.002 | <b>0.0005</b>    | <b>0.0003</b>      | <b>0.0002</b>       |
| INORGANICS (ppm)                  |                                             |                           |             |                |                     |       |                  |       |                      |                  |       |                  |                    |                     |
| Total Cyanide                     | NE                                          | NE                        |             | <b>0.17</b>    | <b>0.010</b>        | 0.010 | <b>0.050</b>     | 0.010 |                      | <b>0.030</b>     | 0.010 | <b>0.0299</b>    | <b>0.0302</b>      | <b>0.108</b>        |
| Dissolved Free Cyanide            | NE                                          | NE                        |             | <0.06          | <                   | 0.010 | <                | 0.010 |                      | <                | 0.010 | <0.005           | <b>0.0237</b>      | <b>0.09</b>         |
| Physiologically Available Cyanide | NE                                          | NE                        |             | <b>0.073</b>   |                     |       |                  |       |                      |                  |       |                  |                    |                     |
| Arsenic                           | NE                                          | NE                        |             | <b>0.0155</b>  |                     |       |                  |       |                      |                  |       |                  |                    |                     |
| 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.
- J

"J" qualifier indicates analyte concentration is estimated
- 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
- =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

6/1/2015  
GZA File No. 05.00043654.00

| ANALYTICAL                        | Sample ID:<br>Collected By:<br>Sample Date: |                           | MW-312S     |             |                     |  |                  |       |                      |                  |       |                  |                    |                     |
|-----------------------------------|---------------------------------------------|---------------------------|-------------|-------------|---------------------|--|------------------|-------|----------------------|------------------|-------|------------------|--------------------|---------------------|
|                                   | RIDEM GB<br>GW UCL                          | RIDEM GB GW<br>Objectives | AES<br>1996 | VHB<br>2006 | GZA<br>January 2010 |  | GZA<br>July 2010 |       | GZA<br>December 2010 | GZA<br>July 2011 |       | GZA<br>July 2012 | GZA<br>August 2013 | GZA<br>October 2014 |
|                                   |                                             |                           | Note (4)    | Note (4)    | Note (4)            |  | Note (3)         |       | Note (6)             | Note (3)         |       | Note (3)         | Note (3)           | Note (3)            |
| VOCs (ppm)                        |                                             |                           |             |             |                     |  | Result           | DL    |                      | Result           | DL    | Result           | Result             | Result              |
| 1,1,1,2-Tetrachloroethane         | NE                                          | NE                        |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.05            | <0.1 D             | <0.001              |
| 1,1-Dichloroethene                | 23                                          | 0.007                     |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.05            | <0.1 D             | <0.001              |
| 1,2,4-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |  | 0.18             | 0.025 |                      | 0.26             | 0.05  | 0.186            | 0.104 D            | 0.114               |
| 1,2-Dibromo-3-Chloropropane       | NE                                          | 0.002                     |             |             |                     |  | <                | 0.050 |                      | <                | 0.10  | <0.1             | <0.5 D             | <0.005              |
| 1,3,5-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |  | 0.05             | 0.025 |                      | 0.063            | 0.05  | <0.05            | 0.024 J D          | 0.0131              |
| 4-Isopropyltoluene                | NE                                          | NE                        |             |             |                     |  |                  |       |                      |                  |       | <0.05            | <0.1 D             | 0.0026              |
| Acetone                           | NE                                          | NE                        |             |             |                     |  | <                | 0.250 |                      | <                | 0.50  | <0.5             | <1 D               | 0.0347              |
| Benzene                           | 18                                          | 0.14                      |             |             |                     |  | 0.052            | 0.025 |                      | 0.13             | 0.05  | 0.0685           | <0.1 D             | 0.0437              |
| Carbon Disulfide                  | NE                                          | NE                        |             |             |                     |  |                  |       |                      | <                | 0.05  | <0.05            | <0.1 D             | 0.0097              |
| Carbon Tetrachloride              | NE                                          | 0.07                      |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.05            | <0.1 D             | <0.001              |
| Chloroform                        | NE                                          | NE                        |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.05            | <0.1 D             | <0.001              |
| cis-1,2-Dichloroethene            | 69                                          | 2.4                       |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.05            | <0.1 D             | <0.001              |
| Ethylbenzene                      | 16                                          | 1.6                       |             |             |                     |  | 0.84             | 0.025 |                      | 1.1              | 0.05  | 0.856            | 0.546 D            | 0.588               |
| Isopropylbenzene                  | NE                                          | NE                        |             |             |                     |  | 0.04             | 0.025 |                      | 0.053            | 0.05  | <0.05            | 0.022 J D          | 0.0235              |
| Methyl tert-Butyl Ether           | NE                                          | 5                         |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.05            | <0.1 D             | <0.001              |
| Naphthalene                       | NE                                          | 2.67                      |             |             |                     |  | 2.8              | 0.050 |                      | 4.3              | 0.10  | 2.85             | 2.03 D             | 2.03                |
| n-Butylbenzene                    | NE                                          | NE                        |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.05            | <0.1 D             | <0.001              |
| n-Propylbenzene                   | NE                                          | NE                        |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.05            | <0.1 D             | 0.0102              |
| sec-Butylbenzene                  | NE                                          | NE                        |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.05            | <0.1 D             | 0.0013              |
| Styrene                           | 50                                          | 2.2                       |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.05            | <0.1 D             | <0.001              |
| Tertiary-amyl methyl ether        | NE                                          | NE                        |             |             |                     |  |                  |       |                      |                  |       | <0.1             | <0.1 D             | <0.001              |
| Tetrachloroethene                 | NE                                          | 0.15                      |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.05            | <0.1 D             | <0.001              |
| Toluene                           | 21                                          | 1.7                       |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.05            | <0.1 D             | 0.0069              |
| Trichloroethene                   | 87                                          | 0.54                      |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.05            | <0.1 D             | <0.001              |
| Vinyl Chloride                    | NE                                          | 0.002                     |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.05            | <0.1 D             | <0.001              |
| Xylene O                          | NE                                          | NE                        |             |             |                     |  | 0.22             | 0.025 |                      | 0.24             | 0.05  | 0.119            | 0.088 J D          | 0.0935              |
| Xylene P,M                        | NE                                          | NE                        |             |             |                     |  | <                | 0.050 |                      | <                | 0.10  | <0.1             | 0.027 J D          | 0.0263              |
| Xylenes (Total)                   | NE                                          | NE                        |             |             |                     |  | 0.22             | 0.750 |                      | 0.24             | 0.150 | 0.119            | 0.115 J D          | 0.12                |
| Total VOCs                        | NE                                          | NE                        |             |             |                     |  | 4.18             | 3.05  |                      | 6.15             | 6.100 | 4.0795           | 2.841              | 2.9975              |
| 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.                                                   |
| J          | "J" qualifier indicates analyte concentration is estimated                                                                               |
| 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                                                                     |
|            | =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

6/1/2015  
GZA File No. 05.00043654.00

| ANALYTICAL                        | Sample ID:<br>Collected By:<br>Sample Date: |                           | MW-312D     |             |                     |  |                  |       |                      |                  |       |                  |                    |                     |
|-----------------------------------|---------------------------------------------|---------------------------|-------------|-------------|---------------------|--|------------------|-------|----------------------|------------------|-------|------------------|--------------------|---------------------|
|                                   | RIDEM GB<br>GW UCL                          | RIDEM GB GW<br>Objectives | AES<br>1996 | VHB<br>2006 | GZA<br>January 2010 |  | GZA<br>July 2010 |       | GZA<br>December 2010 | GZA<br>July 2011 |       | GZA<br>July 2012 | GZA<br>August 2013 | GZA<br>October 2014 |
|                                   |                                             |                           | Note (4)    | Note (4)    | Note (4)            |  |                  |       | Note (6)             |                  |       |                  |                    |                     |
| VOCs (ppm)                        |                                             |                           |             |             |                     |  | Result           | DL    |                      | Result           | DL    | Result           | Result             | Result              |
| 1,1,1,2-Tetrachloroethane         | NE                                          | NE                        |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.1             | <0.1 D             | <0.001              |
| 1,1-Dichloroethene                | 23                                          | 0.007                     |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.1             | <0.1 D             | <0.001              |
| 1,2,4-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |  | <b>0.31</b>      | 0.025 |                      | <b>0.42</b>      | 0.05  | <b>0.432</b>     | <0.1 D             | <b>0.378</b>        |
| 1,2-Dibromo-3-Chloropropane       | NE                                          | 0.002                     |             |             |                     |  | <                | 0.050 |                      | <                | 0.10  | <0.5             | <0.5 D             | <0.005              |
| 1,3,5-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |  | <b>0.055</b>     | 0.025 |                      | <                | 0.05  | <0.1             | <b>0.026 J D</b>   | <b>0.0182</b>       |
| 4-Isopropyltoluene                | NE                                          | NE                        |             |             |                     |  |                  |       |                      |                  |       | <0.1             | <0.1 D             | <b>0.0063</b>       |
| Acetone                           | NE                                          | NE                        |             |             |                     |  | <                | 0.250 |                      | <                | 0.50  | <1               | <1 D               | <0.01               |
| Benzene                           | 18                                          | 0.14                      |             |             |                     |  | <b>2.5</b>       | 0.025 |                      | <b>2.8</b>       | 0.05  | <b>2.29</b>      | <b>3.56 D</b>      | <b>5.98</b>         |
| Carbon Disulfide                  | NE                                          | NE                        |             |             |                     |  |                  |       |                      | <                | 0.05  | <0.1             | <0.1 D             | <0.001              |
| Carbon Tetrachloride              | NE                                          | 0.07                      |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.1             | <0.1 D             | <0.001              |
| Chloroform                        | NE                                          | NE                        |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.1             | <0.1 D             | <0.001              |
| cis-1,2-Dichloroethene            | 69                                          | 2.4                       |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.1             | <0.1 D             | <0.001              |
| Ethylbenzene                      | 16                                          | 1.6                       |             |             |                     |  | <b>1.2</b>       | 0.025 |                      | <b>1.5</b>       | 0.05  | <b>1.63</b>      | <b>1.26 D</b>      | <b>1.93</b>         |
| Isopropylbenzene                  | NE                                          | NE                        |             |             |                     |  | <b>0.062</b>     | 0.025 |                      | <b>0.085</b>     | 0.05  | <0.1             | <b>0.054 J D</b>   | <b>0.056</b>        |
| Methyl tert-Butyl Ether           | NE                                          | 5                         |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.1             | <0.1 D             | <0.001              |
| Naphthalene                       | NE                                          | 2.67                      |             |             |                     |  | <b>3.4</b>       | 0.050 |                      | <b>5.3</b>       | 0.10  | <b>6.75</b>      | <b>4.3 D</b>       | <b>8.17</b>         |
| n-Butylbenzene                    | NE                                          | NE                        |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.1             | <0.1 D             | <0.001              |
| n-Propylbenzene                   | NE                                          | NE                        |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.1             | <b>0.022 J D</b>   | <b>0.0219</b>       |
| sec-Butylbenzene                  | NE                                          | NE                        |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.1             | <0.1 D             | <0.001              |
| Styrene                           | 50                                          | 2.2                       |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.1             | <0.1 D             | <b>0.0015</b>       |
| Tertiary-amyl methyl ether        | NE                                          | NE                        |             |             |                     |  |                  |       |                      |                  |       | <0.1             | <0.1 D             | <0.001              |
| Tetrachloroethene                 | NE                                          | 0.15                      |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.1             | <0.1 D             | <0.001              |
| Toluene                           | 21                                          | 1.7                       |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.1             | <0.1 D             | <b>0.0088</b>       |
| Trichloroethene                   | 87                                          | 0.54                      |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.1             | <0.1 D             | <0.001              |
| Vinyl Chloride                    | NE                                          | 0.002                     |             |             |                     |  | <                | 0.025 |                      | <                | 0.05  | <0.1             | <0.1 D             | <0.001              |
| Xylene O                          | NE                                          | NE                        |             |             |                     |  | <b>0.3</b>       | 0.025 |                      | <b>0.41</b>      | 0.05  | <b>0.422</b>     | <b>0.309 D</b>     | <b>0.515</b>        |
| Xylene P,M                        | NE                                          | NE                        |             |             |                     |  | <                | 0.050 |                      | <                | 0.10  | <0.2             | <b>0.03 J D</b>    | <b>0.0448</b>       |
| Xylenes (Total)                   | NE                                          | NE                        |             |             |                     |  | <b>0.3</b>       | 0.750 |                      | <b>0.41</b>      | 0.150 | <b>0.422</b>     | <b>0.339 D</b>     | <b>0.56</b>         |
| Total VOCs                        | NE                                          | NE                        |             |             |                     |  | <b>7.8</b>       | 3.05  |                      | <b>10.52</b>     | 6.100 | <b>11.524</b>    | <b>9.561</b>       | <b>17.1305</b>      |
| TOTAL PETROLEUM HYDROCARBON (ppm) |                                             |                           |             |             |                     |  |                  |       |                      |                  |       |                  |                    |                     |
| Hydrocarbon Content               | NE                                          | NE                        |             |             |                     |  | <b>4.6</b>       | 2.0   |                      | <b>6.5</b>       | 0.2   | <b>10.7</b>      | <b>9.42</b>        | <b>8.39</b>         |
| PAHS BY GCMS (ppm)                |                                             |                           |             |             |                     |  |                  |       |                      |                  |       |                  |                    |                     |
| 2-Methylnaphthalene               | NE                                          | NE                        |             |             |                     |  | <b>0.14</b>      | 0.002 |                      | <b>0.091</b>     | 0.002 | <b>0.172</b>     | <b>0.189 D</b>     | <b>0.13</b>         |
| Acenaphthene                      | NE                                          | NE                        |             |             |                     |  | <b>0.07</b>      | 0.002 |                      | <b>0.051</b>     | 0.002 | <b>0.108</b>     | <b>0.0771 D</b>    | <b>0.0905</b>       |
| Acenaphthylene                    | NE                                          | NE                        |             |             |                     |  | <b>0.0075</b>    | 0.002 |                      | <                | 0.002 | <0.02            | <b>0.0033 D</b>    | <0.0095             |
| Anthracene                        | NE                                          | NE                        |             |             |                     |  | <b>0.0064</b>    | 0.002 |                      | <b>0.0035</b>    | 0.002 | <0.02            | <b>0.005 D</b>     | <b>0.0219</b>       |
| 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                        |             |             |                     |  | <b>0.003</b>     | 0.002 |                      | <b>0.0024</b>    | 0.002 | <0.02            | <b>0.0023 D</b>    | <0.0095             |
| Fluorene                          | NE                                          | NE                        |             |             |                     |  | <b>0.025</b>     | 0.002 |                      | <b>0.019</b>     | 0.002 | <b>0.031</b>     | <b>0.0255 D</b>    | <b>0.0233</b>       |
| Indeno [1,2,3-cd] Pyrene          | NE                                          | NE                        |             |             |                     |  | <                | 0.002 |                      | <                | 0.002 | <0.02            | <0.0005 D          | <0.0024             |
| Naphthalene                       | NE                                          | 2.67                      |             |             |                     |  | <b>2 D</b>       | 0.05  |                      | <b>0.9</b>       | 0.02  | <b>2.98</b>      | <b>2.98 D</b>      | <b>3.02</b>         |
| Phenanthrene                      | NE                                          | NE                        |             |             |                     |  | <b>0.032</b>     | 0.002 |                      | <b>0.018</b>     | 0.002 | <b>0.033</b>     | <b>0.0246 D</b>    | <b>0.0218</b>       |
| Pyrene                            | NE                                          | NE                        |             |             |                     |  | <b>0.0036</b>    | 0.002 |                      | <b>0.003</b>     | 0.002 | <0.02            | <b>0.0028 D</b>    | <0.0095             |
| INORGANICS (ppm)                  |                                             |                           |             |             |                     |  |                  |       |                      |                  |       |                  |                    |                     |
| Total Cyanide                     | NE                                          | NE                        |             |             |                     |  | <b>0.62</b>      | 0.010 |                      | <b>0.74</b>      | 0.010 | <b>0.48</b>      | <b>0.531 D</b>     | <b>0.875</b>        |
| Dissolved Free Cyanide            | NE                                          | NE                        |             |             |                     |  | <                | 0.010 |                      | <b>0.020</b>     | 0.010 | <0.005           | <b>0.523 D</b>     | <b>0.8</b>          |
| 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.                                                   |
| J                 | "J" qualifier indicates analyte concentration is estimated                                                                               |
| B                 | "B" qualifier indicates that the analyte was present in the method blank                                                                 |
| NE                | Regulatory Limit is not established                                                                                                      |
| <b>Bold Value</b> | = concentration detected above the Method Reporting Limit.                                                                               |
|                   | = concentration equals or exceeds the RIDEM GB Groundwater Objective                                                                     |
|                   | =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

6/1/2015  
GZA File No. 05.00043654.00

| ANALYTICAL                        | Sample ID:<br>Collected By:<br>Sample Date: |                           | MW-326S     |             |                     |  |                  |       |                      |                  |       |                  |                    |                     |
|-----------------------------------|---------------------------------------------|---------------------------|-------------|-------------|---------------------|--|------------------|-------|----------------------|------------------|-------|------------------|--------------------|---------------------|
|                                   | RIDEM GB<br>GW UCL                          | RIDEM GB GW<br>Objectives | AES<br>1996 | VHB<br>2006 | GZA<br>January 2010 |  | GZA<br>June 2010 |       | GZA<br>December 2010 | GZA<br>July 2011 |       | GZA<br>July 2012 | GZA<br>August 2013 | GZA<br>October 2014 |
|                                   |                                             |                           | Note (4)    | Note (4)    | Note (4)            |  | Result           | DL    | Note (6)             | Result           | DL    | Result           | Result             | Result              |
| VOCs (ppm)                        |                                             |                           |             |             |                     |  |                  |       |                      |                  |       |                  |                    |                     |
| 1,1,1,2-Tetrachloroethane         | NE                                          | NE                        |             |             |                     |  | <                | 0.005 |                      | <                | 0.005 | <0.001           | <0.001             | <0.0010             |
| 1,1-Dichloroethene                | 23                                          | 0.007                     |             |             |                     |  | <                | 0.005 |                      | <                | 0.005 | <0.001           | <0.001             | <0.0010             |
| 1,2,4-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |  | 0.073            | 0.005 |                      | 0.140            | 0.005 | 0.0674           | 0.0478             | 0.0183              |
| 1,2-Dibromo-3-Chloropropane       | NE                                          | 0.002                     |             |             |                     |  | <                | 0.010 |                      | <                | 0.010 | <0.005           | <0.005             | <0.0050             |
| 1,3,5-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |  | 0.012            | 0.005 |                      | 0.022            | 0.005 | 0.0098           | 0.0112             | 0.0082              |
| 4-Isopropyltoluene                | NE                                          | NE                        |             |             |                     |  |                  |       |                      |                  |       | 0.0019           | <0.001             | <0.0010             |
| Acetone                           | NE                                          | NE                        |             |             |                     |  | <                | 0.050 |                      | <                | 0.050 | <0.01            | <0.01              | <0.0100             |
| Benzene                           | 18                                          | 0.14                      |             |             |                     |  | 0.36             | 0.005 |                      | 0.47             | 0.005 | 0.368            | 0.444 D            | 0.352               |
| Carbon Disulfide                  | NE                                          | NE                        |             |             |                     |  |                  |       |                      | <                | 0.005 | <0.001           | <0.001             | <0.0010             |
| Carbon Tetrachloride              | NE                                          | 0.07                      |             |             |                     |  | <                | 0.005 |                      | <                | 0.005 | <0.001           | <0.001             | <0.0010             |
| Chloroform                        | NE                                          | NE                        |             |             |                     |  | <                | 0.005 |                      | <                | 0.005 | <0.001           | <0.001             | <0.0010             |
| cis-1,2-Dichloroethene            | 69                                          | 2.4                       |             |             |                     |  | <                | 0.005 |                      | <                | 0.005 | <0.001           | <0.001             | <0.0010             |
| Ethylbenzene                      | 16                                          | 1.6                       |             |             |                     |  | 0.2              | 0.005 |                      | 0.3              | 0.005 | 0.186            | 0.154 D            | 0.0574              |
| Isopropylbenzene                  | NE                                          | NE                        |             |             |                     |  | 0.026            | 0.005 |                      | 0.051            | 0.005 | 0.0419           | 0.037              | 0.0287              |
| Methyl tert-Butyl Ether           | NE                                          | 5                         |             |             |                     |  | <                | 0.005 |                      | <                | 0.005 | <0.001           | <0.001             | <0.0010             |
| Naphthalene                       | NE                                          | 2.67                      |             |             |                     |  | 0.27             | 0.010 |                      | 0.13             | 0.010 | 0.0474           | 0.0516             | 0.0239              |
| n-Butylbenzene                    | NE                                          | NE                        |             |             |                     |  | <                | 0.005 |                      | <                | 0.005 | <0.001           | <0.001             | <0.0010             |
| n-Propylbenzene                   | NE                                          | NE                        |             |             |                     |  | 0.007            | 0.005 |                      | 0.018            | 0.005 | 0.0152           | 0.0128             | 0.0098              |
| sec-Butylbenzene                  | NE                                          | NE                        |             |             |                     |  | <                | 0.005 |                      | <                | 0.005 | 0.0015           | <0.001             | <0.0010             |
| Styrene                           | 50                                          | 2.2                       |             |             |                     |  | <                | 0.005 |                      | <                | 0.005 | <0.001           | 0.0018             | <0.0010             |
| Tertiary-amyl methyl ether        | NE                                          | NE                        |             |             |                     |  |                  |       |                      |                  |       | <0.001           | <0.001             | <0.0010             |
| Tetrachloroethene                 | NE                                          | 0.15                      |             |             |                     |  | <                | 0.005 |                      | <                | 0.005 | <0.001           | <0.001             | <0.0010             |
| Toluene                           | 21                                          | 1.7                       |             |             |                     |  | <                | 0.005 |                      | 0.006            | 0.005 | 0.0022           | 0.0025             | 0.0011              |
| Trichloroethene                   | 87                                          | 0.54                      |             |             |                     |  | <                | 0.005 |                      | <                | 0.005 | <0.001           | <0.001             | <0.0010             |
| Vinyl Chloride                    | NE                                          | 0.002                     |             |             |                     |  | <                | 0.005 |                      | <                | 0.005 | <0.001           | <0.001             | <0.0010             |
| Xylene O                          | NE                                          | NE                        |             |             |                     |  | 0.13             | 0.005 |                      | 0.16             | 0.005 | 0.0735           | 0.0509             | 0.0126              |
| Xylene P,M                        | NE                                          | NE                        |             |             |                     |  | 0.015            | 0.010 |                      | 0.021            | 0.010 | 0.012            | 0.0132             | 0.0059              |
| Xylenes (Total)                   | NE                                          | NE                        |             |             |                     |  | 0.145            | 0.015 |                      | 0.181            | 0.015 | 0.0855           | 0.0641             | 0.0186              |
| Total VOCs                        | NE                                          | NE                        |             |             |                     |  | 1.093            | 0.62  |                      | 1.318            | 0.62  | 0.8268           | 0.8268             | 0.5179              |
| 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 B           | 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.                                                   |
| J          | "J" qualifier indicates analyte concentration is estimated                                                                               |
| 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                                                                     |
|            | =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

6/1/2015  
GZA File No. 05.00043654.00

| ANALYTICAL                        | Sample ID:<br>Collected By:<br>Sample Date: |                           | MW-326D     |             |                     |  |                  |        |                      |                  |       |                  |                    |                     |
|-----------------------------------|---------------------------------------------|---------------------------|-------------|-------------|---------------------|--|------------------|--------|----------------------|------------------|-------|------------------|--------------------|---------------------|
|                                   | RIDEM GB<br>GW UCL                          | RIDEM GB GW<br>Objectives | AES<br>1996 | VHB<br>2006 | GZA<br>January 2010 |  | GZA<br>June 2010 |        | GZA<br>December 2010 | GZA<br>July 2011 |       | GZA<br>July 2012 | GZA<br>August 2013 | GZA<br>October 2014 |
|                                   |                                             |                           | Note (4)    | Note (4)    | Note (4)            |  |                  |        |                      |                  |       |                  |                    |                     |
| VOCs (ppm)                        |                                             |                           |             |             |                     |  | Result           | DL     |                      | Result           | DL    | Result           | Result             | Result              |
| 1,1,1,2-Tetrachloroethane         | NE                                          | NE                        |             |             |                     |  | <                | 0.0025 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 1,1-Dichloroethene                | 23                                          | 0.007                     |             |             |                     |  | <                | 0.0025 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 1,2,4-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |  | 0.022            | 0.0025 |                      | 0.0027           | 0.001 | 0.0023           | 0.0086             | <0.0010             |
| 1,2-Dibromo-3-Chloropropane       | NE                                          | 0.002                     |             |             |                     |  | <                | 0.0050 |                      | <                | 0.002 | <0.005           | <0.005             | <0.0050             |
| 1,3,5-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |  | 0.0073           | 0.0025 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 4-Isopropyltoluene                | NE                                          | NE                        |             |             |                     |  |                  |        |                      |                  |       | <0.001           | <0.001             | <0.0010             |
| Acetone                           | NE                                          | NE                        |             |             |                     |  | <                | 0.0250 |                      | <                | 0.010 | <0.01            | <0.01              | <0.0100             |
| Benzene                           | 18                                          | 0.14                      |             |             |                     |  | 0.26             | 0.0025 |                      | 0.057            | 0.001 | 0.0588           | 0.0809             | 0.0049              |
| Carbon Disulfide                  | NE                                          | NE                        |             |             |                     |  |                  |        |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Carbon Tetrachloride              | NE                                          | 0.07                      |             |             |                     |  | <                | 0.0025 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Chloroform                        | NE                                          | NE                        |             |             |                     |  | <                | 0.0025 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| cis-1,2-Dichloroethene            | 69                                          | 2.4                       |             |             |                     |  | <                | 0.0025 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Ethylbenzene                      | 16                                          | 1.6                       |             |             |                     |  | 0.13             | 0.0025 |                      | 0.017            | 0.001 | 0.0201           | 0.0401             | 0.0012              |
| Isopropylbenzene                  | NE                                          | NE                        |             |             |                     |  | 0.016            | 0.0025 |                      | 0.0038           | 0.001 | 0.0022           | 0.0026             | <0.0010             |
| Methyl tert-Butyl Ether           | NE                                          | 5                         |             |             |                     |  | <                | 0.0025 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Naphthalene                       | NE                                          | 2.67                      |             |             |                     |  | 0.32             | 0.0050 |                      | 0.052            | 0.002 | 0.0448           | 0.123 D            | 0.0026              |
| n-Butylbenzene                    | NE                                          | NE                        |             |             |                     |  | <                | 0.0025 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| n-Propylbenzene                   | NE                                          | NE                        |             |             |                     |  | 0.0051           | 0.0025 |                      | 0.0014           | 0.001 | <0.001           | <0.001             | <0.0010             |
| sec-Butylbenzene                  | NE                                          | NE                        |             |             |                     |  | <                | 0.0025 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Styrene                           | 50                                          | 2.2                       |             |             |                     |  | <                | 0.0025 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Tertiary-amyl methyl ether        | NE                                          | NE                        |             |             |                     |  |                  |        |                      |                  |       | <0.001           | <0.001             | <0.0010             |
| Tetrachloroethene                 | NE                                          | 0.15                      |             |             |                     |  | <                | 0.0025 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Toluene                           | 21                                          | 1.7                       |             |             |                     |  | <                | 0.0025 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Trichloroethene                   | 87                                          | 0.54                      |             |             |                     |  | <                | 0.0025 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Vinyl Chloride                    | NE                                          | 0.002                     |             |             |                     |  | <                | 0.0025 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Xylene O                          | NE                                          | NE                        |             |             |                     |  | 0.034            | 0.0025 |                      | 0.0029           | 0.001 | 0.0038           | 0.01               | <0.0010             |
| Xylene P,M                        | NE                                          | NE                        |             |             |                     |  | 0.0068           | 0.0050 |                      | <                | 0.002 | <0.002           | <0.002             | <0.0020             |
| Xylenes (Total)                   | NE                                          | NE                        |             |             |                     |  | 0.0408           | 0.0075 |                      | 0.0029           | 0.003 | 0.0038           | 0.01               | <0.0030             |
| Total VOCs                        | NE                                          | NE                        |             |             |                     |  | 0.8012           | 0.305  |                      | 0.1368           | 0.122 | 0.132            | 0.2652             | 0.0087              |
| 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 B D         | 0.0003              |
| Phenanthrene                      | NE                                          | NE                        |             |             |                     |  | 0.0026           | 0.002  |                      | <                | 0.002 | 0.0004           | <0.0002            | <0.0002             |
| Pyrene                            | NE                                          | NE                        |             |             |                     |  | <                | 0.002  |                      | <                | 0.002 | <0.0002          | <0.0002            | <0.0002             |
| INORGANICS (ppm)                  |                                             |                           |             |             |                     |  |                  |        |                      |                  |       |                  |                    |                     |
| Total Cyanide                     | NE                                          | NE                        |             |             |                     |  | 0.54             | 0.010  |                      | 0.67             | 0.010 | 0.665            | 0.808 D            | 0.709               |
| Dissolved Free Cyanide            | NE                                          | NE                        |             |             |                     |  | 0.080            | 0.010  |                      | 0.010            | 0.010 | <0.005           | 0.766 D            | 0.71                |
| Physiologically Available Cyanide | NE                                          | NE                        |             |             |                     |  |                  |        |                      |                  |       |                  |                    |                     |
| Arsenic                           | NE                                          | NE                        |             |             |                     |  |                  |        |                      |                  |       |                  |                    |                     |
| Beryllium                         | NE                                          | NE                        |             |             |                     |  |                  |        |                      |                  |       |                  |                    |                     |
| Chromium                          | NE                                          | NE                        |             |             |                     |  |                  |        |                      |                  |       |                  |                    |                     |
| Copper                            | NE                                          | NE                        |             |             |                     |  |                  |        |                      |                  |       |                  |                    |                     |
| Lead                              | NE                                          | NE                        |             |             |                     |  |                  |        |                      |                  |       |                  |                    |                     |
| Nickel                            | NE                                          | NE                        |             |             |                     |  |                  |        |                      |                  |       |                  |                    |                     |
| Zinc                              | NE                                          | NE                        |             |             |                     |  |                  |        |                      |                  |       |                  |                    |                     |
| Dissolved Arsenic                 | NE                                          | NE                        |             |             |                     |  |                  |        |                      |                  |       |                  |                    |                     |
| Dissolved Beryllium               | NE                                          | NE                        |             |             |                     |  |                  |        |                      |                  |       |                  |                    |                     |
| Dissolved Chromium                | NE                                          | NE                        |             |             |                     |  |                  |        |                      |                  |       |                  |                    |                     |
| Dissolved Copper                  | NE                                          | NE                        |             |             |                     |  |                  |        |                      |                  |       |                  |                    |                     |
| Dissolved Lead                    | NE                                          | NE                        |             |             |                     |  |                  |        |                      |                  |       |                  |                    |                     |
| Dissolved Nickel                  | NE                                          | NE                        |             |             |                     |  |                  |        |                      |                  |       |                  |                    |                     |
| Dissolved Zinc                    | NE                                          | NE                        |             |             |                     |  |                  |        |                      |                  |       |                  |                    |                     |

Notes:

|            |                                                                                                                                          |
|------------|------------------------------------------------------------------------------------------------------------------------------------------|
|            | Blank cells indicate that the parameter was not analyzed during this sampling round                                                      |
| D          | "D" qualifier indicates analytes reported from a diluted run of the original analysis.                                                   |
| J          | "J" qualifier indicates analyte concentration is estimated                                                                               |
| 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                                                                     |
|            | =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.

| ANALYTICAL                        | Sample ID:<br>Collected By:<br>Sample Date: |                           | MW-333S     |             |                     |  |                  |                      |       |                  |       |                  |                    |                     |
|-----------------------------------|---------------------------------------------|---------------------------|-------------|-------------|---------------------|--|------------------|----------------------|-------|------------------|-------|------------------|--------------------|---------------------|
|                                   | RIDEM GB<br>GW UCL                          | RIDEM GB GW<br>Objectives | AES<br>1996 | VHB<br>2006 | GZA<br>January 2010 |  | GZA<br>June 2010 | GZA<br>December 2010 |       | GZA<br>July 2011 |       | GZA<br>July 2012 | GZA<br>August 2013 | GZA<br>October 2014 |
|                                   |                                             |                           | Note (4)    | Note (4)    | Note (4)            |  | Note (4)         |                      |       |                  |       |                  |                    |                     |
| VOCs (ppm)                        |                                             |                           |             |             |                     |  |                  | Result               | DL    | Result           | DL    | Result           | Result             | Result              |
| 1,1,1,2-Tetrachloroethane         | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 1,1-Dichloroethene                | 23                                          | 0.007                     |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 1,2,4-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.001 | <b>0.0097</b>    | 0.001 | <b>0.0136</b>    | <0.001             | <0.0010             |
| 1,2-Dibromo-3-Chloropropane       | NE                                          | 0.002                     |             |             |                     |  |                  | <                    | 0.002 | <                | 0.002 | <0.005           | <0.005             | <0.0050             |
| 1,3,5-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 4-Isopropyltoluene                | NE                                          | NE                        |             |             |                     |  |                  |                      |       |                  |       | <0.001           | <0.001             | <0.0010             |
| Acetone                           | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.010 | <                | 0.010 | <0.1             | <0.1               | <0.0100             |
| Benzene                           | 18                                          | 0.14                      |             |             |                     |  |                  | <                    | 0.001 | <b>0.039</b>     | 0.001 | <b>0.0287</b>    | <0.001             | <0.0010             |
| Carbon Disulfide                  | NE                                          | NE                        |             |             |                     |  |                  |                      |       | <                | 0.001 | <0.001           | <0.001             | <b>0.0071</b>       |
| Carbon Tetrachloride              | NE                                          | 0.07                      |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Chloroform                        | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| cis-1,2-Dichloroethene            | 69                                          | 2.4                       |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Ethylbenzene                      | 16                                          | 1.6                       |             |             |                     |  |                  | <                    | 0.001 | <b>0.13</b>      | 0.001 | <b>0.212</b>     | <0.001             | <0.0010             |
| Isopropylbenzene                  | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.001 | <b>0.005</b>     | 0.001 | <b>0.0068</b>    | <0.001             | <0.0010             |
| Methyl tert-Butyl Ether           | NE                                          | 5                         |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Naphthalene                       | NE                                          | 2.67                      |             |             |                     |  |                  | <                    | 0.002 | <b>0.042</b>     | 0.002 | <b>0.0122</b>    | <0.001             | <0.0010             |
| n-Butylbenzene                    | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| n-Propylbenzene                   | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.001 | <b>0.0015</b>    | 0.001 | <b>0.0024</b>    | <0.001             | <0.0010             |
| sec-Butylbenzene                  | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Styrene                           | 50                                          | 2.2                       |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Tertiary-amyl methyl ether        | NE                                          | NE                        |             |             |                     |  |                  |                      |       |                  |       | <0.001           | <0.001             | <0.0010             |
| Tetrachloroethene                 | NE                                          | 0.15                      |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Toluene                           | 21                                          | 1.7                       |             |             |                     |  |                  | <                    | 0.001 | <b>0.0026</b>    | 0.001 | <b>0.0014</b>    | <0.001             | <0.0010             |
| Trichloroethene                   | 87                                          | 0.54                      |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Vinyl Chloride                    | NE                                          | 0.002                     |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Xylene O                          | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.001 | <b>0.024</b>     | 0.001 | <b>0.0144</b>    | <0.001             | <0.0010             |
| Xylene P,M                        | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.002 | <b>0.0048</b>    | 0.002 | <b>0.0023</b>    | <0.002             | <0.0020             |
| Xylenes (Total)                   | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.003 | <b>0.029</b>     | 0.003 | <b>0.0167</b>    | <0.003             | <0.0030             |
| Total VOCs                        | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.122 | <b>0.2586</b>    | 0.122 | <b>0.2938</b>    | <0.6451            | <b>0.0071</b>       |
| TOTAL PETROLEUM HYDROCARBON (ppm) |                                             |                           |             |             |                     |  |                  |                      |       |                  |       |                  |                    |                     |
| Hydrocarbon Content               | NE                                          | NE                        |             |             |                     |  |                  | <b>0.31</b>          | 0.2   | <b>0.32</b>      | 0.2   | <b>1.07</b>      | <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 | <b>0.002</b>     | <0.0002            | <b>0.0005</b>       |
| Acenaphthylene                    | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.002 | <                | 0.002 | <b>0.001</b>     | <0.0002            | <b>0.0003</b>       |
| Anthracene                        | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.002 | <                | 0.002 | <b>0.0002</b>    | <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 | <b>0.0002</b>    | <0.0002            | <0.0002             |
| Fluorene                          | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.002 | <                | 0.002 | <b>0.0006</b>    | <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 | <b>0.013</b>     | 0.002 | <b>0.005</b>     | <b>0.0012 B</b>    | <b>0.0002</b>       |
| Phenanthrene                      | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.002 | <                | 0.002 | <b>0.0005</b>    | <0.0002            | <0.0002             |
| Pyrene                            | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.002 | <                | 0.002 | <b>0.0003</b>    | <0.0002            | <0.0002             |
| INORGANICS (ppm)                  |                                             |                           |             |             |                     |  |                  |                      |       |                  |       |                  |                    |                     |
| Total Cyanide                     | NE                                          | NE                        |             |             |                     |  |                  | <b>0.050</b>         | 0.01  | <b>0.150</b>     | 0.01  | <b>0.0815</b>    | <b>0.014</b>       | <b>0.028</b>        |
| Dissolved Free Cyanide            | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.01  | <b>0.010</b>     | 0.01  | <0.005           | <b>0.0137</b>      | <b>0.02</b>         |
| 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.                                                   |
| J                 | "J" qualifier indicates analyte concentration is estimated                                                                               |
| B                 | "B" qualifier indicates that the analyte was present in the method blank                                                                 |
| NE                | Regulatory Limit is not established                                                                                                      |
| <b>Bold Value</b> | = concentration detected above the Method Reporting Limit.                                                                               |
|                   | = concentration equals or exceeds the RIDEM GB Groundwater Objective                                                                     |
|                   | =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

6/1/2015  
GZA File No. 05.00043654.00

| ANALYTICAL                        | Sample ID:<br>Collected By:<br>Sample Date: |                           | MW-333D     |             |                     |  |                  |                      |       |                  |       |                  |                    |                     |
|-----------------------------------|---------------------------------------------|---------------------------|-------------|-------------|---------------------|--|------------------|----------------------|-------|------------------|-------|------------------|--------------------|---------------------|
|                                   |                                             |                           | AES<br>1996 | VHB<br>2006 | GZA<br>January 2010 |  | GZA<br>June 2010 | GZA<br>December 2010 |       | GZA<br>July 2011 |       | GZA<br>July 2012 | GZA<br>August 2013 | GZA<br>October 2014 |
|                                   | RIDEM GB<br>GW UCL                          | RIDEM GB GW<br>Objectives | Note (4)    | Note (4)    | Note (4)            |  | Note (4)         |                      |       |                  |       |                  |                    |                     |
| VOCs (ppm)                        |                                             |                           |             |             |                     |  |                  | Result               | DL    | Result           | DL    | Result           | Result             | Result              |
| 1,1,1,2-Tetrachloroethane         | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.025 | <                | 0.025 | <0.1             | <0.001             | <0.0010             |
| 1,1-Dichloroethene                | 23                                          | 0.007                     |             |             |                     |  |                  | <                    | 0.025 | <                | 0.025 | <0.1             | <0.001             | <0.0010             |
| 1,2,4-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |  |                  | 0.19                 | 0.025 | 0.43             | 0.025 | 0.344            | 0.353 D            | 0.155               |
| 1,2-Dibromo-3-Chloropropane       | NE                                          | 0.002                     |             |             |                     |  |                  | <                    | 0.050 | <                | 0.050 | <0.5             | <0.005             | <0.0050             |
| 1,3,5-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.025 | <                | 0.025 | <0.1             | <0.001             | 0.0024              |
| 4-Isopropyltoluene                | NE                                          | NE                        |             |             |                     |  |                  |                      |       |                  |       | <0.1             | <0.001             | 0.0022              |
| Acetone                           | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.250 | <                | 0.250 | <1               | <0.01              | <0.0100             |
| Benzene                           | 18                                          | 0.14                      |             |             |                     |  |                  | 1.2                  | 0.025 | 1.6              | 0.025 | 1.77             | 2.67 D             | 1.76                |
| Carbon Disulfide                  | NE                                          | NE                        |             |             |                     |  |                  |                      |       | <                | 0.025 | <0.1             | <0.001             | <0.0010             |
| Carbon Tetrachloride              | NE                                          | 0.07                      |             |             |                     |  |                  | <                    | 0.025 | <                | 0.025 | <0.1             | <0.001             | <0.0010             |
| Chloroform                        | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.025 | <                | 0.025 | <0.1             | <0.001             | <0.0010             |
| cis-1,2-Dichloroethene            | 69                                          | 2.4                       |             |             |                     |  |                  | <                    | 0.025 | <                | 0.025 | <0.1             | <0.001             | <0.0010             |
| Ethylbenzene                      | 16                                          | 1.6                       |             |             |                     |  |                  | 0.91                 | 0.025 | 0.98             | 0.025 | 0.981            | 1.14 D             | 0.58                |
| Isopropylbenzene                  | NE                                          | NE                        |             |             |                     |  |                  | 0.041                | 0.025 | 0.080            | 0.025 | <0.1             | 0.09               | 0.0647              |
| Methyl tert-Butyl Ether           | NE                                          | 5                         |             |             |                     |  |                  | <                    | 0.025 | <                | 0.025 | <0.1             | <0.001             | <0.0010             |
| Naphthalene                       | NE                                          | 2.67                      |             |             |                     |  |                  | 1.8                  | 0.050 | 3                | 0.050 | 3.55             | 3.96 D             | 2.3                 |
| n-Butylbenzene                    | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.025 | <                | 0.025 | <0.1             | <0.001             | <0.0010             |
| n-Propylbenzene                   | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.025 | 0.035            | 0.025 | <0.1             | 0.0346             | 0.0226              |
| sec-Butylbenzene                  | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.025 | <                | 0.025 | <0.1             | <0.001             | 0.001               |
| Styrene                           | 50                                          | 2.2                       |             |             |                     |  |                  | <                    | 0.025 | <                | 0.025 | <0.1             | 0.0039             | 0.0014              |
| Tertiary-amyl methyl ether        | NE                                          | NE                        |             |             |                     |  |                  |                      |       |                  |       | <0.1             | <0.001             | <0.0010             |
| Tetrachloroethene                 | NE                                          | 0.15                      |             |             |                     |  |                  | <                    | 0.025 | <                | 0.025 | <0.1             | <0.001             | <0.0010             |
| Toluene                           | 21                                          | 1.7                       |             |             |                     |  |                  | 0.065                | 0.025 | <                | 0.025 | <0.1             | 0.0152             | 0.0055              |
| Trichloroethene                   | 87                                          | 0.54                      |             |             |                     |  |                  | <                    | 0.025 | <                | 0.025 | <0.1             | <0.001             | <0.0010             |
| Vinyl Chloride                    | NE                                          | 0.002                     |             |             |                     |  |                  | <                    | 0.025 | <                | 0.025 | <0.1             | <0.001             | <0.0010             |
| Xylene O                          | NE                                          | NE                        |             |             |                     |  |                  | 0.36                 | 0.025 | 0.34             | 0.025 | 0.205            | 0.163 D            | 0.089               |
| Xylene P,M                        | NE                                          | NE                        |             |             |                     |  |                  | 0.27                 | 0.050 | 0.093            | 0.050 | <0.2             | 0.0393             | 0.0143              |
| Xylenes (Total)                   | NE                                          | NE                        |             |             |                     |  |                  | 0.63                 | 0.075 | 0.433            | 0.075 | 0.205            | 0.202 D            | 0.103               |
| Total VOCs                        | NE                                          | NE                        |             |             |                     |  |                  | 4.84                 | 3.05  | 6.558            | 3.05  | 6.85             | 8.469              | 4.9981              |
| 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 B 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.                                                   |
| J          | "J" qualifier indicates analyte concentration is estimated                                                                               |
| 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                                                                     |
|            | =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

6/1/2015  
GZA File No. 05.00043654.00

| ANALYTICAL                        | Sample ID:<br>Collected By:<br>Sample Date: |                           | MW-339S     |             |                     |          |                  |                      |       |                  |       |                  |                    |                     |
|-----------------------------------|---------------------------------------------|---------------------------|-------------|-------------|---------------------|----------|------------------|----------------------|-------|------------------|-------|------------------|--------------------|---------------------|
|                                   | RIDEM GB<br>GW UCL                          | RIDEM GB GW<br>Objectives | AES<br>1996 | VHB<br>2006 | GZA<br>January 2010 |          | GZA<br>June 2010 | GZA<br>December 2010 |       | GZA<br>July 2011 |       | GZA<br>July 2012 | GZA<br>August 2013 | GZA<br>October 2014 |
| Note (4)                          |                                             |                           | Note (4)    | Note (4)    |                     | Note (4) |                  |                      |       |                  |       |                  |                    |                     |
| VOCs (ppm)                        |                                             |                           |             |             |                     |          |                  | Result               | DL    | Result           | DL    | Result           | Result             | Result              |
| 1,1,1,2-Tetrachloroethane         | NE                                          | NE                        |             |             |                     |          |                  | <                    | 0.1   | <                | 0.005 | <0.005           | <0.001             | <0.001              |
| 1,1-Dichloroethene                | 23                                          | 0.007                     |             |             |                     |          |                  | <                    | 0.1   | <                | 0.005 | <0.005           | <0.001             | <0.001              |
| 1,2,4-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |          |                  | 0.41                 | 0.1   | 0.02             | 0.005 | 0.0092           | 0.0092             | 0.0082              |
| 1,2-Dibromo-3-Chloropropane       | NE                                          | 0.002                     |             |             |                     |          |                  | <                    | 0.2   | <                | 0.010 | <0.01            | <0.005             | <0.005              |
| 1,3,5-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |          |                  | 0.13                 | 0.1   | 0.0068           | 0.005 | <0.005           | 0.0032             | 0.0026              |
| 4-Isopropyltoluene                | NE                                          | NE                        |             |             |                     |          |                  |                      |       |                  |       | <0.005           | <0.001             | <0.001              |
| Acetone                           | NE                                          | NE                        |             |             |                     |          |                  | <                    | 1.0   | <                | 0.050 | <0.05            | <0.01              | 0.0546              |
| Benzene                           | 18                                          | 0.14                      |             |             |                     |          |                  | <                    | 0.1   | <                | 0.005 | <0.005           | 0.0011             | <0.001              |
| Carbon Disulfide                  | NE                                          | NE                        |             |             |                     |          |                  |                      |       | <                | 0.005 | <0.005           | <0.001             | <0.001              |
| Carbon Tetrachloride              | NE                                          | 0.07                      |             |             |                     |          |                  | <                    | 0.1   | <                | 0.005 | <0.005           | <0.001             | <0.001              |
| Chloroform                        | NE                                          | NE                        |             |             |                     |          |                  | <                    | 0.1   | <                | 0.005 | <0.005           | <0.001             | <0.001              |
| cis-1,2-Dichloroethene            | 69                                          | 2.4                       |             |             |                     |          |                  | <                    | 0.1   | <                | 0.005 | <0.005           | <0.001             | <0.001              |
| Ethylbenzene                      | 16                                          | 1.6                       |             |             |                     |          |                  | <                    | 0.1   | <                | 0.005 | <0.005           | <0.001             | <0.001              |
| Isopropylbenzene                  | NE                                          | NE                        |             |             |                     |          |                  | <                    | 0.1   | <                | 0.005 | <0.005           | <0.001             | <0.001              |
| Methyl tert-Butyl Ether           | NE                                          | 5                         |             |             |                     |          |                  | <                    | 0.1   | <                | 0.005 | <0.005           | <0.001             | <0.001              |
| Naphthalene                       | NE                                          | 2.67                      |             |             |                     |          |                  | 10                   | 0.2   | 0.76             | 0.010 | 0.35             | 0.286 D            | 0.3                 |
| n-Butylbenzene                    | NE                                          | NE                        |             |             |                     |          |                  | <                    | 0.1   | <                | 0.005 | <0.005           | <0.001             | <0.001              |
| n-Propylbenzene                   | NE                                          | NE                        |             |             |                     |          |                  | <                    | 0.1   | <                | 0.005 | <0.005           | <0.001             | <0.001              |
| sec-Butylbenzene                  | NE                                          | NE                        |             |             |                     |          |                  | <                    | 0.1   | <                | 0.005 | <0.005           | <0.001             | <0.001              |
| Styrene                           | 50                                          | 2.2                       |             |             |                     |          |                  | <                    | 0.1   | <                | 0.005 | <0.005           | 0.0016             | <0.001              |
| Tertiary-amyl methyl ether        | NE                                          | NE                        |             |             |                     |          |                  |                      |       |                  |       | <0.01            | <0.001             | <0.001              |
| Tetrachloroethene                 | NE                                          | 0.15                      |             |             |                     |          |                  | <                    | 0.1   | <                | 0.005 | <0.005           | <0.001             | <0.001              |
| Toluene                           | 21                                          | 1.7                       |             |             |                     |          |                  | <                    | 0.1   | <                | 0.005 | <0.005           | <0.001             | <0.001              |
| Trichloroethene                   | 87                                          | 0.54                      |             |             |                     |          |                  | <                    | 0.1   | <                | 0.005 | <0.005           | <0.001             | <0.001              |
| Vinyl Chloride                    | NE                                          | 0.002                     |             |             |                     |          |                  | <                    | 0.1   | <                | 0.005 | <0.005           | <0.001             | <0.001              |
| Xylene O                          | NE                                          | NE                        |             |             |                     |          |                  | <                    | 0.1   | <                | 0.005 | <0.005           | 0.0013             | 0.001               |
| Xylene P,M                        | NE                                          | NE                        |             |             |                     |          |                  | <                    | 0.2   | <                | 0.010 | <0.01            | 0.0021             | <0.002              |
| Xylenes (Total)                   | NE                                          | NE                        |             |             |                     |          |                  | <                    | 0.3   | <                | 0.015 | <0.015           | 0.0034             | 0.001               |
| Total VOCs                        | NE                                          | NE                        |             |             |                     |          |                  | 10.54                | 12.5  | 0.7868           | 0.61  | 0.3592           | 0.3045             | 0.3664              |
| 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 B 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.
- J

"J" qualifier indicates analyte concentration is estimated
- 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
- =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

6/1/2015  
GZA File No. 05.00043654.00

| ANALYTICAL                        | Sample ID:<br>Collected By:<br>Sample Date: |                           | MW-339D     |             |                     |  |                  |                      |       |                  |       |                  |                    |                     |
|-----------------------------------|---------------------------------------------|---------------------------|-------------|-------------|---------------------|--|------------------|----------------------|-------|------------------|-------|------------------|--------------------|---------------------|
|                                   | RIDEM GB<br>GW UCL                          | RIDEM GB GW<br>Objectives | AES<br>1996 | VHB<br>2006 | GZA<br>January 2010 |  | GZA<br>June 2010 | GZA<br>December 2010 |       | GZA<br>July 2011 |       | GZA<br>July 2012 | GZA<br>August 2013 | GZA<br>October 2014 |
|                                   |                                             |                           | Note (4)    | Note (4)    | Note (4)            |  | Note (4)         |                      |       |                  |       | Note (3)         | Note (3)           | Note (3)            |
| VOCs (ppm)                        |                                             |                           |             |             |                     |  |                  | Result               | DL    | Result           | DL    | Result           | Result             | Result              |
| 1,1,1,2-Tetrachloroethane         | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.05  | <                | 0.025 | <0.05            | <0.001             | <0.001              |
| 1,1-Dichloroethene                | 23                                          | 0.007                     |             |             |                     |  |                  | <                    | 0.05  | <                | 0.025 | <0.05            | <0.001             | <0.001              |
| 1,2,4-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |  |                  | 0.38                 | 0.05  | 0.41             | 0.025 | 0.449            | 0.437 D            | 0.4                 |
| 1,2-Dibromo-3-Chloropropane       | NE                                          | 0.002                     |             |             |                     |  |                  | <                    | 0.10  | <                | 0.050 | <0.1             | <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              |
| 4-Isopropyltoluene                | NE                                          | NE                        |             |             |                     |  |                  |                      |       |                  |       | <0.05            | 0.0087             | 0.0073              |
| Acetone                           | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.50  | <                | 0.250 | <0.5             | <0.01              | <0.01               |
| Benzene                           | 18                                          | 0.14                      |             |             |                     |  |                  | <                    | 0.05  | 0.036            | 0.025 | 0.066            | 0.0232             | 0.0265              |
| Carbon Disulfide                  | NE                                          | NE                        |             |             |                     |  |                  |                      |       | <                | 0.025 | <0.05            | <0.001             | <0.001              |
| Carbon Tetrachloride              | NE                                          | 0.07                      |             |             |                     |  |                  | <                    | 0.05  | <                | 0.025 | <0.05            | <0.001             | <0.001              |
| Chloroform                        | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.05  | <                | 0.025 | <0.05            | <0.001             | <0.001              |
| cis-1,2-Dichloroethene            | 69                                          | 2.4                       |             |             |                     |  |                  | <                    | 0.05  | <                | 0.025 | <0.05            | <0.001             | <0.001              |
| Ethylbenzene                      | 16                                          | 1.6                       |             |             |                     |  |                  | 0.20                 | 0.05  | 0.24             | 0.025 | 0.26             | 0.19 D             | 0.183               |
| Isopropylbenzene                  | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.05  | 0.046            | 0.025 | <0.05            | 0.0472             | 0.0437              |
| Methyl tert-Butyl Ether           | NE                                          | 5                         |             |             |                     |  |                  | <                    | 0.05  | <                | 0.025 | <0.05            | <0.001             | <0.001              |
| Naphthalene                       | NE                                          | 2.67                      |             |             |                     |  |                  | 3.3                  | 0.10  | 2.7              | 0.050 | 3.13             | 3.91 D             | 4.29                |
| n-Butylbenzene                    | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.05  | <                | 0.025 | <0.05            | <0.001             | <0.001              |
| n-Propylbenzene                   | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.05  | 0.034            | 0.025 | <0.05            | 0.034              | 0.026               |
| sec-Butylbenzene                  | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.05  | <                | 0.025 | <0.05            | <0.001             | 0.0013              |
| Styrene                           | 50                                          | 2.2                       |             |             |                     |  |                  | <                    | 0.05  | 0.044            | 0.025 | <0.05            | 0.0342             | 0.0158              |
| Tertiary-amyl methyl ether        | NE                                          | NE                        |             |             |                     |  |                  |                      |       |                  |       | <0.1             | <0.001             | <0.001              |
| Tetrachloroethene                 | NE                                          | 0.15                      |             |             |                     |  |                  | <                    | 0.05  | <                | 0.025 | <0.05            | <0.001             | <0.001              |
| Toluene                           | 21                                          | 1.7                       |             |             |                     |  |                  | 0.058                | 0.05  | 0.041            | 0.025 | 0.05             | 0.0471             | 0.0398              |
| Trichloroethene                   | 87                                          | 0.54                      |             |             |                     |  |                  | <                    | 0.05  | <                | 0.025 | <0.05            | <0.001             | <0.001              |
| Vinyl Chloride                    | NE                                          | 0.002                     |             |             |                     |  |                  | <                    | 0.05  | <                | 0.025 | <0.05            | <0.001             | <0.001              |
| Xylene O                          | NE                                          | NE                        |             |             |                     |  |                  | 0.41                 | 0.05  | 0.038            | 0.025 | 0.418            | 0.344 D            | 0.344               |
| Xylene P,M                        | NE                                          | NE                        |             |             |                     |  |                  | 0.46                 | 0.10  | 0.047            | 0.050 | 0.446            | 0.33 D             | 0.317               |
| Xylenes (Total)                   | NE                                          | NE                        |             |             |                     |  |                  | 0.87                 | 0.15  | 0.085            | 0.075 | 0.864            | 0.674 D            | 0.661               |
| Total VOCs                        | NE                                          | NE                        |             |             |                     |  |                  | 4.92                 | 6.1   | 3.746            | 3.05  | 4.941            | 5.5054             | 5.7799              |
| 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 B 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.                                                   |
| J          | "J" qualifier indicates analyte concentration is estimated                                                                               |
| 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                                                                     |
|            | =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 50  
GROUNDWATER MONITORING DATA  
Former Power Plant Area  
Former Tidewater Facility  
Pawtucket, Rhode Island

| ANALYTICAL                        | Sample ID:<br>Collected By:<br>Sample Date: |                           | M&E MW-2    |             |                     |       |                  |       |                      |                  |       |                  |                    |                     |
|-----------------------------------|---------------------------------------------|---------------------------|-------------|-------------|---------------------|-------|------------------|-------|----------------------|------------------|-------|------------------|--------------------|---------------------|
|                                   | RIDEM GB<br>GW UCL                          | RIDEM GB GW<br>Objectives | AES<br>1996 | VHB<br>2006 | GZA<br>January 2010 |       | GZA<br>June 2010 |       | GZA<br>December 2010 | GZA<br>July 2011 |       | GZA<br>July 2012 | GZA<br>August 2013 | GZA<br>October 2014 |
|                                   |                                             |                           | Note (5)    |             |                     |       |                  |       | Note (6)             |                  |       |                  |                    |                     |
| VOCs (ppm)                        |                                             |                           |             | Result      | Result              | DL    | Result           | DL    |                      | Result           | DL    | Result           | Result             | Result              |
| 1,1,1,2-Tetrachloroethane         | NE                                          | NE                        |             |             | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 1,1-Dichloroethene                | 23                                          | 0.007                     |             |             | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 1,2,4-Trimethylbenzene            | NE                                          | NE                        |             | <0.001      | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 1,2-Dibromo-3-Chloropropane       | NE                                          | 0.002                     |             |             | <                   | 0.002 | <                | 0.002 |                      | <                | 0.002 | <0.002           | <0.005             | <0.0050             |
| 1,3,5-Trimethylbenzene            | NE                                          | NE                        |             | <0.001      | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 4-Isopropyltoluene                | NE                                          | NE                        |             |             |                     |       |                  |       |                      |                  |       | <0.001           | <0.001             | <0.0010             |
| Acetone                           | NE                                          | NE                        |             |             | <                   | 0.010 | <                | 0.010 |                      | <                | 0.010 | <0.01            | <0.01              | <0.0100             |
| Benzene                           | 18                                          | 0.14                      |             | <0.001      | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Carbon Disulfide                  | NE                                          | NE                        |             |             |                     |       |                  |       |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Carbon Tetrachloride              | NE                                          | 0.07                      |             |             | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Chloroform                        | NE                                          | NE                        |             | <0.001      | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| cis-1,2-Dichloroethene            | 69                                          | 2.4                       |             |             | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Ethylbenzene                      | 16                                          | 1.6                       |             | <0.001      | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Isopropylbenzene                  | NE                                          | NE                        |             | <0.001      | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Methyl tert-Butyl Ether           | NE                                          | 5                         |             | <0.001      | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Naphthalene                       | NE                                          | 2.67                      |             | <0.001      | <                   | 0.002 | <                | 0.002 |                      | <                | 0.002 | <0.001           | <0.001             | <b>0.0112</b>       |
| n-Butylbenzene                    | NE                                          | NE                        |             | <0.001      | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| n-Propylbenzene                   | NE                                          | NE                        |             | <0.001      | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| sec-Butylbenzene                  | NE                                          | NE                        |             | <0.001      | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Styrene                           | 50                                          | 2.2                       |             |             | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Tertiary-amyl methyl ether        | NE                                          | NE                        |             |             |                     |       |                  |       |                      |                  |       | <0.002           | <0.001             | <0.0010             |
| Tetrachloroethene                 | NE                                          | 0.15                      |             |             | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Toluene                           | 21                                          | 1.7                       |             |             | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Trichloroethene                   | 87                                          | 0.54                      |             |             | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Vinyl Chloride                    | NE                                          | 0.002                     |             |             | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Xylene O                          | NE                                          | NE                        |             | <0.001      | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Xylene P,M                        | NE                                          | NE                        |             | <0.002      | <                   | 0.002 | <                | 0.002 |                      | <                | 0.002 | <0.002           | <0.002             | <0.0020             |
| Xylenes (Total)                   | NE                                          | NE                        |             | <0.003      | <                   | 0.003 | <                | 0.003 |                      | <                | 0.003 | <0.003           | <0.003             | <0.0030             |
| Total VOCs                        | NE                                          | NE                        |             | <0.019      | <                   | 0.122 | <                | 0.122 |                      | <                | 0.122 | <0.039           | <0.6451            | <b>0.0112</b>       |
| TOTAL PETROLEUM HYDROCARBON (ppm) |                                             |                           |             |             |                     |       |                  |       |                      |                  |       |                  |                    |                     |
| Hydrocarbon Content               | NE                                          | NE                        |             |             | <                   | 0.2   | <                | 0.2   |                      | <                | 0.2   | <b>0.27</b>      | <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 | <b>0.001</b>     | <0.0002            | <b>0.0003</b>       |
| 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                        |             | <b>0.07</b> | <b>0.050</b>        | 0.010 | <b>0.12</b>      | 0.010 |                      | <b>0.010</b>     | 0.010 | <b>0.48</b>      | <b>0.045</b>       | <b>0.0734</b>       |
| Dissolved Free Cyanide            | NE                                          | NE                        |             | <0.05       | <                   | 0.010 | <                | 0.010 |                      | <                | 0.010 | <0.005           | <b>0.0395</b>      | <b>0.058</b>        |
| 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.                                                   |
| J                 | "J" qualifier indicates analyte concentration is estimated                                                                               |
| B                 | "B" qualifier indicates that the analyte was present in the method blank                                                                 |
| NE                | Regulatory Limit is not established                                                                                                      |
| <b>Bold Value</b> | = concentration detected above the Method Reporting Limit.                                                                               |
|                   | = concentration equals or exceeds the RIDEM GB Groundwater Objective                                                                     |
|                   | =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

6/1/2015  
GZA File No. 05.00043654.00

| ANALYTICAL                        | Sample ID:<br>Collected By:<br>Sample Date: |                           | TB-1 / MW-6 |             |                     |       |                  |       |                      |                  |       |                  |                    |                     |
|-----------------------------------|---------------------------------------------|---------------------------|-------------|-------------|---------------------|-------|------------------|-------|----------------------|------------------|-------|------------------|--------------------|---------------------|
|                                   | RIDEM GB<br>GW UCL                          | RIDEM GB GW<br>Objectives | AES<br>1996 | VHB<br>2006 | GZA<br>January 2010 |       | GZA<br>July 2010 |       | GZA<br>December 2010 | GZA<br>July 2011 |       | GZA<br>July 2012 | GZA<br>August 2013 | GZA<br>October 2014 |
|                                   |                                             |                           |             |             |                     |       |                  |       | Note (6)             |                  |       |                  |                    |                     |
| VOCs (ppm)                        |                                             |                           | Result      | Result      | Result              | DL    | Result           | DL    |                      | Result           | DL    | Result           | Result             | Result              |
| 1,1,1,2-Tetrachloroethane         | NE                                          | NE                        |             |             | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 1,1-Dichloroethene                | 23                                          | 0.007                     |             |             | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <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             |
| 1,2-Dibromo-3-Chloropropane       | NE                                          | 0.002                     |             |             | <                   | 0.005 | <                | 0.002 |                      | <                | 0.002 | <0.005           | <0.005             | <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             |
| 4-Isopropyltoluene                | NE                                          | NE                        |             |             |                     |       |                  |       |                      |                  |       | <0.001           | <0.001             | <0.0010             |
| Acetone                           | NE                                          | NE                        |             |             | <                   | 0.025 | <                | 0.010 |                      | 0.003            | 0.010 | <0.01            | <0.01              | <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              |
| Carbon Disulfide                  | NE                                          | NE                        |             |             |                     |       |                  |       |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Carbon Tetrachloride              | NE                                          | 0.07                      |             |             | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Chloroform                        | NE                                          | NE                        |             | <0.001      | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| cis-1,2-Dichloroethene            | 69                                          | 2.4                       |             |             | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <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              |
| Isopropylbenzene                  | NE                                          | NE                        |             | 0.0074      | <                   | 0.001 | 0.008            | 0.001 |                      | 0.0049           | 0.001 | 0.0033           | 0.0037             | 0.002               |
| Methyl tert-Butyl Ether           | NE                                          | 5                         |             | <0.001      | 0.005               | 0.001 | <                | 0.002 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Naphthalene                       | NE                                          | 2.67                      |             | 0.0328      | 0.00267             | 0.002 | 0.14             | 0.001 |                      | 0.011            | 0.002 | 0.0035           | 0.0045             | 0.0024              |
| n-Butylbenzene                    | NE                                          | NE                        |             | 0.0027      | <                   | 0.001 | <                | 0.001 |                      | 0.0012           | 0.001 | <0.001           | <0.001             | <0.0010             |
| n-Propylbenzene                   | NE                                          | NE                        |             | 0.0079      | <                   | 0.001 | 0.008            | 0.001 |                      | 0.0043           | 0.001 | 0.0027           | 0.0027             | 0.001               |
| sec-Butylbenzene                  | NE                                          | NE                        |             | <0.001      | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Styrene                           | 50                                          | 2.2                       | <0.02       |             | 0.0022              | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Tertiary-amyl methyl ether        | NE                                          | NE                        |             |             |                     |       |                  |       |                      |                  |       | <0.001           | <0.001             | <0.0010             |
| Tetrachloroethene                 | NE                                          | 0.15                      |             |             | 0.00015             | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <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             |
| Trichloroethene                   | 87                                          | 0.54                      |             |             | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Vinyl Chloride                    | NE                                          | 0.002                     |             |             | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <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              |
| 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             |
| Xylenes (Total)                   | NE                                          | NE                        | 0.02        | 0.0899      | <                   | 0.003 | 0.105            | 0.002 |                      | 0.048            | 0.003 | 0.024            | 0.0213             | 0.0073              |
| Total VOCs                        | NE                                          | NE                        | 0.08        | 0.2962      | 0.02882             | 0.188 | 0.340            | 0.093 |                      | 0.117            | 0.122 | 0.0802           | 0.0803             | 0.0321              |
| 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 B           | 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.                                                   |
| J          | "J" qualifier indicates analyte concentration is estimated                                                                               |
| 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                                                                     |
|            | =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

6/1/2015  
GZA File No. 05.00043654.00

| ANALYTICAL                        | Sample ID:<br>Collected By:<br>Sample Date: |                           | MW-109      |             |                     |        |                  |       |                      |                  |        |                  |                    |                     |
|-----------------------------------|---------------------------------------------|---------------------------|-------------|-------------|---------------------|--------|------------------|-------|----------------------|------------------|--------|------------------|--------------------|---------------------|
|                                   | RIDEM GB<br>GW UCL                          | RIDEM GB GW<br>Objectives | AES<br>1996 | VHB<br>2006 | GZA<br>January 2010 |        | GZA<br>July 2010 |       | GZA<br>December 2010 | GZA<br>July 2011 |        | GZA<br>July 2012 | GZA<br>August 2013 | GZA<br>October 2014 |
|                                   |                                             |                           | Note (4)    |             |                     | DL     | Result           | DL    | Note (6)             | Result           | DL     | Result           | Result             | Result              |
| VOCs (ppm)                        |                                             |                           |             | Result      | Result              | DL     |                  |       |                      |                  |        |                  |                    |                     |
| 1,1,1,2-Tetrachloroethane         | NE                                          | NE                        |             |             | <                   | 0.0025 | <                | 0.001 |                      | <                | 0.0025 | <0.01            | <0.001             | <0.0010             |
| 1,1-Dichloroethene                | 23                                          | 0.007                     |             |             | <                   | 0.0025 | <                | 0.001 |                      | <                | 0.0025 | <0.01            | <0.001             | <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                |
| 1,2-Dibromo-3-Chloropropane       | NE                                          | 0.002                     |             |             | <                   | 0.0130 | <                | 0.002 |                      | <                | 0.0050 | <0.05            | <0.005             | <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               |
| 4-Isopropyltoluene                | NE                                          | NE                        |             |             |                     |        |                  |       |                      |                  |        | 0.0104           | 0.0046             | 0.0037              |
| Acetone                           | NE                                          | NE                        |             |             | <                   | 0.0630 | <                | 0.010 |                      | <                | 0.0250 | <0.1             | <0.01              | <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               |
| Carbon Disulfide                  | NE                                          | NE                        |             |             |                     |        |                  |       |                      | <                | 0.0025 | <0.01            | <0.001             | 0.0015              |
| Carbon Tetrachloride              | NE                                          | 0.07                      |             |             | <                   | 0.0025 | <                | 0.001 |                      | <                | 0.0025 | <0.01            | <0.001             | <0.0010             |
| Chloroform                        | NE                                          | NE                        |             | <0.001      | <                   | 0.0025 | <                | 0.001 |                      | <                | 0.0025 | <0.01            | <0.001             | <0.0010             |
| cis-1,2-Dichloroethene            | 69                                          | 2.4                       |             |             | <                   | 0.0025 | <                | 0.001 |                      | <                | 0.0025 | <0.01            | <0.001             | <0.0010             |
| Ethylbenzene                      | 16                                          | 1.6                       |             | 0.177       | 0.086               | 0.0025 | <                | 0.001 |                      | 0.057            | 0.0025 | 0.0928           | 0.0404             | 0.0349              |
| Isopropylbenzene                  | NE                                          | NE                        |             | 0.0418      | 0.038               | 0.0025 | 0.028            | 0.001 |                      | 0.026            | 0.0025 | 0.0337           | 0.0194             | 0.022               |
| Methyl tert-Butyl Ether           | NE                                          | 5                         |             | <0.001      | <                   | 0.0025 | <                | 0.002 |                      | <                | 0.0025 | <0.01            | <0.001             | <0.0010             |
| 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               |
| n-Butylbenzene                    | NE                                          | NE                        |             | <0.001      | 0.009               | 0.0025 | <                | 0.001 |                      | 0.0075           | 0.0025 | <0.01            | <0.001             | <0.0010             |
| n-Propylbenzene                   | NE                                          | NE                        |             | 0.0217      | 0.017               | 0.0025 | 0.015            | 0.001 |                      | 0.014            | 0.0025 | 0.0189           | 0.0101             | 0.0117              |
| sec-Butylbenzene                  | NE                                          | NE                        |             | 0.0056      | 0.0025              | 0.0025 | <                | 0.001 |                      | 0.0025           | 0.0025 | <0.01            | <0.001             | 0.0025              |
| Styrene                           | 50                                          | 2.2                       |             |             | <                   | 0.0025 | <                | 0.001 |                      | <                | 0.0025 | <0.01            | <0.001             | <0.0010             |
| Tertiary-amyl methyl ether        | NE                                          | NE                        |             |             |                     |        |                  |       |                      |                  |        | <0.01            | <0.001             | <0.0010             |
| Tetrachloroethene                 | NE                                          | 0.15                      |             |             | <                   | 0.0025 | <                | 0.001 |                      | <                | 0.0025 | <0.01            | <0.001             | <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               |
| Trichloroethene                   | 87                                          | 0.54                      |             |             | <                   | 0.0025 | <                | 0.001 |                      | <                | 0.0025 | <0.01            | <0.001             | <0.0010             |
| Vinyl Chloride                    | NE                                          | 0.002                     |             |             | <                   | 0.0025 | <                | 0.001 |                      | <                | 0.0025 | <0.01            | <0.001             | <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              |
| 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              |
| Xylenes (Total)                   | NE                                          | NE                        |             | 0.175       | 0.057               | 0.0075 | 0.067            | 0.002 |                      | 0.045            | 0.0075 | 0.0872           | 0.0311             | 0.0266              |
| Total VOCs                        | NE                                          | NE                        |             | 1.6871      | 0.9483              | 0.136  | 0.717            | 0.044 |                      | 0.7042           | 0.0925 | 1.1544           | 0.5494             | 0.634               |
| 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.                                                   |
| J          | "J" qualifier indicates analyte concentration is estimated                                                                               |
| 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                                                                     |
|            | =detection limit equals or exceeds the RIDEM GB Groundwater Objective                                                                    |
| (1)        | Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations. |
| (2)        | Well was not sampled because there was limited water                                                                                     |
| (3)        | NAPL was noted to be present                                                                                                             |
| (4)        | Well was not sampled because it had not been installed yet.                                                                              |
| (5)        | Well was not sampled because of an unknown reason                                                                                        |
| (6)        | Well was not included in this sampling round                                                                                             |

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

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

6/1/2015  
GZA File No. 05.00043654.00

| ANALYTICAL                        | Sample ID:<br>Collected By:<br>Sample Date: |                           | MW-314S     |             |                     |  |                  |       |                      |                  |       |                  |                    |                     |
|-----------------------------------|---------------------------------------------|---------------------------|-------------|-------------|---------------------|--|------------------|-------|----------------------|------------------|-------|------------------|--------------------|---------------------|
|                                   |                                             |                           | AES<br>1996 | VHB<br>2006 | GZA<br>January 2010 |  | GZA<br>June 2010 |       | GZA<br>December 2010 | GZA<br>July 2011 |       | GZA<br>July 2012 | GZA<br>August 2013 | GZA<br>October 2014 |
|                                   | RIDEM GB<br>GW UCL                          | RIDEM GB GW<br>Objectives | Note (4)    | Note (4)    | Note (4)            |  |                  |       | Note (6)             |                  |       |                  |                    |                     |
| VOCs (ppm)                        |                                             |                           |             |             |                     |  | Result           | DL    |                      | Result           | DL    | Result           | Result             | Result              |
| 1,1,1,2-Tetrachloroethane         | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.0025          | <0.001             | <0.0010             |
| 1,1-Dichloroethene                | 23                                          | 0.007                     |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.0025          | <0.001             | <0.0010             |
| 1,2,4-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |  | 0.0017           | 0.001 |                      | <                | 0.001 | 0.0053           | <0.001             | <0.0010             |
| 1,2-Dibromo-3-Chloropropane       | NE                                          | 0.002                     |             |             |                     |  | <                | 0.002 |                      | <                | 0.002 | <0.005           | <0.005             | <0.0050             |
| 1,3,5-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.0025          | <0.001             | <0.0010             |
| 4-Isopropyltoluene                | NE                                          | NE                        |             |             |                     |  |                  |       |                      |                  |       | <0.0025          | <0.001             | <0.0010             |
| Acetone                           | NE                                          | NE                        |             |             |                     |  | <                | 0.010 |                      | <                | 0.010 | <0.025           | <0.01              | <0.0100             |
| Benzene                           | 18                                          | 0.14                      |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.0025          | <0.001             | <0.0010             |
| Carbon Disulfide                  | NE                                          | NE                        |             |             |                     |  |                  |       |                      | <                | 0.001 | <0.0025          | <0.001             | <0.0010             |
| Carbon Tetrachloride              | NE                                          | 0.07                      |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.0025          | <0.001             | <0.0010             |
| Chloroform                        | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.0025          | <0.001             | <0.0010             |
| cis-1,2-Dichloroethene            | 69                                          | 2.4                       |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.0025          | <0.001             | <0.0010             |
| Ethylbenzene                      | 16                                          | 1.6                       |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.0025          | <0.001             | <0.0010             |
| Isopropylbenzene                  | NE                                          | NE                        |             |             |                     |  | 0.0016           | 0.001 |                      | 0.0016           | 0.001 | 0.0028           | 0.0007 J           | <0.0010             |
| Methyl tert-Butyl Ether           | NE                                          | 5                         |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.0025          | <0.001             | <0.0010             |
| Naphthalene                       | NE                                          | 2.67                      |             |             |                     |  | 0.0041           | 0.002 |                      | <                | 0.002 | 0.0083           | <0.001             | 0.0014              |
| n-Butylbenzene                    | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.0025          | <0.001             | <0.0010             |
| n-Propylbenzene                   | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.0025          | <0.001             | <0.0010             |
| sec-Butylbenzene                  | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.0025          | <0.001             | <0.0010             |
| Styrene                           | 50                                          | 2.2                       |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.0025          | <0.001             | <0.0010             |
| Tertiary-amyl methyl ether        | NE                                          | NE                        |             |             |                     |  |                  |       |                      |                  |       | <0.005           | <0.001             | <0.0010             |
| Tetrachloroethene                 | NE                                          | 0.15                      |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.0025          | <0.001             | <0.0010             |
| Toluene                           | 21                                          | 1.7                       |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.0025          | <0.001             | <0.0010             |
| Trichloroethene                   | 87                                          | 0.54                      |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.0025          | <0.001             | <0.0010             |
| Vinyl Chloride                    | NE                                          | 0.002                     |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.0025          | <0.001             | <0.0010             |
| Xylene O                          | NE                                          | NE                        |             |             |                     |  | 0.0041           | 0.001 |                      | <                | 0.001 | 0.0052           | <0.001             | <0.0010             |
| Xylene P,M                        | NE                                          | NE                        |             |             |                     |  | <                | 0.002 |                      | <                | 0.002 | <0.005           | <0.002             | <0.0020             |
| Xylenes (Total)                   | NE                                          | NE                        |             |             |                     |  | 0.0041           | 0.003 |                      | <                | 0.003 | 0.0052           | <0.003             | <0.0030             |
| Total VOCs                        | NE                                          | NE                        |             |             |                     |  | 0.0115           | 0.122 |                      | 0.0016           | 0.122 | 0.0216           | 0.0007             | 0.0014              |
| 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.                                                   |
| J          | "J" qualifier indicates analyte concentration is estimated                                                                               |
| 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                                                                     |
|            | =detection limit equals or exceeds the RIDEM GB Groundwater Objective                                                                    |
| (1)        | Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations. |
| (2)        | Well was not sampled because there was limited water                                                                                     |
| (3)        | NAPL was noted to be present                                                                                                             |
| (4)        | Well was not sampled because it had not been installed yet.                                                                              |
| (5)        | Well was not sampled because of an unknown reason                                                                                        |
| (6)        | Well was not included in this sampling round                                                                                             |

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

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

6/1/2015  
GZA File No. 05.00043654.00

| ANALYTICAL                        | Sample ID:<br>Collected By:<br>Sample Date: |                           | MW-314D     |             |                     |  |                  |       |                      |                  |       |                  |                    |                     |
|-----------------------------------|---------------------------------------------|---------------------------|-------------|-------------|---------------------|--|------------------|-------|----------------------|------------------|-------|------------------|--------------------|---------------------|
|                                   | RIDEM GB<br>GW UCL                          | RIDEM GB GW<br>Objectives | AES<br>1996 | VHB<br>2006 | GZA<br>January 2010 |  | GZA<br>June 2010 |       | GZA<br>December 2010 | GZA<br>July 2011 |       | GZA<br>July 2012 | GZA<br>August 2013 | GZA<br>October 2014 |
|                                   |                                             |                           | Note (4)    | Note (4)    | Note (4)            |  |                  |       | Note (6)             |                  |       |                  |                    |                     |
| VOCs (ppm)                        |                                             |                           |             |             |                     |  | Result           | DL    |                      | Result           | DL    | Result           | Result             | Result              |
| 1,1,1,2-Tetrachloroethane         | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 1,1-Dichloroethene                | 23                                          | 0.007                     |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 1,2,4-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 1,2-Dibromo-3-Chloropropane       | NE                                          | 0.002                     |             |             |                     |  | <                | 0.002 |                      | <                | 0.002 | <0.002           | <0.005             | <0.0050             |
| 1,3,5-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 4-Isopropyltoluene                | NE                                          | NE                        |             |             |                     |  |                  |       |                      |                  |       | <0.001           | <0.001             | <0.0010             |
| Acetone                           | NE                                          | NE                        |             |             |                     |  | <                | 0.010 |                      | <                | 0.010 | <0.01            | <0.01              | <0.0100             |
| Benzene                           | 18                                          | 0.14                      |             |             |                     |  | 0.0016           | 0.001 |                      | 0.001            | 0.001 | <0.001           | <0.001             | <0.0010             |
| Carbon Disulfide                  | NE                                          | NE                        |             |             |                     |  | <                |       |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Carbon Tetrachloride              | NE                                          | 0.07                      |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Chloroform                        | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| cis-1,2-Dichloroethene            | 69                                          | 2.4                       |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Ethylbenzene                      | 16                                          | 1.6                       |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Isopropylbenzene                  | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Methyl tert-Butyl Ether           | NE                                          | 5                         |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Naphthalene                       | NE                                          | 2.67                      |             |             |                     |  | 0.0023           | 0.002 |                      | <                | 0.002 | <0.001           | <0.001             | <0.0010             |
| n-Butylbenzene                    | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| n-Propylbenzene                   | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| sec-Butylbenzene                  | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Styrene                           | 50                                          | 2.2                       |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Tertiary-amyl methyl ether        | NE                                          | NE                        |             |             |                     |  |                  |       |                      |                  |       | <0.002           | 0.0004 J           | <0.0010             |
| Tetrachloroethene                 | NE                                          | 0.15                      |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Toluene                           | 21                                          | 1.7                       |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Trichloroethene                   | 87                                          | 0.54                      |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Vinyl Chloride                    | NE                                          | 0.002                     |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Xylene O                          | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Xylene P,M                        | NE                                          | NE                        |             |             |                     |  | <                | 0.002 |                      | <                | 0.002 | <0.002           | <0.002             | <0.0020             |
| Xylenes (Total)                   | NE                                          | NE                        |             |             |                     |  | <                | 0.003 |                      | <                | 0.003 | <0.003           | <0.003             | <0.0030             |
| Total VOCs                        | NE                                          | NE                        |             |             |                     |  | 0.0039           | 0.122 |                      | 0.001            | 0.122 | <0.039           | 0.0004             | <0.6445             |
| 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.                                                   |
| J                 | "J" qualifier indicates analyte concentration is estimated                                                                               |
| B                 | "B" qualifier indicates that the analyte was present in the method blank                                                                 |
| NE                | Regulatory Limit is not established                                                                                                      |
| <b>Bold Value</b> | = concentration detected above the Method Reporting Limit.                                                                               |
|                   | = concentration equals or exceeds the RIDEM GB Groundwater Objective                                                                     |
|                   | =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

6/1/2015  
GZA File No. 05.00043654.00

| ANALYTICAL                        | Sample ID:<br>Collected By:<br>Sample Date: |                           | MW-316S     |             |                     |  |                  |       |                      |                  |       |                  |                    |                     |
|-----------------------------------|---------------------------------------------|---------------------------|-------------|-------------|---------------------|--|------------------|-------|----------------------|------------------|-------|------------------|--------------------|---------------------|
|                                   | RIDEM GB<br>GW UCL                          | RIDEM GB GW<br>Objectives | AES<br>1996 | VHB<br>2006 | GZA<br>January 2010 |  | GZA<br>June 2010 |       | GZA<br>December 2010 | GZA<br>July 2011 |       | GZA<br>July 2012 | GZA<br>August 2013 | GZA<br>October 2014 |
|                                   |                                             |                           | Note (4)    | Note (4)    | Note (4)            |  |                  |       | Note (6)             |                  |       |                  |                    | Note (2)            |
| VOCs (ppm)                        |                                             |                           |             |             |                     |  | Result           | DL    |                      | Result           | DL    | 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             |                     |
| 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             |                     |
| 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            | 0.122 | <0.041           | <0.6451            |                     |
| 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.                                                   |
| J                 | "J" qualifier indicates analyte concentration is estimated                                                                               |
| B                 | "B" qualifier indicates that the analyte was present in the method blank                                                                 |
| NE                | Regulatory Limit is not established                                                                                                      |
| <b>Bold Value</b> | = concentration detected above the Method Reporting Limit.                                                                               |
|                   | = concentration equals or exceeds the RIDEM GB Groundwater Objective                                                                     |
|                   | =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

6/1/2015  
GZA File No. 05.00043654.00

| ANALYTICAL                        | Sample ID:<br>Collected By:<br>Sample Date: |                           | MW-316D     |             |                     |  |                  |       |                      |                  |       |                  |                    |                     |
|-----------------------------------|---------------------------------------------|---------------------------|-------------|-------------|---------------------|--|------------------|-------|----------------------|------------------|-------|------------------|--------------------|---------------------|
|                                   |                                             |                           | AES<br>1996 | VHB<br>2006 | GZA<br>January 2010 |  | GZA<br>June 2010 |       | GZA<br>December 2010 | GZA<br>July 2011 |       | GZA<br>July 2012 | GZA<br>August 2013 | GZA<br>October 2014 |
|                                   | RIDEM GB<br>GW UCL                          | RIDEM GB GW<br>Objectives | Note (4)    | Note (4)    | Note (4)            |  |                  |       | Note (6)             |                  |       |                  |                    |                     |
| VOCs (ppm)                        |                                             |                           |             |             |                     |  | Result           | DL    |                      | Result           | DL    | Result           | Result             | Result              |
| 1,1,1,2-Tetrachloroethane         | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 1,1-Dichloroethene                | 23                                          | 0.007                     |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 1,2,4-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 1,2-Dibromo-3-Chloropropane       | NE                                          | 0.002                     |             |             |                     |  | <                | 0.002 |                      | <                | 0.002 | <0.005           | <0.005             | <0.0050             |
| 1,3,5-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 4-Isopropyltoluene                | NE                                          | NE                        |             |             |                     |  |                  |       |                      |                  |       | <0.001           | <0.001             | <0.0010             |
| Acetone                           | NE                                          | NE                        |             |             |                     |  | <                | 0.010 |                      | <                | 0.010 | <0.01            | <0.01              | <0.0100             |
| Benzene                           | 18                                          | 0.14                      |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Carbon Disulfide                  | NE                                          | NE                        |             |             |                     |  |                  |       |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Carbon Tetrachloride              | NE                                          | 0.07                      |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Chloroform                        | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| cis-1,2-Dichloroethene            | 69                                          | 2.4                       |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Ethylbenzene                      | 16                                          | 1.6                       |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Isopropylbenzene                  | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Methyl tert-Butyl Ether           | NE                                          | 5                         |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Naphthalene                       | NE                                          | 2.67                      |             |             |                     |  | <                | 0.002 |                      | <                | 0.002 | <0.001           | <0.001             | <0.0010             |
| n-Butylbenzene                    | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| n-Propylbenzene                   | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| sec-Butylbenzene                  | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Styrene                           | 50                                          | 2.2                       |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Tertiary-amyl methyl ether        | NE                                          | NE                        |             |             |                     |  |                  |       |                      |                  |       | <0.001           | <0.001             | <0.0010             |
| Tetrachloroethene                 | NE                                          | 0.15                      |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Toluene                           | 21                                          | 1.7                       |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Trichloroethene                   | 87                                          | 0.54                      |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Vinyl Chloride                    | NE                                          | 0.002                     |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Xylene O                          | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Xylene P,M                        | NE                                          | NE                        |             |             |                     |  | <                | 0.002 |                      | <                | 0.002 | <0.002           | <0.002             | <0.0020             |
| Xylenes (Total)                   | NE                                          | NE                        |             |             |                     |  | <                | 0.003 |                      | <                | 0.003 | <0.003           | <0.003             | <0.0030             |
| Total VOCs                        | NE                                          | NE                        |             |             |                     |  | <                | 0.122 |                      | <                | 0.122 | <0.122           | <0.6451            | <0.6445             |
| 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 | <b>0.0004</b>    | <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                        |             |             |                     |  | <b>0.020</b>     | 0.010 |                      | <b>0.010</b>     | 0.010 | <b>0.0083</b>    | <b>0.0129</b>      | <b>0.011</b>        |
| Dissolved Free Cyanide            | NE                                          | NE                        |             |             |                     |  | <                | 0.010 |                      | <                | 0.010 | <0.005           | <b>0.0129</b>      | <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.                                                   |
| J                 | "J" qualifier indicates analyte concentration is estimated                                                                               |
| B                 | "B" qualifier indicates that the analyte was present in the method blank                                                                 |
| NE                | Regulatory Limit is not established                                                                                                      |
| <b>Bold Value</b> | = concentration detected above the Method Reporting Limit.                                                                               |
|                   | = concentration equals or exceeds the RIDEM GB Groundwater Objective                                                                     |
|                   | =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

6/1/2015  
GZA File No. 05.00043654.00

| ANALYTICAL                        | Sample ID:<br>Collected By:<br>Sample Date: |                           | MW-337      |             |                     |                  |                      |                  |                  |                    |                     |                   |                |
|-----------------------------------|---------------------------------------------|---------------------------|-------------|-------------|---------------------|------------------|----------------------|------------------|------------------|--------------------|---------------------|-------------------|----------------|
|                                   | RIDEM GB<br>GW UCL                          | RIDEM GB GW<br>Objectives | AES<br>1996 | VHB<br>2006 | GZA<br>January 2010 | GZA<br>June 2010 | GZA<br>December 2010 | GZA<br>July 2011 | GZA<br>July 2012 | GZA<br>August 2013 | GZA<br>October 2014 |                   |                |
|                                   |                                             |                           | Note (4)    | Note (4)    | Note (4)            | Note (4)         |                      |                  |                  |                    |                     |                   |                |
| VOCs (ppm)                        |                                             |                           |             |             |                     |                  | Result               | DL               | Result           | DL                 | Result              | Result            | Result         |
| 1,1,1,2-Tetrachloroethane         | NE                                          | NE                        |             |             |                     |                  | <                    | 0.001            | <                | 0.001              | <0.001              | <0.001            | <0.0010        |
| 1,1-Dichloroethene                | 23                                          | 0.007                     |             |             |                     |                  | <                    | 0.001            | <                | 0.001              | <0.001              | <0.001            | <0.0010        |
| 1,2,4-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |                  | <                    | 0.001            | <                | 0.001              | <0.001              | <0.001            | <0.0010        |
| 1,2-Dibromo-3-Chloropropane       | NE                                          | 0.002                     |             |             |                     |                  | <                    | 0.002            | <                | 0.002              | <0.005              | <0.005            | <0.0050        |
| 1,3,5-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |                  | <                    | 0.001            | <                | 0.001              | <0.001              | <0.001            | <0.0010        |
| 4-Isopropyltoluene                | NE                                          | NE                        |             |             |                     |                  |                      |                  |                  | <0.001             | <0.001              | <0.001            | <0.0010        |
| Acetone                           | NE                                          | NE                        |             |             |                     |                  | <                    | 0.010            | <                | 0.010              | <0.01               | <0.01             | <0.0100        |
| Benzene                           | 18                                          | 0.14                      |             |             |                     |                  | <                    | 0.001            | <                | 0.001              | <0.001              | <0.001            | <b>0.0036</b>  |
| Carbon Disulfide                  | NE                                          | NE                        |             |             |                     |                  |                      |                  | <                | 0.001              | <0.001              | <0.001            | <0.0010        |
| Carbon Tetrachloride              | NE                                          | 0.07                      |             |             |                     |                  | <                    | 0.001            | <                | 0.001              | <0.001              | <0.001            | <0.0010        |
| Chloroform                        | NE                                          | NE                        |             |             |                     |                  | <                    | 0.001            | <                | 0.001              | <0.001              | <0.001            | <0.0010        |
| cis-1,2-Dichloroethene            | 69                                          | 2.4                       |             |             |                     |                  | <                    | 0.001            | <                | 0.001              | <0.001              | <0.001            | <0.0010        |
| Ethylbenzene                      | 16                                          | 1.6                       |             |             |                     |                  | <                    | 0.001            | <                | 0.001              | <0.001              | <0.001            | <0.0010        |
| Isopropylbenzene                  | NE                                          | NE                        |             |             |                     |                  | <                    | 0.001            | <                | 0.001              | <0.001              | <0.001            | <0.0010        |
| Methyl tert-Butyl Ether           | NE                                          | 5                         |             |             |                     |                  | <                    | 0.001            | <                | 0.001              | <0.001              | <0.001            | <0.0010        |
| Naphthalene                       | NE                                          | 2.67                      |             |             |                     |                  | <                    | 0.002            | <                | 0.002              | <0.001              | <0.001            | <0.0010        |
| n-Butylbenzene                    | NE                                          | NE                        |             |             |                     |                  | <                    | 0.001            | <                | 0.001              | <0.001              | <0.001            | <0.0010        |
| n-Propylbenzene                   | NE                                          | NE                        |             |             |                     |                  | <                    | 0.001            | <                | 0.001              | <0.001              | <0.001            | <0.0010        |
| sec-Butylbenzene                  | NE                                          | NE                        |             |             |                     |                  | <                    | 0.001            | <                | 0.001              | <0.001              | <0.001            | <0.0010        |
| Styrene                           | 50                                          | 2.2                       |             |             |                     |                  | <                    | 0.001            | <                | 0.001              | <0.001              | <0.001            | <0.0010        |
| Tertiary-amyl methyl ether        | NE                                          | NE                        |             |             |                     |                  |                      |                  |                  | <0.001             | <0.001              | <0.001            | <0.0010        |
| Tetrachloroethene                 | NE                                          | 0.15                      |             |             |                     |                  | <                    | 0.001            | <                | 0.001              | <0.001              | <0.001            | <0.0010        |
| Toluene                           | 21                                          | 1.7                       |             |             |                     |                  | <                    | 0.001            | <                | 0.001              | <0.001              | <0.001            | <0.0010        |
| Trichloroethene                   | 87                                          | 0.54                      |             |             |                     |                  | <                    | 0.001            | <                | 0.001              | <0.001              | <0.001            | <0.0010        |
| Vinyl Chloride                    | NE                                          | 0.002                     |             |             |                     |                  | <                    | 0.001            | <                | 0.001              | <0.001              | <0.001            | <0.0010        |
| Xylene O                          | NE                                          | NE                        |             |             |                     |                  | <                    | 0.001            | <                | 0.001              | <0.001              | <0.001            | <0.0010        |
| Xylene P,M                        | NE                                          | NE                        |             |             |                     |                  | <                    | 0.002            | <                | 0.002              | <0.002              | <0.002            | <0.0020        |
| Xylenes (Total)                   | NE                                          | NE                        |             |             |                     |                  | <                    | 0.003            | <                | 0.003              | <0.003              | <0.003            | <0.0030        |
| Total VOCs                        | NE                                          | NE                        |             |             |                     |                  | <                    | 0.122            | <                | 0.122              | <0.041              | <0.6451           | <b>0.0036</b>  |
| TOTAL PETROLEUM HYDROCARBON (ppm) |                                             |                           |             |             |                     |                  |                      |                  |                  |                    |                     |                   |                |
| Hydrocarbon Content               | NE                                          | NE                        |             |             |                     |                  | <b>0.69</b>          | 0.2              | <b>0.46</b>      | 0.2                | <b>0.91</b>         | <b>1.36</b>       | <b>1.32</b>    |
| 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              | <b>0.0004</b>       | <0.0009 D         | <b>0.0015</b>  |
| Acenaphthylene                    | NE                                          | NE                        |             |             |                     |                  | <                    | 0.002            | <                | 0.002              | <b>0.0004</b>       | <0.001 D          | <b>0.0021</b>  |
| 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         | <b>0.00007</b> |
| 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         | <b>0.00006</b> |
| Dibenzo [a,h] Anthracene          | NE                                          | NE                        |             |             |                     |                  | <                    | 0.002            | <                | 0.002              | <0.0002             | <0.0002 D         | <0.00005       |
| Fluoranthene                      | NE                                          | NE                        |             |             |                     |                  | <                    | 0.002            | <                | 0.002              | <b>0.001</b>        | <b>0.0012 D</b>   | <b>0.0011</b>  |
| Fluorene                          | NE                                          | NE                        |             |             |                     |                  | <                    | 0.002            | <                | 0.002              | <b>0.0009</b>       | <b>0.0016 D</b>   | <b>0.0021</b>  |
| 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              | <b>0.0002</b>       | <b>0.0014 B D</b> | <b>0.0003</b>  |
| Phenanthrene                      | NE                                          | NE                        |             |             |                     |                  | <                    | 0.002            | <                | 0.002              | <0.0002             | <0.0009 D         | <0.0002        |
| Pyrene                            | NE                                          | NE                        |             |             |                     |                  | <                    | 0.002            | <                | 0.002              | <b>0.001</b>        | <b>0.0012 D</b>   | <b>0.0012</b>  |
| INORGANICS (ppm)                  |                                             |                           |             |             |                     |                  |                      |                  |                  |                    |                     |                   |                |
| Total Cyanide                     | NE                                          | NE                        |             |             |                     |                  | <b>0.20</b>          | 0.010            | <b>0.19</b>      | 0.010              | <b>0.127</b>        | <b>0.282 D</b>    | <b>0.328</b>   |
| Dissolved Free Cyanide            | NE                                          | NE                        |             |             |                     |                  | <                    | 0.010            | <                | 0.010              | <b>0.0099</b>       | <b>0.267 D</b>    | <b>0.237</b>   |
| 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.                                                   |
| J                 | "J" qualifier indicates analyte concentration is estimated                                                                               |
| B                 | "B" qualifier indicates that the analyte was present in the method blank                                                                 |
| NE                | Regulatory Limit is not established                                                                                                      |
| <b>Bold Value</b> | = concentration detected above the Method Reporting Limit.                                                                               |
|                   | = concentration equals or exceeds the RIDEM GB Groundwater Objective                                                                     |
|                   | =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

6/1/2015  
GZA File No. 05.00043654.00

| ANALYTICAL                        | Sample ID:<br>Collected By:<br>Sample Date: |                           | MW-107      |               |                     |       |                  |       |                      |                  |       |                  |                    |                     |
|-----------------------------------|---------------------------------------------|---------------------------|-------------|---------------|---------------------|-------|------------------|-------|----------------------|------------------|-------|------------------|--------------------|---------------------|
|                                   | RIDEM GB<br>GW UCL                          | RIDEM GB GW<br>Objectives | AES<br>1996 | VHB<br>2006   | GZA<br>January 2010 |       | GZA<br>July 2010 |       | GZA<br>December 2010 | GZA<br>July 2011 |       | GZA<br>July 2012 | GZA<br>August 2013 | GZA<br>October 2014 |
|                                   |                                             |                           | Note (4)    |               |                     |       |                  |       | Note (6)             |                  |       |                  |                    |                     |
| VOCs (ppm)                        |                                             |                           |             | Result        | Result              | DL    | Result           | DL    |                      | Result           | DL    | Result           | Result             | Result              |
| 1,1,1,2-Tetrachloroethane         | NE                                          | NE                        |             |               | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 1,1-Dichloroethene                | 23                                          | 0.007                     |             |               | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 1,2,4-Trimethylbenzene            | NE                                          | NE                        |             | <0.001        | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 1,2-Dibromo-3-Chloropropane       | NE                                          | 0.002                     |             |               | <                   | 0.005 | <                | 0.002 |                      | <                | 0.002 | <0.005           | <0.005             | <0.0050             |
| 1,3,5-Trimethylbenzene            | NE                                          | NE                        |             | <0.001        | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 4-Isopropyltoluene                | NE                                          | NE                        |             |               |                     |       |                  |       |                      |                  |       | <0.001           | <0.001             | <0.0010             |
| Acetone                           | NE                                          | NE                        |             |               | <                   | 0.025 | <                | 0.010 |                      | <                | 0.010 | <0.01            | <0.01              | <0.0100             |
| Benzene                           | 18                                          | 0.14                      |             | <0.001        | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Carbon Disulfide                  | NE                                          | NE                        |             |               |                     |       |                  |       |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Carbon Tetrachloride              | NE                                          | 0.07                      |             |               | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Chloroform                        | NE                                          | NE                        |             | <0.001        | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| cis-1,2-Dichloroethene            | 69                                          | 2.4                       |             |               | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Ethylbenzene                      | 16                                          | 1.6                       |             | <0.001        | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Isopropylbenzene                  | NE                                          | NE                        |             | <0.001        | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Methyl tert-Butyl Ether           | NE                                          | 5                         |             | <0.001        | <                   | 0.001 | <                | 0.002 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Naphthalene                       | NE                                          | 2.67                      |             | <0.001        | <                   | 0.002 | <                | 0.001 |                      | <                | 0.002 | <0.001           | <0.001             | <0.0010             |
| n-Butylbenzene                    | NE                                          | NE                        |             | <0.001        | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| n-Propylbenzene                   | NE                                          | NE                        |             | <0.001        | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| sec-Butylbenzene                  | NE                                          | NE                        |             | <0.001        | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Styrene                           | 50                                          | 2.2                       |             |               | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Tertiary-amyl methyl ether        | NE                                          | NE                        |             |               |                     |       |                  |       |                      |                  |       | <0.001           | <0.001             | <0.0010             |
| Tetrachloroethene                 | NE                                          | 0.15                      |             |               | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Toluene                           | 21                                          | 1.7                       |             | <0.001        | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Trichloroethene                   | 87                                          | 0.54                      |             |               | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Vinyl Chloride                    | NE                                          | 0.002                     |             |               | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Xylene O                          | NE                                          | NE                        |             | <0.001        | <                   | 0.001 | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Xylene P,M                        | NE                                          | NE                        |             | <0.002        | <                   | 0.002 | <                | 0.001 |                      | <                | 0.002 | <0.002           | <0.002             | <0.0020             |
| Xylenes (Total)                   | NE                                          | NE                        |             | <0.003        | <                   | 0.003 | <                | 0.002 |                      | <                | 0.003 | <0.003           | <0.003             | <0.0030             |
| Total VOCs                        | NE                                          | NE                        |             | <0.02         | <                   | 0.188 | <                | 0.093 |                      | <                | 0.122 | <0.041           | <0.6451            | <0.6445             |
| 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 | <b>0.002</b>     | <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                        |             | <b>0.07</b>   | <b>0.020</b>        | 0.010 | <b>0.052</b>     | 0.010 |                      | <b>0.040</b>     | 0.010 | <b>0.0306</b>    | <b>0.0472</b>      | <b>0.0458</b>       |
| Dissolved Free Cyanide            | NE                                          | NE                        |             | <0.05         | <                   | 0.010 | <                | 0.010 |                      | <                | 0.010 | <0.005           | <b>0.0445</b>      | <b>0.031</b>        |
| Physiologically Available Cyanide | NE                                          | NE                        |             | <0.05         |                     |       |                  |       |                      |                  |       |                  |                    |                     |
| Arsenic                           | NE                                          | NE                        |             | <0.0050       |                     |       |                  |       |                      |                  |       |                  |                    |                     |
| Beryllium                         | NE                                          | NE                        |             | <b>0.003</b>  |                     |       |                  |       |                      |                  |       |                  |                    |                     |
| Chromium                          | NE                                          | NE                        |             | <b>0.038</b>  |                     |       |                  |       |                      |                  |       |                  |                    |                     |
| Copper                            | NE                                          | NE                        |             | <b>0.12</b>   |                     |       |                  |       |                      |                  |       |                  |                    |                     |
| Lead                              | NE                                          | NE                        |             | <b>0.0075</b> |                     |       |                  |       |                      |                  |       |                  |                    |                     |
| Nickel                            | NE                                          | NE                        |             | <b>0.092</b>  |                     |       |                  |       |                      |                  |       |                  |                    |                     |
| Zinc                              | NE                                          | NE                        |             | <b>0.255</b>  |                     |       |                  |       |                      |                  |       |                  |                    |                     |
| Dissolved Arsenic                 | NE                                          | NE                        |             | <0.0050       |                     |       |                  |       |                      |                  |       |                  |                    |                     |
| Dissolved Beryllium               | NE                                          | NE                        |             | <b>0.003</b>  |                     |       |                  |       |                      |                  |       |                  |                    |                     |
| Dissolved Chromium                | NE                                          | NE                        |             | <b>0.037</b>  |                     |       |                  |       |                      |                  |       |                  |                    |                     |
| Dissolved Copper                  | NE                                          | NE                        |             | <b>0.119</b>  |                     |       |                  |       |                      |                  |       |                  |                    |                     |
| Dissolved Lead                    | NE                                          | NE                        |             | <b>0.0075</b> |                     |       |                  |       |                      |                  |       |                  |                    |                     |
| Dissolved Nickel                  | NE                                          | NE                        |             | <b>0.093</b>  |                     |       |                  |       |                      |                  |       |                  |                    |                     |
| Dissolved Zinc                    | NE                                          | NE                        |             | <b>0.259</b>  |                     |       |                  |       |                      |                  |       |                  |                    |                     |

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.                                                   |
| J                 | "J" qualifier indicates analyte concentration is estimated                                                                               |
| B                 | "B" qualifier indicates that the analyte was present in the method blank                                                                 |
| NE                | Regulatory Limit is not established                                                                                                      |
| <b>Bold Value</b> | = concentration detected above the Method Reporting Limit.                                                                               |
|                   | = concentration equals or exceeds the RIDEM GB Groundwater Objective                                                                     |
|                   | =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

6/1/2015  
GZA File No. 05.00043654.00

| ANALYTICAL                        | Sample ID:<br>Collected By:<br>Sample Date: |                           | MW-318S     |             |                     |  |                  |       |                      |                  |       |                  |                    |                     |
|-----------------------------------|---------------------------------------------|---------------------------|-------------|-------------|---------------------|--|------------------|-------|----------------------|------------------|-------|------------------|--------------------|---------------------|
|                                   |                                             |                           | AES<br>1996 | VHB<br>2006 | GZA<br>January 2010 |  | GZA<br>June 2010 |       | GZA<br>December 2010 | GZA<br>July 2011 |       | GZA<br>July 2012 | GZA<br>August 2013 | GZA<br>October 2014 |
|                                   | RIDEM GB<br>GW UCL                          | RIDEM GB GW<br>Objectives | Note (4)    | Note (4)    | Note (4)            |  |                  |       | Note (6)             | Result           | DL    | Result           | Result             | Result              |
| VOCs (ppm)                        |                                             |                           |             |             |                     |  | Result           | DL    |                      | Result           | DL    | Result           | Result             | Result              |
| 1,1,1,2-Tetrachloroethane         | NE                                          | NE                        |             |             |                     |  | <                | 0.01  |                      | <                | 0.01  | <0.05            | <0.001             | <0.0010             |
| 1,1-Dichloroethene                | 23                                          | 0.007                     |             |             |                     |  | <                | 0.01  |                      | <                | 0.01  | <0.05            | <0.001             | <0.0010             |
| 1,2,4-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |  | 0.052            | 0.01  |                      | 0.04             | 0.01  | <0.05            | 0.043              | 0.0303              |
| 1,2-Dibromo-3-Chloropropane       | NE                                          | 0.002                     |             |             |                     |  | <                | 0.02  |                      | <                | 0.02  | <0.25            | <0.005             | <0.0050             |
| 1,3,5-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |  | 0.023            | 0.01  |                      | 0.017            | 0.01  | <0.05            | 0.0177             | 0.0124              |
| 4-Isopropyltoluene                | NE                                          | NE                        |             |             |                     |  |                  |       |                      |                  |       | <0.05            | 0.0012             | <0.0010             |
| Acetone                           | NE                                          | NE                        |             |             |                     |  | <                | 0.10  |                      | <                | 0.10  | <0.5             | <0.01              | <0.0100             |
| Benzene                           | 18                                          | 0.14                      |             |             |                     |  | 0.088            | 0.01  |                      | 0.089            | 0.01  | 0.063            | 0.0733             | 0.0516              |
| Carbon Disulfide                  | NE                                          | NE                        |             |             |                     |  |                  |       |                      | <                | 0.01  | <0.05            | <0.001             | <0.0010             |
| Carbon Tetrachloride              | NE                                          | 0.07                      |             |             |                     |  | <                | 0.01  |                      | <                | 0.01  | <0.05            | <0.001             | <0.0010             |
| Chloroform                        | NE                                          | NE                        |             |             |                     |  | <                | 0.01  |                      | <                | 0.01  | <0.05            | <0.001             | <0.0010             |
| cis-1,2-Dichloroethene            | 69                                          | 2.4                       |             |             |                     |  | <                | 0.01  |                      | <                | 0.01  | <0.05            | <0.001             | <0.0010             |
| Ethylbenzene                      | 16                                          | 1.6                       |             |             |                     |  | 0.012            | 0.01  |                      | 0.01             | 0.01  | <0.05            | 0.0099             | 0.0062              |
| Isopropylbenzene                  | NE                                          | NE                        |             |             |                     |  | <                | 0.01  |                      | <                | 0.01  | <0.05            | <0.001             | <0.0010             |
| Methyl tert-Butyl Ether           | NE                                          | 5                         |             |             |                     |  | <                | 0.01  |                      | <                | 0.01  | <0.05            | <0.001             | <0.0010             |
| Naphthalene                       | NE                                          | 2.67                      |             |             |                     |  | 1.2              | 0.02  |                      | 1.1              | 0.02  | 1.22             | 0.988 D            | 0.883               |
| n-Butylbenzene                    | NE                                          | NE                        |             |             |                     |  | <                | 0.01  |                      | <                | 0.01  | <0.05            | <0.001             | <0.0010             |
| n-Propylbenzene                   | NE                                          | NE                        |             |             |                     |  | <                | 0.01  |                      | <                | 0.01  | <0.05            | 0.002              | 0.0012              |
| sec-Butylbenzene                  | NE                                          | NE                        |             |             |                     |  | <                | 0.01  |                      | <                | 0.01  | <0.05            | <0.001             | <0.0010             |
| Styrene                           | 50                                          | 2.2                       |             |             |                     |  | <                | 0.01  |                      | <                | 0.01  | <0.05            | 0.0051             | 0.0024              |
| Tertiary-amyl methyl ether        | NE                                          | NE                        |             |             |                     |  |                  |       |                      |                  |       | <0.05            | <0.001             | <0.0010             |
| Tetrachloroethene                 | NE                                          | 0.15                      |             |             |                     |  | <                | 0.01  |                      | <                | 0.01  | <0.05            | <0.001             | <0.0010             |
| Toluene                           | 21                                          | 1.7                       |             |             |                     |  | 0.076            | 0.01  |                      | 0.072            | 0.01  | 0.0575           | 0.0659             | 0.0441              |
| Trichloroethene                   | 87                                          | 0.54                      |             |             |                     |  | <                | 0.01  |                      | <                | 0.01  | <0.05            | <0.001             | <0.0010             |
| Vinyl Chloride                    | NE                                          | 0.002                     |             |             |                     |  | <                | 0.01  |                      | <                | 0.01  | <0.05            | <0.001             | <0.0010             |
| Xylene O                          | NE                                          | NE                        |             |             |                     |  | 0.046            | 0.01  |                      | 0.039            | 0.01  | <0.05            | 0.0374             | 0.0253              |
| Xylene P,M                        | NE                                          | NE                        |             |             |                     |  | 0.11             | 0.02  |                      | 0.082            | 0.02  | <0.1             | 0.083              | 0.0556              |
| Xylenes (Total)                   | NE                                          | NE                        |             |             |                     |  | 0.156            | 0.03  |                      | 0.121            | 0.03  | <0.15            | 0.12               | 0.0809              |
| Total VOCs                        | NE                                          | NE                        |             |             |                     |  | 1.61             | 1.22  |                      | 1.449            | 1.22  | 1.3405           | 1.3265             | 1.1121              |
| 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 B 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.                                                   |
| J          | "J" qualifier indicates analyte concentration is estimated                                                                               |
| 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                                                                     |
|            | =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

6/1/2015  
GZA File No. 05.00043654.00

| ANALYTICAL                        | Sample ID:<br>Collected By:<br>Sample Date: |                           | MW-318D     |             |                     |  |                  |       |                      |                  |       |                  |                    |                    |
|-----------------------------------|---------------------------------------------|---------------------------|-------------|-------------|---------------------|--|------------------|-------|----------------------|------------------|-------|------------------|--------------------|--------------------|
|                                   | RIDEM GB<br>GW UCL                          | RIDEM GB GW<br>Objectives | AES<br>1996 | VHB<br>2006 | GZA<br>January 2010 |  | GZA<br>June 2010 |       | GZA<br>December 2010 | GZA<br>July 2011 |       | GZA<br>July 2012 | GZA<br>August 2013 | GZA<br>August 2013 |
|                                   |                                             |                           | Note (4)    | Note (4)    | Note (4)            |  |                  |       | Note (6)             |                  |       |                  |                    |                    |
| VOCs (ppm)                        |                                             |                           |             |             |                     |  | Result           | DL    |                      | Result           | DL    | Result           | Result             | Result             |
| 1,1,1,2-Tetrachloroethane         | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010            |
| 1,1-Dichloroethene                | 23                                          | 0.007                     |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010            |
| 1,2,4-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010            |
| 1,2-Dibromo-3-Chloropropane       | NE                                          | 0.002                     |             |             |                     |  | <                | 0.002 |                      | <                | 0.002 | <0.005           | <0.005             | <0.0050            |
| 1,3,5-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010            |
| 4-Isopropyltoluene                | NE                                          | NE                        |             |             |                     |  |                  |       |                      |                  |       | <0.001           | <0.001             | <0.0010            |
| Acetone                           | NE                                          | NE                        |             |             |                     |  | <                | 0.010 |                      | <                | 0.010 | <0.01            | <0.01              | <0.0100            |
| Benzene                           | 18                                          | 0.14                      |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010            |
| Carbon Disulfide                  | NE                                          | NE                        |             |             |                     |  |                  |       |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010            |
| Carbon Tetrachloride              | NE                                          | 0.07                      |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010            |
| Chloroform                        | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010            |
| cis-1,2-Dichloroethene            | 69                                          | 2.4                       |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010            |
| Ethylbenzene                      | 16                                          | 1.6                       |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010            |
| Isopropylbenzene                  | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010            |
| Methyl tert-Butyl Ether           | NE                                          | 5                         |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010            |
| Naphthalene                       | NE                                          | 2.67                      |             |             |                     |  | 0.0043           | 0.002 |                      | <                | 0.002 | <0.001           | <0.001             | 0.0013             |
| n-Butylbenzene                    | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010            |
| n-Propylbenzene                   | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010            |
| sec-Butylbenzene                  | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010            |
| Styrene                           | 50                                          | 2.2                       |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010            |
| Tertiary-amyl methyl ether        | NE                                          | NE                        |             |             |                     |  |                  |       |                      |                  |       | <0.001           | <0.001             | <0.0010            |
| Tetrachloroethene                 | NE                                          | 0.15                      |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010            |
| Toluene                           | 21                                          | 1.7                       |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010            |
| Trichloroethene                   | 87                                          | 0.54                      |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010            |
| Vinyl Chloride                    | NE                                          | 0.002                     |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010            |
| Xylene O                          | NE                                          | NE                        |             |             |                     |  | <                | 0.001 |                      | <                | 0.001 | <0.001           | <0.001             | <0.0010            |
| Xylene P,M                        | NE                                          | NE                        |             |             |                     |  | <                | 0.002 |                      | <                | 0.002 | <0.002           | <0.002             | <0.0020            |
| Xylenes (Total)                   | NE                                          | NE                        |             |             |                     |  | <                | 0.003 |                      | <                | 0.003 | <0.003           | <0.003             | <0.0030            |
| Total VOCs                        | NE                                          | NE                        |             |             |                     |  | <                | 0.122 |                      | <                | 0.122 | <0.041           | <0.6451            | 0.0013             |
| 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.                                                   |
| J          | "J" qualifier indicates analyte concentration is estimated                                                                               |
| 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                                                                     |
|            | =detection limit equals or exceeds the RIDEM GB Groundwater Objective                                                                    |
| (1)        | Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations. |
| (2)        | Well was not sampled because there was limited water                                                                                     |
| (3)        | NAPL was noted to be present                                                                                                             |
| (4)        | Well was not sampled because it had not been installed yet.                                                                              |
| (5)        | Well was not sampled because of an unknown reason                                                                                        |
| (6)        | Well was not included in this sampling round                                                                                             |

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

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

6/1/2015  
GZA File No. 05.00043654.00

| ANALYTICAL                        | Sample ID:<br>Collected By:<br>Sample Date: |                           | MW-334S     |             |                     |  |                  |                      |       |                  |       |                  |                    |                     |
|-----------------------------------|---------------------------------------------|---------------------------|-------------|-------------|---------------------|--|------------------|----------------------|-------|------------------|-------|------------------|--------------------|---------------------|
|                                   |                                             |                           | AES<br>1996 | VHB<br>2006 | GZA<br>January 2010 |  | GZA<br>June 2010 | GZA<br>December 2010 |       | GZA<br>July 2011 |       | GZA<br>July 2012 | GZA<br>August 2013 | GZA<br>October 2014 |
|                                   | RIDEM GB<br>GW UCL                          | RIDEM GB GW<br>Objectives | Note (4)    | Note (4)    | Note (4)            |  | Note (4)         |                      |       |                  |       |                  |                    |                     |
| VOCs (ppm)                        |                                             |                           |             |             |                     |  |                  | Result               | DL    | Result           | DL    | Result           | Result             | Result              |
| 1,1,1,2-Tetrachloroethane         | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 1,1-Dichloroethene                | 23                                          | 0.007                     |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 1,2,4-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |  |                  | 0.0034               | 0.001 | <                | 0.001 | 0.0016           | 0.0011             | 0.0015              |
| 1,2-Dibromo-3-Chloropropane       | NE                                          | 0.002                     |             |             |                     |  |                  | <                    | 0.002 | <                | 0.002 | <0.005           | <0.005             | <0.0050             |
| 1,3,5-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |  |                  | 0.0013               | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 4-Isopropyltoluene                | NE                                          | NE                        |             |             |                     |  |                  |                      |       |                  |       | <0.001           | <0.001             | <0.0010             |
| Acetone                           | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.010 | <                | 0.010 | <0.01            | <0.01              | <0.0100             |
| Benzene                           | 18                                          | 0.14                      |             |             |                     |  |                  | 0.0032               | 0.001 | 0.001            | 0.001 | 0.0021           | 0.002              | 0.0032              |
| Carbon Disulfide                  | NE                                          | NE                        |             |             |                     |  |                  |                      |       | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Carbon Tetrachloride              | NE                                          | 0.07                      |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Chloroform                        | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| cis-1,2-Dichloroethene            | 69                                          | 2.4                       |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Ethylbenzene                      | 16                                          | 1.6                       |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Isopropylbenzene                  | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Methyl tert-Butyl Ether           | NE                                          | 5                         |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Naphthalene                       | NE                                          | 2.67                      |             |             |                     |  |                  | 0.071                | 0.002 | 0.014            | 0.002 | 0.0429           | 0.0334             | 0.0692              |
| n-Butylbenzene                    | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| n-Propylbenzene                   | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| sec-Butylbenzene                  | NE                                          | NE                        |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Styrene                           | 50                                          | 2.2                       |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Tertiary-amyl methyl ether        | NE                                          | NE                        |             |             |                     |  |                  |                      |       |                  |       | <0.001           | <0.001             | <0.0010             |
| Tetrachloroethene                 | NE                                          | 0.15                      |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Toluene                           | 21                                          | 1.7                       |             |             |                     |  |                  | 0.0018               | 0.001 | 0.0011           | 0.001 | 0.0012           | 0.001              | 0.0016              |
| Trichloroethene                   | 87                                          | 0.54                      |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Vinyl Chloride                    | NE                                          | 0.002                     |             |             |                     |  |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Xylene O                          | NE                                          | NE                        |             |             |                     |  |                  | 0.0025               | 0.001 | <                | 0.001 | 0.0013           | <0.001             | 0.0013              |
| Xylene P,M                        | NE                                          | NE                        |             |             |                     |  |                  | 0.0042               | 0.002 | <                | 0.002 | <0.002           | <0.002             | 0.0022              |
| Xylenes (Total)                   | NE                                          | NE                        |             |             |                     |  |                  | 0.0067               | 0.003 | <                | 0.003 | 0.0013           | <0.003             | 0.0035              |
| Total VOCs                        | NE                                          | NE                        |             |             |                     |  |                  | 0.0874               | 0.122 | 0.0161           | 0.122 | 0.0491           | 0.0375             | 0.079               |
| 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 B 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.                                                   |
| J          | "J" qualifier indicates analyte concentration is estimated                                                                               |
| 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                                                                     |
|            | =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

6/1/2015  
GZA File No. 05.00043654.00

| ANALYTICAL                        | Sample ID:<br>Collected By:<br>Sample Date: |                           | MW-334D     |             |                     |          |                  |                      |       |                  |       |                  |                    |                     |
|-----------------------------------|---------------------------------------------|---------------------------|-------------|-------------|---------------------|----------|------------------|----------------------|-------|------------------|-------|------------------|--------------------|---------------------|
|                                   | RIDEM GB<br>GW UCL                          | RIDEM GB GW<br>Objectives | AES<br>1996 | VHB<br>2006 | GZA<br>January 2010 |          | GZA<br>June 2010 | GZA<br>December 2010 |       | GZA<br>July 2011 |       | GZA<br>July 2012 | GZA<br>August 2013 | GZA<br>October 2014 |
| Note (4)                          |                                             |                           | Note (4)    | Note (4)    |                     | Note (4) |                  |                      |       |                  |       |                  |                    |                     |
| VOCs (ppm)                        |                                             |                           |             |             |                     |          |                  | Result               | DL    | Result           | DL    | Result           | Result             | Result              |
| 1,1,1,2-Tetrachloroethane         | NE                                          | NE                        |             |             |                     |          |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 1,1-Dichloroethene                | 23                                          | 0.007                     |             |             |                     |          |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 1,2,4-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |          |                  | 0.0042               | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 1,2-Dibromo-3-Chloropropane       | NE                                          | 0.002                     |             |             |                     |          |                  | <                    | 0.002 | <                | 0.002 | <0.005           | <0.005             | <0.0050             |
| 1,3,5-Trimethylbenzene            | NE                                          | NE                        |             |             |                     |          |                  | 0.0014               | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| 4-Isopropyltoluene                | NE                                          | NE                        |             |             |                     |          |                  |                      |       |                  |       | <0.001           | <0.001             | <0.0010             |
| Acetone                           | NE                                          | NE                        |             |             |                     |          |                  | <                    | 0.010 | <                | 0.010 | <0.01            | <0.01              | <0.0100             |
| Benzene                           | 18                                          | 0.14                      |             |             |                     |          |                  | 0.0030               | 0.001 | 0.0013           | 0.001 | 0.0013           | 0.0015             | 0.0084              |
| Carbon Disulfide                  | NE                                          | NE                        |             |             |                     |          |                  |                      |       | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Carbon Tetrachloride              | NE                                          | 0.07                      |             |             |                     |          |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Chloroform                        | NE                                          | NE                        |             |             |                     |          |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| cis-1,2-Dichloroethene            | 69                                          | 2.4                       |             |             |                     |          |                  | 0.0024               | 0.001 | 0.0011           | 0.001 | 0.0012           | 0.0012             | 0.0013              |
| Ethylbenzene                      | 16                                          | 1.6                       |             |             |                     |          |                  | 0.0011               | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Isopropylbenzene                  | NE                                          | NE                        |             |             |                     |          |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Methyl tert-Butyl Ether           | NE                                          | 5                         |             |             |                     |          |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Naphthalene                       | NE                                          | 2.67                      |             |             |                     |          |                  | 0.11                 | 0.002 | 0.0097           | 0.002 | 0.0213           | 0.0132             | 0.0178              |
| n-Butylbenzene                    | NE                                          | NE                        |             |             |                     |          |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| n-Propylbenzene                   | NE                                          | NE                        |             |             |                     |          |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| sec-Butylbenzene                  | NE                                          | NE                        |             |             |                     |          |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Styrene                           | 50                                          | 2.2                       |             |             |                     |          |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Tertiary-amyl methyl ether        | NE                                          | NE                        |             |             |                     |          |                  |                      |       |                  |       | <0.001           | <0.001             | <0.0010             |
| Tetrachloroethene                 | NE                                          | 0.15                      |             |             |                     |          |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Toluene                           | 21                                          | 1.7                       |             |             |                     |          |                  | 0.0018               | 0.001 | <                | 0.001 | <0.001           | <0.001             | 0.0012              |
| Trichloroethene                   | 87                                          | 0.54                      |             |             |                     |          |                  | 0.0045               | 0.001 | 0.0014           | 0.001 | 0.0023           | 0.0021             | 0.0024              |
| Vinyl Chloride                    | NE                                          | 0.002                     |             |             |                     |          |                  | <                    | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Xylene O                          | NE                                          | NE                        |             |             |                     |          |                  | 0.0036               | 0.001 | <                | 0.001 | <0.001           | <0.001             | <0.0010             |
| Xylene P,M                        | NE                                          | NE                        |             |             |                     |          |                  | 0.0040               | 0.002 | <                | 0.002 | <0.002           | <0.002             | <0.0020             |
| Xylenes (Total)                   | NE                                          | NE                        |             |             |                     |          |                  | 0.0076               | 0.003 | <                | 0.003 | <0.003           | <0.003             | <0.0030             |
| Total VOCs                        | NE                                          | NE                        |             |             |                     |          |                  | 0.136                | 0.122 | 0.0135           | 0.122 | 0.0261           | 0.018              | 0.0311              |
| 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 B 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                        |             |             |                     |          |                  |                      |       |                  |       |                  |                    |                     |

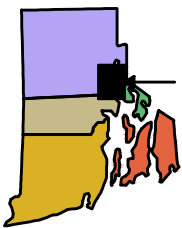
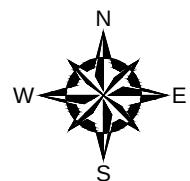
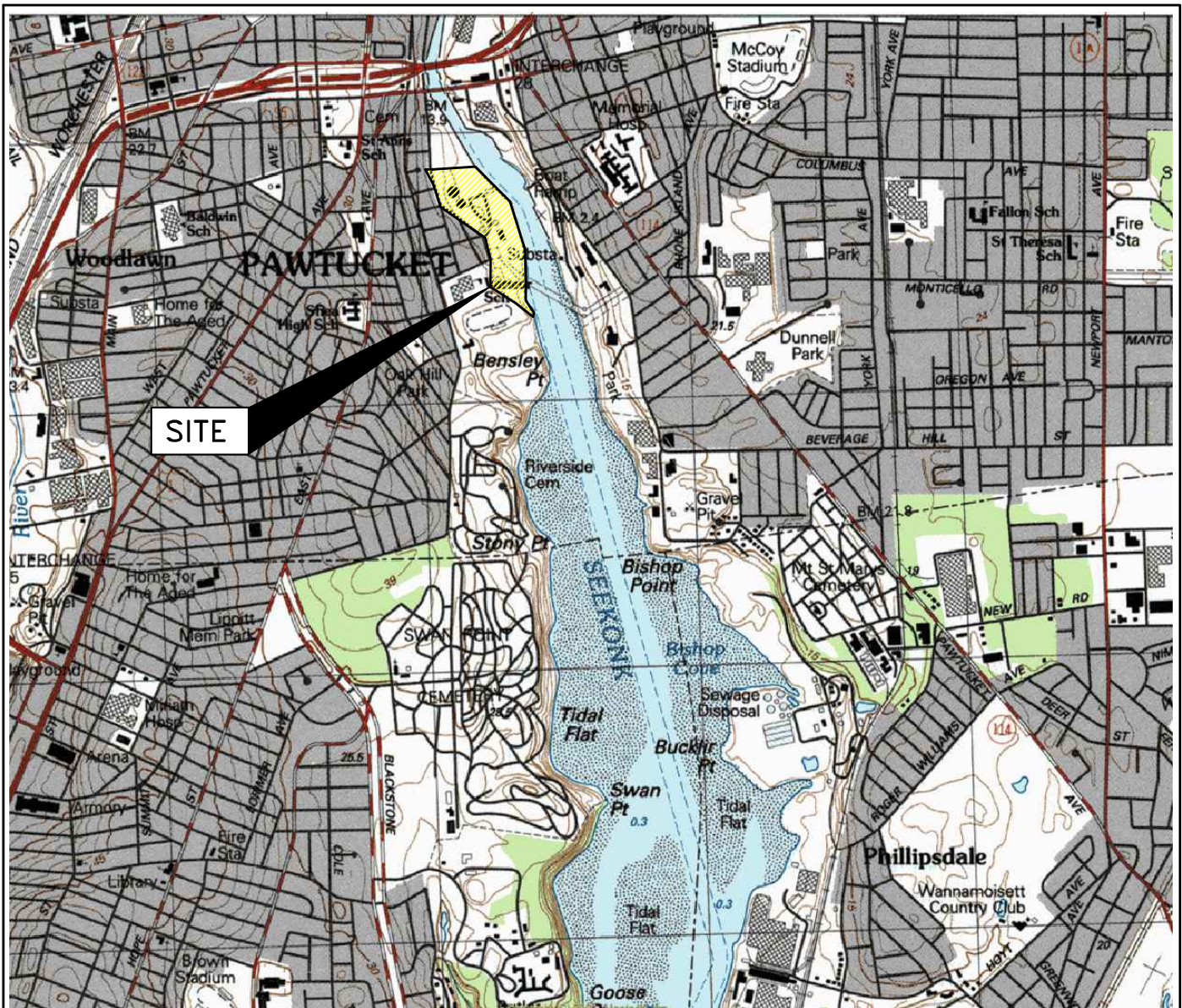
Notes:

|            |                                                                                                                                          |
|------------|------------------------------------------------------------------------------------------------------------------------------------------|
|            | 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.                                                   |
| J          | "J" qualifier indicates analyte concentration is estimated                                                                               |
| 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                                                                     |
|            | =detection limit equals or exceeds the RIDEM GB Groundwater Objective                                                                    |
| (1)        | Method 2 GB Objective criteria for naphthalene developed by GZA in accordance with the methods described in the Remediation Regulations. |
| (2)        | Well was not sampled because there was limited water                                                                                     |
| (3)        | NAPL was noted to be present                                                                                                             |
| (4)        | Well was not sampled because it had not been installed yet.                                                                              |
| (5)        | Well was not sampled because of an unknown reason                                                                                        |
| (6)        | Well was not included in this sampling round                                                                                             |

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

## FIGURES





QUADRANGLE LOCATION

SOURCE:

**BASE MAP FROM THE FOLLOWING USGS QUADRANGLE MAP:  
PROVIDENCE, RHODE ISLAND (1987)**

DIGITAL TOPOGRAPHIC MAPS PROVIDED BY MAPTECH. INC.

CONTOUR ELEVATIONS REFERENCE NGVD 29,  
CONTOURS ARE SHOWN IN METERS AT 3 METER INTERVALS

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FORMER TIDEWATER FACILITY  
PAWTUCKET, RHODE ISLAND

PREPARED BY:



GZA GeoEnvironmental, Inc.  
Engineers and Scientists  
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PREPARED FOR:

NATIONAL GRID

LOCUS PLAN

PROJ MGR: MSK

REVIEWED BY: MSK

CHECKED BY: JJC

FIGURE

DESIGNED BY: SDN

DRAWN BY: CRD

SCALE: AS NOTED

1

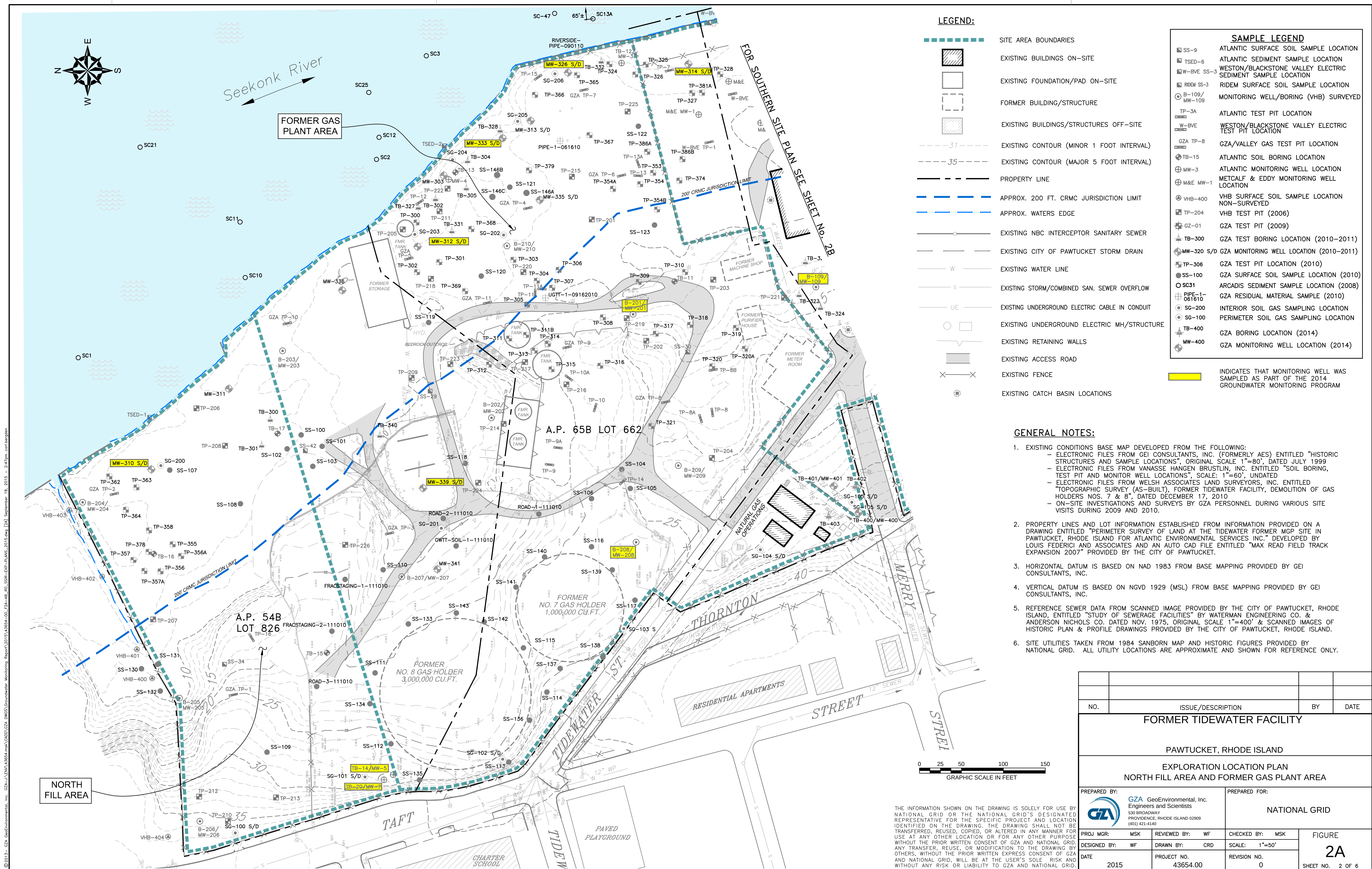
DATE: 2015

PROJECT NO. 43654.00

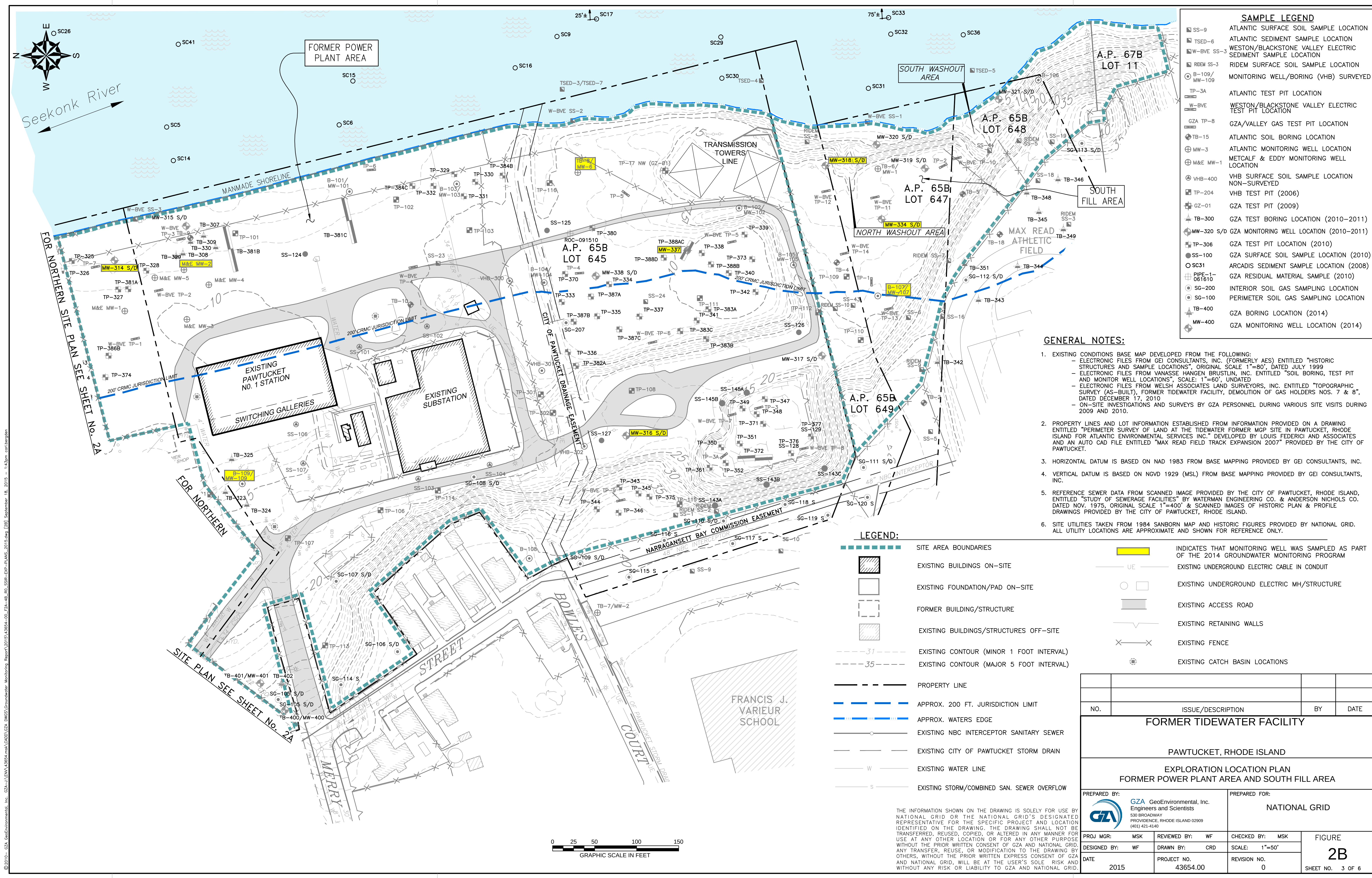
REVISION NO. 0

SHEET NO. 1 OF 6









**SAMPLE LEGEND**

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

**GENERAL NOTES:**

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

**LEGEND:**

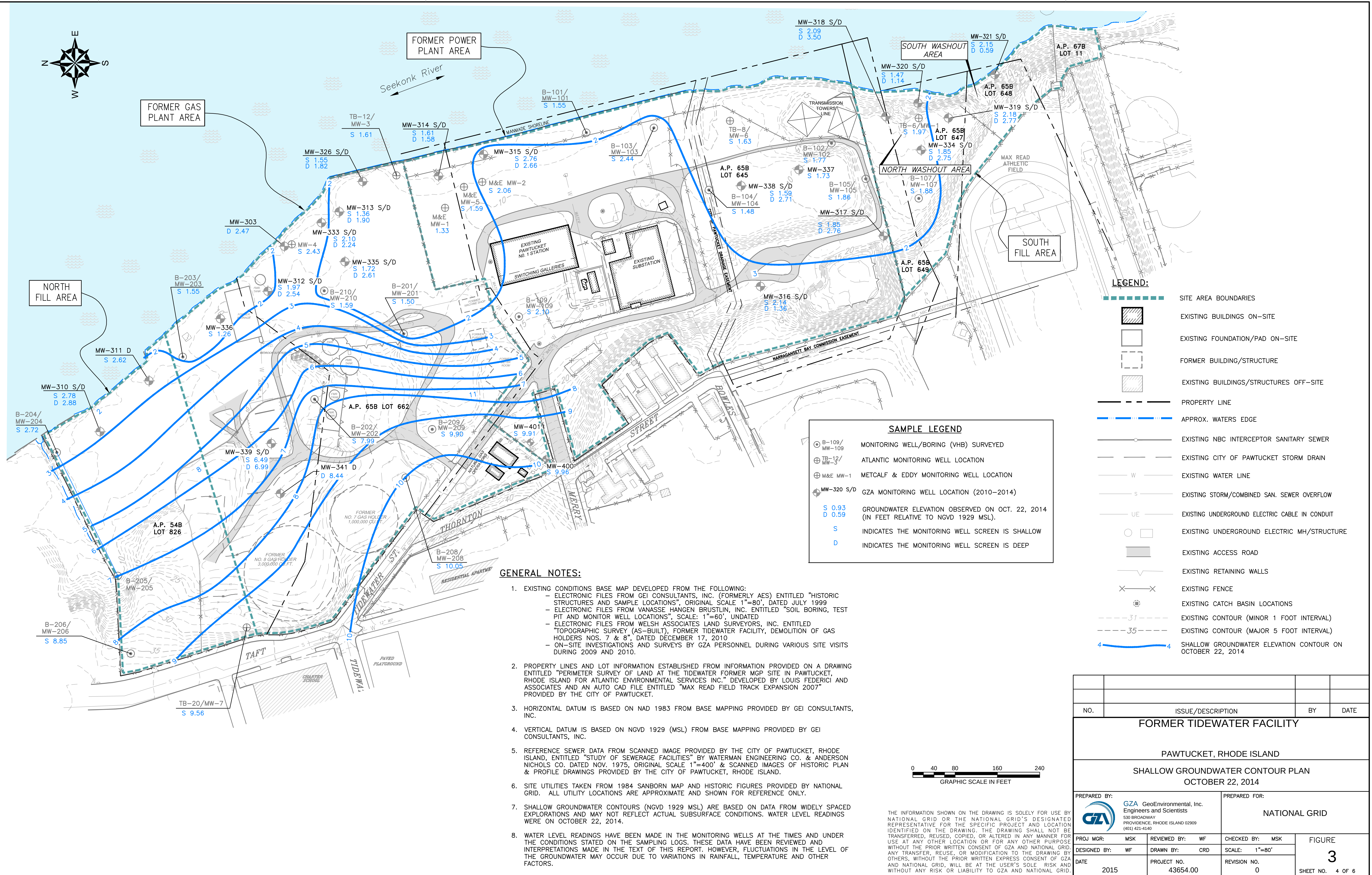
- SITE AREA BOUNDARIES
- EXISTING BUILDINGS ON-SITE
- EXISTING FOUNDATION/PAD ON-SITE
- FORMER BUILDING/STRUCTURE
- EXISTING BUILDINGS/STRUCTURES OFF-SITE
- EXISTING CONTOUR (MINOR 1 FOOT INTERVAL)
- EXISTING CONTOUR (MAJOR 5 FOOT INTERVAL)
- PROPERTY LINE
- APPROX. 200 FT. JURISDICTION LIMIT
- APPROX. WATERS EDGE
- EXISTING NBC INTERCEPTOR SANITARY SEWER
- EXISTING CITY OF PAWTUCKET STORM DRAIN
- EXISTING WATER LINE
- EXISTING STORM/COMBINED SAN. SEWER OVERFLOW
- INDICATES THAT MONITORING WELL WAS SAMPLED AS PART OF THE 2014 GROUNDWATER MONITORING PROGRAM
- EXISTING UNDERGROUND ELECTRIC CABLE IN CONDUIT
- EXISTING UNDERGROUND ELECTRIC MH/STRUCTURE
- EXISTING ACCESS ROAD
- EXISTING RETAINING WALLS
- EXISTING FENCE
- EXISTING CATCH BASIN LOCATIONS

THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY NATIONAL GRID OR THE NATIONAL GRID'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA AND NATIONAL GRID. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA AND NATIONAL GRID, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA AND NATIONAL GRID.

|                                                                                                                                            |                      |                                |                  |
|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------------|------------------|
| FORMER TIDEWATER FACILITY                                                                                                                  |                      |                                |                  |
| PAWTUCKET, RHODE ISLAND                                                                                                                    |                      |                                |                  |
| EXPLORATION LOCATION PLAN<br>FORMER POWER PLANT AREA AND SOUTH FILL AREA                                                                   |                      |                                |                  |
| PREPARED BY:<br>GZA GeoEnvironmental, Inc.<br>Engineers and Scientists<br>530 BROADWAY<br>PROVIDENCE, RHODE ISLAND 02909<br>(401) 421-4140 |                      | PREPARED FOR:<br>NATIONAL GRID |                  |
| PROJ MGR: MSK                                                                                                                              | REVIEWED BY: WF      | CHECKED BY: MSK                | FIGURE           |
| DESIGNED BY: WF                                                                                                                            | DRAWN BY: CRD        | SCALE: 1"=50'                  | 2B               |
| DATE: 2015                                                                                                                                 | PROJECT NO. 43654.00 | REVISION NO. 0                 | SHEET NO. 3 OF 6 |

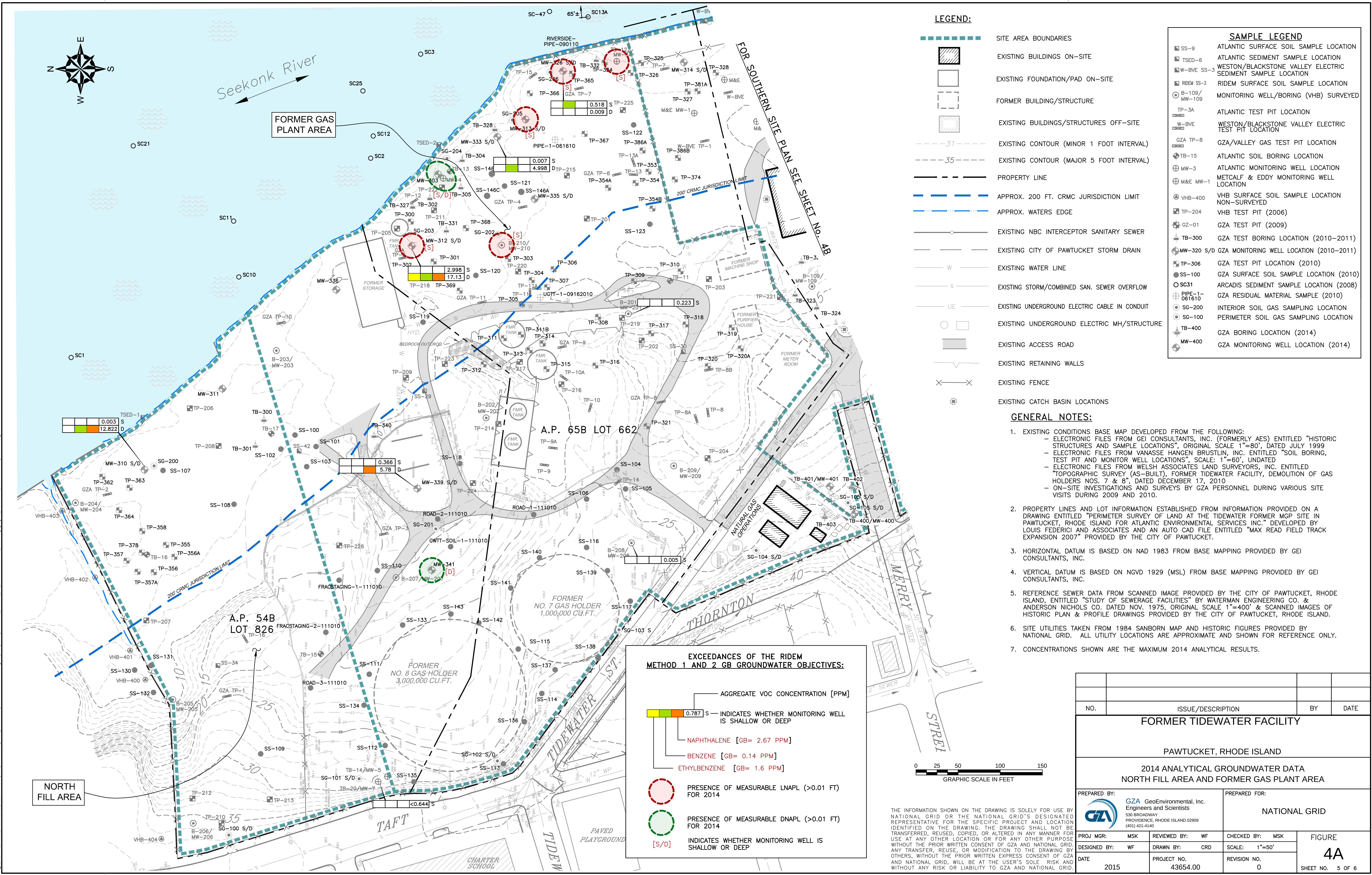


© 2015 - GZA GeoEnvironmental, Inc. GZA-J:\ENVA\30654.mxd\GZA\DWG\Groundwater Monitoring Report\2015\30654-00\_F4-48\_RD\_SSH-EXP-PLANS-2015.dwg [3] September 18, 2015 - 2:48pm con.bergden

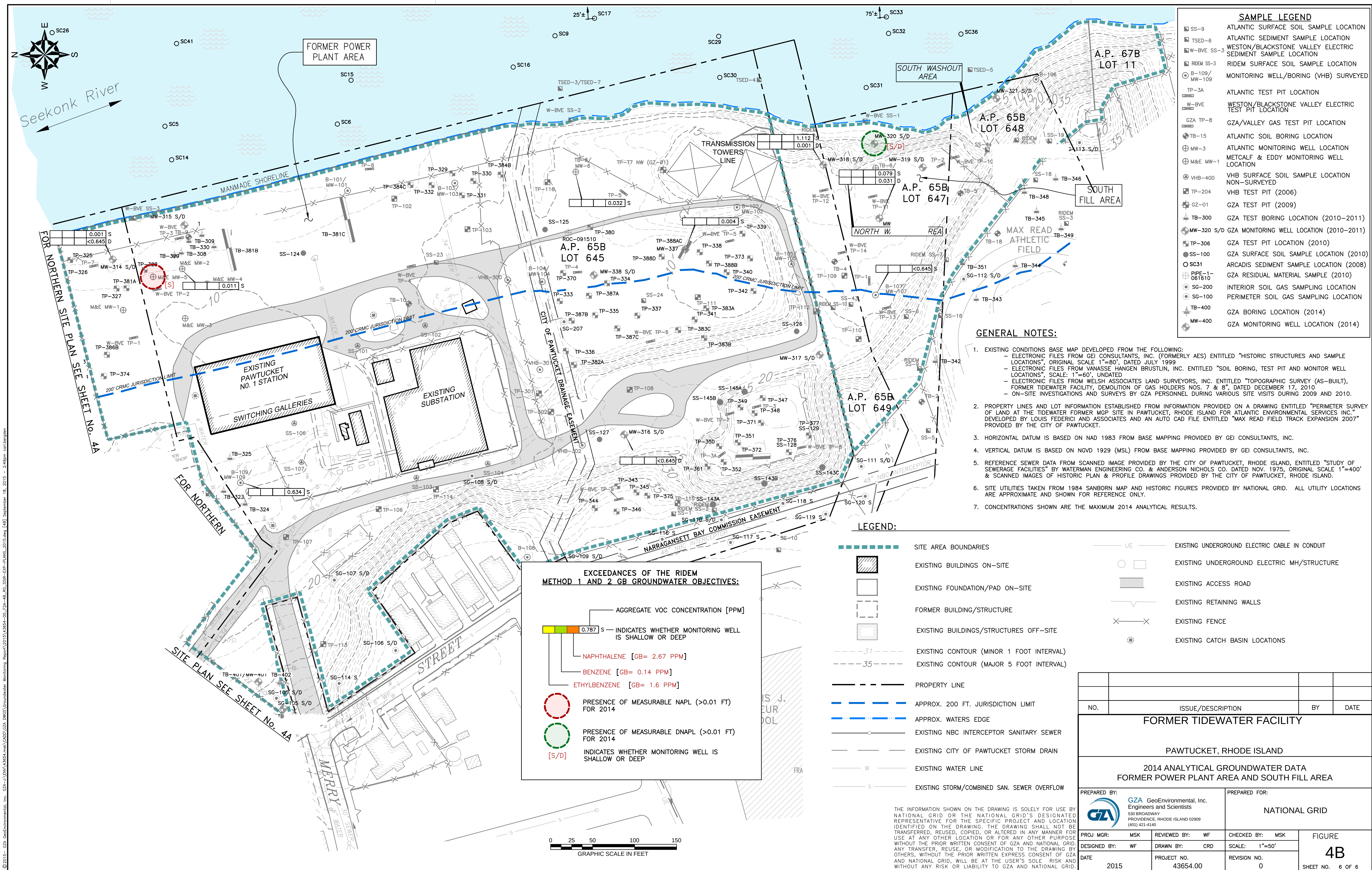




2015- GZA GeoEnvironmental, Inc. GZA-J:\ENV\33654.mxd\GZA\DWG\Groundwater Monitoring Report\2015\33654-00\_F2A-48\_R0\_SSH-EXP-PLANS-2015.dwg [A] September 18, 2015 - 2:48pm carl.bardan









**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.

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## **APPENDIX B**

### **GROUNDWATER SAMPLING LOGS**

# GROUNDWATER SAMPLING DATA SHEET

|                 |            |
|-----------------|------------|
| Well ID:        | MW-7       |
| Sample Date:    | 10/23/2014 |
| Sampler's Name: | WTF        |

## Measurement Date/Time: 10/23/14-15:12

|                                          |      |
|------------------------------------------|------|
| Standing Water in Well (feet):           | 5.18 |
| Well Diameter (in.)                      | 2    |
| Sample Depth (feet BGS):                 | 26.5 |
| Standpipe: TPVC to Ground Surface (feet) | -    |
| Roadbox: TPVC to Ground Surface (feet)   | -    |

Well Condition: **Protective Casing-** ☐ Poor ☒ Good **Lock-** ☒ Yes ☐ No **Expansion Cap-** ☒ Yes ☐ No **Well ID-** ☒ Yes ☐ No **Concrete Collar-** ☒ Yes ☐ No **Well-** ☐ Poor ☒ Good

**Sample Method:** ☐ Bail ☒ Pump / ☒ Low Flow

Flow-Thru Cell Vol (mL): 250

|                    |             |     |   |
|--------------------|-------------|-----|---|
| <b>Meter Type:</b> | YSI/Lamotte | No. | 1 |
|--------------------|-------------|-----|---|

Start time: 15:16

Stop time: 15:55

[illegible]

**SAMPLE TIME:** 15:55

| Analysis          | Method | No. Bottles | Bottle Type | Volume | Preservation | Handling |
|-------------------|--------|-------------|-------------|--------|--------------|----------|
| VOCs              | 8260B  | 3           | VOA         | 40     | HCl          | None     |
| TPH               | 8100M  | 1           | Amber Glass | 1000   | None         | None     |
| PAHs              | 8270C  | 2           | Amber Glass | 1000   | None         | None     |
| Total Cyanide     | 9010   | 1           | Plastic     | 250    | NaOH         | None     |
| Dissolved Cyanide | 9010   | 1           | Plastic     | 250    | NaOH         | Filtered |

**Sample observations:**

Color: Clear                      Odor: None                      Clarity: Clear

Tubing Volume: 0.2 gallons

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

**Notes:**

## GROUNDWATER SAMPLING DATA SHEET

|           |                           |        |    |
|-----------|---------------------------|--------|----|
| File No.  | 43654.00 Task 39          |        |    |
| Project:  | Former Tidewater Facility |        |    |
| Location: | City: Pawtucket           | State: | RI |
| Weather:  | Cloudy 60s                |        |    |

Well ID: MW-310S  
Sample Date: 10/23/2014  
Sampler's Name: WTF

## WATER LEVEL OBSERVATIONS

Measurement Date/Time: 10/23/14-9:31

|                                    |           |                                                  |                                 |
|------------------------------------|-----------|--------------------------------------------------|---------------------------------|
| Point of Measurement:              | PVC Riser | <input checked="" type="checkbox"/> Steel Casing | <input type="checkbox"/> Ground |
| Total Well Depth (feet):           | 16.3      |                                                  |                                 |
| Depth to LNAPL (feet):             | -         |                                                  |                                 |
| Depth to Water (feet):             | 6.38      |                                                  |                                 |
| Depth to DNAPL (feet):             | -         |                                                  |                                 |
| Well Screened Interval (feet BGS): | 5 to 15   |                                                  |                                 |

|                                          |      |
|------------------------------------------|------|
| Standing Water in Well (feet):           | 9.92 |
| Well Diameter (in.)                      | 2    |
| Sample Depth (feet BGS):                 | 10   |
| Standpipe: TPVC to Ground Surface (feet) | -    |
| Roadbox: TPVC to Ground Surface (feet)   | -    |

Well Condition: **Protective Casing-** ☐ Poor ☒ Good **Lock-** ☒ Yes ☐ No **Expansion Cap-** ☒ Yes ☐ No **Well ID-** ☒ Yes ☐ No **Concrete Collar-** ☒ Yes ☐ No **Well-** ☐ Poor ☒ Good

## EQUIPMENT

**Sample Method:** ☐ Bail ☒ Pump / ☒ Low Flow

|                   |                     |     |   |
|-------------------|---------------------|-----|---|
| <b>Pump Type:</b> | Geotech Peristaltic | No. | 1 |
|-------------------|---------------------|-----|---|

Flow-Thru Cell Vol (mL): 250

|                    |             |     |   |
|--------------------|-------------|-----|---|
| <b>Meter Type:</b> | YSI/Lamotte | No. | 1 |
|--------------------|-------------|-----|---|

**INSTRUMENT MEASUREMENTS:**

**Start time:** 9:31

Stop time: 10:13

[illegible]

**SAMPLE TESTING INFORMATION:**

**SAMPLE TIME:** 10:13

| Analysis          | Method | No. Bottles | Bottle Type | Volume | Preservation | Handling |
|-------------------|--------|-------------|-------------|--------|--------------|----------|
| VOCs              | 8260B  | 3           | VOA         | 40     | HCl          | None     |
| TPH               | 8100M  | 1           | Amber Glass | 1000   | None         | None     |
| PAHs              | 8270C  | 2           | Amber Glass | 1000   | None         | None     |
| Total Cyanide     | 9010   | 1           | Plastic     | 250    | NaOH         | None     |
| Dissolved Cyanide | 9010   | 1           | Plastic     | 250    | NaOH         | Filtered |
|                   |        |             |             |        |              |          |

**Sample observations:**

Color: Clear      Odor: Slight Coal tar-like      Clarity: Clear

**Total Purge Volume:** 2 gallons

**Tubing Volume:** 0.1 gallons

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

**Notes:**

## GROUNDWATER SAMPLING DATA SHEET

Well ID: MW-310D

Sample Date: 10/23/2014

Sampler's Name: WTF

Measurement Date/Time: 10/23/14-9:30

|                                          |       |
|------------------------------------------|-------|
| Standing Water in Well (feet):           | 30.35 |
| Well Diameter (in.)                      | 2     |
| Sample Depth (feet BGS):                 | 27    |
| Standpipe: TPVC to Ground Surface (feet) | -     |
| Roadbox: TPVC to Ground Surface (feet)   | -     |

Well Condition: **Protective Casing-** ☐ Poor ☒ Good    **Lock-** ☒ Yes ☐ No    **Expansion Cap-** ☒ Yes ☐ No    **Well ID-** ☒ Yes ☐ No    **Concrete Collar-** ☒ Yes ☐ No    **Well-** ☐ Poor ☒ Good

**Sample Method:** ☐ Bail ☒ Pump / ☒ Low Flow

Flow-Thru Cell Vol (mL): 250

|                    |             |     |   |
|--------------------|-------------|-----|---|
| <b>Meter Type:</b> | YSI/Lamotte | No. | 1 |
|--------------------|-------------|-----|---|

Stop time: 10:24

[illegible]

**SAMPLE TIME:** 10:24

| Analysis          | Method | No. Bottles |             | Volume | Preservation | Handling |
|-------------------|--------|-------------|-------------|--------|--------------|----------|
| VOCs              | 8260B  | 3           | VOA         | 40     | HCl          | None     |
| TPH               | 8100M  | 1           | Amber Glass | 1000   | None         | None     |
| PAHs              | 8270C  | 2           | Amber Glass | 1000   | None         | None     |
| Total Cyanide     | 9010   | 1           | Plastic     | 250    | NaOH         | None     |
| Dissolved Cyanide | 9010   | 1           | Plastic     | 250    | NaOH         | Filtered |

Color: Clear      Odor: Slight Coal Tar-like      Clarity: Clear

**Tubing Volume:** 0.25 gallons

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



## GROUNDWATER SAMPLING DATA SHEET

|                 |                           |        |    |
|-----------------|---------------------------|--------|----|
| File No.        | 43654.00 Task 39          |        |    |
| Project:        | Former Tidewater Facility |        |    |
| Location:       | City: Pawtucket           | State: | RI |
| <b>Weather:</b> | Cloudy 60s                |        |    |

|                 |            |
|-----------------|------------|
| Well ID:        | MW-201     |
| Sample Date:    | 10/23/2014 |
| Sampler's Name: | WTF        |

## WATER LEVEL OBSERVATIONS

Measurement Date/Time: 10/23/14-11:03

|                                    |           |                                                  |                                 |
|------------------------------------|-----------|--------------------------------------------------|---------------------------------|
| Point of Measurement:              | PVC Riser | <input checked="" type="checkbox"/> Steel Casing | <input type="checkbox"/> Ground |
| Total Well Depth (feet):           | 15.25     |                                                  |                                 |
| Depth to LNAPL (feet):             | -         |                                                  |                                 |
| Depth to Water (feet):             | 12.23     |                                                  |                                 |
| Depth to DNAPL (feet):             | -         |                                                  |                                 |
| Well Screened Interval (feet BGS): | 2 to 13   |                                                  |                                 |

|                                          |      |
|------------------------------------------|------|
| Standing Water in Well (feet):           | 3.02 |
| Well Diameter (in.)                      | 2    |
| Sample Depth (feet BGS):                 | 10   |
| Standpipe: TPVC to Ground Surface (feet) | -    |
| Roadbox: TPVC to Ground Surface (feet)   | -    |

Well Condition: **Protective Casing-** ☐ Poor ☒ Good **Lock-** ☒ Yes ☐ No **Expansion Cap-** ☒ Yes ☐ No **Well ID-** ☒ Yes ☐ No **Concrete Collar-** ☒ Yes ☐ No **Well-** ☐ Poor ☒ Good

## EQUIPMENT

**Sample Method:** ☐ Bail ☒ Pump / ☒ Low Flow

|                   |                     |     |   |
|-------------------|---------------------|-----|---|
| <b>Pump Type:</b> | Geotech Peristaltic | No. | 4 |
|-------------------|---------------------|-----|---|

Flow-Thru Cell Vol (mL): 250

|                    |             |     |   |
|--------------------|-------------|-----|---|
| <b>Meter Type:</b> | YSI/Lamotte | No. | 1 |
|--------------------|-------------|-----|---|

**INSTRUMENT MEASUREMENTS:**

**Start time:** 11:11

**Stop time:** 12:23

[illegible]

**SAMPLE TESTING INFORMATION:**

**SAMPLE TIME:** 12:23

| Analysis          | Method | No. Bottles | Bottle Type | Volume | Preservation | Handling |
|-------------------|--------|-------------|-------------|--------|--------------|----------|
| VOCs              | 8260B  | 3           | VOA         | 40     | HCl          | None     |
| TPH               | 8100M  | 1           | Amber Glass | 1000   | None         | None     |
| PAHs              | 8270C  | 2           | Amber Glass | 1000   | None         | None     |
| Total Cyanide     | 9010   | 1           | Plastic     | 250    | NaOH         | None     |
| Dissolved Cyanide | 9010   | 1           | Plastic     | 250    | NaOH         | Filtered |
|                   |        |             |             |        |              |          |

**Sample observations:**

Color: Clear      Odor: Slight rotten egg-like      Clarity: Clear

**Total Purge Volume:** 2 gallons

**Tubing Volume:** 0.15 gallons

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

**Notes:**

Sample collected at 10 feet bgs due to lack of water in well.

|                        |                           |        |    |
|------------------------|---------------------------|--------|----|
| File No.               | 43654.00 Task 39          |        |    |
| Project:               | Former Tidewater Facility |        |    |
| Location:              | City: Pawtucket           | State: | RI |
| <b><u>Weather:</u></b> | Cloudy 60s                |        |    |

Revision Date: 1/27/12  
J:\ENV\43654.msk\Log\Low Flow Logs 2014\Low Flow Sampling Log - Oct 2014.xls

# GROUNDWATER SAMPLING DATA SHEET

|                 |            |
|-----------------|------------|
| Well ID:        | MW-312S    |
| Sample Date:    | 10/23/2014 |
| Sampler's Name: | WTF        |

## Measurement Date/Time: 10/23/14-7:33

|                                          |       |
|------------------------------------------|-------|
| Standing Water in Well (feet):           | 14.42 |
| Well Diameter (in.)                      | 2     |
| Sample Depth (feet BGS):                 | 17    |
| Standpipe: TPVC to Ground Surface (feet) | -     |
| Roadbox: TPVC to Ground Surface (feet)   | -     |

Well Condition: **Protective Casing-** ☐ Poor ☒ Good **Lock-** ☒ Yes ☐ No **Expansion Cap-** ☒ Yes ☐ No **Well ID-** ☒ Yes ☐ No **Concrete Collar-** ☒ Yes ☐ No **Well-** ☐ Poor ☒ Good

**Sample Method:** ☐ Bail ☒ Pump / ☒ Low Flow

Flow-Thru Cell Vol (mL): 250

|                    |             |     |   |
|--------------------|-------------|-----|---|
| <b>Meter Type:</b> | YSI/Lamotte | No. | 1 |
|--------------------|-------------|-----|---|

Start time: 7:53

Stop time: 8:51

[illegible]

SAMPLE TIME: 8:51

| Analysis          | Method | No. Bottles | Bottle Type | Volume | Preservation | Handling |
|-------------------|--------|-------------|-------------|--------|--------------|----------|
| VOCs              | 8260B  | 3           | VOA         | 40     | HCl          | None     |
| TPH               | 8100M  | 1           | Amber Glass | 1000   | None         | None     |
| PAHs              | 8270C  | 2           | Amber Glass | 1000   | None         | None     |
| Total Cyanide     | 9010   | 1           | Plastic     | 250    | NaOH         | None     |
| Dissolved Cyanide | 9010   | 1           | Plastic     | 250    | NaOH         | Filtered |

**Sample observations:**

Color: Clear                      Odor: oil-like                      Clarity: Clear

**Tubing Volume:** 0.15 gallons

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

**Notes:**

Sheen on purge water.

Installed new tubing.

Depth to water not recorded during purging due to LNAPL presence.

|                        |                           |        |    |
|------------------------|---------------------------|--------|----|
| File No.               | 43654.00 Task 39          |        |    |
| Project:               | Former Tidewater Facility |        |    |
| Location:              | City: Pawtucket           | State: | RI |
| <b><u>Weather:</u></b> | Cloudy 60s                |        |    |

Revision Date: 1/27/12  
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## GROUNDWATER SAMPLING DATA SHEET

Well ID: MW-326S

Sample Date: 10/22/2014

Sampler's Name: WTF

### WATER LEVEL OBSERVATIONS

Measurement Date/Time: 10/22/2014-12:30

|                                          |       |
|------------------------------------------|-------|
| Standing Water in Well (feet):           | 15.54 |
| Well Diameter (in.)                      | 2     |
| Sample Depth (feet BGS):                 | 15    |
| Standpipe: TPVC to Ground Surface (feet) | -     |
| Roadbox: TPVC to Ground Surface (feet)   | -     |

Well Condition: **Protective Casing-** ☐ Poor ☒ Good    **Lock-** ☒ Yes ☐ No    **Expansion Cap-** ☒ Yes ☐ No    **Well ID-** ☒ Yes ☐ No    **Concrete Collar-** ☒ Yes ☐ No    **Well-** ☐ Poor ☒ Good

## EQUIPMENT

**Sample Method:** ☐ Bail ☒ Pump / ☒ Low Flow

|                    |             |     |   |
|--------------------|-------------|-----|---|
| <b>Meter Type:</b> | YSI/Lamotte | No. | 1 |
|--------------------|-------------|-----|---|

**INSTRUMENT MEASUREMENTS:**

Start time: 12:36

Stop time: 13:12

[illegible]

**SAMPLE TESTING INFORMATION:**

**SAMPLE TIME:** 13:12

| Analysis          | Method | No. Bottles | Bottle Type | Volume | Preservation | Handling |
|-------------------|--------|-------------|-------------|--------|--------------|----------|
| VOCs              | 8260B  | 3           | VOA         | 40     | HCl          | None     |
| TPH               | 8100M  | 1           | Amber Glass | 1000   | None         | None     |
| PAHs              | 8270C  | 2           | Amber Glass | 1000   | None         | None     |
| Total Cyanide     | 9010   | 1           | Plastic     | 250    | NaOH         | None     |
| Dissolved Cyanide | 9010   | 1           | Plastic     | 250    | NaOH         | Filtered |

**Sample observations:**

Color: Clear      Odor: Slight oil-like      Clarity: Clear

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

**Notes:**

## GROUNDWATER SAMPLING DATA SHEET

|                 |                           |        |    |
|-----------------|---------------------------|--------|----|
| File No.        | 43654.00 Task 39          |        |    |
| Project:        | Former Tidewater Facility |        |    |
| Location:       | City: Pawtucket           | State: | RI |
| <b>Weather:</b> | Rain 60s                  |        |    |

|                 |            |
|-----------------|------------|
| Well ID:        | MW-326D    |
| Sample Date:    | 10/22/2014 |
| Sampler's Name: | WTF        |

### WATER LEVEL OBSERVATIONS

Measurement Date/Time: 10/22/2014-13:00

|                                    |           |                                     |              |                          |        |                          |
|------------------------------------|-----------|-------------------------------------|--------------|--------------------------|--------|--------------------------|
| Point of Measurement:              | PVC Riser | <input checked="" type="checkbox"/> | Steel Casing | <input type="checkbox"/> | Ground | <input type="checkbox"/> |
| Total Well Depth (feet):           |           |                                     | 47.3         |                          |        |                          |
| Depth to LNAPL (feet):             |           |                                     | -            |                          |        |                          |
| Depth to Water (feet):             |           |                                     | 11.09        |                          |        |                          |
| Depth to DNAPL (feet):             |           |                                     | -            |                          |        |                          |
| Well Screened Interval (feet BGS): |           |                                     | 23           | to                       | 43     |                          |

|                                          |       |
|------------------------------------------|-------|
| Standing Water in Well (feet):           | 31.21 |
| Well Diameter (in.)                      | 2     |
| Sample Depth (feet BGS):                 | 33    |
| Standpipe: TPVC to Ground Surface (feet) | -     |
| Roadbox: TPVC to Ground Surface (feet)   | -     |

Well Condition: **Protective Casing-** ☐ Poor ☒ Good    **Lock-** ☒ Yes ☐ No    **Expansion Cap-** ☒ Yes ☐ No    **Well ID-** ☒ Yes ☐ No    **Concrete Collar-** ☒ Yes ☐ No    **Well-** ☐ Poor ☒ Good

## EQUIPMENT

**Sample Method:** ☐ Bail ☒ Pump / ☒ Low Flow

**Pump Type:** Geotech Peristaltic No. 1

Flow-Thru Cell Vol (mL): 250

|                    |             |     |   |
|--------------------|-------------|-----|---|
| <b>Meter Type:</b> | YSI/Lamotte | No. | 1 |
|--------------------|-------------|-----|---|

**INSTRUMENT MEASUREMENTS:**

Start time: 12:43

Stop time: 13:34

[illegible]

**SAMPLE TESTING INFORMATION:**

SAMPLE TIME: 13:34

| Analysis          | Method | No. Bottles | Bottle Type | Volume | Preservation | Handling |
|-------------------|--------|-------------|-------------|--------|--------------|----------|
| VOCs              | 8260B  | 3           | VOA         | 40     | HCl          | None     |
| TPH               | 8100M  | 1           | Amber Glass | 1000   | None         | None     |
| PAHs              | 8270C  | 2           | Amber Glass | 1000   | None         | None     |
| Total Cyanide     | 9010   | 1           | Plastic     | 250    | NaOH         | None     |
| Dissolved Cyanide | 9010   | 1           | Plastic     | 250    | NaOH         | Filtered |

**Sample observations:**

Color: None      Odor: Slight oil-like      Clarity: Clear

**Total Purge Volume:** 2 gallons

**Tubing Volume:** 0.3 gallons

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

**Notes:**

|                 |                           |        |    |
|-----------------|---------------------------|--------|----|
| File No.        | 43654.00 Task 39          |        |    |
| Project:        | Former Tidewater Facility |        |    |
| Location:       | City: Pawtucket           | State: | RI |
| <b>Weather:</b> | Rain 60s                  |        |    |

Well ID: MW-333S  
Sample Date: 10/22/2014  
Sampler's Name: WTF

## Measurement Date/Time: 10/22/2014-14:30

|                                    |           |                                     |              |                          |        |                          |
|------------------------------------|-----------|-------------------------------------|--------------|--------------------------|--------|--------------------------|
| Point of Measurement:              | PVC Riser | <input checked="" type="checkbox"/> | Steel Casing | <input type="checkbox"/> | Ground | <input type="checkbox"/> |
| Total Well Depth (feet):           | 17.8      |                                     |              |                          |        |                          |
| Depth to LNAPL (feet):             | -         |                                     |              |                          |        |                          |
| Depth to Water (feet):             | 10.2      |                                     |              |                          |        |                          |
| Depth to DNAPL (feet):             | -         |                                     |              |                          |        |                          |
| Well Screened Interval (feet BGS): | 6 to 16   |                                     |              |                          |        |                          |

|                                          |     |
|------------------------------------------|-----|
| Standing Water in Well (feet):           | 7.6 |
| Well Diameter (in.)                      | 2   |
| Sample Depth (feet BGS):                 | 11  |
| Standpipe: TPVC to Ground Surface (feet) | -   |
| Roadbox: TPVC to Ground Surface (feet)   | -   |

Well Condition: Protective Casing- ☐ Poor ☒ Good Lock- ☒ Yes ☐ No Expansion Cap- ☒ Yes ☐ No Well ID- ☒ Yes ☐ No Concrete Collar- ☒ Yes ☐ No Well- ☐ Poor ☒ Good

**Sample Method:** ☐ Bail ☒ Pump / ☒ Low Flow

|                   |                     |     |   |
|-------------------|---------------------|-----|---|
| <b>Pump Type:</b> | Geotech Peristaltic | No. | 1 |
|-------------------|---------------------|-----|---|

**Flow-Thru Cell Vol (mL):** 250

|                    |             |     |   |
|--------------------|-------------|-----|---|
| <b>Meter Type:</b> | YSI/Lamotte | No. | 1 |
|--------------------|-------------|-----|---|

**Start time:** 14:02

Stop time: 14:48

[illegible]

SAMPLE TIME: 14:48

| Analysis          | Method | No. Bottles | Bottle Type | Volume | Preservation | Handling |
|-------------------|--------|-------------|-------------|--------|--------------|----------|
| VOCs              | 8260B  | 3           | VOA         | 40     | HCl          | None     |
| TPH               | 8100M  | 1           | Amber Glass | 1000   | None         | None     |
| PAHs              | 8270C  | 2           | Amber Glass | 1000   | None         | None     |
| Total Cyanide     | 9010   | 1           | Plastic     | 250    | NaOH         | None     |
| Dissolved Cyanide | 9010   | 1           | Plastic     | 250    | NaOH         | Filtered |

---

Color: clear                      Odor: None                      Clarity: Clear

**Total Purge Volume:** 2 gallons

**Tubing Volume:** 0.15 gallons

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

**Notes:**

## GROUNDWATER SAMPLING DATA SHEET

|                        |                           |        |    |
|------------------------|---------------------------|--------|----|
| File No.               | 43654.00 Task 39          |        |    |
| Project:               | Former Tidewater Facility |        |    |
| Location:              | City: Pawtucket           | State: | RI |
| <b><u>Weather:</u></b> | Cloudy 60s                |        |    |

|                 |            |
|-----------------|------------|
| Well ID:        | MW-333D    |
| Sample Date:    | 10/22/2014 |
| Sampler's Name: | WTF        |

## WATER LEVEL OBSERVATIONS

Measurement Date/Time: 10/22/2014-14:30

|                                    |           |                                     |              |                          |        |                          |
|------------------------------------|-----------|-------------------------------------|--------------|--------------------------|--------|--------------------------|
| Point of Measurement:              | PVC Riser | <input checked="" type="checkbox"/> | Steel Casing | <input type="checkbox"/> | Ground | <input type="checkbox"/> |
| Total Well Depth (feet):           | 45.2      |                                     |              |                          |        |                          |
| Depth to LNAPL (feet):             | -         |                                     |              |                          |        |                          |
| Depth to Water (feet):             | 10.06     |                                     |              |                          |        |                          |
| Depth to DNAPL (feet):             | -         |                                     |              |                          |        |                          |
| Well Screened Interval (feet BGS): | 30 to 40  |                                     |              |                          |        |                          |

|                                          |       |
|------------------------------------------|-------|
| Standing Water in Well (feet):           | 35.15 |
| Well Diameter (in.)                      | 2     |
| Sample Depth (feet BGS):                 | 35    |
| Standpipe: TPVC to Ground Surface (feet) | -     |
| Roadbox: TPVC to Ground Surface (feet)   | -     |

Well Condition: **Protective Casing-** ☐ Poor ☒ Good **Lock-** ☒ Yes ☐ No **Expansion Cap-** ☒ Yes ☐ No **Well ID-** ☒ Yes ☐ No **Concrete Collar-** ☒ Yes ☐ No **Well-** ☐ Poor ☒ Good

## EQUIPMENT

**Sample Method:** ☐ Bail ☒ Pump / ☒ Low Flow

|                   |                     |     |   |
|-------------------|---------------------|-----|---|
| <b>Pump Type:</b> | Geotech Peristaltic | No. | 4 |
|-------------------|---------------------|-----|---|

Flow-Thru Cell Vol (mL): 250

|                    |             |     |   |
|--------------------|-------------|-----|---|
| <b>Meter Type:</b> | YSI/Lamotte | No. | 1 |
|--------------------|-------------|-----|---|

### INSTRUMENT MEASUREMENTS:

**Start time:** 14:20

**Stop time:** 14:59

[illegible]

**SAMPLE TESTING INFORMATION:**

SAMPLE TIME: 14:59

| Analysis          | Method | No. Bottles | Bottle Type | Volume | Preservation | Handling |
|-------------------|--------|-------------|-------------|--------|--------------|----------|
| VOCs              | 8260B  | 3           | VOA         | 40     | HCl          | None     |
| TPH               | 8100M  | 1           | Amber Glass | 1000   | None         | None     |
| PAHs              | 8270C  | 2           | Amber Glass | 1000   | None         | None     |
| Total Cyanide     | 9010   | 1           | Plastic     | 250    | NaOH         | None     |
| Dissolved Cyanide | 9010   | 1           | Plastic     | 250    | NaOH         | Filtered |

**Sample observations:**

Color: None                  Odor: None                  Clarity: None

---

**Total Purge Volume:** 2 gallons

**Tubing Volume:** 0.3 gallons

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

**Notes:**



|                 |                           |        |    |
|-----------------|---------------------------|--------|----|
| File No.        | 43654.00 Task 39          |        |    |
| Project:        | Former Tidewater Facility |        |    |
| Location:       | City: Pawtucket           | State: | RI |
| <b>Weather:</b> | Cloudy 60s                |        |    |

Well ID: MW-339S  
Sample Date: 10/23/2014  
Sampler's Name: WTF

## Measurement Date/Time: 10/23/14-12:39

|                                    |           |                                     |              |                          |        |                          |
|------------------------------------|-----------|-------------------------------------|--------------|--------------------------|--------|--------------------------|
| Point of Measurement:              | PVC Riser | <input checked="" type="checkbox"/> | Steel Casing | <input type="checkbox"/> | Ground | <input type="checkbox"/> |
| Total Well Depth (feet):           | 11.6      |                                     |              |                          |        |                          |
| Depth to LNAPL (feet):             | -         |                                     |              |                          |        |                          |
| Depth to Water (feet):             | 8.75      |                                     |              |                          |        |                          |
| Depth to DNAPL (feet):             | -         |                                     |              |                          |        |                          |
| Well Screened Interval (feet BGS): | 3         | to                                  | 10           |                          |        |                          |

|                                          |      |
|------------------------------------------|------|
| Standing Water in Well (feet):           | 2.85 |
| Well Diameter (in.)                      | 2    |
| Sample Depth (feet BGS):                 | 8    |
| Standpipe: TPVC to Ground Surface (feet) | -    |
| Roadbox: TPVC to Ground Surface (feet)   | -    |

Well Condition: **Protective Casing-** ☐ Poor ☒ Good      **Lock-** ☒ Yes ☐ No      **Expansion Cap-** ☒ Yes ☐ No      **Well ID-** ☒ Yes ☐ No      **Concrete Collar-** ☒ Yes ☐ No      **Well-** ☐ Poor ☒ Good

**Sample Method:** ☐ Bail ☒ Pump / ☒ Low Flow

|                   |                     |     |   |
|-------------------|---------------------|-----|---|
| <b>Pump Type:</b> | Geotech Peristaltic | No. | 4 |
|-------------------|---------------------|-----|---|

**Flow-Thru Cell Vol (mL):** 250

|                    |             |     |   |
|--------------------|-------------|-----|---|
| <b>Meter Type:</b> | YSI/Lamotte | No. | 1 |
|--------------------|-------------|-----|---|

**Start time:** 12:41

Stop time: 14:12

[illegible]

**SAMPLE TIME:** 14:12

| Analysis          | Method | No. Bottles | Bottle Type | Volume | Preservation | Handling |
|-------------------|--------|-------------|-------------|--------|--------------|----------|
| VOCs              | 8260B  | 3           | VOA         | 40     | HCl          | None     |
| TPH               | 8100M  | 1           | Amber Glass | 1000   | None         | None     |
| PAHs              | 8270C  | 2           | Amber Glass | 1000   | None         | None     |
| Total Cyanide     | 9010   | 1           | Plastic     | 250    | NaOH         | None     |
| Dissolved Cyanide | 9010   | 1           | Plastic     | 250    | NaOH         | Filtered |

Color: Brown      Odor: Slight oil/coal tar-like      Clarity: Clear

**Total Purge Volume:** 2 gallons

**Tubing Volume:** 0.1 gallons

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

**Notes:**

|                        |                           |        |    |
|------------------------|---------------------------|--------|----|
| File No.               | 43654.00 Task 39          |        |    |
| Project:               | Former Tidewater Facility |        |    |
| Location:              | City: Pawtucket           | State: | RI |
| <b><u>Weather:</u></b> | Cloudy 60s                |        |    |

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# GROUNDWATER SAMPLING DATA SHEET

|                        |                           |        |    |
|------------------------|---------------------------|--------|----|
| File No.               | 43654.00 Task 39          |        |    |
| Project:               | Former Tidewater Facility |        |    |
| Location:              | City: Pawtucket           | State: | RI |
| <b><u>Weather:</u></b> | Rainy 60s                 |        |    |

|                 |            |
|-----------------|------------|
| Well ID:        | M+E MW-2   |
| Sample Date:    | 10/22/2014 |
| Sampler's Name: | SDN        |

## WATER LEVEL OBSERVATIONS

Measurement Date/Time: 10/22/14-10:35

|                                    |           |                                     |              |                          |        |                          |
|------------------------------------|-----------|-------------------------------------|--------------|--------------------------|--------|--------------------------|
| Point of Measurement:              | PVC Riser | <input checked="" type="checkbox"/> | Steel Casing | <input type="checkbox"/> | Ground | <input type="checkbox"/> |
| Total Well Depth (feet):           | 13.6      |                                     |              |                          |        |                          |
| Depth to LNAPL (feet):             | -         |                                     |              |                          |        |                          |
| Depth to Water (feet):             | 8.75      |                                     |              |                          |        |                          |
| Depth to DNAPL (feet):             | -         |                                     |              |                          |        |                          |
| Well Screened Interval (feet BGS): | Unknown   |                                     |              |                          |        |                          |

|                                          |      |
|------------------------------------------|------|
| Standing Water in Well (feet):           | 4.85 |
| Well Diameter (in.)                      | 2    |
| Sample Depth (feet BGS):                 | 9    |
| Standpipe: TPVC to Ground Surface (feet) | -    |
| Roadbox: TPVC to Ground Surface (feet)   | -    |

Well Condition: Protective Casing- ☐ Poor ☒ Good Lock- ☐ Yes ☒ No Expansion Cap- ☒ Yes ☐ No Well ID- ☒ Yes ☐ No Concrete Collar- ☒ Yes ☐ No Well- ☐ Poor ☒ Good

## EQUIPMENT

**Sample Method:** ☐ Bail ☒ Pump / ☒ Low Flow

|                   |                     |     |   |
|-------------------|---------------------|-----|---|
| <b>Pump Type:</b> | Geotech Peristaltic | No. | 2 |
|-------------------|---------------------|-----|---|

Flow-Thru Cell Vol (mL): 250

|             |             |     |   |
|-------------|-------------|-----|---|
| Meter Type: | YSI/Lamotte | No. | 3 |
|-------------|-------------|-----|---|

**INSTRUMENT MEASUREMENTS:**

Start time: 12:45

Stop time: 14:45

[illegible]

**SAMPLE TESTING INFORMATION:**

**SAMPLE TIME:** 14:45

| Analysis          | Method | No. Bottles | Bottle Type | Volume | Preservation | Handling |
|-------------------|--------|-------------|-------------|--------|--------------|----------|
| VOCs              | 8260B  | 3           | VOA         | 40     | HCl          | None     |
| TPH               | 8100M  | 1           | Amber Glass | 1000   | None         | None     |
| PAHs              | 8270C  | 2           | Amber Glass | 1000   | None         | None     |
| Total Cyanide     | 9010   | 1           | Plastic     | 250    | NaOH         | None     |
| Dissolved Cyanide | 9010   | 1           | Plastic     | 250    | NaOH         | Filtered |

**Sample observations:**

Color: None                  Odor: None                  Clarity: None

---

**Total Purge Volume:** 3 gallons

**Tubing Volume:** 0.15 gallons

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

**Notes:**

Collect BD #1

## GROUNDWATER SAMPLING DATA SHEET

|                 |            |
|-----------------|------------|
| Well ID:        | MW-6       |
| Sample Date:    | 10/23/2014 |
| Sampler's Name: | SDN        |

## Measurement Date/Time: 10/22/14-8:30

|                                          |      |
|------------------------------------------|------|
| Standing Water in Well (feet):           | 6.89 |
| Well Diameter (in.)                      | 2    |
| Sample Depth (feet BGS):                 | 11   |
| Standpipe: TPVC to Ground Surface (feet) | -    |
| Roadbox: TPVC to Ground Surface (feet)   | -    |

Well Condition: **Protective Casing-** ☐ Poor ☒ Good      **Lock-** ☒ Yes ☐ No      **Expansion Cap-** ☒ Yes ☐ No      **Well ID-** ☒ Yes ☐ No      **Concrete Collar-** ☒ Yes ☐ No      **Well-** ☐ Poor ☒ Good

Sample Method: ☐ Bail ☒ Pump / ☒ Low Flow

Flow-Thru Cell Vol (mL): 250

|                    |             |     |   |
|--------------------|-------------|-----|---|
| <b>Meter Type:</b> | YSI/Lamotte | No. | 3 |
|--------------------|-------------|-----|---|

**Start time:** 13:15

**Stop time:** 14:10

[illegible]

**SAMPLE TIME:** 14:10

| Analysis          | Method | No. Bottles | Bottle Type | Volume | Preservation | Handling |
|-------------------|--------|-------------|-------------|--------|--------------|----------|
| VOCs              | 8260B  | 3           | VOA         | 40     | HCl          | None     |
| TPH               | 8100M  | 1           | Amber Glass | 1000   | None         | None     |
| PAHs              | 8270C  | 2           | Amber Glass | 1000   | None         | None     |
| Total Cyanide     | 9010   | 1           | Plastic     | 250    | NaOH         | None     |
| Dissolved Cyanide | 9010   | 1           | Plastic     | 250    | NaOH         | Filtered |

---

Color: None
Odor: None
Clarity: None

**Tubing Volume:** 0.15 gallons

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

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## GROUNDWATER SAMPLING DATA SHEET

|                 |            |
|-----------------|------------|
| Well ID:        | MW-109     |
| Sample Date:    | 10/23/2014 |
| Sampler's Name: | SDN        |

## Measurement Date/Time: 10/22/14-10:00

|                                          |      |
|------------------------------------------|------|
| Standing Water in Well (feet):           | 7.31 |
| Well Diameter (in.)                      | 2    |
| Sample Depth (feet BGS):                 | 15   |
| Standpipe: TPVC to Ground Surface (feet) | -    |
| Roadbox: TPVC to Ground Surface (feet)   | -    |

Well Condition: **Protective Casing-** ☐ Poor ☒ Good    **Lock-** ☒ Yes ☐ No    **Expansion Cap-** ☒ Yes ☐ No    **Well ID-** ☒ Yes ☐ No    **Concrete Collar-** ☒ Yes ☐ No    **Well-** ☐ Poor ☒ Good

**Sample Method:** ☐ Bail ☒ Pump / ☒ Low Flow

Flow-Thru Cell Vol (mL): 250

|             |             |     |   |
|-------------|-------------|-----|---|
| Meter Type: | YSI/Lamotte | No. | 3 |
|-------------|-------------|-----|---|

**Start time:** 15:00

Stop time: 15:45

[illegible]

SAMPLE TIME: 15:45

| Analysis          | Method | No. Bottles | Bottle Type | Volume | Preservation | Handling |
|-------------------|--------|-------------|-------------|--------|--------------|----------|
| VOCs              | 8260B  | 3           | VOA         | 40     | HCl          | None     |
| TPH               | 8100M  | 1           | Amber Glass | 1000   | None         | None     |
| PAHs              | 8270C  | 2           | Amber Glass | 1000   | None         | None     |
| Total Cyanide     | 9010   | 1           | Plastic     | 250    | NaOH         | None     |
| Dissolved Cyanide | 9010   | 1           | Plastic     | 250    | NaOH         | Filtered |

Color: None      Odor: Slight oil-like      Clarity: None

**Tubing Volume:** 0.2 gallons

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

Slight sheen on purge water.

## GROUNDWATER SAMPLING DATA SHEET

|                 |            |
|-----------------|------------|
| Well ID:        | MW-314S    |
| Sample Date:    | 10/22/2014 |
| Sampler's Name: | SDN        |

## Measurement Date/Time: 10/22/14-10:30

|                                          |       |
|------------------------------------------|-------|
| Standing Water in Well (feet):           | 15.54 |
| Well Diameter (in.)                      | 2     |
| Sample Depth (feet BGS):                 | 15    |
| Standpipe: TPVC to Ground Surface (feet) | -     |
| Roadbox: TPVC to Ground Surface (feet)   | -     |

Well Condition: **Protective Casing-** ☐ Poor ☒ Good    **Lock-** ☒ Yes ☐ No    **Expansion Cap-** ☒ Yes ☐ No    **Well ID-** ☒ Yes ☐ No    **Concrete Collar-** ☒ Yes ☐ No    **Well-** ☐ Poor ☒ Good

Sample Method: ☐ Bail ☒ Pump / ☒ Low Flow

Flow-Thru Cell Vol (mL): 250

|             |             |     |   |
|-------------|-------------|-----|---|
| Meter Type: | YSI/Lamotte | No. | 2 |
|-------------|-------------|-----|---|

**Start time:** 12:45

Stop time: 13:45

[illegible]

SAMPLE TIME: 13:45

| Analysis          | Method | No. Bottles | Bottle Type | Volume | Preservation | Handling |
|-------------------|--------|-------------|-------------|--------|--------------|----------|
| VOCs              | 8260B  | 3           | VOA         | 40     | HCl          | None     |
| TPH               | 8100M  | 1           | Amber Glass | 1000   | None         | None     |
| PAHs              | 8270C  | 2           | Amber Glass | 1000   | None         | None     |
| Total Cyanide     | 9010   | 1           | Plastic     | 250    | NaOH         | None     |
| Dissolved Cyanide | 9010   | 1           | Plastic     | 250    | NaOH         | Filtered |

Color: None      Odor: None      Clarity: None

**Tubing Volume:** 0.2 gallons

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

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# GROUNDWATER SAMPLING DATA SHEET

|                        |                           |        |    |
|------------------------|---------------------------|--------|----|
| File No.               | 43654.00 Task 39          |        |    |
| Project:               | Former Tidewater Facility |        |    |
| Location:              | City: Pawtucket           | State: | RI |
| <b><u>Weather:</u></b> | Rainy 60s                 |        |    |

|                 |            |
|-----------------|------------|
| Well ID:        | MW-314D    |
| Sample Date:    | 10/22/2014 |
| Sampler's Name: | SDN        |

## WATER LEVEL OBSERVATIONS

Measurement Date/Time: 10/22/14-10:30

|                                    |           |                                     |              |                          |        |                          |
|------------------------------------|-----------|-------------------------------------|--------------|--------------------------|--------|--------------------------|
| Point of Measurement:              | PVC Riser | <input checked="" type="checkbox"/> | Steel Casing | <input type="checkbox"/> | Ground | <input type="checkbox"/> |
| Total Well Depth (feet):           | 43.4      |                                     |              |                          |        |                          |
| Depth to LNAPL (feet):             | -         |                                     |              |                          |        |                          |
| Depth to Water (feet):             | 8.8       |                                     |              |                          |        |                          |
| Depth to DNAPL (feet):             | -         |                                     |              |                          |        |                          |
| Well Screened Interval (feet BGS): | 33 to 43  |                                     |              |                          |        |                          |

|                                          |      |
|------------------------------------------|------|
| Standing Water in Well (feet):           | 34.6 |
| Well Diameter (in.)                      | 2    |
| Sample Depth (feet BGS):                 | 38   |
| Standpipe: TPVC to Ground Surface (feet) | -    |
| Roadbox: TPVC to Ground Surface (feet)   | -    |

Well Condition: **Protective Casing-** ☐ Poor ☒ Good    **Lock-** ☒ Yes ☐ No    **Expansion Cap-** ☒ Yes ☐ No    **Well ID-** ☒ Yes ☐ No    **Concrete Collar-** ☒ Yes ☐ No    **Well-** ☐ Poor ☒ Good

## EQUIPMENT

**Sample Method:** ☐ Bail ☒ Pump / ☒ Low Flow

**Pump Type:** Geotech No. 2

Flow-Thru Cell Vol (mL): 250

|                    |             |     |   |
|--------------------|-------------|-----|---|
| <b>Meter Type:</b> | YSI/Lamotte | No. | 2 |
|--------------------|-------------|-----|---|

**INSTRUMENT MEASUREMENTS:**

Start time: 14:10

**Stop time:** 15:10

[illegible]

**SAMPLE TESTING INFORMATION:**

**SAMPLE TIME:** 15:10

|                   |        |             |             |        |              |          |
|-------------------|--------|-------------|-------------|--------|--------------|----------|
| Analysis          | Method | No. Bottles | Bottle Type | Volume | Preservation | Handling |
| VOCs              | 8260B  | 3           | VOA         | 40     | HCl          | None     |
| TPH               | 8100M  | 1           | Amber Glass | 1000   | None         | None     |
| PAHs              | 8270C  | 2           | Amber Glass | 1000   | None         | None     |
| Total Cyanide     | 9010   | 1           | Plastic     | 250    | NaOH         | None     |
| Dissolved Cyanide | 9010   | 1           | Plastic     | 250    | NaOH         | Filtered |

**Sample observations:**

Color: None                  Odor: None                  Clarity: None

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**Total Purge Volume:** 2.5 gallons

**Tubing Volume:** 0.2 gallons

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

**Notes:**

# GROUNDWATER SAMPLING DATA SHEET

|                 |            |
|-----------------|------------|
| Well ID:        | MW-316D    |
| Sample Date:    | 10/23/2014 |
| Sampler's Name: | SDN        |

## Measurement Date/Time: 10/22/14-11:00

|                                          |      |
|------------------------------------------|------|
| Standing Water in Well (feet):           | 8.13 |
| Well Diameter (in.)                      | 2    |
| Sample Depth (feet BGS):                 | 24   |
| Standpipe: TPVC to Ground Surface (feet) | -    |
| Roadbox: TPVC to Ground Surface (feet)   | -    |

Well Condition: **Protective Casing-** ☐ Poor ☒ Good **Lock-** ☒ Yes ☐ No **Expansion Cap-** ☒ Yes ☐ No **Well ID-** ☒ Yes ☐ No **Concrete Collar-** ☒ Yes ☐ No **Well-** ☐ Poor ☒ Good

**Sample Method:** ☐ Bail ☒ Pump / ☒ Low Flow

Flow-Thru Cell Vol (mL): 250

|                    |             |     |   |
|--------------------|-------------|-----|---|
| <b>Meter Type:</b> | YSI/Lamotte | No. | 3 |
|--------------------|-------------|-----|---|

**Start time:** 12:10

Stop time: 13:00

[illegible]

SAMPLE TIME: 13:00

| Analysis          | Method | No. Bottles | Bottle Type | Volume | Preservation | Handling |
|-------------------|--------|-------------|-------------|--------|--------------|----------|
| VOCs              | 8260B  | 3           | VOA         | 40     | HCl          | None     |
| TPH               | 8100M  | 1           | Amber Glass | 1000   | None         | None     |
| PAHs              | 8270C  | 2           | Amber Glass | 1000   | None         | None     |
| Total Cyanide     | 9010   | 1           | Plastic     | 250    | NaOH         | None     |
| Dissolved Cyanide | 9010   | 1           | Plastic     | 250    | NaOH         | Filtered |

Color: None      Odor: None      Clarity: None

**Tubing Volume:** 0.25 gallons

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

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# GROUNDWATER SAMPLING DATA SHEET

|                 |            |
|-----------------|------------|
| Well ID:        | MW-337     |
| Sample Date:    | 10/23/2014 |
| Sampler's Name: | SDN        |

## Measurement Date/Time: 10/22/14-8:30

|                                          |     |
|------------------------------------------|-----|
| Standing Water in Well (feet):           | 8.6 |
| Well Diameter (in.)                      | 2   |
| Sample Depth (feet BGS):                 | 10  |
| Standpipe: TPVC to Ground Surface (feet) | -   |
| Roadbox: TPVC to Ground Surface (feet)   | -   |

Well Condition: **Protective Casing-** ☐ Poor ☒ Good **Lock-** ☒ Yes ☐ No **Expansion Cap-** ☒ Yes ☐ No **Well ID-** ☒ Yes ☐ No **Concrete Collar-** ☒ Yes ☐ No **Well-** ☐ Poor ☒ Good

**Sample Method:** ☐ Bail ☒ Pump / ☒ Low Flow

Flow-Thru Cell Vol (mL): 250

|                    |             |     |   |
|--------------------|-------------|-----|---|
| <b>Meter Type:</b> | YSI/Lamotte | No. | 3 |
|--------------------|-------------|-----|---|

**Start time:** 13:20

**Stop time:** 14:45

[illegible]

SAMPLE TIME: 14:45

| Analysis          | Method | No. Bottles | Bottle Type | Volume | Preservation | Handling |
|-------------------|--------|-------------|-------------|--------|--------------|----------|
| VOCs              | 8260B  | 3           | VOA         | 40     | HCl          | None     |
| TPH               | 8100M  | 1           | Amber Glass | 1000   | None         | None     |
| PAHs              | 8270C  | 2           | Amber Glass | 1000   | None         | None     |
| Total Cyanide     | 9010   | 1           | Plastic     | 250    | NaOH         | None     |
| Dissolved Cyanide | 9010   | 1           | Plastic     | 250    | NaOH         | Filtered |

Color: None      Odor: None      Clarity: None

**Tubing Volume:** 0.2 gallons

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

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## GROUNDWATER SAMPLING DATA SHEET

|                 |            |
|-----------------|------------|
| Well ID:        | MW-107     |
| Sample Date:    | 10/23/2014 |
| Sampler's Name: | SDN        |

## Measurement Date/Time: 10/22/14-9:30

|                                          |      |
|------------------------------------------|------|
| Standing Water in Well (feet):           | 7.78 |
| Well Diameter (in.)                      | 2    |
| Sample Depth (feet BGS):                 | 21   |
| Standpipe: TPVC to Ground Surface (feet) | -    |
| Roadbox: TPVC to Ground Surface (feet)   | -    |

Well Condition: Protective Casing- ☐ Poor ☒ Good Lock- ☒ Yes ☐ No Expansion Cap- ☒ Yes ☐ No Well ID- ☒ Yes ☐ No Concrete Collar- ☒ Yes ☐ No Well- ☐ Poor ☒ Good

**Sample Method:** ☐ Bail ☒ Pump / ☒ Low Flow

Flow-Thru Cell Vol (mL): 250

|                    |             |     |   |
|--------------------|-------------|-----|---|
| <b>Meter Type:</b> | YSI/Lamotte | No. | 3 |
|--------------------|-------------|-----|---|

**Start time:** 8:15

**Stop time:** 9:40

[illegible]

SAMPLE TIME: 9:40

| Analysis          | Method | No. Bottles | Bottle Type | Volume | Preservation | Handling |
|-------------------|--------|-------------|-------------|--------|--------------|----------|
| VOCs              | 8260B  | 3           | VOA         | 40     | HCl          | None     |
| TPH               | 8100M  | 1           | Amber Glass | 1000   | None         | None     |
| PAHs              | 8270C  | 2           | Amber Glass | 1000   | None         | None     |
| Total Cyanide     | 9010   | 1           | Plastic     | 250    | NaOH         | None     |
| Dissolved Cyanide | 9010   | 1           | Plastic     | 250    | NaOH         | Filtered |

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Color: None
Odor: None
Clarity: None

**Tubing Volume:** 0.2 gallons

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

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## GROUNDWATER SAMPLING DATA SHEET

|                 |            |
|-----------------|------------|
| Well ID:        | MW-318S    |
| Sample Date:    | 10/23/2014 |
| Sampler's Name: | SDN        |

## Measurement Date/Time: 10/23/14-9:45

|                                          |      |
|------------------------------------------|------|
| Standing Water in Well (feet):           | 9.98 |
| Well Diameter (in.)                      | 2    |
| Sample Depth (feet BGS):                 | 18   |
| Standpipe: TPVC to Ground Surface (feet) | -    |
| Roadbox: TPVC to Ground Surface (feet)   | -    |

Well Condition: Protective Casing- ☐ Poor ☒ Good Lock- ☒ Yes ☐ No Expansion Cap- ☒ Yes ☐ No Well ID- ☒ Yes ☐ No Concrete Collar- ☒ Yes ☐ No Well- ☐ Poor ☒ Good

**Sample Method:** ☐ Bail ☒ Pump / ☒ Low Flow

Flow-Thru Cell Vol (mL): 250

|                    |             |     |   |
|--------------------|-------------|-----|---|
| <b>Meter Type:</b> | YSI/Lamotte | No. | 3 |
|--------------------|-------------|-----|---|

**Start time:** 10:30

**Stop time:** 11:45

[illegible]

SAMPLE TIME: 11:45

| Analysis          | Method | No. Bottles | Bottle Type | Volume | Preservation | Handling |
|-------------------|--------|-------------|-------------|--------|--------------|----------|
| VOCs              | 8260B  | 3           | VOA         | 40     | HCl          | None     |
| TPH               | 8100M  | 1           | Amber Glass | 1000   | None         | None     |
| PAHs              | 8270C  | 2           | Amber Glass | 1000   | None         | None     |
| Total Cyanide     | 9010   | 1           | Plastic     | 250    | NaOH         | None     |
| Dissolved Cyanide | 9010   | 1           | Plastic     | 250    | NaOH         | Filtered |

Color: None      Odor: None      Clarity: None

**Tubing Volume:** 0.2 gallons

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

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## GROUNDWATER SAMPLING DATA SHEET

Well ID: MW-318D

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Sample Date: 10/23/2014

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Sampler's Name: SDN

## Measurement Date/Time: 10/22/14-9:45

|                                          |      |
|------------------------------------------|------|
| Standing Water in Well (feet):           | 28.4 |
| Well Diameter (in.)                      | 2    |
| Sample Depth (feet BGS):                 | 35   |
| Standpipe: TPVC to Ground Surface (feet) | -    |
| Roadbox: TPVC to Ground Surface (feet)   | -    |

Well Condition: Protective Casing- ☐ Poor ☒ Good Lock- ☒ Yes ☐ No Expansion Cap- ☒ Yes ☐ No Well ID- ☒ Yes ☐ No Concrete Collar- ☒ Yes ☐ No Well- ☐ Poor ☒ Good

**Sample Method:** ☐ Bail ☒ Pump / ☒ Low Flow

Flow-Thru Cell Vol (mL): 250

|                    |             |     |   |
|--------------------|-------------|-----|---|
| <b>Meter Type:</b> | YSI/Lamotte | No. | 3 |
|--------------------|-------------|-----|---|

**Start time:** 10:30

**Stop time:** 11:20

[illegible]

**SAMPLE TIME:** 11:20

| Analysis          | Method | No. Bottles | Bottle Type | Volume | Preservation | Handling |
|-------------------|--------|-------------|-------------|--------|--------------|----------|
| VOCs              | 8260B  | 3           | VOA         | 40     | HCl          | None     |
| TPH               | 8100M  | 1           | Amber Glass | 1000   | None         | None     |
| PAHs              | 8270C  | 2           | Amber Glass | 1000   | None         | None     |
| Total Cyanide     | 9010   | 1           | Plastic     | 250    | NaOH         | None     |
| Dissolved Cyanide | 9010   | 1           | Plastic     | 250    | NaOH         | Filtered |

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Color: None
Odor: None
Clarity: None

**Tubing Volume:** 0.3 gallons

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

Silty at first, cleared up.

## GROUNDWATER SAMPLING DATA SHEET

|                        |                           |        |    |
|------------------------|---------------------------|--------|----|
| File No.               | 43654.00 Task 39          |        |    |
| Project:               | Former Tidewater Facility |        |    |
| Location:              | City: Pawtucket           | State: | RI |
| <b><u>Weather:</u></b> | Rain 60s                  |        |    |

|                 |            |
|-----------------|------------|
| Well ID:        | MW-334S    |
| Sample Date:    | 10/23/2014 |
| Sampler's Name: | SDN        |

## WATER LEVEL OBSERVATIONS

Measurement Date/Time: 10/22/14-9:50

|                                    |           |                                     |              |                          |        |                          |
|------------------------------------|-----------|-------------------------------------|--------------|--------------------------|--------|--------------------------|
| Point of Measurement:              | PVC Riser | <input checked="" type="checkbox"/> | Steel Casing | <input type="checkbox"/> | Ground | <input type="checkbox"/> |
| Total Well Depth (feet):           | 27.75     |                                     |              |                          |        |                          |
| Depth to LNAPL (feet):             | -         |                                     |              |                          |        |                          |
| Depth to Water (feet):             | 19.48     |                                     |              |                          |        |                          |
| Depth to DNAPL (feet):             | -         |                                     |              |                          |        |                          |
| Well Screened Interval (feet BGS): | 14 to 24  |                                     |              |                          |        |                          |

|                                          |      |
|------------------------------------------|------|
| Standing Water in Well (feet):           | 8.27 |
| Well Diameter (in.)                      | 2    |
| Sample Depth (feet BGS):                 | 19   |
| Standpipe: TPVC to Ground Surface (feet) | -    |
| Roadbox: TPVC to Ground Surface (feet)   | -    |

Well Condition: **Protective Casing-** ☐ Poor ☒ Good **Lock-** ☒ Yes ☐ No **Expansion Cap-** ☒ Yes ☐ No **Well ID-** ☒ Yes ☐ No **Concrete Collar-** ☒ Yes ☐ No **Well-** ☐ Poor ☒ Good

## EQUIPMENT

**Sample Method:** ☐ Bail ☒ Pump / ☒ Low Flow

**Pump Type:** Dedicated Submersible

Flow-Thru Cell Vol (mL): 250

|                    |             |     |   |
|--------------------|-------------|-----|---|
| <b>Meter Type:</b> | YSI/Lamotte | No. | 3 |
|--------------------|-------------|-----|---|

**INSTRUMENT MEASUREMENTS:**

Start time: 8:00

Stop time: 9:00

[illegible]

**SAMPLE TESTING INFORMATION:**

**SAMPLE TIME:** 9:00

| Analysis          | Method | No. Bottles | Bottle Type | Volume | Preservation | Handling |
|-------------------|--------|-------------|-------------|--------|--------------|----------|
| VOCs              | 8260B  | 3           | VOA         | 40     | HCl          | None     |
| TPH               | 8100M  | 1           | Amber Glass | 1000   | None         | None     |
| PAHs              | 8270C  | 2           | Amber Glass | 1000   | None         | None     |
| Total Cyanide     | 9010   | 1           | Plastic     | 250    | NaOH         | None     |
| Dissolved Cyanide | 9010   | 1           | Plastic     | 250    | NaOH         | Filtered |

**Sample observations:**

Color: None      Odor: Slight coal-tar-like      Clarity: None

**Total Purge Volume:** 1.5 gallons

**Tubing Volume:** 0.2 gallons

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

**Notes:**



## GROUNDWATER SAMPLING DATA SHEET

|                        |                           |        |    |
|------------------------|---------------------------|--------|----|
| File No.               | 43654.00 Task 39          |        |    |
| Project:               | Former Tidewater Facility |        |    |
| Location:              | City: Pawtucket           | State: | RI |
| <b><u>Weather:</u></b> | Cloudy 60s                |        |    |

|                 |            |
|-----------------|------------|
| Well ID:        | MW-334D    |
| Sample Date:    | 10/23/2014 |
| Sampler's Name: | SDN        |

## WATER LEVEL OBSERVATIONS

Measurement Date/Time: 10/22/14-9:50

|                                    |           |                                     |              |                          |        |                          |
|------------------------------------|-----------|-------------------------------------|--------------|--------------------------|--------|--------------------------|
| Point of Measurement:              | PVC Riser | <input checked="" type="checkbox"/> | Steel Casing | <input type="checkbox"/> | Ground | <input type="checkbox"/> |
| Total Well Depth (feet):           | 43.1      |                                     |              |                          |        |                          |
| Depth to LNAPL (feet):             | -         |                                     |              |                          |        |                          |
| Depth to Water (feet):             | 18.78     |                                     |              |                          |        |                          |
| Depth to DNAPL (feet):             | -         |                                     |              |                          |        |                          |
| Well Screened Interval (feet BGS): | 28 to 38  |                                     |              |                          |        |                          |

|                                          |       |
|------------------------------------------|-------|
| Standing Water in Well (feet):           | 24.32 |
| Well Diameter (in.)                      | 2     |
| Sample Depth (feet BGS):                 | 33    |
| Standpipe: TPVC to Ground Surface (feet) | -     |
| Roadbox: TPVC to Ground Surface (feet)   | -     |

Well Condition: **Protective Casing-** ☐ Poor ☒ Good **Lock-** ☒ Yes ☐ No **Expansion Cap-** ☒ Yes ☐ No **Well ID-** ☒ Yes ☐ No **Concrete Collar-** ☒ Yes ☐ No **Well-** ☐ Poor ☒ Good

## EQUIPMENT

**Sample Method:** ☐ Bail ☒ Pump / ☒ Low Flow

**Pump Type:** Dedicated Submersible

Flow-Thru Cell Vol (mL): 250

|                    |             |     |   |
|--------------------|-------------|-----|---|
| <b>Meter Type:</b> | YSI/Lamotte | No. | 3 |
|--------------------|-------------|-----|---|

**INSTRUMENT MEASUREMENTS:**

**Start time:** 9:00

**Stop time:** 10:30

[illegible]

**SAMPLE TESTING INFORMATION:**

**SAMPLE TIME:** 10:30

| Analysis          | Method | No. Bottles | Bottle Type | Volume | Preservation | Handling |
|-------------------|--------|-------------|-------------|--------|--------------|----------|
| VOCs              | 8260B  | 3           | VOA         | 40     | HCl          | None     |
| TPH               | 8100M  | 1           | Amber Glass | 1000   | None         | None     |
| PAHs              | 8270C  | 2           | Amber Glass | 1000   | None         | None     |
| Total Cyanide     | 9010   | 1           | Plastic     | 250    | NaOH         | None     |
| Dissolved Cyanide | 9010   | 1           | Plastic     | 250    | NaOH         | Filtered |
|                   |        |             |             |        |              |          |

**Sample observations:**

Color: None      Odor: Slight Coal tar-like      Clarity: None

**Total Purge Volume:** 3 gallons

**Tubing Volume:** 0.3 gallons

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

**Notes:**

Slight sheen plates on purge water.

## LOW FLOW CALIBRATION SHEET

File No. 43654.00 Task 36  
Project: Former Tidewater Facility  
Location: City: Pawtucket State: RI

Page: 1 of 2  
Date: 10/22/2014

### LOW FLOW CALIBRATION:

#### Initial Calibration:

|                              |                        |            |                    |        |          |           |
|------------------------------|------------------------|------------|--------------------|--------|----------|-----------|
| <b>Specific Conductance:</b> | Instrument and Number: | YSI #1     | Standard Solution: | 1000   | Reading: | 999       |
| <b>pH (s.u.):</b>            | Instrument and Number: | YSI #1     | Standard Solution: | 4/7    | Reading: | 4.05/7.01 |
| <b>DO (mg/L):</b>            | Instrument and Number: | YSI #1     | Standard Solution: | 10000% | Reading: | 98        |
| <b>ORP (mvolts):</b>         | Instrument and Number: | YSI #1     | Standard Solution: | 231    | Reading: | 231.1     |
| <b>Turbidity (NTU):</b>      | Instrument and Number: | Lamotte #1 | Standard Solution: | 0/1    | Reading: | 0/1.5     |

#### Bump Check:

|                              |                        |            |                    |      |          |         |
|------------------------------|------------------------|------------|--------------------|------|----------|---------|
| <b>Specific Conductance:</b> | Instrument and Number: | YSI #1     | Standard Solution: | 1000 | Reading: | 1010    |
| <b>pH (s.u.):</b>            | Instrument and Number: | YSI #1     | Standard Solution: | 4/7  | Reading: | 4.3/6.7 |
| <b>DO (mg/L):</b>            | Instrument and Number: | YSI #1     | Standard Solution: | 100% | Reading: | 108     |
| <b>ORP (mvolts):</b>         | Instrument and Number: | YSI #1     | Standard Solution: | 231  | Reading: | 231     |
| <b>Turbidity (NTU):</b>      | Instrument and Number: | Lamotte #1 | Standard Solution: | 0/1  | Reading: | 0/2     |

## LOW FLOW CALIBRATION SHEET

File No. 43654.00 Task 36  
Project: Former Tidewater Facility  
Location: City: Pawtucket State: RI

Page: 2 of 2  
Date: 10/22/2014

### LOW FLOW CALIBRATION:

#### Initial Calibration:

|                              |                        |            |                    |      |          |           |
|------------------------------|------------------------|------------|--------------------|------|----------|-----------|
| <b>Specific Conductance:</b> | Instrument and Number: | YSI #3     | Standard Solution: | 1000 | Reading: | 1000      |
| <b>pH (s.u.):</b>            | Instrument and Number: | YSI #3     | Standard Solution: | 4/7  | Reading: | 4.05/7.01 |
| <b>DO (mg/L):</b>            | Instrument and Number: | YSI #3     | Standard Solution: | 100  | Reading: | 101       |
| <b>ORP (mvolts):</b>         | Instrument and Number: | YSI #3     | Standard Solution: | 231  | Reading: | 231       |
| <b>Turbidity (NTU):</b>      | Instrument and Number: | Lamotte #3 | Standard Solution: | 0/1  | Reading: | 0/1.1     |

#### Bump Check:

|                              |                        |            |                    |      |          |           |
|------------------------------|------------------------|------------|--------------------|------|----------|-----------|
| <b>Specific Conductance:</b> | Instrument and Number: | YSI #3     | Standard Solution: | 1000 | Reading: | 981       |
| <b>pH (s.u.):</b>            | Instrument and Number: | YSI #3     | Standard Solution: | 4/7  | Reading: | 4.31/7.10 |
| <b>DO (mg/L):</b>            | Instrument and Number: | YSI #3     | Standard Solution: | 100  | Reading: | 88        |
| <b>ORP (mvolts):</b>         | Instrument and Number: | YSI #3     | Standard Solution: | 231  | Reading: | 230.2     |
| <b>Turbidity (NTU):</b>      | Instrument and Number: | Lamotte #3 | Standard Solution: | 0/1  | Reading: | 0/1.9     |

## LOW FLOW CALIBRATION SHEET

File No. 43654.00 Task 36  
Project: Former Tidewater Facility  
Location: City: Pawtucket State: RI

Page: 1 of 2  
Date: 10/23/2014

### LOW FLOW CALIBRATION:

#### Initial Calibration:

|                              |                        |            |                    |      |          |        |
|------------------------------|------------------------|------------|--------------------|------|----------|--------|
| <b>Specific Conductance:</b> | Instrument and Number: | YSI #1     | Standard Solution: | 1000 | Reading: | 1001   |
| <b>pH (s.u.):</b>            | Instrument and Number: | YSI #1     | Standard Solution: | 4/7  | Reading: | 4.03/7 |
| <b>DO (mg/L):</b>            | Instrument and Number: | YSI #1     | Standard Solution: | 100  | Reading: | 100    |
| <b>ORP (mvolts):</b>         | Instrument and Number: | YSI #1     | Standard Solution: | 231  | Reading: | 231    |
| <b>Turbidity (NTU):</b>      | Instrument and Number: | Lamotte #1 | Standard Solution: | 0/1  | Reading: | 0/1.01 |

#### Bump Check:

|                              |                        |            |                    |      |          |           |
|------------------------------|------------------------|------------|--------------------|------|----------|-----------|
| <b>Specific Conductance:</b> | Instrument and Number: | YSI #1     | Standard Solution: | 1000 | Reading: | 990       |
| <b>pH (s.u.):</b>            | Instrument and Number: | YSI #1     | Standard Solution: | 4/7  | Reading: | 4.15/6.80 |
| <b>DO (mg/L):</b>            | Instrument and Number: | YSI #1     | Standard Solution: | 100  | Reading: | 110       |
| <b>ORP (mvolts):</b>         | Instrument and Number: | YSI #1     | Standard Solution: | 231  | Reading: | 231.5     |
| <b>Turbidity (NTU):</b>      | Instrument and Number: | Lamotte #1 | Standard Solution: | 0/1  | Reading: | 0/0.9     |

## LOW FLOW CALIBRATION SHEET

File No. 43654.00 Task 36  
Project: Former Tidewater Facility  
Location: City: Pawtucket State: RI

Page: 2 of 2  
Date: 10/23/2014

### LOW FLOW CALIBRATION:

#### Initial Calibration:

|                              |                        |            |                    |      |          |           |
|------------------------------|------------------------|------------|--------------------|------|----------|-----------|
| <b>Specific Conductance:</b> | Instrument and Number: | YSI #3     | Standard Solution: | 1000 | Reading: | 999       |
| <b>pH (s.u.):</b>            | Instrument and Number: | YSI #3     | Standard Solution: | 4/7  | Reading: | 4.01/6.99 |
| <b>DO (mg/L):</b>            | Instrument and Number: | YSI #3     | Standard Solution: | 100  | Reading: | 100       |
| <b>ORP (mvolts):</b>         | Instrument and Number: | YSI #3     | Standard Solution: | 231  | Reading: | 231.1     |
| <b>Turbidity (NTU):</b>      | Instrument and Number: | Lamotte #3 | Standard Solution: | 0/1  | Reading: | 0/1.1     |

#### Bump Check:

|                              |                        |            |                    |      |          |           |
|------------------------------|------------------------|------------|--------------------|------|----------|-----------|
| <b>Specific Conductance:</b> | Instrument and Number: | YSI #3     | Standard Solution: | 1000 | Reading: | 971       |
| <b>pH (s.u.):</b>            | Instrument and Number: | YSI #3     | Standard Solution: | 4/7  | Reading: | 3.75/6.95 |
| <b>DO (mg/L):</b>            | Instrument and Number: | YSI #3     | Standard Solution: | 100  | Reading: | 110       |
| <b>ORP (mvolts):</b>         | Instrument and Number: | YSI #3     | Standard Solution: | 231  | Reading: | 231       |
| <b>Turbidity (NTU):</b>      | Instrument and Number: | Lamotte #3 | Standard Solution: | 0/1  | Reading: | 0/1.5     |



## **APPENDIX C**

### **INVESTIGATION DERIVED WASTE DISPOSAL MANIFESTS**

TW# 5181

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

RI 1402848797-001

SC PPW 9/30/2014

Form Approved, OMB No. 2050-0039

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                |                                               |                                                                                                                |                                                      |                                                     |                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------|-----------------------------------------------------|-------------------|
| UNIFORM HAZARDOUS WASTE MANIFEST                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                | 1. Generator ID Number<br><b>RIP000032293</b> | 2. Page 1 of<br><b>1</b>                                                                                       | 3. Emergency Response Phone<br><b>(800) 483-3718</b> | 4. Manifest Tracking Number<br><b>006070564 FLE</b> |                   |
| 5. Generator's Name and Mailing Address<br><b>Narragansett Electric company<br/>40 Sylvan Road<br/>Waltham, MA 02451</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                |                                               | Generator's Site Address (if different than mailing address)<br><b>200 Taft Street<br/>Pawtucket, RI 02862</b> |                                                      |                                                     |                   |
| Generator's Phone: <b>(781) 907-3647</b> ATTN: Susan Brochu                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                |                                               |                                                                                                                |                                                      |                                                     |                   |
| 6. Transporter 1 Company Name<br><b>Clean Harbors Environmental Services Inc</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                |                                               | U.S. EPA ID Number<br><b>MAD039322250</b>                                                                      |                                                      |                                                     |                   |
| 7. Transporter 2 Company Name<br><i>Safe-Harbor Septon, Inc</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                |                                               | U.S. EPA ID Number<br><i>MA00081205</i>                                                                        |                                                      |                                                     |                   |
| 8. Designated Facility Name and Site Address<br><b>Clean Harbors Env Services Inc<br/>2900 Rockefeller Avenue<br/>Cleveland, OH 44115</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                |                                               | U.S. EPA ID Number<br><b>OHD000724153</b>                                                                      |                                                      |                                                     |                   |
| Facility's Phone: <b>(216) 428-2402</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                |                                               |                                                                                                                |                                                      |                                                     |                   |
| 9a. HM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any)) |                                               | 10. Containers                                                                                                 |                                                      | 11. Total Quantity                                  | 12. Unit Wt./Vol. |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                |                                               | No.                                                                                                            | Type                                                 |                                                     |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1. <b>NON DOT REGULATED MATERIAL (PURGEWATER)</b>                                                              |                                               | <b>001</b>                                                                                                     | <b>DM</b>                                            | <b>55</b>                                           | <b>G</b>          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                |                                               |                                                                                                                |                                                      |                                                     |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                |                                               |                                                                                                                |                                                      |                                                     |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                |                                               |                                                                                                                | 13. Waste Codes<br><b>R015</b>                       |                                                     |                   |
| 14. Special Handling Instructions and Additional Information<br><b>1. T26781RIR 1X55</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                |                                               |                                                                                                                |                                                      |                                                     |                   |
| 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/Officer's Printed/Typed Name <b>Adriano Brito</b> Signature <i>Adriano Brito</i> Month <b>11</b> Day <b>04</b> Year <b>14</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                |                                               |                                                                                                                |                                                      |                                                     |                   |
| 16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: Date leaving U.S.:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                |                                               |                                                                                                                |                                                      |                                                     |                   |
| 17. Transporter Acknowledgment of Receipt of Materials                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                |                                               |                                                                                                                |                                                      |                                                     |                   |
| Transporter 1 Printed/Typed Name<br><b>Adriano Brito</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                | Signature<br><i>Adriano Brito</i>             |                                                                                                                | Month <b>11</b> Day <b>04</b> Year <b>14</b>         |                                                     |                   |
| Transporter 2 Printed/Typed Name<br><b>CURTIS KATA</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                | Signature<br><i>Curtis Kata</i>               |                                                                                                                | Month <b>11</b> Day <b>22</b> Year <b>14</b>         |                                                     |                   |
| 18. Discrepancy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                |                                               |                                                                                                                |                                                      |                                                     |                   |
| 18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> 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. <b>H070</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                | 2.                                            |                                                                                                                | 3.                                                   |                                                     | 4.                |
| 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<br><b>Tina Ball</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                | Signature<br><i>Tina Ball</i>                 |                                                                                                                | Month <b>11</b> Day <b>25</b> Year <b>14</b>         |                                                     |                   |

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

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

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

## **APPENDIX D**

### LABORATORY DATA REPORTS



*CERTIFICATE OF ANALYSIS*

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

**RE: Tidewater GH (03.0043654.T13)**  
**ESS Laboratory Work Order Number: 1410603**

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 1:37 pm, Oct 31, 2014**

**Analytical Summary**

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

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



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410603

**SAMPLE RECEIPT**

The following samples were received on October 23, 2014 for the analyses specified on the enclosed Chain of Custody Record.

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

pH for Cyanide containers, for the following samples, were less than the method requirement of >12: "M and E MW-1" (1410603-03), "MW-333S" (1410603-06), and "BD 1" (1410603-08). Samples to be analyzed per client request.

| <u>Lab Number</u> | <u>Sample Name</u> | <u>Matrix</u> | <u>Analysis</u>               |
|-------------------|--------------------|---------------|-------------------------------|
| 1410603-01        | MW-314S            | Ground Water  | 8100M, 8260B, 8270C SIM, 9014 |
| 1410603-02        | MW-314D            | Ground Water  | 8100M, 8260B, 8270C SIM, 9014 |
| 1410603-03        | M and E MW-1       | Ground Water  | 8100M, 8260B, 8270C SIM, 9014 |
| 1410603-04        | MW-326S            | Ground Water  | 8100M, 8260B, 8270C SIM, 9014 |
| 1410603-05        | MW-326D            | Ground Water  | 8100M, 8260B, 8270C SIM, 9014 |
| 1410603-06        | MW-333S            | Ground Water  | 8100M, 8260B, 8270C SIM, 9014 |
| 1410603-07        | MW-333D            | Ground Water  | 8100M, 8260B, 8270C SIM, 9014 |
| 1410603-08        | BD 1               | Ground Water  | 8100M, 8260B, 8270C SIM, 9014 |
| 1410603-09        | MW-107             | Ground Water  | 8100M, 8260B, 8270C SIM, 9014 |
| 1410603-10        | MW-334S            | Ground Water  | 8100M, 8260B, 8270C SIM, 9014 |
| 1410603-11        | MW-334D            | Ground Water  | 8100M, 8260B, 8270C SIM, 9014 |
| 1410603-12        | MW-318S            | Ground Water  | 8100M, 8260B, 8270C SIM, 9014 |
| 1410603-13        | MW-318D            | Ground Water  | 8100M, 8260B, 8270C SIM, 9014 |
| 1410603-14        | MW-337             | Ground Water  | 8100M, 8260B, 8270C SIM, 9014 |
| 1410603-15        | MW-6               | Ground Water  | 8100M, 8260B, 8270C SIM, 9014 |
| 1410603-16        | MW-109             | Ground Water  | 8100M, 8260B, 8270C SIM, 9014 |
| 1410603-17        | MW-316D            | Ground Water  | 8100M, 8260B, 8270C SIM, 9014 |
| 1410603-18        | MW-310S            | Ground Water  | 8100M, 8260B, 8270C SIM, 9014 |
| 1410603-19        | MW-310D            | Ground Water  | 8100M, 8260B, 8270C SIM, 9014 |
| 1410603-20        | Trip Blank         | Aqueous       | 8260B                         |





*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410603

**PROJECT NARRATIVE**

**8100M Total Petroleum Hydrocarbons**

CJ42436-BSD1 Relative percent difference for duplicate is outside of criteria (D+).  
Decane (C10) (26%), Nonane (C9) (26%)

**8260B Volatile Organic Compounds**

CJ42737-BS1 Blank Spike recovery is above upper control limit (B+).  
2,2-Dichloropropane (140% @ 70-130%), Acetone (134% @ 70-130%)  
CJ42737-BS1 Surrogate recovery(ies) below lower control limit (S-).  
4-Bromofluorobenzene (69% @ 70-130%), Toluene-d8 (69% @ 70-130%)  
CJ42737-BSD1 Blank Spike recovery is above upper control limit (B+).  
Hexachloroethane (131% @ 70-130%)  
CJ42810-BS1 Blank Spike recovery is above upper control limit (B+).  
2,2-Dichloropropane (138% @ 70-130%), Hexachloroethane (133% @ 70-130%)  
CJ42810-BSD1 Blank Spike recovery is above upper control limit (B+).  
2,2-Dichloropropane (143% @ 70-130%), Acetone (168% @ 70-130%), Hexachloroethane (133% @ 70-130%)  
CJ42842-BS1 Blank Spike recovery is below lower control limit (B-).  
Bromomethane (65% @ 70-130%), Chloroethane (64% @ 70-130%)  
CJ42842-BSD1 Blank Spike recovery is above upper control limit (B+).  
2,2-Dichloropropane (135% @ 70-130%)  
CXJ0385-CCV1 Continuing Calibration recovery is above upper control limit (C+).  
2,2-Dichloropropane (131% @ 70-130%)  
CXJ0403-CCV1 Continuing Calibration recovery is below lower control limit (C-).  
Bromomethane (50% @ 70-130%), Chloroethane (67% @ 70-130%)  
CXJ0431-CCV1 Continuing Calibration recovery is above upper control limit (C+).  
2,2-Dichloropropane (132% @ 70-130%)

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

1410603-07 Internal Standard(s) outside of criteria due to matrix (UCM/coelution is present) (IM).  
Naphthalene-d8 (45% @ 50-200%)  
1410603-07 Surrogate recovery(ies) below lower control limit (S-).  
1,2-Dichlorobenzene-d4 (23% @ 30-130%)  
1410603-15 Surrogate recovery(ies) below lower control limit (S-).  
1,2-Dichlorobenzene-d4 (26% @ 30-130%)  
CJ42402-BLK1 Surrogate recovery(ies) below lower control limit (S-).  
1,2-Dichlorobenzene-d4 (21% @ 30-130%)  
CJ42402-BS1 Blank Spike recovery is below lower control limit (B-).  
2-Methylnaphthalene (39% @ 40-140%)  
CJ42402-BSD1 Relative percent difference for duplicate is outside of criteria (D+).  
Dibenzo(a,h)Anthracene (48%)



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410603

**No other observations noted.**

**End of Project Narrative.**

**DATA USABILITY LINKS**

[Definitions of Quality Control Parameters](#)  
[Semivolatile Organics Internal Standard Information](#)  
[Semivolatile Organics Surrogate Information](#)  
[Volatile Organics Internal Standard Information](#)  
[Volatile Organics Surrogate Information](#)  
[EPH and VPH Alkane Lists](#)

**CURRENT SW-846 METHODOLOGY VERSIONS**

**Analytical Methods**

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

**Prep Methods**

3005A - Aqueous ICP and Graphite Furnace Digestion  
3020A - Aqueous 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



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-314S  
Date Sampled: 10/22/14 13:45  
Percent Solids: N/A  
Initial Volume: 1040  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-01  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: DPS  
Prepared: 10/24/14 11:30

All methods used are in accordance with 40 CFR 136.

**8100M Total Petroleum Hydrocarbons**

| <u>Analyte</u>               | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------------|----------------------|------------------|------------------|---------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons | 0.57 (0.19)          |                  | 8100M            |               | 1         | 10/24/14 13:14  | CXJ0347         | CJ42401      |
| <hr/>                        |                      |                  |                  |               |           |                 |                 |              |
|                              |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                 |                 |              |
| Surrogate: O-Terphenyl       |                      | 65 %             |                  | 40-140        |           |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-314S

Date Sampled: 10/22/14 13:45

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-01

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

**All methods used are in accordance with 40 CFR 136.**

**8260B Volatile Organic Compounds**

| <u>Analyte</u>              | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane   | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 1,1,1-Trichloroethane       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 1,1,2,2-Tetrachloroethane   | ND (0.0005)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 1,1,2-Trichloroethane       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethane          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 1,1-Dichloropropene         | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 1,2,3-Trichlorobenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 1,2,3-Trichloropropane      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 1,2,4-Trichlorobenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 1,2,4-Trimethylbenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 1,2-Dibromo-3-Chloropropane | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 1,2-Dibromoethane           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 1,2-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 1,2-Dichloroethane          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 1,2-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 1,3,5-Trimethylbenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 1,3-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 1,3-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 1,4-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 1,4-Dioxane - Screen        | ND (0.500)           |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 1-Chlorohexane              | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 2,2-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 2-Butanone                  | ND (0.0100)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 2-Chlorotoluene             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 2-Hexanone                  | ND (0.0100)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 4-Chlorotoluene             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 4-Isopropyltoluene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| 4-Methyl-2-Pentanone        | ND (0.0250)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Acetone                     | ND (0.0100)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Benzene                     | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Bromobenzene                | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-314S

Date Sampled: 10/22/14 13:45

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-01

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Bromodichloromethane       | ND (0.0006)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Bromoform                  | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Bromomethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Carbon Disulfide           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Carbon Tetrachloride       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Chlorobenzene              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Chloroethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Chloroform                 | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Chloromethane              | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| cis-1,2-Dichloroethene     | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| cis-1,3-Dichloropropene    | ND (0.0004)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Dibromochloromethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Dibromomethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Dichlorodifluoromethane    | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Diethyl Ether              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Di-isopropyl ether         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Ethyl tertiary-butyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Ethylbenzene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Hexachlorobutadiene        | ND (0.0006)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Hexachloroethane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Isopropylbenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Methyl tert-Butyl Ether    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Methylene Chloride         | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| <b>Naphthalene</b>         | <b>0.0014</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| n-Butylbenzene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| n-Propylbenzene            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| sec-Butylbenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Styrene                    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| tert-Butylbenzene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Tertiary-amyl methyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Tetrachloroethene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-314S

Date Sampled: 10/22/14 13:45

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-01

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Toluene                   | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| trans-1,2-Dichloroethene  | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| trans-1,3-Dichloropropene | ND (0.0004)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Trichloroethene           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Trichlorofluoromethane    | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Vinyl Acetate             | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Vinyl Chloride            | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Xylene O                  | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Xylene P,M                | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 21:18  | CXJ0362         | CJ42737      |
| Xylenes (Total)           | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 21:18  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.0010)          |            | 8260B         |              |           | 10/24/14 21:18  |                 | [CALC]       |

|                                         | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>128 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>99 %</i>      |                  | <i>70-130</i> |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>128 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Toluene-d8</i>            | <i>103 %</i>     |                  | <i>70-130</i> |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-314S

Date Sampled: 10/22/14 13:45

Percent Solids: N/A

Initial Volume: 1070

Final Volume: 0.25

Extraction Method: 3510C

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-01

Sample Matrix: Ground Water

Units: mg/L

Analyst: VSC

Prepared: 10/24/14 14:08

All methods used are in accordance with 40 CFR 136.

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

| <u>Analyte</u>         | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 2-Methylnaphthalene    | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 5:51   | CXJ0353         | CJ42402      |
| <b>Acenaphthene</b>    | <b>0.0013</b> (0.0002) |            | 8270C SIM     |              | 1         | 10/25/14 5:51   | CXJ0353         | CJ42402      |
| Acenaphthylene         | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 5:51   | CXJ0353         | CJ42402      |
| Anthracene             | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 5:51   | CXJ0353         | CJ42402      |
| Benzo(a)anthracene     | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 5:51   | CXJ0353         | CJ42402      |
| Benzo(a)pyrene         | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 5:51   | CXJ0353         | CJ42402      |
| Benzo(b)fluoranthene   | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 5:51   | CXJ0353         | CJ42402      |
| Benzo(g,h,i)perylene   | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 5:51   | CXJ0353         | CJ42402      |
| Benzo(k)fluoranthene   | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 5:51   | CXJ0353         | CJ42402      |
| Chrysene               | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 5:51   | CXJ0353         | CJ42402      |
| Dibenzo(a,h)Anthracene | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 5:51   | CXJ0353         | CJ42402      |
| Fluoranthene           | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 5:51   | CXJ0353         | CJ42402      |
| <b>Fluorene</b>        | <b>0.0003</b> (0.0002) |            | 8270C SIM     |              | 1         | 10/25/14 5:51   | CXJ0353         | CJ42402      |
| Indeno(1,2,3-cd)Pyrene | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 5:51   | CXJ0353         | CJ42402      |
| Naphthalene            | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 5:51   | CXJ0353         | CJ42402      |
| Phenanthrene           | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 5:51   | CXJ0353         | CJ42402      |
| <b>Pyrene</b>          | <b>0.0003</b> (0.0002) |            | 8270C SIM     |              | 1         | 10/25/14 5:51   | CXJ0353         | CJ42402      |

|                                          | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|------------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichlorobenzene-d4</i> | 39 %             |                  | 30-130        |
| <i>Surrogate: 2-Fluorobiphenyl</i>       | 50 %             |                  | 30-130        |
| <i>Surrogate: Nitrobenzene-d5</i>        | 58 %             |                  | 30-130        |
| <i>Surrogate: p-Terphenyl-d14</i>        | 74 %             |                  | 30-130        |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-314S  
Date Sampled: 10/22/14 13:45  
Percent Solids: N/A

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-01  
Sample Matrix: Ground Water

All methods used are in accordance with 40 CFR 136.

**Classical Chemistry**

| <u>Analyte</u>     | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|--------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Dissolved Cyanide  | 0.128 (0.005)        |            | 9014          |              | 1         | EEM            | 10/29/14 12:10  | mg/L         | CJ42911      |
| Total Cyanide (LL) | 0.176 (0.00500)      |            | 9014          |              | 1         | JLK            | 10/28/14 10:20  | mg/L         | CJ42801      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-314D  
Date Sampled: 10/22/14 15:10  
Percent Solids: N/A  
Initial Volume: 1070  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-02  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: DPS  
Prepared: 10/24/14 11:30

All methods used are in accordance with 40 CFR 136.

**8100M Total Petroleum Hydrocarbons**

| <u>Analyte</u>               | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------------|----------------------|------------------|------------------|---------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons | 0.37 (0.19)          |                  | 8100M            |               | 1         | 10/24/14 13:53  | CXJ0347         | CJ42401      |
| <hr/>                        |                      |                  |                  |               |           |                 |                 |              |
|                              |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                 |                 |              |
| Surrogate: O-Terphenyl       |                      | 68 %             |                  | 40-140        |           |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-314D

Date Sampled: 10/22/14 15:10

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-02

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

**All methods used are in accordance with 40 CFR 136.**

**8260B Volatile Organic Compounds**

| <u>Analyte</u>              | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane   | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 1,1,1-Trichloroethane       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 1,1,2,2-Tetrachloroethane   | ND (0.0005)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 1,1,2-Trichloroethane       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethane          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 1,1-Dichloropropene         | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 1,2,3-Trichlorobenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 1,2,3-Trichloropropane      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 1,2,4-Trichlorobenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 1,2,4-Trimethylbenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 1,2-Dibromo-3-Chloropropane | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 1,2-Dibromoethane           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 1,2-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 1,2-Dichloroethane          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 1,2-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 1,3,5-Trimethylbenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 1,3-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 1,3-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 1,4-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 1,4-Dioxane - Screen        | ND (0.500)           |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 1-Chlorohexane              | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 2,2-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 2-Butanone                  | ND (0.0100)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 2-Chlorotoluene             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 2-Hexanone                  | ND (0.0100)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 4-Chlorotoluene             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 4-Isopropyltoluene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| 4-Methyl-2-Pentanone        | ND (0.0250)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Acetone                     | ND (0.0100)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Benzene                     | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Bromobenzene                | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-314D

Date Sampled: 10/22/14 15:10

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-02

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

**All methods used are in accordance with 40 CFR 136.**

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Bromodichloromethane       | ND (0.0006)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Bromoform                  | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Bromomethane               | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Carbon Disulfide           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Carbon Tetrachloride       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Chlorobenzene              | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Chloroethane               | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Chloroform                 | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Chloromethane              | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| cis-1,2-Dichloroethene     | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| cis-1,3-Dichloropropene    | ND (0.0004)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Dibromochloromethane       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Dibromomethane             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Dichlorodifluoromethane    | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Diethyl Ether              | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Di-isopropyl ether         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Ethyl tertiary-butyl ether | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Ethylbenzene               | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Hexachlorobutadiene        | ND (0.0006)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Hexachloroethane           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Isopropylbenzene           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Methyl tert-Butyl Ether    | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Methylene Chloride         | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Naphthalene                | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| n-Butylbenzene             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| n-Propylbenzene            | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| sec-Butylbenzene           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Styrene                    | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| tert-Butylbenzene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Tertiary-amyl methyl ether | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Tetrachloroethene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-314D

Date Sampled: 10/22/14 15:10

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-02

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Toluene                   | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| trans-1,2-Dichloroethene  | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| trans-1,3-Dichloropropene | ND (0.0004)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Trichloroethene           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Trichlorofluoromethane    | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Vinyl Acetate             | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Vinyl Chloride            | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Xylene O                  | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Xylene P,M                | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 20:27  | CXJ0362         | CJ42737      |
| Xylenes (Total)           | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 20:27  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.0010)          |            | 8260B         |              |           | 10/24/14 20:27  |                 | [CALC]       |

|                                         | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>128 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>100 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>124 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Toluene-d8</i>            | <i>103 %</i>     |                  | <i>70-130</i> |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-314D  
Date Sampled: 10/22/14 15:10  
Percent Solids: N/A  
Initial Volume: 1070  
Final Volume: 0.25  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-02  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: VSC  
Prepared: 10/24/14 14:08

All methods used are in accordance with 40 CFR 136.

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

| <u>Analyte</u>         | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 2-Methylnaphthalene    | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 6:40   | CXJ0353         | CJ42402      |
| Acenaphthene           | 0.0013 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 6:40   | CXJ0353         | CJ42402      |
| Acenaphthylene         | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 6:40   | CXJ0353         | CJ42402      |
| Anthracene             | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 6:40   | CXJ0353         | CJ42402      |
| Benzo(a)anthracene     | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 6:40   | CXJ0353         | CJ42402      |
| Benzo(a)pyrene         | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 6:40   | CXJ0353         | CJ42402      |
| Benzo(b)fluoranthene   | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 6:40   | CXJ0353         | CJ42402      |
| Benzo(g,h,i)perylene   | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 6:40   | CXJ0353         | CJ42402      |
| Benzo(k)fluoranthene   | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 6:40   | CXJ0353         | CJ42402      |
| Chrysene               | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 6:40   | CXJ0353         | CJ42402      |
| Dibenzo(a,h)Anthracene | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 6:40   | CXJ0353         | CJ42402      |
| Fluoranthene           | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 6:40   | CXJ0353         | CJ42402      |
| Fluorene               | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 6:40   | CXJ0353         | CJ42402      |
| Indeno(1,2,3-cd)Pyrene | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 6:40   | CXJ0353         | CJ42402      |
| Naphthalene            | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 6:40   | CXJ0353         | CJ42402      |
| Phenanthrene           | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 6:40   | CXJ0353         | CJ42402      |
| Pyrene                 | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 6:40   | CXJ0353         | CJ42402      |

|                                   | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichlorobenzene-d4 | 33 %             |                  | 30-130        |
| Surrogate: 2-Fluorobiphenyl       | 44 %             |                  | 30-130        |
| Surrogate: Nitrobenzene-d5        | 51 %             |                  | 30-130        |
| Surrogate: p-Terphenyl-d14        | 52 %             |                  | 30-130        |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-314D  
Date Sampled: 10/22/14 15:10  
Percent Solids: N/A

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-02  
Sample Matrix: Ground Water

All methods used are in accordance with 40 CFR 136.

**Classical Chemistry**

| <u>Analyte</u>     | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|--------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Dissolved Cyanide  | 0.162 (0.005)        |            | 9014          |              | 1         | EEM            | 10/29/14 12:10  | mg/L         | CJ42911      |
| Total Cyanide (LL) | 0.160 (0.00500)      |            | 9014          |              | 1         | JLK            | 10/28/14 10:20  | mg/L         | CJ42801      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: M and E MW-1  
Date Sampled: 10/22/14 14:45  
Percent Solids: N/A  
Initial Volume: 1070  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-03  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: DPS  
Prepared: 10/24/14 11:30

All methods used are in accordance with 40 CFR 136.

**8100M Total Petroleum Hydrocarbons**

| <u>Analyte</u>                | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|----------------------|------------------|------------------|---------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons  | ND (0.19)            |                  | 8100M            |               | 1         | 10/24/14 14:32  | CXJ0347         | CJ42401      |
| <hr/>                         |                      |                  |                  |               |           |                 |                 |              |
|                               |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                 |                 |              |
| <i>Surrogate: O-Terphenyl</i> |                      | 59 %             |                  | 40-140        |           |                 |                 |              |





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: M and E MW-1

Date Sampled: 10/22/14 14:45

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-03

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

**All methods used are in accordance with 40 CFR 136.**

**8260B Volatile Organic Compounds**

| <u>Analyte</u>              | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane   | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 1,1,1-Trichloroethane       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 1,1,2,2-Tetrachloroethane   | ND (0.0005)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 1,1,2-Trichloroethane       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethane          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 1,1-Dichloropropene         | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 1,2,3-Trichlorobenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 1,2,3-Trichloropropane      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 1,2,4-Trichlorobenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 1,2,4-Trimethylbenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 1,2-Dibromo-3-Chloropropane | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 1,2-Dibromoethane           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 1,2-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 1,2-Dichloroethane          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 1,2-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 1,3,5-Trimethylbenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 1,3-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 1,3-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 1,4-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 1,4-Dioxane - Screen        | ND (0.500)           |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 1-Chlorohexane              | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 2,2-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 2-Butanone                  | ND (0.0100)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 2-Chlorotoluene             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 2-Hexanone                  | ND (0.0100)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 4-Chlorotoluene             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 4-Isopropyltoluene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| 4-Methyl-2-Pentanone        | ND (0.0250)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Acetone                     | ND (0.0100)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Benzene                     | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Bromobenzene                | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: M and E MW-1

Date Sampled: 10/22/14 14:45

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-03

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Bromodichloromethane       | ND (0.0006)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Bromoform                  | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Bromomethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Carbon Disulfide           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Carbon Tetrachloride       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Chlorobenzene              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Chloroethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Chloroform                 | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Chloromethane              | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| cis-1,2-Dichloroethene     | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| cis-1,3-Dichloropropene    | ND (0.0004)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Dibromochloromethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Dibromomethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Dichlorodifluoromethane    | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Diethyl Ether              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Di-isopropyl ether         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Ethyl tertiary-butyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Ethylbenzene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Hexachlorobutadiene        | ND (0.0006)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Hexachloroethane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Isopropylbenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Methyl tert-Butyl Ether    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Methylene Chloride         | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| <b>Naphthalene</b>         | <b>0.0112</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| n-Butylbenzene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| n-Propylbenzene            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| sec-Butylbenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Styrene                    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| tert-Butylbenzene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Tertiary-amyl methyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Tetrachloroethene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: M and E MW-1

Date Sampled: 10/22/14 14:45

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-03

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Toluene                   | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| trans-1,2-Dichloroethene  | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| trans-1,3-Dichloropropene | ND (0.0004)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Trichloroethene           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Trichlorofluoromethane    | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Vinyl Acetate             | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Vinyl Chloride            | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Xylene O                  | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Xylene P,M                | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 16:41  | CXJ0362         | CJ42737      |
| Xylenes (Total)           | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 16:41  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.0010)          |            | 8260B         |              |           | 10/24/14 16:41  |                 | [CALC]       |

|                                         | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>124 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>98 %</i>      |                  | <i>70-130</i> |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>123 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Toluene-d8</i>            | <i>104 %</i>     |                  | <i>70-130</i> |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: M and E MW-1

Date Sampled: 10/22/14 14:45

Percent Solids: N/A

Initial Volume: 1070

Final Volume: 0.25

Extraction Method: 3510C

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-03

Sample Matrix: Ground Water

Units: mg/L

Analyst: VSC

Prepared: 10/24/14 14:08

All methods used are in accordance with 40 CFR 136.

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

| <u>Analyte</u>         | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 2-Methylnaphthalene    | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 7:30   | CXJ0353         | CJ42402      |
| Acenaphthene           | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 7:30   | CXJ0353         | CJ42402      |
| Acenaphthylene         | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 7:30   | CXJ0353         | CJ42402      |
| Anthracene             | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 7:30   | CXJ0353         | CJ42402      |
| Benzo(a)anthracene     | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 7:30   | CXJ0353         | CJ42402      |
| Benzo(a)pyrene         | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 7:30   | CXJ0353         | CJ42402      |
| Benzo(b)fluoranthene   | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 7:30   | CXJ0353         | CJ42402      |
| Benzo(g,h,i)perylene   | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 7:30   | CXJ0353         | CJ42402      |
| Benzo(k)fluoranthene   | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 7:30   | CXJ0353         | CJ42402      |
| Chrysene               | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 7:30   | CXJ0353         | CJ42402      |
| Dibenzo(a,h)Anthracene | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 7:30   | CXJ0353         | CJ42402      |
| Fluoranthene           | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 7:30   | CXJ0353         | CJ42402      |
| Fluorene               | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 7:30   | CXJ0353         | CJ42402      |
| Indeno(1,2,3-cd)Pyrene | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 7:30   | CXJ0353         | CJ42402      |
| <b>Naphthalene</b>     | <b>0.0003</b> (0.0002) |            | 8270C SIM     |              | 1         | 10/25/14 7:30   | CXJ0353         | CJ42402      |
| Phenanthrene           | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 7:30   | CXJ0353         | CJ42402      |
| Pyrene                 | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 7:30   | CXJ0353         | CJ42402      |

|                                          | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|------------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichlorobenzene-d4</i> | 35 %             |                  | 30-130        |
| <i>Surrogate: 2-Fluorobiphenyl</i>       | 39 %             |                  | 30-130        |
| <i>Surrogate: Nitrobenzene-d5</i>        | 49 %             |                  | 30-130        |
| <i>Surrogate: p-Terphenyl-d14</i>        | 59 %             |                  | 30-130        |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: M and E MW-1  
Date Sampled: 10/22/14 14:45  
Percent Solids: N/A

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-03  
Sample Matrix: Ground Water

All methods used are in accordance with 40 CFR 136.

**Classical Chemistry**

| <u>Analyte</u>     | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|--------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Dissolved Cyanide  | 0.058 (0.005)        |            | 9014          |              | 1         | EEM            | 10/29/14 12:10  | mg/L         | CJ42911      |
| Total Cyanide (LL) | 0.0734 (0.00500)     |            | 9014          |              | 1         | JLK            | 10/28/14 10:20  | mg/L         | CJ42801      |





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-326S  
Date Sampled: 10/22/14 13:12  
Percent Solids: N/A  
Initial Volume: 1070  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-04  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: DPS  
Prepared: 10/24/14 11:30

All methods used are in accordance with 40 CFR 136.

**8100M Total Petroleum Hydrocarbons**

| <u>Analyte</u>               | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------------|----------------------|------------------|------------------|---------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons | 5.85 (0.19)          |                  | 8100M            |               | 1         | 10/24/14 15:10  | CXJ0347         | CJ42401      |
| <hr/>                        |                      |                  |                  |               |           |                 |                 |              |
|                              |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                 |                 |              |
| Surrogate: O-Terphenyl       |                      | 65 %             |                  | 40-140        |           |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-326S

Date Sampled: 10/22/14 13:12

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-04

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>                | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane     | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| 1,1,1-Trichloroethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| 1,1,2,2-Tetrachloroethane     | ND (0.0005)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| 1,1,2-Trichloroethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethane            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethene            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| 1,1-Dichloropropene           | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| 1,2,3-Trichlorobenzene        | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| 1,2,3-Trichloropropane        | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| 1,2,4-Trichlorobenzene        | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| <b>1,2,4-Trimethylbenzene</b> | <b>0.0183</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| 1,2-Dibromo-3-Chloropropane   | ND (0.0050)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| 1,2-Dibromoethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| 1,2-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| 1,2-Dichloroethane            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| 1,2-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| <b>1,3,5-Trimethylbenzene</b> | <b>0.0082</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| 1,3-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| 1,3-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| 1,4-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| 1,4-Dioxane - Screen          | ND (0.500)             |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| 1-Chlorohexane                | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| 2,2-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| 2-Butanone                    | ND (0.0100)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| 2-Chlorotoluene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| 2-Hexanone                    | ND (0.0100)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| 4-Chlorotoluene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| 4-Isopropyltoluene            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| 4-Methyl-2-Pentanone          | ND (0.0250)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| Acetone                       | ND (0.0100)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| <b>Benzene</b>                | <b>0.352</b> (0.0100)  |            | 8260B         |              | 10        | 10/27/14 16:14  | CXJ0362         | CJ42737      |
| Bromobenzene                  | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-326S

Date Sampled: 10/22/14 13:12

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-04

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| Bromodichloromethane       | ND (0.0006)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| Bromoform                  | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| Bromomethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| Carbon Disulfide           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| Carbon Tetrachloride       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| Chlorobenzene              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| Chloroethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| Chloroform                 | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| Chloromethane              | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| cis-1,2-Dichloroethene     | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| cis-1,3-Dichloropropene    | ND (0.0004)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| Dibromochloromethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| Dibromomethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| Dichlorodifluoromethane    | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| Diethyl Ether              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| Di-isopropyl ether         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| Ethyl tertiary-butyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| <b>Ethylbenzene</b>        | <b>0.0574</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| Hexachlorobutadiene        | ND (0.0006)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| Hexachloroethane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| <b>Isopropylbenzene</b>    | <b>0.0287</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| Methyl tert-Butyl Ether    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| Methylene Chloride         | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| <b>Naphthalene</b>         | <b>0.0239</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| n-Butylbenzene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| <b>n-Propylbenzene</b>     | <b>0.0098</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| sec-Butylbenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| Styrene                    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| tert-Butylbenzene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| Tertiary-amyl methyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| Tetrachloroethene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-326S  
Date Sampled: 10/22/14 13:12  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-04  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.0050)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| <b>Toluene</b>            | <b>0.0011</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| trans-1,2-Dichloroethene  | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| trans-1,3-Dichloropropene | ND (0.0004)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| Trichloroethene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| Trichlorofluoromethane    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| Vinyl Acetate             | ND (0.0050)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| Vinyl Chloride            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| <b>Xylene O</b>           | <b>0.0126</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| <b>Xylene P,M</b>         | <b>0.0059</b> (0.0020) |            | 8260B         |              | 1         | 10/24/14 22:58  | CXJ0362         | CJ42737      |
| <b>Xylenes (Total)</b>    | <b>0.0186</b> (0.0020) |            | 8260B         |              | 1         | 10/24/14 22:58  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.0010)            |            | 8260B         |              |           | 10/24/14 22:58  |                 | [CALC]       |

|                                  | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichloroethane-d4 | 114 %            |                  | 70-130        |
| Surrogate: 4-Bromofluorobenzene  | 103 %            |                  | 70-130        |
| Surrogate: Dibromofluoromethane  | 115 %            |                  | 70-130        |
| Surrogate: Toluene-d8            | 107 %            |                  | 70-130        |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-326S  
Date Sampled: 10/22/14 13:12  
Percent Solids: N/A  
Initial Volume: 1070  
Final Volume: 0.25  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-04  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: IBM  
Prepared: 10/24/14 14:08

All methods used are in accordance with 40 CFR 136.

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

| <u>Analyte</u>         | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 2-Methylnaphthalene    | 0.0205 (0.0019)      |            | 8270C SIM     |              | 10        | 10/29/14 13:13  | CXJ0353         | CJ42402      |
| Acenaphthene           | 0.0447 (0.0019)      |            | 8270C SIM     |              | 10        | 10/29/14 13:13  | CXJ0353         | CJ42402      |
| Acenaphthylene         | 0.0003 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 8:19   | CXJ0353         | CJ42402      |
| Anthracene             | 0.0009 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 8:19   | CXJ0353         | CJ42402      |
| Benzo(a)anthracene     | 0.0006 (0.00005)     |            | 8270C SIM     |              | 1         | 10/25/14 8:19   | CXJ0353         | CJ42402      |
| Benzo(a)pyrene         | 0.0008 (0.00005)     |            | 8270C SIM     |              | 1         | 10/25/14 8:19   | CXJ0353         | CJ42402      |
| Benzo(b)fluoranthene   | 0.0006 (0.00005)     |            | 8270C SIM     |              | 1         | 10/25/14 8:19   | CXJ0353         | CJ42402      |
| Benzo(g,h,i)perylene   | 0.0005 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 8:19   | CXJ0353         | CJ42402      |
| Benzo(k)fluoranthene   | 0.0002 (0.00005)     |            | 8270C SIM     |              | 1         | 10/25/14 8:19   | CXJ0353         | CJ42402      |
| Chrysene               | 0.0007 (0.00005)     |            | 8270C SIM     |              | 1         | 10/25/14 8:19   | CXJ0353         | CJ42402      |
| Dibenzo(a,h)Anthracene | 0.0001 (0.00005)     |            | 8270C SIM     |              | 1         | 10/25/14 8:19   | CXJ0353         | CJ42402      |
| Fluoranthene           | 0.0013 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 8:19   | CXJ0353         | CJ42402      |
| Fluorene               | 0.0040 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 8:19   | CXJ0353         | CJ42402      |
| Indeno(1,2,3-cd)Pyrene | 0.0004 (0.00005)     |            | 8270C SIM     |              | 1         | 10/25/14 8:19   | CXJ0353         | CJ42402      |
| Naphthalene            | 0.0042 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 8:19   | CXJ0353         | CJ42402      |
| Phenanthrene           | 0.0021 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 8:19   | CXJ0353         | CJ42402      |
| Pyrene                 | 0.0025 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 8:19   | CXJ0353         | CJ42402      |

|                                   | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichlorobenzene-d4 | 37 %             |                  | 30-130        |
| Surrogate: 2-Fluorobiphenyl       | 43 %             |                  | 30-130        |
| Surrogate: Nitrobenzene-d5        | 74 %             |                  | 30-130        |
| Surrogate: p-Terphenyl-d14        | 63 %             |                  | 30-130        |





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-326S  
Date Sampled: 10/22/14 13:12  
Percent Solids: N/A

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-04  
Sample Matrix: Ground Water

All methods used are in accordance with 40 CFR 136.

**Classical Chemistry**

| <u>Analyte</u>     | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|--------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Dissolved Cyanide  | 0.300 (0.025)        |            | 9014          |              | 5         | EEM            | 10/29/14 12:10  | mg/L         | CJ42911      |
| Total Cyanide (LL) | 0.338 (0.0250)       |            | 9014          |              | 5         | JLK            | 10/28/14 10:20  | mg/L         | CJ42801      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-326D  
Date Sampled: 10/22/14 13:34  
Percent Solids: N/A  
Initial Volume: 1040  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-05  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: DPS  
Prepared: 10/24/14 11:30

All methods used are in accordance with 40 CFR 136.

**8100M Total Petroleum Hydrocarbons**

| <u>Analyte</u>                | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|----------------------|------------------|------------------|---------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons  | ND (0.19)            |                  | 8100M            |               | 1         | 10/24/14 15:49  | CXJ0347         | CJ42401      |
| <hr/>                         |                      |                  |                  |               |           |                 |                 |              |
|                               |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                 |                 |              |
| <i>Surrogate: O-Terphenyl</i> |                      | 64 %             |                  | 40-140        |           |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-326D

Date Sampled: 10/22/14 13:34

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-05

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>              | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-----------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane   | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 1,1,1-Trichloroethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 1,1,2,2-Tetrachloroethane   | ND (0.0005)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 1,1,2-Trichloroethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethane          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 1,1-Dichloropropene         | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 1,2,3-Trichlorobenzene      | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 1,2,3-Trichloropropane      | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 1,2,4-Trichlorobenzene      | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 1,2,4-Trimethylbenzene      | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 1,2-Dibromo-3-Chloropropane | ND (0.0050)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 1,2-Dibromoethane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 1,2-Dichlorobenzene         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 1,2-Dichloroethane          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 1,2-Dichloropropane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 1,3,5-Trimethylbenzene      | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 1,3-Dichlorobenzene         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 1,3-Dichloropropane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 1,4-Dichlorobenzene         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 1,4-Dioxane - Screen        | ND (0.500)             |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 1-Chlorohexane              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 2,2-Dichloropropane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 2-Butanone                  | ND (0.0100)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 2-Chlorotoluene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 2-Hexanone                  | ND (0.0100)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 4-Chlorotoluene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 4-Isopropyltoluene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| 4-Methyl-2-Pentanone        | ND (0.0250)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Acetone                     | ND (0.0100)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| <b>Benzene</b>              | <b>0.0049</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Bromobenzene                | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-326D

Date Sampled: 10/22/14 13:34

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-05

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Bromodichloromethane       | ND (0.0006)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Bromoform                  | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Bromomethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Carbon Disulfide           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Carbon Tetrachloride       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Chlorobenzene              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Chloroethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Chloroform                 | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Chloromethane              | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| cis-1,2-Dichloroethene     | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| cis-1,3-Dichloropropene    | ND (0.0004)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Dibromochloromethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Dibromomethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Dichlorodifluoromethane    | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Diethyl Ether              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Di-isopropyl ether         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Ethyl tertiary-butyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| <b>Ethylbenzene</b>        | <b>0.0012</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Hexachlorobutadiene        | ND (0.0006)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Hexachloroethane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Isopropylbenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Methyl tert-Butyl Ether    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Methylene Chloride         | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| <b>Naphthalene</b>         | <b>0.0026</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| n-Butylbenzene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| n-Propylbenzene            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| sec-Butylbenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Styrene                    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| tert-Butylbenzene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Tertiary-amyl methyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Tetrachloroethene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-326D

Date Sampled: 10/22/14 13:34

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-05

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Toluene                   | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| trans-1,2-Dichloroethene  | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| trans-1,3-Dichloropropene | ND (0.0004)          |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Trichloroethene           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Trichlorofluoromethane    | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Vinyl Acetate             | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Vinyl Chloride            | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Xylene O                  | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Xylene P,M                | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 17:06  | CXJ0362         | CJ42737      |
| Xylenes (Total)           | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 17:06  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.0010)          |            | 8260B         |              |           | 10/24/14 17:06  |                 | [CALC]       |

|                                         | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>125 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>98 %</i>      |                  | <i>70-130</i> |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>123 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Toluene-d8</i>            | <i>104 %</i>     |                  | <i>70-130</i> |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-326D  
Date Sampled: 10/22/14 13:34  
Percent Solids: N/A  
Initial Volume: 1070  
Final Volume: 0.25  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-05  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: VSC  
Prepared: 10/24/14 14:08

All methods used are in accordance with 40 CFR 136.

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

| <u>Analyte</u>         | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 2-Methylnaphthalene    | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 9:08   | CXJ0353         | CJ42402      |
| Acenaphthene           | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 9:08   | CXJ0353         | CJ42402      |
| Acenaphthylene         | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 9:08   | CXJ0353         | CJ42402      |
| Anthracene             | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 9:08   | CXJ0353         | CJ42402      |
| Benzo(a)anthracene     | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 9:08   | CXJ0353         | CJ42402      |
| Benzo(a)pyrene         | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 9:08   | CXJ0353         | CJ42402      |
| Benzo(b)fluoranthene   | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 9:08   | CXJ0353         | CJ42402      |
| Benzo(g,h,i)perylene   | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 9:08   | CXJ0353         | CJ42402      |
| Benzo(k)fluoranthene   | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 9:08   | CXJ0353         | CJ42402      |
| Chrysene               | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 9:08   | CXJ0353         | CJ42402      |
| Dibenzo(a,h)Anthracene | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 9:08   | CXJ0353         | CJ42402      |
| Fluoranthene           | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 9:08   | CXJ0353         | CJ42402      |
| Fluorene               | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 9:08   | CXJ0353         | CJ42402      |
| Indeno(1,2,3-cd)Pyrene | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 9:08   | CXJ0353         | CJ42402      |
| <b>Naphthalene</b>     | <b>0.0003</b> (0.0002) |            | 8270C SIM     |              | 1         | 10/25/14 9:08   | CXJ0353         | CJ42402      |
| Phenanthrene           | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 9:08   | CXJ0353         | CJ42402      |
| Pyrene                 | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 9:08   | CXJ0353         | CJ42402      |

|                                   | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichlorobenzene-d4 | 35 %             |                  | 30-130        |
| Surrogate: 2-Fluorobiphenyl       | 39 %             |                  | 30-130        |
| Surrogate: Nitrobenzene-d5        | 51 %             |                  | 30-130        |
| Surrogate: p-Terphenyl-d14        | 62 %             |                  | 30-130        |





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-326D  
Date Sampled: 10/22/14 13:34  
Percent Solids: N/A

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-05  
Sample Matrix: Ground Water

All methods used are in accordance with 40 CFR 136.

**Classical Chemistry**

| <u>Analyte</u>     | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|--------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Dissolved Cyanide  | 0.710 (0.050)        |            | 9014          |              | 10        | EEM            | 10/29/14 12:10  | mg/L         | CJ42911      |
| Total Cyanide (LL) | 0.709 (0.0500)       |            | 9014          |              | 10        | JLK            | 10/28/14 10:20  | mg/L         | CJ42801      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-333S  
Date Sampled: 10/22/14 14:48  
Percent Solids: N/A  
Initial Volume: 1070  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-06  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: DPS  
Prepared: 10/24/14 11:30

All methods used are in accordance with 40 CFR 136.

**8100M Total Petroleum Hydrocarbons**

| <u>Analyte</u>                | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|----------------------|------------------|------------------|---------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons  | ND (0.19)            |                  | 8100M            |               | 1         | 10/24/14 16:28  | CXJ0347         | CJ42401      |
| <hr/>                         |                      |                  |                  |               |           |                 |                 |              |
|                               |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                 |                 |              |
| <i>Surrogate: O-Terphenyl</i> |                      | 64 %             |                  | 40-140        |           |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-333S

Date Sampled: 10/22/14 14:48

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-06

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

**All methods used are in accordance with 40 CFR 136.**

**8260B Volatile Organic Compounds**

| <u>Analyte</u>              | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane   | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 1,1,1-Trichloroethane       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 1,1,2,2-Tetrachloroethane   | ND (0.0005)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 1,1,2-Trichloroethane       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethane          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 1,1-Dichloropropene         | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 1,2,3-Trichlorobenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 1,2,3-Trichloropropane      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 1,2,4-Trichlorobenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 1,2,4-Trimethylbenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 1,2-Dibromo-3-Chloropropane | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 1,2-Dibromoethane           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 1,2-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 1,2-Dichloroethane          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 1,2-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 1,3,5-Trimethylbenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 1,3-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 1,3-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 1,4-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 1,4-Dioxane - Screen        | ND (0.500)           |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 1-Chlorohexane              | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 2,2-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 2-Butanone                  | ND (0.0100)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 2-Chlorotoluene             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 2-Hexanone                  | ND (0.0100)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 4-Chlorotoluene             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 4-Isopropyltoluene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| 4-Methyl-2-Pentanone        | ND (0.0250)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Acetone                     | ND (0.0100)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Benzene                     | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Bromobenzene                | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-333S

Date Sampled: 10/22/14 14:48

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-06

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

**All methods used are in accordance with 40 CFR 136.**

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Bromodichloromethane       | ND (0.0006)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Bromoform                  | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Bromomethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| <b>Carbon Disulfide</b>    | <b>0.0071</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Carbon Tetrachloride       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Chlorobenzene              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Chloroethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Chloroform                 | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Chloromethane              | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| cis-1,2-Dichloroethene     | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| cis-1,3-Dichloropropene    | ND (0.0004)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Dibromochloromethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Dibromomethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Dichlorodifluoromethane    | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Diethyl Ether              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Di-isopropyl ether         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Ethyl tertiary-butyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Ethylbenzene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Hexachlorobutadiene        | ND (0.0006)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Hexachloroethane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Isopropylbenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Methyl tert-Butyl Ether    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Methylene Chloride         | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Naphthalene                | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| n-Butylbenzene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| n-Propylbenzene            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| sec-Butylbenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Styrene                    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| tert-Butylbenzene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Tertiary-amyl methyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Tetrachloroethene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-333S

Date Sampled: 10/22/14 14:48

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-06

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Toluene                   | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| trans-1,2-Dichloroethene  | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| trans-1,3-Dichloropropene | ND (0.0004)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Trichloroethene           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Trichlorofluoromethane    | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Vinyl Acetate             | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Vinyl Chloride            | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Xylene O                  | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Xylene P,M                | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 20:52  | CXJ0362         | CJ42737      |
| Xylenes (Total)           | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 20:52  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.0010)          |            | 8260B         |              |           | 10/24/14 20:52  |                 | [CALC]       |

|                                         | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>127 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>101 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>129 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Toluene-d8</i>            | <i>103 %</i>     |                  | <i>70-130</i> |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-333S

Date Sampled: 10/22/14 14:48

Percent Solids: N/A

Initial Volume: 1070

Final Volume: 0.25

Extraction Method: 3510C

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-06

Sample Matrix: Ground Water

Units: mg/L

Analyst: VSC

Prepared: 10/24/14 14:08

All methods used are in accordance with 40 CFR 136.

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

| <u>Analyte</u>         | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 2-Methylnaphthalene    | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 11:30  | CXJ0355         | CJ42402      |
| Acenaphthene           | 0.0005 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 11:30  | CXJ0355         | CJ42402      |
| Acenaphthylene         | 0.0003 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 11:30  | CXJ0355         | CJ42402      |
| Anthracene             | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 11:30  | CXJ0355         | CJ42402      |
| Benzo(a)anthracene     | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 11:30  | CXJ0355         | CJ42402      |
| Benzo(a)pyrene         | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 11:30  | CXJ0355         | CJ42402      |
| Benzo(b)fluoranthene   | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 11:30  | CXJ0355         | CJ42402      |
| Benzo(g,h,i)perylene   | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 11:30  | CXJ0355         | CJ42402      |
| Benzo(k)fluoranthene   | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 11:30  | CXJ0355         | CJ42402      |
| Chrysene               | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 11:30  | CXJ0355         | CJ42402      |
| Dibenzo(a,h)Anthracene | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 11:30  | CXJ0355         | CJ42402      |
| Fluoranthene           | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 11:30  | CXJ0355         | CJ42402      |
| Fluorene               | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 11:30  | CXJ0355         | CJ42402      |
| Indeno(1,2,3-cd)Pyrene | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 11:30  | CXJ0355         | CJ42402      |
| Naphthalene            | 0.0002 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 11:30  | CXJ0355         | CJ42402      |
| Phenanthrene           | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 11:30  | CXJ0355         | CJ42402      |
| Pyrene                 | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 11:30  | CXJ0355         | CJ42402      |

|                                   | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichlorobenzene-d4 | 30 %             |                  | 30-130        |
| Surrogate: 2-Fluorobiphenyl       | 37 %             |                  | 30-130        |
| Surrogate: Nitrobenzene-d5        | 47 %             |                  | 30-130        |
| Surrogate: p-Terphenyl-d14        | 53 %             |                  | 30-130        |





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-333S  
Date Sampled: 10/22/14 14:48  
Percent Solids: N/A

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-06  
Sample Matrix: Ground Water

All methods used are in accordance with 40 CFR 136.

**Classical Chemistry**

| <u>Analyte</u>     | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|--------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Dissolved Cyanide  | 0.020 (0.005)        |            | 9014          |              | 1         | EEM            | 10/29/14 12:10  | mg/L         | CJ42911      |
| Total Cyanide (LL) | 0.0280 (0.00500)     |            | 9014          |              | 1         | JLK            | 10/28/14 10:20  | mg/L         | CJ42801      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-333D  
Date Sampled: 10/22/14 14:59  
Percent Solids: N/A  
Initial Volume: 1020  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-07  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: DPS  
Prepared: 10/24/14 11:30

All methods used are in accordance with 40 CFR 136.

**8100M Total Petroleum Hydrocarbons**

| <u>Analyte</u>               | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------------|----------------------|------------------|------------------|---------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons | 3.54 (0.20)          |                  | 8100M            |               | 1         | 10/24/14 17:07  | CXJ0347         | CJ42401      |
| <hr/>                        |                      |                  |                  |               |           |                 |                 |              |
|                              |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                 |                 |              |
| Surrogate: O-Terphenyl       |                      | 67 %             |                  | 40-140        |           |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-333D

Date Sampled: 10/22/14 14:59

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-07

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>                | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane     | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| 1,1,1-Trichloroethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| 1,1,2,2-Tetrachloroethane     | ND (0.0005)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| 1,1,2-Trichloroethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethane            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethene            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| 1,1-Dichloropropene           | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| 1,2,3-Trichlorobenzene        | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| 1,2,3-Trichloropropane        | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| 1,2,4-Trichlorobenzene        | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| <b>1,2,4-Trimethylbenzene</b> | <b>0.155</b> (0.100)   |            | 8260B         |              | 100       | 10/27/14 17:30  | CXJ0362         | CJ42737      |
| 1,2-Dibromo-3-Chloropropane   | ND (0.0050)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| 1,2-Dibromoethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| 1,2-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| 1,2-Dichloroethane            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| 1,2-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| <b>1,3,5-Trimethylbenzene</b> | <b>0.0024</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| 1,3-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| 1,3-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| 1,4-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| 1,4-Dioxane - Screen          | ND (0.500)             |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| 1-Chlorohexane                | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| 2,2-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| 2-Butanone                    | ND (0.0100)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| 2-Chlorotoluene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| 2-Hexanone                    | ND (0.0100)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| 4-Chlorotoluene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| <b>4-Isopropyltoluene</b>     | <b>0.0022</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| 4-Methyl-2-Pentanone          | ND (0.0250)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| Acetone                       | ND (0.0100)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| <b>Benzene</b>                | <b>1.76</b> (0.100)    |            | 8260B         |              | 100       | 10/27/14 17:30  | CXJ0362         | CJ42737      |
| Bromobenzene                  | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-333D

Date Sampled: 10/22/14 14:59

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-07

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| Bromodichloromethane       | ND (0.0006)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| Bromoform                  | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| Bromomethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| Carbon Disulfide           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| Carbon Tetrachloride       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| Chlorobenzene              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| Chloroethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| Chloroform                 | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| Chloromethane              | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| cis-1,2-Dichloroethene     | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| cis-1,3-Dichloropropene    | ND (0.0004)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| Dibromochloromethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| Dibromomethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| Dichlorodifluoromethane    | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| Diethyl Ether              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| Di-isopropyl ether         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| Ethyl tertiary-butyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| <b>Ethylbenzene</b>        | <b>0.580</b> (0.100)   |            | 8260B         |              | 100       | 10/27/14 17:30  | CXJ0362         | CJ42737      |
| Hexachlorobutadiene        | ND (0.0006)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| Hexachloroethane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| <b>Isopropylbenzene</b>    | <b>0.0647</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| Methyl tert-Butyl Ether    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| Methylene Chloride         | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| <b>Naphthalene</b>         | <b>2.30</b> (0.100)    |            | 8260B         |              | 100       | 10/27/14 17:30  | CXJ0362         | CJ42737      |
| n-Butylbenzene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| <b>n-Propylbenzene</b>     | <b>0.0226</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| <b>sec-Butylbenzene</b>    | <b>0.0010</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| <b>Styrene</b>             | <b>0.0014</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| tert-Butylbenzene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| Tertiary-amyl methyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| Tetrachloroethene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-333D

Date Sampled: 10/22/14 14:59

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-07

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.0050)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| <b>Toluene</b>            | <b>0.0055</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| trans-1,2-Dichloroethene  | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| trans-1,3-Dichloropropene | ND (0.0004)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| Trichloroethene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| Trichlorofluoromethane    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| Vinyl Acetate             | ND (0.0050)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| Vinyl Chloride            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| <b>Xylene O</b>           | <b>0.0890</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| <b>Xylene P,M</b>         | <b>0.0143</b> (0.0020) |            | 8260B         |              | 1         | 10/24/14 23:23  | CXJ0362         | CJ42737      |
| <b>Xylenes (Total)</b>    | <b>0.103</b> (0.0020)  |            | 8260B         |              | 1         | 10/24/14 23:23  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.0010)            |            | 8260B         |              |           | 10/24/14 23:23  |                 | [CALC]       |

|                                         | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>111 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>102 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>112 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Toluene-d8</i>            | <i>111 %</i>     |                  | <i>70-130</i> |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-333D

Date Sampled: 10/22/14 14:59

Percent Solids: N/A

Initial Volume: 1070

Final Volume: 0.25

Extraction Method: 3510C

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-07

Sample Matrix: Ground Water

Units: mg/L

Analyst: IBM

Prepared: 10/24/14 14:08

All methods used are in accordance with 40 CFR 136.

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

| <u>Analyte</u>         | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 2-Methylnaphthalene    | 0.0145 (0.0019)      |            | 8270C SIM     |              | 10        | 10/29/14 14:03  | CXJ0355         | CJ42402      |
| Acenaphthene           | 0.0380 (0.0019)      |            | 8270C SIM     |              | 10        | 10/29/14 14:03  | CXJ0355         | CJ42402      |
| Acenaphthylene         | 0.0010 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 12:20  | CXJ0355         | CJ42402      |
| Anthracene             | 0.0013 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 12:20  | CXJ0355         | CJ42402      |
| Benzo(a)anthracene     | 0.0003 (0.00005)     |            | 8270C SIM     |              | 1         | 10/25/14 12:20  | CXJ0355         | CJ42402      |
| Benzo(a)pyrene         | 0.0002 (0.00005)     |            | 8270C SIM     |              | 1         | 10/25/14 12:20  | CXJ0355         | CJ42402      |
| Benzo(b)fluoranthene   | 0.0002 (0.00005)     |            | 8270C SIM     |              | 1         | 10/25/14 12:20  | CXJ0355         | CJ42402      |
| Benzo(g,h,i)perylene   | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 12:20  | CXJ0355         | CJ42402      |
| Benzo(k)fluoranthene   | 0.00006 (0.00005)    |            | 8270C SIM     |              | 1         | 10/25/14 12:20  | CXJ0355         | CJ42402      |
| Chrysene               | 0.0003 (0.00005)     |            | 8270C SIM     |              | 1         | 10/25/14 12:20  | CXJ0355         | CJ42402      |
| Dibenzo(a,h)Anthracene | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 12:20  | CXJ0355         | CJ42402      |
| Fluoranthene           | 0.0010 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 12:20  | CXJ0355         | CJ42402      |
| Fluorene               | 0.0061 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 12:20  | CXJ0355         | CJ42402      |
| Indeno(1,2,3-cd)Pyrene | 0.0001 (0.00005)     |            | 8270C SIM     |              | 1         | 10/25/14 12:20  | CXJ0355         | CJ42402      |
| Naphthalene            | 0.433 (0.0187)       |            | 8270C SIM     |              | 100       | 10/29/14 14:53  | CXJ0355         | CJ42402      |
| Phenanthrene           | 0.0067 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 12:20  | CXJ0355         | CJ42402      |
| Pyrene                 | 0.0011 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 12:20  | CXJ0355         | CJ42402      |

|                                   | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichlorobenzene-d4 | 23 %             | S-               | 30-130        |
| Surrogate: 2-Fluorobiphenyl       | 36 %             |                  | 30-130        |
| Surrogate: Nitrobenzene-d5        | 92 %             |                  | 30-130        |
| Surrogate: p-Terphenyl-d14        | 41 %             |                  | 30-130        |





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-333D  
Date Sampled: 10/22/14 14:59  
Percent Solids: N/A

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-07  
Sample Matrix: Ground Water

All methods used are in accordance with 40 CFR 136.

**Classical Chemistry**

| <u>Analyte</u>     | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|--------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Dissolved Cyanide  | 0.732 (0.050)        |            | 9014          |              | 10        | EEM            | 10/29/14 12:10  | mg/L         | CJ42911      |
| Total Cyanide (LL) | 0.725 (0.0500)       |            | 9014          |              | 10        | JLK            | 10/28/14 10:20  | mg/L         | CJ42801      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: BD 1  
Date Sampled: 10/22/14 08:00  
Percent Solids: N/A  
Initial Volume: 1070  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-08  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: DPS  
Prepared: 10/24/14 11:30

All methods used are in accordance with 40 CFR 136.

**8100M Total Petroleum Hydrocarbons**

| <u>Analyte</u>                | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|----------------------|------------------|------------------|---------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons  | ND (0.19)            |                  | 8100M            |               | 1         | 10/24/14 17:46  | CXJ0347         | CJ42401      |
| <hr/>                         |                      |                  |                  |               |           |                 |                 |              |
|                               |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                 |                 |              |
| <i>Surrogate: O-Terphenyl</i> |                      | 62 %             |                  | 40-140        |           |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: BD 1

Date Sampled: 10/22/14 08:00

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-08

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

**All methods used are in accordance with 40 CFR 136.**

**8260B Volatile Organic Compounds**

| <u>Analyte</u>              | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane   | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 1,1,1-Trichloroethane       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 1,1,2,2-Tetrachloroethane   | ND (0.0005)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 1,1,2-Trichloroethane       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethane          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 1,1-Dichloropropene         | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 1,2,3-Trichlorobenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 1,2,3-Trichloropropane      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 1,2,4-Trichlorobenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 1,2,4-Trimethylbenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 1,2-Dibromo-3-Chloropropane | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 1,2-Dibromoethane           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 1,2-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 1,2-Dichloroethane          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 1,2-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 1,3,5-Trimethylbenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 1,3-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 1,3-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 1,4-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 1,4-Dioxane - Screen        | ND (0.500)           |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 1-Chlorohexane              | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 2,2-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 2-Butanone                  | ND (0.0100)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 2-Chlorotoluene             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 2-Hexanone                  | ND (0.0100)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 4-Chlorotoluene             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 4-Isopropyltoluene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| 4-Methyl-2-Pentanone        | ND (0.0250)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Acetone                     | ND (0.0100)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Benzene                     | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Bromobenzene                | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: BD 1

Date Sampled: 10/22/14 08:00

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-08

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Bromodichloromethane       | ND (0.0006)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Bromoform                  | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Bromomethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Carbon Disulfide           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Carbon Tetrachloride       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Chlorobenzene              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Chloroethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Chloroform                 | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Chloromethane              | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| cis-1,2-Dichloroethene     | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| cis-1,3-Dichloropropene    | ND (0.0004)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Dibromochloromethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Dibromomethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Dichlorodifluoromethane    | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Diethyl Ether              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Di-isopropyl ether         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Ethyl tertiary-butyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Ethylbenzene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Hexachlorobutadiene        | ND (0.0006)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Hexachloroethane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Isopropylbenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Methyl tert-Butyl Ether    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Methylene Chloride         | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| <b>Naphthalene</b>         | <b>0.0139</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| n-Butylbenzene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| n-Propylbenzene            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| sec-Butylbenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Styrene                    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| tert-Butylbenzene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Tertiary-amyl methyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Tetrachloroethene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: BD 1

Date Sampled: 10/22/14 08:00

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-08

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Toluene                   | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| trans-1,2-Dichloroethene  | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| trans-1,3-Dichloropropene | ND (0.0004)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Trichloroethene           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Trichlorofluoromethane    | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Vinyl Acetate             | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Vinyl Chloride            | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Xylene O                  | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Xylene P,M                | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 17:31  | CXJ0362         | CJ42737      |
| Xylenes (Total)           | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 17:31  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.0010)          |            | 8260B         |              |           | 10/24/14 17:31  |                 | [CALC]       |

|                                         | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>128 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>97 %</i>      |                  | <i>70-130</i> |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>125 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Toluene-d8</i>            | <i>102 %</i>     |                  | <i>70-130</i> |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: BD 1

Date Sampled: 10/22/14 08:00

Percent Solids: N/A

Initial Volume: 1070

Final Volume: 0.25

Extraction Method: 3510C

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-08

Sample Matrix: Ground Water

Units: mg/L

Analyst: VSC

Prepared: 10/24/14 14:08

All methods used are in accordance with 40 CFR 136.

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

| <u>Analyte</u>         | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 2-Methylnaphthalene    | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 13:10  | CXJ0355         | CJ42402      |
| Acenaphthene           | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 13:10  | CXJ0355         | CJ42402      |
| Acenaphthylene         | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 13:10  | CXJ0355         | CJ42402      |
| Anthracene             | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 13:10  | CXJ0355         | CJ42402      |
| Benzo(a)anthracene     | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 13:10  | CXJ0355         | CJ42402      |
| Benzo(a)pyrene         | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 13:10  | CXJ0355         | CJ42402      |
| Benzo(b)fluoranthene   | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 13:10  | CXJ0355         | CJ42402      |
| Benzo(g,h,i)perylene   | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 13:10  | CXJ0355         | CJ42402      |
| Benzo(k)fluoranthene   | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 13:10  | CXJ0355         | CJ42402      |
| Chrysene               | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 13:10  | CXJ0355         | CJ42402      |
| Dibenzo(a,h)Anthracene | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 13:10  | CXJ0355         | CJ42402      |
| Fluoranthene           | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 13:10  | CXJ0355         | CJ42402      |
| Fluorene               | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 13:10  | CXJ0355         | CJ42402      |
| Indeno(1,2,3-cd)Pyrene | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/25/14 13:10  | CXJ0355         | CJ42402      |
| <b>Naphthalene</b>     | <b>0.0009</b> (0.0002) |            | 8270C SIM     |              | 1         | 10/25/14 13:10  | CXJ0355         | CJ42402      |
| <b>Phenanthrene</b>    | <b>0.0003</b> (0.0002) |            | 8270C SIM     |              | 1         | 10/25/14 13:10  | CXJ0355         | CJ42402      |
| Pyrene                 | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/25/14 13:10  | CXJ0355         | CJ42402      |

|                                   | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichlorobenzene-d4 | 37 %             |                  | 30-130        |
| Surrogate: 2-Fluorobiphenyl       | 45 %             |                  | 30-130        |
| Surrogate: Nitrobenzene-d5        | 58 %             |                  | 30-130        |
| Surrogate: p-Terphenyl-d14        | 64 %             |                  | 30-130        |





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: BD 1  
Date Sampled: 10/22/14 08:00  
Percent Solids: N/A

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-08  
Sample Matrix: Ground Water

All methods used are in accordance with 40 CFR 136.

**Classical Chemistry**

| <u>Analyte</u>     | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|--------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Dissolved Cyanide  | 0.055 (0.005)        |            | 9014          |              | 1         | EEM            | 10/29/14 12:10  | mg/L         | CJ42911      |
| Total Cyanide (LL) | 0.0653 (0.00500)     |            | 9014          |              | 1         | JLK            | 10/28/14 10:20  | mg/L         | CJ42801      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-107  
Date Sampled: 10/23/14 09:40  
Percent Solids: N/A  
Initial Volume: 1070  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-09  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: DPS  
Prepared: 10/24/14 11:30

All methods used are in accordance with 40 CFR 136.

**8100M Total Petroleum Hydrocarbons**

| <u>Analyte</u>                | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|----------------------|------------------|------------------|---------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons  | ND (0.19)            |                  | 8100M            |               | 1         | 10/24/14 18:25  | CXJ0347         | CJ42401      |
| <hr/>                         |                      |                  |                  |               |           |                 |                 |              |
|                               |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                 |                 |              |
| <i>Surrogate: O-Terphenyl</i> |                      | 54 %             |                  | 40-140        |           |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-107

Date Sampled: 10/23/14 09:40

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-09

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

**All methods used are in accordance with 40 CFR 136.**

**8260B Volatile Organic Compounds**

| <u>Analyte</u>              | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane   | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 1,1,1-Trichloroethane       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 1,1,2,2-Tetrachloroethane   | ND (0.0005)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 1,1,2-Trichloroethane       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethane          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 1,1-Dichloropropene         | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 1,2,3-Trichlorobenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 1,2,3-Trichloropropane      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 1,2,4-Trichlorobenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 1,2,4-Trimethylbenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 1,2-Dibromo-3-Chloropropane | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 1,2-Dibromoethane           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 1,2-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 1,2-Dichloroethane          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 1,2-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 1,3,5-Trimethylbenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 1,3-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 1,3-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 1,4-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 1,4-Dioxane - Screen        | ND (0.500)           |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 1-Chlorohexane              | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 2,2-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 2-Butanone                  | ND (0.0100)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 2-Chlorotoluene             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 2-Hexanone                  | ND (0.0100)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 4-Chlorotoluene             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 4-Isopropyltoluene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| 4-Methyl-2-Pentanone        | ND (0.0250)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Acetone                     | ND (0.0100)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Benzene                     | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Bromobenzene                | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-107

Date Sampled: 10/23/14 09:40

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-09

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

**All methods used are in accordance with 40 CFR 136.**

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Bromodichloromethane       | ND (0.0006)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Bromoform                  | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Bromomethane               | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Carbon Disulfide           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Carbon Tetrachloride       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Chlorobenzene              | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Chloroethane               | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Chloroform                 | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Chloromethane              | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| cis-1,2-Dichloroethene     | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| cis-1,3-Dichloropropene    | ND (0.0004)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Dibromochloromethane       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Dibromomethane             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Dichlorodifluoromethane    | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Diethyl Ether              | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Di-isopropyl ether         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Ethyl tertiary-butyl ether | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Ethylbenzene               | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Hexachlorobutadiene        | ND (0.0006)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Hexachloroethane           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Isopropylbenzene           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Methyl tert-Butyl Ether    | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Methylene Chloride         | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Naphthalene                | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| n-Butylbenzene             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| n-Propylbenzene            | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| sec-Butylbenzene           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Styrene                    | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| tert-Butylbenzene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Tertiary-amyl methyl ether | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Tetrachloroethene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-107

Date Sampled: 10/23/14 09:40

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-09

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Toluene                   | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| trans-1,2-Dichloroethene  | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| trans-1,3-Dichloropropene | ND (0.0004)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Trichloroethene           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Trichlorofluoromethane    | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Vinyl Acetate             | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Vinyl Chloride            | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Xylene O                  | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Xylene P,M                | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 17:56  | CXJ0362         | CJ42737      |
| Xylenes (Total)           | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 17:56  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.0010)          |            | 8260B         |              |           | 10/24/14 17:56  |                 | [CALC]       |

|                                         | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>129 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>96 %</i>      |                  | <i>70-130</i> |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>126 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Toluene-d8</i>            | <i>103 %</i>     |                  | <i>70-130</i> |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-107

Date Sampled: 10/23/14 09:40

Percent Solids: N/A

Initial Volume: 1010

Final Volume: 0.25

Extraction Method: 3510C

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-09

Sample Matrix: Ground Water

Units: mg/L

Analyst: VSC

Prepared: 10/24/14 14:08

All methods used are in accordance with 40 CFR 136.

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

| <u>Analyte</u>         | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 2-Methylnaphthalene    | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 14:00  | CXJ0355         | CJ42402      |
| Acenaphthene           | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 14:00  | CXJ0355         | CJ42402      |
| Acenaphthylene         | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 14:00  | CXJ0355         | CJ42402      |
| Anthracene             | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 14:00  | CXJ0355         | CJ42402      |
| Benzo(a)anthracene     | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 14:00  | CXJ0355         | CJ42402      |
| Benzo(a)pyrene         | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 14:00  | CXJ0355         | CJ42402      |
| Benzo(b)fluoranthene   | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 14:00  | CXJ0355         | CJ42402      |
| Benzo(g,h,i)perylene   | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 14:00  | CXJ0355         | CJ42402      |
| Benzo(k)fluoranthene   | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 14:00  | CXJ0355         | CJ42402      |
| Chrysene               | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 14:00  | CXJ0355         | CJ42402      |
| Dibenzo(a,h)Anthracene | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 14:00  | CXJ0355         | CJ42402      |
| Fluoranthene           | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 14:00  | CXJ0355         | CJ42402      |
| Fluorene               | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 14:00  | CXJ0355         | CJ42402      |
| Indeno(1,2,3-cd)Pyrene | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 14:00  | CXJ0355         | CJ42402      |
| Naphthalene            | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 14:00  | CXJ0355         | CJ42402      |
| Phenanthrene           | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 14:00  | CXJ0355         | CJ42402      |
| Pyrene                 | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 14:00  | CXJ0355         | CJ42402      |

|                                          | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|------------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichlorobenzene-d4</i> | 37 %             |                  | 30-130        |
| <i>Surrogate: 2-Fluorobiphenyl</i>       | 43 %             |                  | 30-130        |
| <i>Surrogate: Nitrobenzene-d5</i>        | 53 %             |                  | 30-130        |
| <i>Surrogate: p-Terphenyl-d14</i>        | 74 %             |                  | 30-130        |





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-107  
Date Sampled: 10/23/14 09:40  
Percent Solids: N/A

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-09  
Sample Matrix: Ground Water

All methods used are in accordance with 40 CFR 136.

**Classical Chemistry**

| <u>Analyte</u>     | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|--------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Dissolved Cyanide  | 0.031 (0.005)        |            | 9014          |              | 1         | EEM            | 10/29/14 12:10  | mg/L         | CJ42911      |
| Total Cyanide (LL) | 0.0458 (0.00500)     |            | 9014          |              | 1         | JLK            | 10/28/14 10:20  | mg/L         | CJ42801      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-334S  
Date Sampled: 10/23/14 09:00  
Percent Solids: N/A  
Initial Volume: 1050  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-10  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: DPS  
Prepared: 10/24/14 11:30

All methods used are in accordance with 40 CFR 136.

**8100M Total Petroleum Hydrocarbons**

| <u>Analyte</u>                | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|----------------------|------------------|------------------|---------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons  | ND (0.19)            |                  | 8100M            |               | 1         | 10/24/14 19:04  | CXJ0347         | CJ42401      |
| <hr/>                         |                      |                  |                  |               |           |                 |                 |              |
|                               |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                 |                 |              |
| <i>Surrogate: O-Terphenyl</i> |                      | 60 %             |                  | 40-140        |           |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-334S

Date Sampled: 10/23/14 09:00

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-10

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>                | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane     | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| 1,1,1-Trichloroethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| 1,1,2,2-Tetrachloroethane     | ND (0.0005)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| 1,1,2-Trichloroethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethane            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethene            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| 1,1-Dichloropropene           | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| 1,2,3-Trichlorobenzene        | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| 1,2,3-Trichloropropane        | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| 1,2,4-Trichlorobenzene        | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| <b>1,2,4-Trimethylbenzene</b> | <b>0.0015</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| 1,2-Dibromo-3-Chloropropane   | ND (0.0050)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| 1,2-Dibromoethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| 1,2-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| 1,2-Dichloroethane            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| 1,2-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| 1,3,5-Trimethylbenzene        | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| 1,3-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| 1,3-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| 1,4-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| 1,4-Dioxane - Screen          | ND (0.500)             |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| 1-Chlorohexane                | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| 2,2-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| 2-Butanone                    | ND (0.0100)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| 2-Chlorotoluene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| 2-Hexanone                    | ND (0.0100)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| 4-Chlorotoluene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| 4-Isopropyltoluene            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| 4-Methyl-2-Pentanone          | ND (0.0250)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Acetone                       | ND (0.0100)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| <b>Benzene</b>                | <b>0.0032</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Bromobenzene                  | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-334S

Date Sampled: 10/23/14 09:00

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-10

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Bromodichloromethane       | ND (0.0006)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Bromoform                  | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Bromomethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Carbon Disulfide           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Carbon Tetrachloride       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Chlorobenzene              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Chloroethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Chloroform                 | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Chloromethane              | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| cis-1,2-Dichloroethene     | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| cis-1,3-Dichloropropene    | ND (0.0004)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Dibromochloromethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Dibromomethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Dichlorodifluoromethane    | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Diethyl Ether              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Di-isopropyl ether         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Ethyl tertiary-butyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Ethylbenzene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Hexachlorobutadiene        | ND (0.0006)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Hexachloroethane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Isopropylbenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Methyl tert-Butyl Ether    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Methylene Chloride         | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| <b>Naphthalene</b>         | <b>0.0692</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| n-Butylbenzene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| n-Propylbenzene            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| sec-Butylbenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Styrene                    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| tert-Butylbenzene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Tertiary-amyl methyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Tetrachloroethene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-334S

Date Sampled: 10/23/14 09:00

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-10

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.0050)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| <b>Toluene</b>            | <b>0.0016</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| trans-1,2-Dichloroethene  | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| trans-1,3-Dichloropropene | ND (0.0004)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Trichloroethene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Trichlorofluoromethane    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Vinyl Acetate             | ND (0.0050)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| Vinyl Chloride            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| <b>Xylene O</b>           | <b>0.0013</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| <b>Xylene P,M</b>         | <b>0.0022</b> (0.0020) |            | 8260B         |              | 1         | 10/24/14 18:22  | CXJ0362         | CJ42737      |
| <b>Xylenes (Total)</b>    | <b>0.0035</b> (0.0020) |            | 8260B         |              | 1         | 10/24/14 18:22  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.0010)            |            | 8260B         |              |           | 10/24/14 18:22  |                 | [CALC]       |

|                                  | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichloroethane-d4 | 126 %            |                  | 70-130        |
| Surrogate: 4-Bromofluorobenzene  | 97 %             |                  | 70-130        |
| Surrogate: Dibromofluoromethane  | 121 %            |                  | 70-130        |
| Surrogate: Toluene-d8            | 104 %            |                  | 70-130        |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-334S

Date Sampled: 10/23/14 09:00

Percent Solids: N/A

Initial Volume: 1070

Final Volume: 0.25

Extraction Method: 3510C

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-10

Sample Matrix: Ground Water

Units: mg/L

Analyst: VSC

Prepared: 10/24/14 14:08

All methods used are in accordance with 40 CFR 136.

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

| <u>Analyte</u>         | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 2-Methylnaphthalene    | 0.0007 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 14:50  | CXJ0355         | CJ42402      |
| Acenaphthene           | 0.0004 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 14:50  | CXJ0355         | CJ42402      |
| Acenaphthylene         | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 14:50  | CXJ0355         | CJ42402      |
| Anthracene             | 0.0004 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 14:50  | CXJ0355         | CJ42402      |
| Benzo(a)anthracene     | 0.00006 (0.00005)    |            | 8270C SIM     |              | 1         | 10/25/14 14:50  | CXJ0355         | CJ42402      |
| Benzo(a)pyrene         | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 14:50  | CXJ0355         | CJ42402      |
| Benzo(b)fluoranthene   | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 14:50  | CXJ0355         | CJ42402      |
| Benzo(g,h,i)perylene   | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 14:50  | CXJ0355         | CJ42402      |
| Benzo(k)fluoranthene   | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 14:50  | CXJ0355         | CJ42402      |
| Chrysene               | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 14:50  | CXJ0355         | CJ42402      |
| Dibenzo(a,h)Anthracene | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 14:50  | CXJ0355         | CJ42402      |
| Fluoranthene           | 0.0005 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 14:50  | CXJ0355         | CJ42402      |
| Fluorene               | 0.0006 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 14:50  | CXJ0355         | CJ42402      |
| Indeno(1,2,3-cd)Pyrene | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 14:50  | CXJ0355         | CJ42402      |
| Naphthalene            | 0.0044 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 14:50  | CXJ0355         | CJ42402      |
| Phenanthrene           | 0.0027 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 14:50  | CXJ0355         | CJ42402      |
| Pyrene                 | 0.0004 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 14:50  | CXJ0355         | CJ42402      |

|                                   | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichlorobenzene-d4 | 39 %             |                  | 30-130        |
| Surrogate: 2-Fluorobiphenyl       | 47 %             |                  | 30-130        |
| Surrogate: Nitrobenzene-d5        | 57 %             |                  | 30-130        |
| Surrogate: p-Terphenyl-d14        | 71 %             |                  | 30-130        |





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-334S  
Date Sampled: 10/23/14 09:00  
Percent Solids: N/A

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-10  
Sample Matrix: Ground Water

All methods used are in accordance with 40 CFR 136.

**Classical Chemistry**

| <u>Analyte</u>     | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|--------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Dissolved Cyanide  | 0.011 (0.005)        |            | 9014          |              | 1         | EEM            | 10/29/14 12:10  | mg/L         | CJ42911      |
| Total Cyanide (LL) | 0.0127 (0.00500)     |            | 9014          |              | 1         | JLK            | 10/28/14 10:20  | mg/L         | CJ42801      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-334D  
Date Sampled: 10/23/14 10:30  
Percent Solids: N/A  
Initial Volume: 1070  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-11  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: DPS  
Prepared: 10/24/14 13:25

All methods used are in accordance with 40 CFR 136.

**8100M Total Petroleum Hydrocarbons**

| <u>Analyte</u>               | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------------|----------------------|------------------|------------------|---------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons | 0.20 (0.19)          |                  | 8100M            |               | 1         | 10/25/14 15:44  | CXJ0357         | CJ42436      |
| <hr/>                        |                      |                  |                  |               |           |                 |                 |              |
|                              |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                 |                 |              |
| Surrogate: O-Terphenyl       |                      | 71 %             |                  | 40-140        |           |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-334D

Date Sampled: 10/23/14 10:30

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-11

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>              | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-----------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane   | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 1,1,1-Trichloroethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 1,1,2,2-Tetrachloroethane   | ND (0.0005)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 1,1,2-Trichloroethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethane          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 1,1-Dichloropropene         | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 1,2,3-Trichlorobenzene      | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 1,2,3-Trichloropropane      | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 1,2,4-Trichlorobenzene      | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 1,2,4-Trimethylbenzene      | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 1,2-Dibromo-3-Chloropropane | ND (0.0050)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 1,2-Dibromoethane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 1,2-Dichlorobenzene         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 1,2-Dichloroethane          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 1,2-Dichloropropane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 1,3,5-Trimethylbenzene      | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 1,3-Dichlorobenzene         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 1,3-Dichloropropane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 1,4-Dichlorobenzene         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 1,4-Dioxane - Screen        | ND (0.500)             |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 1-Chlorohexane              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 2,2-Dichloropropane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 2-Butanone                  | ND (0.0100)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 2-Chlorotoluene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 2-Hexanone                  | ND (0.0100)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 4-Chlorotoluene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 4-Isopropyltoluene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| 4-Methyl-2-Pentanone        | ND (0.0250)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Acetone                     | ND (0.0100)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| <b>Benzene</b>              | <b>0.0084</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Bromobenzene                | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-334D

Date Sampled: 10/23/14 10:30

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-11

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>                | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Bromodichloromethane          | ND (0.0006)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Bromoform                     | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Bromomethane                  | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Carbon Disulfide              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Carbon Tetrachloride          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Chlorobenzene                 | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Chloroethane                  | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Chloroform                    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Chloromethane                 | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| <b>cis-1,2-Dichloroethene</b> | <b>0.0013</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| cis-1,3-Dichloropropene       | ND (0.0004)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Dibromochloromethane          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Dibromomethane                | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Dichlorodifluoromethane       | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Diethyl Ether                 | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Di-isopropyl ether            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Ethyl tertiary-butyl ether    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Ethylbenzene                  | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Hexachlorobutadiene           | ND (0.0006)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Hexachloroethane              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Isopropylbenzene              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Methyl tert-Butyl Ether       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Methylene Chloride            | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| <b>Naphthalene</b>            | <b>0.0178</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| n-Butylbenzene                | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| n-Propylbenzene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| sec-Butylbenzene              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Styrene                       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| tert-Butylbenzene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Tertiary-amyl methyl ether    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Tetrachloroethene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-334D

Date Sampled: 10/23/14 10:30

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-11

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.0050)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| <b>Toluene</b>            | <b>0.0012</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| trans-1,2-Dichloroethene  | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| trans-1,3-Dichloropropene | ND (0.0004)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| <b>Trichloroethene</b>    | <b>0.0024</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Trichlorofluoromethane    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Vinyl Acetate             | ND (0.0050)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Vinyl Chloride            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Xylene O                  | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Xylene P,M                | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 18:47  | CXJ0362         | CJ42737      |
| Xylenes (Total)           | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 18:47  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.0010)            |            | 8260B         |              |           | 10/24/14 18:47  |                 | [CALC]       |

|                                  | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichloroethane-d4 | 127 %            |                  | 70-130        |
| Surrogate: 4-Bromofluorobenzene  | 97 %             |                  | 70-130        |
| Surrogate: Dibromofluoromethane  | 124 %            |                  | 70-130        |
| Surrogate: Toluene-d8            | 104 %            |                  | 70-130        |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-334D  
Date Sampled: 10/23/14 10:30  
Percent Solids: N/A  
Initial Volume: 1070  
Final Volume: 0.25  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-11  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: VSC  
Prepared: 10/24/14 14:08

All methods used are in accordance with 40 CFR 136.

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

| <u>Analyte</u>         | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 2-Methylnaphthalene    | 0.0007 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 15:40  | CXJ0355         | CJ42402      |
| Acenaphthene           | 0.0004 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 15:40  | CXJ0355         | CJ42402      |
| Acenaphthylene         | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 15:40  | CXJ0355         | CJ42402      |
| Anthracene             | 0.0004 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 15:40  | CXJ0355         | CJ42402      |
| Benzo(a)anthracene     | 0.00006 (0.00005)    |            | 8270C SIM     |              | 1         | 10/25/14 15:40  | CXJ0355         | CJ42402      |
| Benzo(a)pyrene         | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 15:40  | CXJ0355         | CJ42402      |
| Benzo(b)fluoranthene   | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 15:40  | CXJ0355         | CJ42402      |
| Benzo(g,h,i)perylene   | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 15:40  | CXJ0355         | CJ42402      |
| Benzo(k)fluoranthene   | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 15:40  | CXJ0355         | CJ42402      |
| Chrysene               | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 15:40  | CXJ0355         | CJ42402      |
| Dibenzo(a,h)Anthracene | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 15:40  | CXJ0355         | CJ42402      |
| Fluoranthene           | 0.0005 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 15:40  | CXJ0355         | CJ42402      |
| Fluorene               | 0.0006 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 15:40  | CXJ0355         | CJ42402      |
| Indeno(1,2,3-cd)Pyrene | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 15:40  | CXJ0355         | CJ42402      |
| Naphthalene            | 0.0044 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 15:40  | CXJ0355         | CJ42402      |
| Phenanthrene           | 0.0027 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 15:40  | CXJ0355         | CJ42402      |
| Pyrene                 | 0.0004 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 15:40  | CXJ0355         | CJ42402      |

|                                   | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichlorobenzene-d4 | 38 %             |                  | 30-130        |
| Surrogate: 2-Fluorobiphenyl       | 47 %             |                  | 30-130        |
| Surrogate: Nitrobenzene-d5        | 57 %             |                  | 30-130        |
| Surrogate: p-Terphenyl-d14        | 67 %             |                  | 30-130        |





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-334D  
Date Sampled: 10/23/14 10:30  
Percent Solids: N/A

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-11  
Sample Matrix: Ground Water

All methods used are in accordance with 40 CFR 136.

**Classical Chemistry**

| <u>Analyte</u>     | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|--------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Dissolved Cyanide  | 0.013 (0.005)        |            | 9014          |              | 1         | EEM            | 10/29/14 12:10  | mg/L         | CJ42911      |
| Total Cyanide (LL) | 0.0229 (0.00500)     |            | 9014          |              | 1         | JLK            | 10/28/14 10:20  | mg/L         | CJ42801      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-318S  
Date Sampled: 10/23/14 11:45  
Percent Solids: N/A  
Initial Volume: 1070  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-12  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: DPS  
Prepared: 10/24/14 13:25

All methods used are in accordance with 40 CFR 136.

**8100M Total Petroleum Hydrocarbons**

| <u>Analyte</u>               | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------------|----------------------|------------------|------------------|---------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons | 1.51 (0.19)          |                  | 8100M            |               | 1         | 10/25/14 16:23  | CXJ0357         | CJ42436      |
| <hr/>                        |                      |                  |                  |               |           |                 |                 |              |
|                              |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                 |                 |              |
| Surrogate: O-Terphenyl       |                      | 58 %             |                  | 40-140        |           |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-318S

Date Sampled: 10/23/14 11:45

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-12

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>                | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane     | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| 1,1,1-Trichloroethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| 1,1,2,2-Tetrachloroethane     | ND (0.0005)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| 1,1,2-Trichloroethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethane            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethene            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| 1,1-Dichloropropene           | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| 1,2,3-Trichlorobenzene        | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| 1,2,3-Trichloropropane        | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| 1,2,4-Trichlorobenzene        | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| <b>1,2,4-Trimethylbenzene</b> | <b>0.0303</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| 1,2-Dibromo-3-Chloropropane   | ND (0.0050)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| 1,2-Dibromoethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| 1,2-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| 1,2-Dichloroethane            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| 1,2-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| <b>1,3,5-Trimethylbenzene</b> | <b>0.0124</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| 1,3-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| 1,3-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| 1,4-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| 1,4-Dioxane - Screen          | ND (0.500)             |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| 1-Chlorohexane                | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| 2,2-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| 2-Butanone                    | ND (0.0100)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| 2-Chlorotoluene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| 2-Hexanone                    | ND (0.0100)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| 4-Chlorotoluene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| 4-Isopropyltoluene            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| 4-Methyl-2-Pentanone          | ND (0.0250)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Acetone                       | ND (0.0100)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| <b>Benzene</b>                | <b>0.0516</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Bromobenzene                  | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-318S

Date Sampled: 10/23/14 11:45

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-12

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Bromodichloromethane       | ND (0.0006)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Bromoform                  | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Bromomethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Carbon Disulfide           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Carbon Tetrachloride       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Chlorobenzene              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Chloroethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Chloroform                 | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Chloromethane              | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| cis-1,2-Dichloroethene     | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| cis-1,3-Dichloropropene    | ND (0.0004)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Dibromochloromethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Dibromomethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Dichlorodifluoromethane    | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Diethyl Ether              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Di-isopropyl ether         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Ethyl tertiary-butyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| <b>Ethylbenzene</b>        | <b>0.0062</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Hexachlorobutadiene        | ND (0.0006)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Hexachloroethane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Isopropylbenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Methyl tert-Butyl Ether    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Methylene Chloride         | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| <b>Naphthalene</b>         | <b>0.883</b> (0.0500)  |            | 8260B         |              | 50        | 10/27/14 17:05  | CXJ0362         | CJ42737      |
| n-Butylbenzene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| <b>n-Propylbenzene</b>     | <b>0.0012</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| sec-Butylbenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| <b>Styrene</b>             | <b>0.0024</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| tert-Butylbenzene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Tertiary-amyl methyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Tetrachloroethene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-318S

Date Sampled: 10/23/14 11:45

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-12

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.0050)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| <b>Toluene</b>            | <b>0.0441</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| trans-1,2-Dichloroethene  | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| trans-1,3-Dichloropropene | ND (0.0004)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Trichloroethene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Trichlorofluoromethane    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Vinyl Acetate             | ND (0.0050)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| Vinyl Chloride            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| <b>Xylene O</b>           | <b>0.0253</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| <b>Xylene P,M</b>         | <b>0.0556</b> (0.0020) |            | 8260B         |              | 1         | 10/24/14 21:43  | CXJ0362         | CJ42737      |
| <b>Xylenes (Total)</b>    | <b>0.0809</b> (0.0020) |            | 8260B         |              | 1         | 10/24/14 21:43  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.0010)            |            | 8260B         |              |           | 10/24/14 21:43  |                 | [CALC]       |

|                                  | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichloroethane-d4 | 127 %            |                  | 70-130        |
| Surrogate: 4-Bromofluorobenzene  | 103 %            |                  | 70-130        |
| Surrogate: Dibromofluoromethane  | 123 %            |                  | 70-130        |
| Surrogate: Toluene-d8            | 104 %            |                  | 70-130        |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-318S

Date Sampled: 10/23/14 11:45

Percent Solids: N/A

Initial Volume: 1060

Final Volume: 0.25

Extraction Method: 3510C

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-12

Sample Matrix: Ground Water

Units: mg/L

Analyst: IBM

Prepared: 10/24/14 14:08

All methods used are in accordance with 40 CFR 136.

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

| <u>Analyte</u>         | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 2-Methylnaphthalene    | 0.0544 (0.0019)      |            | 8270C SIM     |              | 10        | 10/29/14 15:44  | CXJ0355         | CJ42402      |
| Acenaphthene           | 0.0057 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 16:30  | CXJ0355         | CJ42402      |
| Acenaphthylene         | 0.0220 (0.0019)      |            | 8270C SIM     |              | 10        | 10/29/14 15:44  | CXJ0355         | CJ42402      |
| Anthracene             | 0.0050 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 16:30  | CXJ0355         | CJ42402      |
| Benzo(a)anthracene     | 0.0006 (0.00005)     |            | 8270C SIM     |              | 1         | 10/25/14 16:30  | CXJ0355         | CJ42402      |
| Benzo(a)pyrene         | 0.0006 (0.00005)     |            | 8270C SIM     |              | 1         | 10/25/14 16:30  | CXJ0355         | CJ42402      |
| Benzo(b)fluoranthene   | 0.0007 (0.00005)     |            | 8270C SIM     |              | 1         | 10/25/14 16:30  | CXJ0355         | CJ42402      |
| Benzo(g,h,i)perylene   | 0.0004 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 16:30  | CXJ0355         | CJ42402      |
| Benzo(k)fluoranthene   | 0.0003 (0.00005)     |            | 8270C SIM     |              | 1         | 10/25/14 16:30  | CXJ0355         | CJ42402      |
| Chrysene               | 0.0005 (0.00005)     |            | 8270C SIM     |              | 1         | 10/25/14 16:30  | CXJ0355         | CJ42402      |
| Dibenzo(a,h)Anthracene | 0.00009 (0.00005)    |            | 8270C SIM     |              | 1         | 10/25/14 16:30  | CXJ0355         | CJ42402      |
| Fluoranthene           | 0.0027 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 16:30  | CXJ0355         | CJ42402      |
| Fluorene               | 0.0228 (0.0019)      |            | 8270C SIM     |              | 10        | 10/29/14 15:44  | CXJ0355         | CJ42402      |
| Indeno(1,2,3-cd)Pyrene | 0.0005 (0.00005)     |            | 8270C SIM     |              | 1         | 10/25/14 16:30  | CXJ0355         | CJ42402      |
| Naphthalene            | 0.430 (0.0189)       |            | 8270C SIM     |              | 100       | 10/29/14 16:34  | CXJ0355         | CJ42402      |
| Phenanthrene           | 0.0235 (0.0019)      |            | 8270C SIM     |              | 10        | 10/29/14 15:44  | CXJ0355         | CJ42402      |
| Pyrene                 | 0.0017 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 16:30  | CXJ0355         | CJ42402      |

|                                   | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichlorobenzene-d4 | 41 %             |                  | 30-130        |
| Surrogate: 2-Fluorobiphenyl       | 53 %             |                  | 30-130        |
| Surrogate: Nitrobenzene-d5        | 108 %            |                  | 30-130        |
| Surrogate: p-Terphenyl-d14        | 81 %             |                  | 30-130        |





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-318S  
Date Sampled: 10/23/14 11:45  
Percent Solids: N/A

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-12  
Sample Matrix: Ground Water

All methods used are in accordance with 40 CFR 136.

**Classical Chemistry**

| <u>Analyte</u>     | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|--------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Dissolved Cyanide  | 0.010 (0.005)        |            | 9014          |              | 1         | EEM            | 10/29/14 12:10  | mg/L         | CJ42911      |
| Total Cyanide (LL) | 0.0270 (0.00500)     |            | 9014          |              | 1         | JLK            | 10/28/14 10:20  | mg/L         | CJ42801      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-318D  
Date Sampled: 10/23/14 11:20  
Percent Solids: N/A  
Initial Volume: 1070  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-13  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: DPS  
Prepared: 10/24/14 13:25

All methods used are in accordance with 40 CFR 136.

**8100M Total Petroleum Hydrocarbons**

| <u>Analyte</u>                | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|----------------------|------------------|------------------|---------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons  | ND (0.19)            |                  | 8100M            |               | 1         | 10/25/14 17:01  | CXJ0357         | CJ42436      |
| <hr/>                         |                      |                  |                  |               |           |                 |                 |              |
|                               |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                 |                 |              |
| <i>Surrogate: O-Terphenyl</i> |                      | 74 %             |                  | 40-140        |           |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-318D

Date Sampled: 10/23/14 11:20

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-13

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

**All methods used are in accordance with 40 CFR 136.**

**8260B Volatile Organic Compounds**

| <u>Analyte</u>              | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane   | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 1,1,1-Trichloroethane       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 1,1,2,2-Tetrachloroethane   | ND (0.0005)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 1,1,2-Trichloroethane       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethane          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 1,1-Dichloropropene         | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 1,2,3-Trichlorobenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 1,2,3-Trichloropropane      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 1,2,4-Trichlorobenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 1,2,4-Trimethylbenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 1,2-Dibromo-3-Chloropropane | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 1,2-Dibromoethane           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 1,2-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 1,2-Dichloroethane          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 1,2-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 1,3,5-Trimethylbenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 1,3-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 1,3-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 1,4-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 1,4-Dioxane - Screen        | ND (0.500)           |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 1-Chlorohexane              | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 2,2-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 2-Butanone                  | ND (0.0100)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 2-Chlorotoluene             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 2-Hexanone                  | ND (0.0100)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 4-Chlorotoluene             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 4-Isopropyltoluene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| 4-Methyl-2-Pentanone        | ND (0.0250)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Acetone                     | ND (0.0100)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Benzene                     | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Bromobenzene                | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-318D

Date Sampled: 10/23/14 11:20

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-13

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Bromodichloromethane       | ND (0.0006)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Bromoform                  | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Bromomethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Carbon Disulfide           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Carbon Tetrachloride       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Chlorobenzene              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Chloroethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Chloroform                 | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Chloromethane              | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| cis-1,2-Dichloroethene     | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| cis-1,3-Dichloropropene    | ND (0.0004)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Dibromochloromethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Dibromomethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Dichlorodifluoromethane    | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Diethyl Ether              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Di-isopropyl ether         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Ethyl tertiary-butyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Ethylbenzene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Hexachlorobutadiene        | ND (0.0006)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Hexachloroethane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Isopropylbenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Methyl tert-Butyl Ether    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Methylene Chloride         | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| <b>Naphthalene</b>         | <b>0.0013</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| n-Butylbenzene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| n-Propylbenzene            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| sec-Butylbenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Styrene                    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| tert-Butylbenzene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Tertiary-amyl methyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Tetrachloroethene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-318D

Date Sampled: 10/23/14 11:20

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-13

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Toluene                   | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| trans-1,2-Dichloroethene  | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| trans-1,3-Dichloropropene | ND (0.0004)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Trichloroethene           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Trichlorofluoromethane    | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Vinyl Acetate             | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Vinyl Chloride            | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Xylene O                  | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Xylene P,M                | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 19:12  | CXJ0362         | CJ42737      |
| Xylenes (Total)           | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 19:12  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.0010)          |            | 8260B         |              |           | 10/24/14 19:12  |                 | [CALC]       |

|                                         | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>124 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>99 %</i>      |                  | <i>70-130</i> |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>122 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Toluene-d8</i>            | <i>103 %</i>     |                  | <i>70-130</i> |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-318D

Date Sampled: 10/23/14 11:20

Percent Solids: N/A

Initial Volume: 1070

Final Volume: 0.25

Extraction Method: 3510C

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-13

Sample Matrix: Ground Water

Units: mg/L

Analyst: VSC

Prepared: 10/24/14 14:08

All methods used are in accordance with 40 CFR 136.

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

| <u>Analyte</u>         | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 2-Methylnaphthalene    | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 17:20  | CXJ0355         | CJ42402      |
| Acenaphthene           | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 17:20  | CXJ0355         | CJ42402      |
| Acenaphthylene         | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 17:20  | CXJ0355         | CJ42402      |
| Anthracene             | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 17:20  | CXJ0355         | CJ42402      |
| Benzo(a)anthracene     | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 17:20  | CXJ0355         | CJ42402      |
| Benzo(a)pyrene         | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 17:20  | CXJ0355         | CJ42402      |
| Benzo(b)fluoranthene   | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 17:20  | CXJ0355         | CJ42402      |
| Benzo(g,h,i)perylene   | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 17:20  | CXJ0355         | CJ42402      |
| Benzo(k)fluoranthene   | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 17:20  | CXJ0355         | CJ42402      |
| Chrysene               | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 17:20  | CXJ0355         | CJ42402      |
| Dibenzo(a,h)Anthracene | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 17:20  | CXJ0355         | CJ42402      |
| Fluoranthene           | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 17:20  | CXJ0355         | CJ42402      |
| Fluorene               | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 17:20  | CXJ0355         | CJ42402      |
| Indeno(1,2,3-cd)Pyrene | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 17:20  | CXJ0355         | CJ42402      |
| Naphthalene            | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 17:20  | CXJ0355         | CJ42402      |
| Phenanthrene           | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 17:20  | CXJ0355         | CJ42402      |
| Pyrene                 | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 17:20  | CXJ0355         | CJ42402      |

|                                   | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichlorobenzene-d4 | 41 %             |                  | 30-130        |
| Surrogate: 2-Fluorobiphenyl       | 47 %             |                  | 30-130        |
| Surrogate: Nitrobenzene-d5        | 58 %             |                  | 30-130        |
| Surrogate: p-Terphenyl-d14        | 72 %             |                  | 30-130        |





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-318D  
Date Sampled: 10/23/14 11:20  
Percent Solids: N/A

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-13  
Sample Matrix: Ground Water

All methods used are in accordance with 40 CFR 136.

**Classical Chemistry**

| <u>Analyte</u>     | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|--------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Dissolved Cyanide  | 0.015 (0.005)        |            | 9014          |              | 1         | EEM            | 10/29/14 12:10  | mg/L         | CJ42911      |
| Total Cyanide (LL) | 0.0234 (0.00500)     |            | 9014          |              | 1         | JLK            | 10/28/14 10:20  | mg/L         | CJ42801      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-337  
Date Sampled: 10/23/14 14:45  
Percent Solids: N/A  
Initial Volume: 1050  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-14  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: JXS  
Prepared: 10/24/14 13:25

All methods used are in accordance with 40 CFR 136.

**8100M Total Petroleum Hydrocarbons**

| <u>Analyte</u>               | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------------|----------------------|------------------|------------------|---------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons | 1.32 (0.19)          |                  | 8100M            |               | 1         | 10/27/14 11:46  | CXJ0363         | CJ42436      |
| <hr/>                        |                      |                  |                  |               |           |                 |                 |              |
|                              |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                 |                 |              |
| Surrogate: O-Terphenyl       |                      | 81 %             |                  | 40-140        |           |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-337

Date Sampled: 10/23/14 14:45

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-14

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>              | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-----------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane   | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 1,1,1-Trichloroethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 1,1,2,2-Tetrachloroethane   | ND (0.0005)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 1,1,2-Trichloroethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethane          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 1,1-Dichloropropene         | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 1,2,3-Trichlorobenzene      | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 1,2,3-Trichloropropane      | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 1,2,4-Trichlorobenzene      | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 1,2,4-Trimethylbenzene      | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 1,2-Dibromo-3-Chloropropane | ND (0.0050)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 1,2-Dibromoethane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 1,2-Dichlorobenzene         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 1,2-Dichloroethane          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 1,2-Dichloropropane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 1,3,5-Trimethylbenzene      | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 1,3-Dichlorobenzene         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 1,3-Dichloropropane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 1,4-Dichlorobenzene         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 1,4-Dioxane - Screen        | ND (0.500)             |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 1-Chlorohexane              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 2,2-Dichloropropane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 2-Butanone                  | ND (0.0100)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 2-Chlorotoluene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 2-Hexanone                  | ND (0.0100)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 4-Chlorotoluene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 4-Isopropyltoluene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| 4-Methyl-2-Pentanone        | ND (0.0250)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Acetone                     | ND (0.0100)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| <b>Benzene</b>              | <b>0.0036</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Bromobenzene                | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-337

Date Sampled: 10/23/14 14:45

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-14

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

**All methods used are in accordance with 40 CFR 136.**

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Bromodichloromethane       | ND (0.0006)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Bromoform                  | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Bromomethane               | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Carbon Disulfide           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Carbon Tetrachloride       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Chlorobenzene              | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Chloroethane               | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Chloroform                 | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Chloromethane              | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| cis-1,2-Dichloroethene     | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| cis-1,3-Dichloropropene    | ND (0.0004)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Dibromochloromethane       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Dibromomethane             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Dichlorodifluoromethane    | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Diethyl Ether              | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Di-isopropyl ether         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Ethyl tertiary-butyl ether | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Ethylbenzene               | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Hexachlorobutadiene        | ND (0.0006)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Hexachloroethane           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Isopropylbenzene           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Methyl tert-Butyl Ether    | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Methylene Chloride         | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Naphthalene                | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| n-Butylbenzene             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| n-Propylbenzene            | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| sec-Butylbenzene           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Styrene                    | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| tert-Butylbenzene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Tertiary-amyl methyl ether | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Tetrachloroethene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-337

Date Sampled: 10/23/14 14:45

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-14

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Toluene                   | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| trans-1,2-Dichloroethene  | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| trans-1,3-Dichloropropene | ND (0.0004)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Trichloroethene           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Trichlorofluoromethane    | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Vinyl Acetate             | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Vinyl Chloride            | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Xylene O                  | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Xylene P,M                | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 19:37  | CXJ0362         | CJ42737      |
| Xylenes (Total)           | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 19:37  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.0010)          |            | 8260B         |              |           | 10/24/14 19:37  |                 | [CALC]       |

|                                         | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>126 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>97 %</i>      |                  | <i>70-130</i> |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>123 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Toluene-d8</i>            | <i>104 %</i>     |                  | <i>70-130</i> |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-337

Date Sampled: 10/23/14 14:45

Percent Solids: N/A

Initial Volume: 1020

Final Volume: 0.25

Extraction Method: 3510C

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-14

Sample Matrix: Ground Water

Units: mg/L

Analyst: VSC

Prepared: 10/24/14 14:08

All methods used are in accordance with 40 CFR 136.

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

| <u>Analyte</u>         | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 2-Methylnaphthalene    | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 18:10  | CXJ0355         | CJ42402      |
| Acenaphthene           | 0.0015 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 18:10  | CXJ0355         | CJ42402      |
| Acenaphthylene         | 0.0021 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 18:10  | CXJ0355         | CJ42402      |
| Anthracene             | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 18:10  | CXJ0355         | CJ42402      |
| Benzo(a)anthracene     | 0.00007 (0.00005)    |            | 8270C SIM     |              | 1         | 10/25/14 18:10  | CXJ0355         | CJ42402      |
| Benzo(a)pyrene         | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 18:10  | CXJ0355         | CJ42402      |
| Benzo(b)fluoranthene   | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 18:10  | CXJ0355         | CJ42402      |
| Benzo(g,h,i)perylene   | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 18:10  | CXJ0355         | CJ42402      |
| Benzo(k)fluoranthene   | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 18:10  | CXJ0355         | CJ42402      |
| Chrysene               | 0.00006 (0.00005)    |            | 8270C SIM     |              | 1         | 10/25/14 18:10  | CXJ0355         | CJ42402      |
| Dibenzo(a,h)Anthracene | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 18:10  | CXJ0355         | CJ42402      |
| Fluoranthene           | 0.0011 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 18:10  | CXJ0355         | CJ42402      |
| Fluorene               | 0.0021 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 18:10  | CXJ0355         | CJ42402      |
| Indeno(1,2,3-cd)Pyrene | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 18:10  | CXJ0355         | CJ42402      |
| Naphthalene            | 0.0003 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 18:10  | CXJ0355         | CJ42402      |
| Phenanthrene           | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 18:10  | CXJ0355         | CJ42402      |
| Pyrene                 | 0.0012 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 18:10  | CXJ0355         | CJ42402      |

|                                   | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichlorobenzene-d4 | 31 %             |                  | 30-130        |
| Surrogate: 2-Fluorobiphenyl       | 46 %             |                  | 30-130        |
| Surrogate: Nitrobenzene-d5        | 43 %             |                  | 30-130        |
| Surrogate: p-Terphenyl-d14        | 65 %             |                  | 30-130        |





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-337  
Date Sampled: 10/23/14 14:45  
Percent Solids: N/A

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-14  
Sample Matrix: Ground Water

All methods used are in accordance with 40 CFR 136.

**Classical Chemistry**

| <u>Analyte</u>     | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|--------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Dissolved Cyanide  | 0.237 (0.025)        |            | 9014          |              | 5         | EEM            | 10/29/14 12:10  | mg/L         | CJ42911      |
| Total Cyanide (LL) | 0.328 (0.0250)       |            | 9014          |              | 5         | JLK            | 10/28/14 10:20  | mg/L         | CJ42801      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-6  
Date Sampled: 10/23/14 14:10  
Percent Solids: N/A  
Initial Volume: 1040  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-15  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: DPS  
Prepared: 10/24/14 13:25

All methods used are in accordance with 40 CFR 136.

**8100M Total Petroleum Hydrocarbons**

| <u>Analyte</u>               | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------------|----------------------|------------------|------------------|---------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons | 1.47 (0.19)          |                  | 8100M            |               | 1         | 10/25/14 18:20  | CXJ0357         | CJ42436      |
| <hr/>                        |                      |                  |                  |               |           |                 |                 |              |
|                              |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                 |                 |              |
| Surrogate: O-Terphenyl       |                      | 77 %             |                  | 40-140        |           |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-6

Date Sampled: 10/23/14 14:10

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-15

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>              | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-----------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane   | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 1,1,1-Trichloroethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 1,1,2,2-Tetrachloroethane   | ND (0.0005)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 1,1,2-Trichloroethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 1,1-Dichloroethane          | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 1,1-Dichloroethene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 1,1-Dichloropropene         | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 1,2,3-Trichlorobenzene      | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 1,2,3-Trichloropropane      | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 1,2,4-Trichlorobenzene      | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 1,2,4-Trimethylbenzene      | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 1,2-Dibromo-3-Chloropropane | ND (0.0050)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 1,2-Dibromoethane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 1,2-Dichlorobenzene         | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 1,2-Dichloroethane          | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 1,2-Dichloropropane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 1,3,5-Trimethylbenzene      | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 1,3-Dichlorobenzene         | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 1,3-Dichloropropane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 1,4-Dichlorobenzene         | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 1,4-Dioxane - Screen        | ND (0.500)             |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 1-Chlorohexane              | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 2,2-Dichloropropane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 2-Butanone                  | ND (0.0100)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 2-Chlorotoluene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 2-Hexanone                  | ND (0.0100)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 4-Chlorotoluene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 4-Isopropyltoluene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| 4-Methyl-2-Pentanone        | ND (0.0250)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Acetone                     | ND (0.0100)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| <b>Benzene</b>              | <b>0.0115</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Bromobenzene                | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-6

Date Sampled: 10/23/14 14:10

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-15

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Bromodichloromethane       | ND (0.0006)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Bromoform                  | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Bromomethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Carbon Disulfide           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Carbon Tetrachloride       | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Chlorobenzene              | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Chloroethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Chloroform                 | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Chloromethane              | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| cis-1,2-Dichloroethene     | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| cis-1,3-Dichloropropene    | ND (0.0004)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Dibromochloromethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Dibromomethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Dichlorodifluoromethane    | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Diethyl Ether              | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Di-isopropyl ether         | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Ethyl tertiary-butyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| <b>Ethylbenzene</b>        | <b>0.0079</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Hexachlorobutadiene        | ND (0.0006)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Hexachloroethane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| <b>Isopropylbenzene</b>    | <b>0.0020</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Methyl tert-Butyl Ether    | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Methylene Chloride         | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| <b>Naphthalene</b>         | <b>0.0024</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| n-Butylbenzene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| <b>n-Propylbenzene</b>     | <b>0.0010</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| sec-Butylbenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Styrene                    | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| tert-Butylbenzene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Tertiary-amyl methyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Tetrachloroethene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-6

Date Sampled: 10/23/14 14:10

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-15

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.0050)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Toluene                   | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| trans-1,2-Dichloroethene  | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| trans-1,3-Dichloropropene | ND (0.0004)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Trichloroethene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Trichlorofluoromethane    | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Vinyl Acetate             | ND (0.0050)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Vinyl Chloride            | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| <b>Xylene O</b>           | <b>0.0073</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| Xylene P,M                | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 14:34  | CXJ0385         | CJ42810      |
| <b>Xylenes (Total)</b>    | <b>0.0073</b> (0.0020) |            | 8260B         |              | 1         | 10/27/14 14:34  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.0010)            |            | 8260B         |              |           | 10/27/14 14:34  |                 | [CALC]       |

|                                         | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>124 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>102 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>121 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Toluene-d8</i>            | <i>103 %</i>     |                  | <i>70-130</i> |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-6  
Date Sampled: 10/23/14 14:10  
Percent Solids: N/A  
Initial Volume: 1060  
Final Volume: 0.25  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-15  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: VSC  
Prepared: 10/24/14 14:08

All methods used are in accordance with 40 CFR 136.

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

| <u>Analyte</u>         | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 2-Methylnaphthalene    | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 19:00  | CXJ0355         | CJ42402      |
| Acenaphthene           | 0.0052 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 19:00  | CXJ0355         | CJ42402      |
| Acenaphthylene         | 0.0317 (0.0019)      |            | 8270C SIM     |              | 10        | 10/29/14 17:24  | CXJ0355         | CJ42402      |
| Anthracene             | 0.0003 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 19:00  | CXJ0355         | CJ42402      |
| Benzo(a)anthracene     | 0.00006 (0.00005)    |            | 8270C SIM     |              | 1         | 10/25/14 19:00  | CXJ0355         | CJ42402      |
| Benzo(a)pyrene         | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 19:00  | CXJ0355         | CJ42402      |
| Benzo(b)fluoranthene   | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 19:00  | CXJ0355         | CJ42402      |
| Benzo(g,h,i)perylene   | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 19:00  | CXJ0355         | CJ42402      |
| Benzo(k)fluoranthene   | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 19:00  | CXJ0355         | CJ42402      |
| Chrysene               | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 19:00  | CXJ0355         | CJ42402      |
| Dibenzo(a,h)Anthracene | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 19:00  | CXJ0355         | CJ42402      |
| Fluoranthene           | 0.0003 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 19:00  | CXJ0355         | CJ42402      |
| Fluorene               | 0.0058 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 19:00  | CXJ0355         | CJ42402      |
| Indeno(1,2,3-cd)Pyrene | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 19:00  | CXJ0355         | CJ42402      |
| Naphthalene            | 0.0003 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 19:00  | CXJ0355         | CJ42402      |
| Phenanthrene           | 0.0029 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 19:00  | CXJ0355         | CJ42402      |
| Pyrene                 | 0.0002 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 19:00  | CXJ0355         | CJ42402      |

|                                   | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichlorobenzene-d4 | 26 %             | S-               | 30-130        |
| Surrogate: 2-Fluorobiphenyl       | 38 %             |                  | 30-130        |
| Surrogate: Nitrobenzene-d5        | 49 %             |                  | 30-130        |
| Surrogate: p-Terphenyl-d14        | 63 %             |                  | 30-130        |





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-6  
Date Sampled: 10/23/14 14:10  
Percent Solids: N/A

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-15  
Sample Matrix: Ground Water

All methods used are in accordance with 40 CFR 136.

**Classical Chemistry**

| <u>Analyte</u>     | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|--------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Dissolved Cyanide  | 0.153 (0.005)        |            | 9014          |              | 1         | EEM            | 10/29/14 12:10  | mg/L         | CJ42911      |
| Total Cyanide (LL) | 0.178 (0.00500)      |            | 9014          |              | 1         | JLK            | 10/28/14 10:20  | mg/L         | CJ42801      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-109  
Date Sampled: 10/23/14 15:45  
Percent Solids: N/A  
Initial Volume: 1060  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-16  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: DPS  
Prepared: 10/24/14 13:25

All methods used are in accordance with 40 CFR 136.

**8100M Total Petroleum Hydrocarbons**

| <u>Analyte</u>               | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------------|----------------------|------------------|------------------|---------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons | 1.81 (0.19)          |                  | 8100M            |               | 1         | 10/25/14 18:59  | CXJ0357         | CJ42436      |
| <hr/>                        |                      |                  |                  |               |           |                 |                 |              |
|                              |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                 |                 |              |
| Surrogate: O-Terphenyl       |                      | 76 %             |                  | 40-140        |           |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-109

Date Sampled: 10/23/14 15:45

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-16

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>                | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane     | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| 1,1,1-Trichloroethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| 1,1,2,2-Tetrachloroethane     | ND (0.0005)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| 1,1,2-Trichloroethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethane            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethene            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| 1,1-Dichloropropene           | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| 1,2,3-Trichlorobenzene        | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| 1,2,3-Trichloropropane        | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| 1,2,4-Trichlorobenzene        | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| <b>1,2,4-Trimethylbenzene</b> | <b>0.140</b> (0.0100)  |            | 8260B         |              | 10        | 10/27/14 16:40  | CXJ0362         | CJ42737      |
| 1,2-Dibromo-3-Chloropropane   | ND (0.0050)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| 1,2-Dibromoethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| 1,2-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| 1,2-Dichloroethane            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| 1,2-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| <b>1,3,5-Trimethylbenzene</b> | <b>0.0050</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| 1,3-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| 1,3-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| 1,4-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| 1,4-Dioxane - Screen          | ND (0.500)             |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| 1-Chlorohexane                | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| 2,2-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| 2-Butanone                    | ND (0.0100)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| 2-Chlorotoluene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| 2-Hexanone                    | ND (0.0100)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| 4-Chlorotoluene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| <b>4-Isopropyltoluene</b>     | <b>0.0037</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| 4-Methyl-2-Pentanone          | ND (0.0250)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| Acetone                       | ND (0.0100)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| <b>Benzene</b>                | <b>0.135</b> (0.0100)  |            | 8260B         |              | 10        | 10/27/14 16:40  | CXJ0362         | CJ42737      |
| Bromobenzene                  | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-109

Date Sampled: 10/23/14 15:45

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-16

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| Bromodichloromethane       | ND (0.0006)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| Bromoform                  | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| Bromomethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| <b>Carbon Disulfide</b>    | <b>0.0015</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| Carbon Tetrachloride       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| Chlorobenzene              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| Chloroethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| Chloroform                 | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| Chloromethane              | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| cis-1,2-Dichloroethene     | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| cis-1,3-Dichloropropene    | ND (0.0004)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| Dibromochloromethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| Dibromomethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| Dichlorodifluoromethane    | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| Diethyl Ether              | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| Di-isopropyl ether         | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| Ethyl tertiary-butyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| <b>Ethylbenzene</b>        | <b>0.0349</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| Hexachlorobutadiene        | ND (0.0006)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| Hexachloroethane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| <b>Isopropylbenzene</b>    | <b>0.0220</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| Methyl tert-Butyl Ether    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| Methylene Chloride         | ND (0.0020)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| <b>Naphthalene</b>         | <b>0.248</b> (0.0100)  |            | 8260B         |              | 10        | 10/27/14 16:40  | CXJ0362         | CJ42737      |
| n-Butylbenzene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| <b>n-Propylbenzene</b>     | <b>0.0117</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| <b>sec-Butylbenzene</b>    | <b>0.0025</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| Styrene                    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| tert-Butylbenzene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| Tertiary-amyl methyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| Tetrachloroethene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-109

Date Sampled: 10/23/14 15:45

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-16

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.0050)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| <b>Toluene</b>            | <b>0.0030</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| trans-1,2-Dichloroethene  | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| trans-1,3-Dichloropropene | ND (0.0004)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| Trichloroethene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| Trichlorofluoromethane    | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| Vinyl Acetate             | ND (0.0050)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| Vinyl Chloride            | ND (0.0010)            |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| <b>Xylene O</b>           | <b>0.0185</b> (0.0010) |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| <b>Xylene P,M</b>         | <b>0.0082</b> (0.0020) |            | 8260B         |              | 1         | 10/24/14 22:08  | CXJ0362         | CJ42737      |
| <b>Xylenes (Total)</b>    | <b>0.0266</b> (0.0020) |            | 8260B         |              | 1         | 10/24/14 22:08  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.0010)            |            | 8260B         |              |           | 10/24/14 22:08  |                 | [CALC]       |

|                                         | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>121 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>101 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>120 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Toluene-d8</i>            | <i>104 %</i>     |                  | <i>70-130</i> |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-109

Date Sampled: 10/23/14 15:45

Percent Solids: N/A

Initial Volume: 1060

Final Volume: 0.25

Extraction Method: 3510C

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-16

Sample Matrix: Ground Water

Units: mg/L

Analyst: VSC

Prepared: 10/24/14 14:08

All methods used are in accordance with 40 CFR 136.

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

| <u>Analyte</u>         | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 2-Methylnaphthalene    | 0.0105 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 19:49  | CXJ0355         | CJ42402      |
| Acenaphthene           | 0.0024 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 19:49  | CXJ0355         | CJ42402      |
| Acenaphthylene         | 0.0003 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 19:49  | CXJ0355         | CJ42402      |
| Anthracene             | 0.0003 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 19:49  | CXJ0355         | CJ42402      |
| Benzo(a)anthracene     | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 19:49  | CXJ0355         | CJ42402      |
| Benzo(a)pyrene         | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 19:49  | CXJ0355         | CJ42402      |
| Benzo(b)fluoranthene   | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 19:49  | CXJ0355         | CJ42402      |
| Benzo(g,h,i)perylene   | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 19:49  | CXJ0355         | CJ42402      |
| Benzo(k)fluoranthene   | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 19:49  | CXJ0355         | CJ42402      |
| Chrysene               | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 19:49  | CXJ0355         | CJ42402      |
| Dibenzo(a,h)Anthracene | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 19:49  | CXJ0355         | CJ42402      |
| Fluoranthene           | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/25/14 19:49  | CXJ0355         | CJ42402      |
| Fluorene               | 0.0015 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 19:49  | CXJ0355         | CJ42402      |
| Indeno(1,2,3-cd)Pyrene | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/25/14 19:49  | CXJ0355         | CJ42402      |
| Naphthalene            | 0.0727 (0.0019)      |            | 8270C SIM     |              | 10        | 10/29/14 18:14  | CXJ0355         | CJ42402      |
| Phenanthrene           | 0.0015 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 19:49  | CXJ0355         | CJ42402      |
| Pyrene                 | 0.0002 (0.0002)      |            | 8270C SIM     |              | 1         | 10/25/14 19:49  | CXJ0355         | CJ42402      |

|                                   | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichlorobenzene-d4 | 34 %             |                  | 30-130        |
| Surrogate: 2-Fluorobiphenyl       | 40 %             |                  | 30-130        |
| Surrogate: Nitrobenzene-d5        | 55 %             |                  | 30-130        |
| Surrogate: p-Terphenyl-d14        | 70 %             |                  | 30-130        |





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-109  
Date Sampled: 10/23/14 15:45  
Percent Solids: N/A

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-16  
Sample Matrix: Ground Water

All methods used are in accordance with 40 CFR 136.

**Classical Chemistry**

| <u>Analyte</u>     | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|--------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Dissolved Cyanide  | 0.213 (0.010)        |            | 9014          |              | 2         | EEM            | 10/29/14 12:10  | mg/L         | CJ42911      |
| Total Cyanide (LL) | 0.212 (0.0100)       |            | 9014          |              | 2         | JLK            | 10/28/14 0:00   | mg/L         | CJ42801      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-316D  
Date Sampled: 10/23/14 13:00  
Percent Solids: N/A  
Initial Volume: 1060  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-17  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: DPS  
Prepared: 10/24/14 13:25

All methods used are in accordance with 40 CFR 136.

**8100M Total Petroleum Hydrocarbons**

| <u>Analyte</u>                | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|----------------------|------------------|------------------|---------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons  | ND (0.19)            |                  | 8100M            |               | 1         | 10/25/14 19:37  | CXJ0357         | CJ42436      |
| <hr/>                         |                      |                  |                  |               |           |                 |                 |              |
|                               |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                 |                 |              |
| <i>Surrogate: O-Terphenyl</i> |                      | 78 %             |                  | 40-140        |           |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-316D

Date Sampled: 10/23/14 13:00

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-17

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

**All methods used are in accordance with 40 CFR 136.**

**8260B Volatile Organic Compounds**

| <u>Analyte</u>              | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane   | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 1,1,1-Trichloroethane       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 1,1,2,2-Tetrachloroethane   | ND (0.0005)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 1,1,2-Trichloroethane       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethane          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 1,1-Dichloropropene         | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 1,2,3-Trichlorobenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 1,2,3-Trichloropropane      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 1,2,4-Trichlorobenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 1,2,4-Trimethylbenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 1,2-Dibromo-3-Chloropropane | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 1,2-Dibromoethane           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 1,2-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 1,2-Dichloroethane          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 1,2-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 1,3,5-Trimethylbenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 1,3-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 1,3-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 1,4-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 1,4-Dioxane - Screen        | ND (0.500)           |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 1-Chlorohexane              | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 2,2-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 2-Butanone                  | ND (0.0100)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 2-Chlorotoluene             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 2-Hexanone                  | ND (0.0100)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 4-Chlorotoluene             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 4-Isopropyltoluene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| 4-Methyl-2-Pentanone        | ND (0.0250)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Acetone                     | ND (0.0100)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Benzene                     | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Bromobenzene                | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-316D

Date Sampled: 10/23/14 13:00

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-17

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

**All methods used are in accordance with 40 CFR 136.**

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Bromodichloromethane       | ND (0.0006)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Bromoform                  | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Bromomethane               | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Carbon Disulfide           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Carbon Tetrachloride       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Chlorobenzene              | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Chloroethane               | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Chloroform                 | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Chloromethane              | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| cis-1,2-Dichloroethene     | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| cis-1,3-Dichloropropene    | ND (0.0004)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Dibromochloromethane       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Dibromomethane             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Dichlorodifluoromethane    | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Diethyl Ether              | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Di-isopropyl ether         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Ethyl tertiary-butyl ether | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Ethylbenzene               | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Hexachlorobutadiene        | ND (0.0006)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Hexachloroethane           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Isopropylbenzene           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Methyl tert-Butyl Ether    | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Methylene Chloride         | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Naphthalene                | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| n-Butylbenzene             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| n-Propylbenzene            | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| sec-Butylbenzene           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Styrene                    | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| tert-Butylbenzene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Tertiary-amyl methyl ether | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Tetrachloroethene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-316D

Date Sampled: 10/23/14 13:00

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-17

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Toluene                   | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| trans-1,2-Dichloroethene  | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| trans-1,3-Dichloropropene | ND (0.0004)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Trichloroethene           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Trichlorofluoromethane    | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Vinyl Acetate             | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Vinyl Chloride            | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Xylene O                  | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Xylene P,M                | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 20:02  | CXJ0362         | CJ42737      |
| Xylenes (Total)           | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 20:02  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.0010)          |            | 8260B         |              |           | 10/24/14 20:02  |                 | [CALC]       |

|                                         | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>125 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>98 %</i>      |                  | <i>70-130</i> |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>122 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Toluene-d8</i>            | <i>104 %</i>     |                  | <i>70-130</i> |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-316D

Date Sampled: 10/23/14 13:00

Percent Solids: N/A

Initial Volume: 1050

Final Volume: 0.25

Extraction Method: 3510C

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-17

Sample Matrix: Ground Water

Units: mg/L

Analyst: IBM

Prepared: 10/27/14 14:36

All methods used are in accordance with 40 CFR 136.

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

| <u>Analyte</u>         | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 2-Methylnaphthalene    | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/29/14 5:01   | CXJ0405         | CJ42711      |
| Acenaphthene           | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/29/14 5:01   | CXJ0405         | CJ42711      |
| Acenaphthylene         | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/29/14 5:01   | CXJ0405         | CJ42711      |
| Anthracene             | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/29/14 5:01   | CXJ0405         | CJ42711      |
| Benzo(a)anthracene     | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/29/14 5:01   | CXJ0405         | CJ42711      |
| Benzo(a)pyrene         | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/29/14 5:01   | CXJ0405         | CJ42711      |
| Benzo(b)fluoranthene   | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/29/14 5:01   | CXJ0405         | CJ42711      |
| Benzo(g,h,i)perylene   | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/29/14 5:01   | CXJ0405         | CJ42711      |
| Benzo(k)fluoranthene   | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/29/14 5:01   | CXJ0405         | CJ42711      |
| Chrysene               | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/29/14 5:01   | CXJ0405         | CJ42711      |
| Dibenzo(a,h)Anthracene | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/29/14 5:01   | CXJ0405         | CJ42711      |
| Fluoranthene           | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/29/14 5:01   | CXJ0405         | CJ42711      |
| Fluorene               | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/29/14 5:01   | CXJ0405         | CJ42711      |
| Indeno(1,2,3-cd)Pyrene | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/29/14 5:01   | CXJ0405         | CJ42711      |
| Naphthalene            | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/29/14 5:01   | CXJ0405         | CJ42711      |
| Phenanthrene           | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/29/14 5:01   | CXJ0405         | CJ42711      |
| Pyrene                 | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/29/14 5:01   | CXJ0405         | CJ42711      |

|                                          | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|------------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichlorobenzene-d4</i> | 49 %             |                  | 30-130        |
| <i>Surrogate: 2-Fluorobiphenyl</i>       | 60 %             |                  | 30-130        |
| <i>Surrogate: Nitrobenzene-d5</i>        | 70 %             |                  | 30-130        |
| <i>Surrogate: p-Terphenyl-d14</i>        | 70 %             |                  | 30-130        |





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-316D  
Date Sampled: 10/23/14 13:00  
Percent Solids: N/A

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-17  
Sample Matrix: Ground Water

All methods used are in accordance with 40 CFR 136.

**Classical Chemistry**

| <u>Analyte</u>            | <u>Results (MRL)</u>    | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|---------------------------|-------------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Dissolved Cyanide         | ND (0.005)              |            | 9014          |              | 1         | EEM            | 10/29/14 12:10  | mg/L         | CJ42911      |
| <b>Total Cyanide (LL)</b> | <b>0.0110</b> (0.00500) |            | 9014          |              | 1         | JLK            | 10/28/14 10:20  | mg/L         | CJ42801      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-310S  
Date Sampled: 10/23/14 10:13  
Percent Solids: N/A  
Initial Volume: 1070  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-18  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: DPS  
Prepared: 10/24/14 13:25

All methods used are in accordance with 40 CFR 136.

**8100M Total Petroleum Hydrocarbons**

| <u>Analyte</u>               | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------------|----------------------|------------------|------------------|---------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons | ND (0.19)            |                  | 8100M            |               | 1         | 10/25/14 20:16  | CXJ0357         | CJ42436      |
| <hr/>                        |                      |                  |                  |               |           |                 |                 |              |
|                              |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                 |                 |              |
| Surrogate: O-Terphenyl       |                      | 75 %             |                  | 40-140        |           |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-310S

Date Sampled: 10/23/14 10:13

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-18

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>              | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-----------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane   | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 1,1,1-Trichloroethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 1,1,2,2-Tetrachloroethane   | ND (0.0005)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 1,1,2-Trichloroethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 1,1-Dichloroethane          | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 1,1-Dichloroethene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 1,1-Dichloropropene         | ND (0.0020)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 1,2,3-Trichlorobenzene      | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 1,2,3-Trichloropropane      | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 1,2,4-Trichlorobenzene      | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 1,2,4-Trimethylbenzene      | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 1,2-Dibromo-3-Chloropropane | ND (0.0050)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 1,2-Dibromoethane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 1,2-Dichlorobenzene         | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 1,2-Dichloroethane          | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 1,2-Dichloropropane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 1,3,5-Trimethylbenzene      | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 1,3-Dichlorobenzene         | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 1,3-Dichloropropane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 1,4-Dichlorobenzene         | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 1,4-Dioxane - Screen        | ND (0.500)             |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 1-Chlorohexane              | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 2,2-Dichloropropane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 2-Butanone                  | ND (0.0100)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 2-Chlorotoluene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 2-Hexanone                  | ND (0.0100)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 4-Chlorotoluene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 4-Isopropyltoluene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| 4-Methyl-2-Pentanone        | ND (0.0250)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Acetone                     | ND (0.0100)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| <b>Benzene</b>              | <b>0.0020</b> (0.0010) |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Bromobenzene                | ND (0.0020)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-310S

Date Sampled: 10/23/14 10:13

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-18

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

**All methods used are in accordance with 40 CFR 136.**

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Bromodichloromethane       | ND (0.0006)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Bromoform                  | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Bromomethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Carbon Disulfide           | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Carbon Tetrachloride       | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Chlorobenzene              | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Chloroethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Chloroform                 | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Chloromethane              | ND (0.0020)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| cis-1,2-Dichloroethene     | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| cis-1,3-Dichloropropene    | ND (0.0004)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Dibromochloromethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Dibromomethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Dichlorodifluoromethane    | ND (0.0020)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Diethyl Ether              | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Di-isopropyl ether         | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Ethyl tertiary-butyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Ethylbenzene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Hexachlorobutadiene        | ND (0.0006)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Hexachloroethane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Isopropylbenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Methyl tert-Butyl Ether    | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Methylene Chloride         | ND (0.0020)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| <b>Naphthalene</b>         | <b>0.0013</b> (0.0010) |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| n-Butylbenzene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| n-Propylbenzene            | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| sec-Butylbenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Styrene                    | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| tert-Butylbenzene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Tertiary-amyl methyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Tetrachloroethene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-310S  
Date Sampled: 10/23/14 10:13  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-18  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.0050)          |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Toluene                   | ND (0.0010)          |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| trans-1,2-Dichloroethene  | ND (0.0010)          |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| trans-1,3-Dichloropropene | ND (0.0004)          |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Trichloroethene           | ND (0.0010)          |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Trichlorofluoromethane    | ND (0.0010)          |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Vinyl Acetate             | ND (0.0050)          |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Vinyl Chloride            | ND (0.0010)          |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Xylene O                  | ND (0.0010)          |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Xylene P,M                | ND (0.0020)          |            | 8260B         |              | 1         | 10/28/14 15:54  | CXJ0403         | CJ42842      |
| Xylenes (Total)           | ND (0.0020)          |            | 8260B         |              | 1         | 10/28/14 15:54  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.0010)          |            | 8260B         |              |           | 10/28/14 15:54  |                 | [CALC]       |

|                                         | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>116 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>100 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>114 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Toluene-d8</i>            | <i>103 %</i>     |                  | <i>70-130</i> |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-310S

Date Sampled: 10/23/14 10:13

Percent Solids: N/A

Initial Volume: 1070

Final Volume: 0.25

Extraction Method: 3510C

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-18

Sample Matrix: Ground Water

Units: mg/L

Analyst: IBM

Prepared: 10/27/14 14:36

All methods used are in accordance with 40 CFR 136.

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

| <u>Analyte</u>         | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 2-Methylnaphthalene    | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/29/14 5:51   | CXJ0405         | CJ42711      |
| <b>Acenaphthene</b>    | <b>0.0021</b> (0.0002) |            | 8270C SIM     |              | 1         | 10/29/14 5:51   | CXJ0405         | CJ42711      |
| <b>Acenaphthylene</b>  | <b>0.0003</b> (0.0002) |            | 8270C SIM     |              | 1         | 10/29/14 5:51   | CXJ0405         | CJ42711      |
| Anthracene             | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/29/14 5:51   | CXJ0405         | CJ42711      |
| Benzo(a)anthracene     | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/29/14 5:51   | CXJ0405         | CJ42711      |
| Benzo(a)pyrene         | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/29/14 5:51   | CXJ0405         | CJ42711      |
| Benzo(b)fluoranthene   | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/29/14 5:51   | CXJ0405         | CJ42711      |
| Benzo(g,h,i)perylene   | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/29/14 5:51   | CXJ0405         | CJ42711      |
| Benzo(k)fluoranthene   | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/29/14 5:51   | CXJ0405         | CJ42711      |
| Chrysene               | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/29/14 5:51   | CXJ0405         | CJ42711      |
| Dibenzo(a,h)Anthracene | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/29/14 5:51   | CXJ0405         | CJ42711      |
| Fluoranthene           | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/29/14 5:51   | CXJ0405         | CJ42711      |
| <b>Fluorene</b>        | <b>0.0006</b> (0.0002) |            | 8270C SIM     |              | 1         | 10/29/14 5:51   | CXJ0405         | CJ42711      |
| Indeno(1,2,3-cd)Pyrene | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/29/14 5:51   | CXJ0405         | CJ42711      |
| <b>Naphthalene</b>     | <b>0.0002</b> (0.0002) |            | 8270C SIM     |              | 1         | 10/29/14 5:51   | CXJ0405         | CJ42711      |
| Phenanthrene           | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/29/14 5:51   | CXJ0405         | CJ42711      |
| Pyrene                 | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/29/14 5:51   | CXJ0405         | CJ42711      |

|                                   | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichlorobenzene-d4 | 38 %             |                  | 30-130        |
| Surrogate: 2-Fluorobiphenyl       | 50 %             |                  | 30-130        |
| Surrogate: Nitrobenzene-d5        | 58 %             |                  | 30-130        |
| Surrogate: p-Terphenyl-d14        | 68 %             |                  | 30-130        |





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-310S  
Date Sampled: 10/23/14 10:13  
Percent Solids: N/A

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-18  
Sample Matrix: Ground Water

All methods used are in accordance with 40 CFR 136.

**Classical Chemistry**

| <u>Analyte</u>     | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|--------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Dissolved Cyanide  | 0.069 (0.005)        |            | 9014          |              | 1         | EEM            | 10/29/14 12:10  | mg/L         | CJ42911      |
| Total Cyanide (LL) | 0.0685 (0.00500)     |            | 9014          |              | 1         | JLK            | 10/28/14 10:20  | mg/L         | CJ42801      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-310D  
Date Sampled: 10/23/14 10:24  
Percent Solids: N/A  
Initial Volume: 1070  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-19  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: DPS  
Prepared: 10/24/14 13:25

All methods used are in accordance with 40 CFR 136.

**8100M Total Petroleum Hydrocarbons**

| <u>Analyte</u>               | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------------|----------------------|------------------|------------------|---------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons | 11.6 (0.19)          |                  | 8100M            |               | 1         | 10/25/14 20:55  | CXJ0357         | CJ42436      |
| <hr/>                        |                      |                  |                  |               |           |                 |                 |              |
|                              |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                 |                 |              |
| Surrogate: O-Terphenyl       |                      | 77 %             |                  | 40-140        |           |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-310D

Date Sampled: 10/23/14 10:24

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-19

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>                | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane     | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| 1,1,1-Trichloroethane         | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| 1,1,2,2-Tetrachloroethane     | ND (0.0500)          |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| 1,1,2-Trichloroethane         | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| 1,1-Dichloroethane            | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| 1,1-Dichloroethene            | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| 1,1-Dichloropropene           | ND (0.200)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| 1,2,3-Trichlorobenzene        | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| 1,2,3-Trichloropropane        | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| 1,2,4-Trichlorobenzene        | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| <b>1,2,4-Trimethylbenzene</b> | <b>0.652</b> (0.100) |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| 1,2-Dibromo-3-Chloropropane   | ND (0.500)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| 1,2-Dibromoethane             | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| 1,2-Dichlorobenzene           | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| 1,2-Dichloroethane            | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| 1,2-Dichloropropane           | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| <b>1,3,5-Trimethylbenzene</b> | <b>0.162</b> (0.100) |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| 1,3-Dichlorobenzene           | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| 1,3-Dichloropropane           | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| 1,4-Dichlorobenzene           | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| 1,4-Dioxane - Screen          | ND (50.0)            |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| 1-Chlorohexane                | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| 2,2-Dichloropropane           | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| 2-Butanone                    | ND (1.00)            |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| 2-Chlorotoluene               | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| 2-Hexanone                    | ND (1.00)            |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| 4-Chlorotoluene               | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| 4-Isopropyltoluene            | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| 4-Methyl-2-Pentanone          | ND (2.50)            |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Acetone                       | ND (1.00)            |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| <b>Benzene</b>                | <b>0.652</b> (0.100) |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Bromobenzene                  | ND (0.200)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-310D

Date Sampled: 10/23/14 10:24

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-19

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane         | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Bromodichloromethane       | ND (0.0600)          |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Bromoform                  | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Bromomethane               | ND (0.200)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Carbon Disulfide           | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Carbon Tetrachloride       | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Chlorobenzene              | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Chloroethane               | ND (0.200)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Chloroform                 | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Chloromethane              | ND (0.200)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| cis-1,2-Dichloroethene     | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| cis-1,3-Dichloropropene    | ND (0.0400)          |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Dibromochloromethane       | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Dibromomethane             | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Dichlorodifluoromethane    | ND (0.200)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Diethyl Ether              | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Di-isopropyl ether         | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Ethyl tertiary-butyl ether | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| <b>Ethylbenzene</b>        | <b>0.918</b> (0.100) |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Hexachlorobutadiene        | ND (0.0600)          |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Hexachloroethane           | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Isopropylbenzene           | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Methyl tert-Butyl Ether    | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Methylene Chloride         | ND (0.200)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| <b>Naphthalene</b>         | <b>8.96</b> (0.500)  |            | 8260B         |              | 500       | 10/29/14 18:29  | CXJ0403         | CJ42842      |
| n-Butylbenzene             | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| n-Propylbenzene            | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| sec-Butylbenzene           | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Styrene                    | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| tert-Butylbenzene          | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Tertiary-amyl methyl ether | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Tetrachloroethene          | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-310D  
Date Sampled: 10/23/14 10:24  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-19  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.500)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| <b>Toluene</b>            | <b>0.173</b> (0.100) |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| trans-1,2-Dichloroethene  | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| trans-1,3-Dichloropropene | ND (0.0400)          |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Trichloroethene           | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Trichlorofluoromethane    | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Vinyl Acetate             | ND (0.500)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| Vinyl Chloride            | ND (0.100)           |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| <b>Xylene O</b>           | <b>0.646</b> (0.100) |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| <b>Xylene P,M</b>         | <b>0.659</b> (0.200) |            | 8260B         |              | 100       | 10/28/14 18:25  | CXJ0403         | CJ42842      |
| <b>Xylenes (Total)</b>    | <b>1.30</b> (0.200)  |            | 8260B         |              | 100       | 10/28/14 18:25  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.100)           |            | 8260B         |              |           | 10/28/14 18:25  |                 | [CALC]       |

|                                  | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichloroethane-d4 | 119 %            |                  | 70-130        |
| Surrogate: 4-Bromofluorobenzene  | 102 %            |                  | 70-130        |
| Surrogate: Dibromofluoromethane  | 116 %            |                  | 70-130        |
| Surrogate: Toluene-d8            | 106 %            |                  | 70-130        |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-310D

Date Sampled: 10/23/14 10:24

Percent Solids: N/A

Initial Volume: 1070

Final Volume: 0.25

Extraction Method: 3510C

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-19

Sample Matrix: Ground Water

Units: mg/L

Analyst: IBM

Prepared: 10/27/14 14:36

All methods used are in accordance with 40 CFR 136.

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

| <u>Analyte</u>         | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 2-Methylnaphthalene    | 0.319 (0.0093)       |            | 8270C SIM     |              | 50        | 10/30/14 14:55  | CXJ0427         | CJ42711      |
| Acenaphthene           | 0.115 (0.0093)       |            | 8270C SIM     |              | 50        | 10/30/14 14:55  | CXJ0427         | CJ42711      |
| Acenaphthylene         | 0.0436 (0.0093)      |            | 8270C SIM     |              | 50        | 10/30/14 14:55  | CXJ0427         | CJ42711      |
| Anthracene             | ND (0.0093)          |            | 8270C SIM     |              | 50        | 10/30/14 14:55  | CXJ0427         | CJ42711      |
| Benzo(a)anthracene     | ND (0.0023)          |            | 8270C SIM     |              | 50        | 10/30/14 14:55  | CXJ0427         | CJ42711      |
| Benzo(a)pyrene         | ND (0.0023)          |            | 8270C SIM     |              | 50        | 10/30/14 14:55  | CXJ0427         | CJ42711      |
| Benzo(b)fluoranthene   | ND (0.0023)          |            | 8270C SIM     |              | 50        | 10/30/14 14:55  | CXJ0427         | CJ42711      |
| Benzo(g,h,i)perylene   | ND (0.0093)          |            | 8270C SIM     |              | 50        | 10/30/14 14:55  | CXJ0427         | CJ42711      |
| Benzo(k)fluoranthene   | ND (0.0023)          |            | 8270C SIM     |              | 50        | 10/30/14 14:55  | CXJ0427         | CJ42711      |
| Chrysene               | ND (0.0023)          |            | 8270C SIM     |              | 50        | 10/30/14 14:55  | CXJ0427         | CJ42711      |
| Dibenzo(a,h)Anthracene | ND (0.0023)          |            | 8270C SIM     |              | 50        | 10/30/14 14:55  | CXJ0427         | CJ42711      |
| Fluoranthene           | ND (0.0093)          |            | 8270C SIM     |              | 50        | 10/30/14 14:55  | CXJ0427         | CJ42711      |
| Fluorene               | 0.0354 (0.0093)      |            | 8270C SIM     |              | 50        | 10/30/14 14:55  | CXJ0427         | CJ42711      |
| Indeno(1,2,3-cd)Pyrene | ND (0.0023)          |            | 8270C SIM     |              | 50        | 10/30/14 14:55  | CXJ0427         | CJ42711      |
| Naphthalene            | 4.87 (0.0935)        |            | 8270C SIM     |              | 500       | 10/30/14 15:45  | CXJ0427         | CJ42711      |
| Phenanthrene           | 0.0205 (0.0093)      |            | 8270C SIM     |              | 50        | 10/30/14 14:55  | CXJ0427         | CJ42711      |
| Pyrene                 | ND (0.0093)          |            | 8270C SIM     |              | 50        | 10/30/14 14:55  | CXJ0427         | CJ42711      |

|                                   | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichlorobenzene-d4 | 59 %             |                  | 30-130        |
| Surrogate: 2-Fluorobiphenyl       | 80 %             |                  | 30-130        |
| Surrogate: Nitrobenzene-d5        | 66 %             |                  | 30-130        |
| Surrogate: p-Terphenyl-d14        | 73 %             |                  | 30-130        |





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-310D  
Date Sampled: 10/23/14 10:24  
Percent Solids: N/A

ESS Laboratory Work Order: 1410603  
ESS Laboratory Sample ID: 1410603-19  
Sample Matrix: Ground Water

All methods used are in accordance with 40 CFR 136.

**Classical Chemistry**

| <u>Analyte</u>     | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|--------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Dissolved Cyanide  | 0.136 (0.005)        |            | 9014          |              | 1         | EEM            | 10/29/14 12:10  | mg/L         | CJ42911      |
| Total Cyanide (LL) | 0.135 (0.00500)      |            | 9014          |              | 1         | JLK            | 10/28/14 10:20  | mg/L         | CJ42801      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: Trip Blank

Date Sampled: 10/22/14 00:00

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-20

Sample Matrix: Aqueous

Units: mg/L

Analyst: MD

**All methods used are in accordance with 40 CFR 136.**

**8260B Volatile Organic Compounds**

| <u>Analyte</u>              | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane   | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 1,1,1-Trichloroethane       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 1,1,2,2-Tetrachloroethane   | ND (0.0005)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 1,1,2-Trichloroethane       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethane          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 1,1-Dichloroethene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 1,1-Dichloropropene         | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 1,2,3-Trichlorobenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 1,2,3-Trichloropropane      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 1,2,4-Trichlorobenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 1,2,4-Trimethylbenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 1,2-Dibromo-3-Chloropropane | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 1,2-Dibromoethane           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 1,2-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 1,2-Dichloroethane          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 1,2-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 1,3,5-Trimethylbenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 1,3-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 1,3-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 1,4-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 1,4-Dioxane - Screen        | ND (0.500)           |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 1-Chlorohexane              | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 2,2-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 2-Butanone                  | ND (0.0100)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 2-Chlorotoluene             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 2-Hexanone                  | ND (0.0100)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 4-Chlorotoluene             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 4-Isopropyltoluene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| 4-Methyl-2-Pentanone        | ND (0.0250)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Acetone                     | ND (0.0100)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Benzene                     | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Bromobenzene                | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: Trip Blank

Date Sampled: 10/22/14 00:00

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-20

Sample Matrix: Aqueous

Units: mg/L

Analyst: MD

**All methods used are in accordance with 40 CFR 136.**

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Bromodichloromethane       | ND (0.0006)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Bromoform                  | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Bromomethane               | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Carbon Disulfide           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Carbon Tetrachloride       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Chlorobenzene              | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Chloroethane               | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Chloroform                 | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Chloromethane              | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| cis-1,2-Dichloroethene     | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| cis-1,3-Dichloropropene    | ND (0.0004)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Dibromochloromethane       | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Dibromomethane             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Dichlorodifluoromethane    | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Diethyl Ether              | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Di-isopropyl ether         | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Ethyl tertiary-butyl ether | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Ethylbenzene               | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Hexachlorobutadiene        | ND (0.0006)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Hexachloroethane           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Isopropylbenzene           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Methyl tert-Butyl Ether    | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Methylene Chloride         | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Naphthalene                | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| n-Butylbenzene             | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| n-Propylbenzene            | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| sec-Butylbenzene           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Styrene                    | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| tert-Butylbenzene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Tertiary-amyl methyl ether | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Tetrachloroethene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: Trip Blank

Date Sampled: 10/22/14 00:00

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410603

ESS Laboratory Sample ID: 1410603-20

Sample Matrix: Aqueous

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Toluene                   | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| trans-1,2-Dichloroethene  | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| trans-1,3-Dichloropropene | ND (0.0004)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Trichloroethene           | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Trichlorofluoromethane    | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Vinyl Acetate             | ND (0.0050)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Vinyl Chloride            | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Xylene O                  | ND (0.0010)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Xylene P,M                | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 15:25  | CXJ0362         | CJ42737      |
| Xylenes (Total)           | ND (0.0020)          |            | 8260B         |              | 1         | 10/24/14 15:25  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.0010)          |            | 8260B         |              |           | 10/24/14 15:25  |                 | [CALC]       |

|                                         | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | 122 %            |                  | 70-130        |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | 96 %             |                  | 70-130        |
| <i>Surrogate: Dibromofluoromethane</i>  | 122 %            |                  | 70-130        |
| <i>Surrogate: Toluene-d8</i>            | 102 %            |                  | 70-130        |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410603

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8100M Total Petroleum Hydrocarbons**

**Batch CJ42401 - 3510C**

**Blank**

|                              |    |       |      |  |  |  |  |  |  |  |
|------------------------------|----|-------|------|--|--|--|--|--|--|--|
| Decane (C10)                 | ND | 0.005 | mg/L |  |  |  |  |  |  |  |
| Docosane (C22)               | ND | 0.005 | mg/L |  |  |  |  |  |  |  |
| Dodecane (C12)               | ND | 0.005 | mg/L |  |  |  |  |  |  |  |
| Eicosane (C20)               | ND | 0.005 | mg/L |  |  |  |  |  |  |  |
| Hexacosane (C26)             | ND | 0.005 | mg/L |  |  |  |  |  |  |  |
| Hexadecane (C16)             | ND | 0.005 | mg/L |  |  |  |  |  |  |  |
| Nonadecane (C19)             | ND | 0.005 | mg/L |  |  |  |  |  |  |  |
| Nonane (C9)                  | ND | 0.005 | mg/L |  |  |  |  |  |  |  |
| Octacosane (C28)             | ND | 0.005 | mg/L |  |  |  |  |  |  |  |
| Octadecane (C18)             | ND | 0.005 | mg/L |  |  |  |  |  |  |  |
| Tetracosane (C24)            | ND | 0.005 | mg/L |  |  |  |  |  |  |  |
| Tetradecane (C14)            | ND | 0.005 | mg/L |  |  |  |  |  |  |  |
| Total Petroleum Hydrocarbons | ND | 0.20  | mg/L |  |  |  |  |  |  |  |
| Triacontane (C30)            | ND | 0.005 | mg/L |  |  |  |  |  |  |  |

|                        |        |  |      |        |  |    |        |
|------------------------|--------|--|------|--------|--|----|--------|
| Surrogate: O-Terphenyl | 0.0789 |  | mg/L | 0.1000 |  | 79 | 40-140 |
|------------------------|--------|--|------|--------|--|----|--------|

**LCS**

|                              |       |       |      |         |  |    |        |
|------------------------------|-------|-------|------|---------|--|----|--------|
| Decane (C10)                 | 0.032 | 0.005 | mg/L | 0.05000 |  | 64 | 40-140 |
| Docosane (C22)               | 0.040 | 0.005 | mg/L | 0.05000 |  | 80 | 40-140 |
| Dodecane (C12)               | 0.036 | 0.005 | mg/L | 0.05000 |  | 73 | 40-140 |
| Eicosane (C20)               | 0.040 | 0.005 | mg/L | 0.05000 |  | 79 | 40-140 |
| Hexacosane (C26)             | 0.040 | 0.005 | mg/L | 0.05000 |  | 80 | 40-140 |
| Hexadecane (C16)             | 0.037 | 0.005 | mg/L | 0.05000 |  | 75 | 40-140 |
| Nonadecane (C19)             | 0.038 | 0.005 | mg/L | 0.05000 |  | 75 | 40-140 |
| Nonane (C9)                  | 0.026 | 0.005 | mg/L | 0.05000 |  | 52 | 30-140 |
| Octacosane (C28)             | 0.039 | 0.005 | mg/L | 0.05000 |  | 78 | 40-140 |
| Octadecane (C18)             | 0.039 | 0.005 | mg/L | 0.05000 |  | 79 | 40-140 |
| Tetracosane (C24)            | 0.039 | 0.005 | mg/L | 0.05000 |  | 78 | 40-140 |
| Tetradecane (C14)            | 0.037 | 0.005 | mg/L | 0.05000 |  | 75 | 40-140 |
| Total Petroleum Hydrocarbons | 0.492 | 0.20  | mg/L | 0.7000  |  | 70 | 40-140 |
| Triacontane (C30)            | 0.039 | 0.005 | mg/L | 0.05000 |  | 78 | 40-140 |

|                        |        |  |      |        |  |    |        |
|------------------------|--------|--|------|--------|--|----|--------|
| Surrogate: O-Terphenyl | 0.0664 |  | mg/L | 0.1000 |  | 66 | 40-140 |
|------------------------|--------|--|------|--------|--|----|--------|

**LCS**

|                  |       |       |      |         |  |    |        |
|------------------|-------|-------|------|---------|--|----|--------|
| Decane (C10)     | 0.004 | 0.005 | mg/L | 0.01000 |  | 43 | 40-140 |
| Docosane (C22)   | 0.008 | 0.005 | mg/L | 0.01000 |  | 79 | 40-140 |
| Dodecane (C12)   | 0.004 | 0.005 | mg/L | 0.01000 |  | 44 | 40-140 |
| Eicosane (C20)   | 0.008 | 0.005 | mg/L | 0.01000 |  | 76 | 40-140 |
| Hexacosane (C26) | 0.008 | 0.005 | mg/L | 0.01000 |  | 80 | 40-140 |
| Hexadecane (C16) | 0.006 | 0.005 | mg/L | 0.01000 |  | 65 | 40-140 |
| Nonadecane (C19) | 0.008 | 0.005 | mg/L | 0.01000 |  | 77 | 40-140 |
| Nonane (C9)      | 0.004 | 0.005 | mg/L | 0.01000 |  | 35 | 30-140 |
| Octacosane (C28) | 0.008 | 0.005 | mg/L | 0.01000 |  | 78 | 40-140 |
| Octadecane (C18) | 0.007 | 0.005 | mg/L | 0.01000 |  | 75 | 40-140 |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410603

**Quality Control Data**

| Analyte                                   | Result        | MRL   | Units | Spike Level   | Source Result | %REC      | %REC Limits   | RPD | RPD Limit | Qualifier |
|-------------------------------------------|---------------|-------|-------|---------------|---------------|-----------|---------------|-----|-----------|-----------|
| <b>8100M Total Petroleum Hydrocarbons</b> |               |       |       |               |               |           |               |     |           |           |
| <b>Batch CJ42401 - 3510C</b>              |               |       |       |               |               |           |               |     |           |           |
| Tetracosane (C24)                         | 0.008         | 0.005 | mg/L  | 0.01000       |               | 78        | 40-140        |     |           |           |
| Tetradecane (C14)                         | 0.005         | 0.005 | mg/L  | 0.01000       |               | 55        | 40-140        |     |           |           |
| Total Petroleum Hydrocarbons              | 0.095         | 0.20  | mg/L  | 0.1400        |               | 68        | 40-140        |     |           |           |
| Triacontane (C30)                         | 0.008         | 0.005 | mg/L  | 0.01000       |               | 79        | 40-140        |     |           |           |
| <i>Surrogate: O-Terphenyl</i>             | <i>0.0637</i> |       | mg/L  | <i>0.1000</i> |               | <i>64</i> | <i>40-140</i> |     |           |           |
| <b>LCS Dup</b>                            |               |       |       |               |               |           |               |     |           |           |
| Decane (C10)                              | 0.032         | 0.005 | mg/L  | 0.05000       |               | 65        | 40-140        | 2   | 25        |           |
| Docosane (C22)                            | 0.045         | 0.005 | mg/L  | 0.05000       |               | 90        | 40-140        | 11  | 25        |           |
| Dodecane (C12)                            | 0.039         | 0.005 | mg/L  | 0.05000       |               | 77        | 40-140        | 6   | 25        |           |
| Eicosane (C20)                            | 0.044         | 0.005 | mg/L  | 0.05000       |               | 89        | 40-140        | 11  | 25        |           |
| Hexacosane (C26)                          | 0.045         | 0.005 | mg/L  | 0.05000       |               | 89        | 40-140        | 11  | 25        |           |
| Hexadecane (C16)                          | 0.041         | 0.005 | mg/L  | 0.05000       |               | 82        | 40-140        | 10  | 25        |           |
| Nonadecane (C19)                          | 0.042         | 0.005 | mg/L  | 0.05000       |               | 83        | 40-140        | 11  | 25        |           |
| Nonane (C9)                               | 0.026         | 0.005 | mg/L  | 0.05000       |               | 53        | 30-140        | 2   | 25        |           |
| Octacosane (C28)                          | 0.043         | 0.005 | mg/L  | 0.05000       |               | 87        | 40-140        | 11  | 25        |           |
| Octadecane (C18)                          | 0.043         | 0.005 | mg/L  | 0.05000       |               | 87        | 40-140        | 9   | 25        |           |
| Tetracosane (C24)                         | 0.043         | 0.005 | mg/L  | 0.05000       |               | 86        | 40-140        | 11  | 25        |           |
| Tetradecane (C14)                         | 0.040         | 0.005 | mg/L  | 0.05000       |               | 80        | 40-140        | 7   | 25        |           |
| Total Petroleum Hydrocarbons              | 0.539         | 0.20  | mg/L  | 0.7000        |               | 77        | 40-140        | 9   | 25        |           |
| Triacontane (C30)                         | 0.043         | 0.005 | mg/L  | 0.05000       |               | 87        | 40-140        | 11  | 25        |           |
| <i>Surrogate: O-Terphenyl</i>             | <i>0.0726</i> |       | mg/L  | <i>0.1000</i> |               | <i>73</i> | <i>40-140</i> |     |           |           |
| <b>Batch CJ42436 - 3510C</b>              |               |       |       |               |               |           |               |     |           |           |
| <b>Blank</b>                              |               |       |       |               |               |           |               |     |           |           |
| Decane (C10)                              | ND            | 0.005 | mg/L  |               |               |           |               |     |           |           |
| Docosane (C22)                            | ND            | 0.005 | mg/L  |               |               |           |               |     |           |           |
| Dodecane (C12)                            | ND            | 0.005 | mg/L  |               |               |           |               |     |           |           |
| Eicosane (C20)                            | ND            | 0.005 | mg/L  |               |               |           |               |     |           |           |
| Hexacosane (C26)                          | ND            | 0.005 | mg/L  |               |               |           |               |     |           |           |
| Hexadecane (C16)                          | ND            | 0.005 | mg/L  |               |               |           |               |     |           |           |
| Nonadecane (C19)                          | ND            | 0.005 | mg/L  |               |               |           |               |     |           |           |
| Nonane (C9)                               | ND            | 0.005 | mg/L  |               |               |           |               |     |           |           |
| Octacosane (C28)                          | ND            | 0.005 | mg/L  |               |               |           |               |     |           |           |
| Octadecane (C18)                          | ND            | 0.005 | mg/L  |               |               |           |               |     |           |           |
| Tetracosane (C24)                         | ND            | 0.005 | mg/L  |               |               |           |               |     |           |           |
| Tetradecane (C14)                         | ND            | 0.005 | mg/L  |               |               |           |               |     |           |           |
| Total Petroleum Hydrocarbons              | ND            | 0.20  | mg/L  |               |               |           |               |     |           |           |
| Triacontane (C30)                         | ND            | 0.005 | mg/L  |               |               |           |               |     |           |           |
| <i>Surrogate: O-Terphenyl</i>             | <i>0.0757</i> |       | mg/L  | <i>0.1000</i> |               | <i>76</i> | <i>40-140</i> |     |           |           |
| <b>LCS</b>                                |               |       |       |               |               |           |               |     |           |           |
| Decane (C10)                              | 0.035         | 0.005 | mg/L  | 0.05000       |               | 70        | 40-140        |     |           |           |
| Docosane (C22)                            | 0.045         | 0.005 | mg/L  | 0.05000       |               | 91        | 40-140        |     |           |           |
| Dodecane (C12)                            | 0.039         | 0.005 | mg/L  | 0.05000       |               | 78        | 40-140        |     |           |           |





*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410603

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8100M Total Petroleum Hydrocarbons**

**Batch CJ42436 - 3510C**

|                              |       |       |      |         |  |    |        |  |  |  |
|------------------------------|-------|-------|------|---------|--|----|--------|--|--|--|
| Eicosane (C20)               | 0.044 | 0.005 | mg/L | 0.05000 |  | 88 | 40-140 |  |  |  |
| Hexacosane (C26)             | 0.046 | 0.005 | mg/L | 0.05000 |  | 91 | 40-140 |  |  |  |
| Hexadecane (C16)             | 0.041 | 0.005 | mg/L | 0.05000 |  | 82 | 40-140 |  |  |  |
| Nonadecane (C19)             | 0.041 | 0.005 | mg/L | 0.05000 |  | 82 | 40-140 |  |  |  |
| Nonane (C9)                  | 0.029 | 0.005 | mg/L | 0.05000 |  | 59 | 30-140 |  |  |  |
| Octacosane (C28)             | 0.044 | 0.005 | mg/L | 0.05000 |  | 89 | 40-140 |  |  |  |
| Octadecane (C18)             | 0.043 | 0.005 | mg/L | 0.05000 |  | 86 | 40-140 |  |  |  |
| Tetracosane (C24)            | 0.046 | 0.005 | mg/L | 0.05000 |  | 92 | 40-140 |  |  |  |
| Tetradecane (C14)            | 0.041 | 0.005 | mg/L | 0.05000 |  | 81 | 40-140 |  |  |  |
| Total Petroleum Hydrocarbons | 0.571 | 0.20  | mg/L | 0.7000  |  | 82 | 40-140 |  |  |  |
| Triacontane (C30)            | 0.044 | 0.005 | mg/L | 0.05000 |  | 89 | 40-140 |  |  |  |

Surrogate: O-Terphenyl

0.0718

mg/L

0.1000

72

40-140

**LCS Dup**

|                              |       |       |      |         |  |    |        |    |    |    |
|------------------------------|-------|-------|------|---------|--|----|--------|----|----|----|
| Decane (C10)                 | 0.027 | 0.005 | mg/L | 0.05000 |  | 54 | 40-140 | 26 | 25 | D+ |
| Docosane (C22)               | 0.038 | 0.005 | mg/L | 0.05000 |  | 75 | 40-140 | 18 | 25 |    |
| Dodecane (C12)               | 0.032 | 0.005 | mg/L | 0.05000 |  | 63 | 40-140 | 21 | 25 |    |
| Eicosane (C20)               | 0.037 | 0.005 | mg/L | 0.05000 |  | 74 | 40-140 | 16 | 25 |    |
| Hexacosane (C26)             | 0.037 | 0.005 | mg/L | 0.05000 |  | 75 | 40-140 | 20 | 25 |    |
| Hexadecane (C16)             | 0.034 | 0.005 | mg/L | 0.05000 |  | 68 | 40-140 | 19 | 25 |    |
| Nonadecane (C19)             | 0.034 | 0.005 | mg/L | 0.05000 |  | 68 | 40-140 | 19 | 25 |    |
| Nonane (C9)                  | 0.023 | 0.005 | mg/L | 0.05000 |  | 45 | 30-140 | 26 | 25 | D+ |
| Octacosane (C28)             | 0.037 | 0.005 | mg/L | 0.05000 |  | 73 | 40-140 | 19 | 25 |    |
| Octadecane (C18)             | 0.035 | 0.005 | mg/L | 0.05000 |  | 71 | 40-140 | 19 | 25 |    |
| Tetracosane (C24)            | 0.036 | 0.005 | mg/L | 0.05000 |  | 73 | 40-140 | 23 | 25 |    |
| Tetradecane (C14)            | 0.032 | 0.005 | mg/L | 0.05000 |  | 63 | 40-140 | 25 | 25 |    |
| Total Petroleum Hydrocarbons | 0.453 | 0.20  | mg/L | 0.7000  |  | 65 | 40-140 | 23 | 25 |    |
| Triacontane (C30)            | 0.037 | 0.005 | mg/L | 0.05000 |  | 74 | 40-140 | 19 | 25 |    |

Surrogate: O-Terphenyl

0.0580

mg/L

0.1000

58

40-140

**8260B Volatile Organic Compounds**

**Batch CJ42737 - 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 |  |  |  |  |  |  |  |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410603

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ42737 - 5030B**

|                             |    |        |      |
|-----------------------------|----|--------|------|
| 1,2-Dibromo-3-Chloropropane | ND | 0.0050 | mg/L |
| 1,2-Dibromoethane           | ND | 0.0010 | mg/L |
| 1,2-Dichlorobenzene         | ND | 0.0010 | mg/L |
| 1,2-Dichloroethane          | ND | 0.0010 | mg/L |
| 1,2-Dichloropropane         | ND | 0.0010 | mg/L |
| 1,3,5-Trimethylbenzene      | ND | 0.0010 | mg/L |
| 1,3-Dichlorobenzene         | ND | 0.0010 | mg/L |
| 1,3-Dichloropropane         | ND | 0.0010 | mg/L |
| 1,4-Dichlorobenzene         | ND | 0.0010 | mg/L |
| 1,4-Dioxane - Screen        | ND | 0.500  | mg/L |
| 1-Chlorohexane              | ND | 0.0010 | mg/L |
| 2,2-Dichloropropane         | ND | 0.0010 | mg/L |
| 2-Butanone                  | ND | 0.0100 | mg/L |
| 2-Chlorotoluene             | ND | 0.0010 | mg/L |
| 2-Hexanone                  | ND | 0.0100 | mg/L |
| 4-Chlorotoluene             | ND | 0.0010 | mg/L |
| 4-Isopropyltoluene          | ND | 0.0010 | mg/L |
| 4-Methyl-2-Pentanone        | ND | 0.0250 | mg/L |
| Acetone                     | ND | 0.0100 | mg/L |
| Benzene                     | ND | 0.0010 | mg/L |
| Bromobenzene                | ND | 0.0020 | mg/L |
| Bromochloromethane          | ND | 0.0010 | mg/L |
| Bromodichloromethane        | ND | 0.0006 | mg/L |
| Bromoform                   | ND | 0.0010 | mg/L |
| Bromomethane                | ND | 0.0020 | mg/L |
| Carbon Disulfide            | ND | 0.0010 | mg/L |
| Carbon Tetrachloride        | ND | 0.0010 | mg/L |
| Chlorobenzene               | ND | 0.0010 | mg/L |
| Chloroethane                | ND | 0.0020 | mg/L |
| Chloroform                  | ND | 0.0010 | mg/L |
| Chloromethane               | ND | 0.0020 | mg/L |
| cis-1,2-Dichloroethene      | ND | 0.0010 | mg/L |
| cis-1,3-Dichloropropene     | ND | 0.0004 | mg/L |
| Dibromochloromethane        | ND | 0.0010 | mg/L |
| Dibromomethane              | ND | 0.0010 | mg/L |
| Dichlorodifluoromethane     | ND | 0.0020 | mg/L |
| Diethyl Ether               | ND | 0.0010 | mg/L |
| Di-isopropyl ether          | ND | 0.0010 | mg/L |
| Ethyl tertiary-butyl ether  | ND | 0.0010 | mg/L |
| 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 |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410603

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ42737 - 5030B**

|                                  |        |        |      |         |  |     |        |  |  |  |
|----------------------------------|--------|--------|------|---------|--|-----|--------|--|--|--|
| 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 | 0.0323 |        | mg/L | 0.02500 |  | 129 | 70-130 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0235 |        | mg/L | 0.02500 |  | 94  | 70-130 |  |  |  |
| Surrogate: Dibromofluoromethane  | 0.0306 |        | mg/L | 0.02500 |  | 122 | 70-130 |  |  |  |
| Surrogate: Toluene-d8            | 0.0251 |        | mg/L | 0.02500 |  | 100 | 70-130 |  |  |  |

**LCS**

|                             |      |  |      |       |  |     |        |  |  |  |
|-----------------------------|------|--|------|-------|--|-----|--------|--|--|--|
| 1,1,1,2-Tetrachloroethane   | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 |  |  |  |
| 1,1,1-Trichloroethane       | 12.6 |  | ug/L | 10.00 |  | 126 | 70-130 |  |  |  |
| 1,1,2,2-Tetrachloroethane   | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 |  |  |  |
| 1,1,2-Trichloroethane       | 11.0 |  | ug/L | 10.00 |  | 110 | 70-130 |  |  |  |
| 1,1-Dichloroethane          | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 |  |  |  |
| 1,1-Dichloroethene          | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 |  |  |  |
| 1,1-Dichloropropene         | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 |  |  |  |
| 1,2,3-Trichlorobenzene      | 9.18 |  | ug/L | 10.00 |  | 92  | 70-130 |  |  |  |
| 1,2,3-Trichloropropane      | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 |  |  |  |
| 1,2,4-Trichlorobenzene      | 8.86 |  | ug/L | 10.00 |  | 89  | 70-130 |  |  |  |
| 1,2,4-Trimethylbenzene      | 9.89 |  | ug/L | 10.00 |  | 99  | 70-130 |  |  |  |
| 1,2-Dibromo-3-Chloropropane | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 |  |  |  |
| 1,2-Dibromoethane           | 9.72 |  | ug/L | 10.00 |  | 97  | 70-130 |  |  |  |
| 1,2-Dichlorobenzene         | 9.74 |  | ug/L | 10.00 |  | 97  | 70-130 |  |  |  |
| 1,2-Dichloroethane          | 11.3 |  | ug/L | 10.00 |  | 113 | 70-130 |  |  |  |
| 1,2-Dichloropropane         | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 |  |  |  |
| 1,3,5-Trimethylbenzene      | 10.5 |  | ug/L | 10.00 |  | 105 | 70-130 |  |  |  |
| 1,3-Dichlorobenzene         | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 |  |  |  |
| 1,3-Dichloropropane         | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 |  |  |  |
| 1,4-Dichlorobenzene         | 9.80 |  | ug/L | 10.00 |  | 98  | 70-130 |  |  |  |
| 1,4-Dioxane - Screen        | 231  |  | ug/L | 200.0 |  | 115 | 0-332  |  |  |  |
| 1-Chlorohexane              | 9.22 |  | ug/L | 10.00 |  | 92  | 70-130 |  |  |  |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410603

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ42737 - 5030B**

|                            |      |  |      |       |  |     |        |  |  |    |
|----------------------------|------|--|------|-------|--|-----|--------|--|--|----|
| 2,2-Dichloropropane        | 14.0 |  | ug/L | 10.00 |  | 140 | 70-130 |  |  | B+ |
| 2-Butanone                 | 56.1 |  | ug/L | 50.00 |  | 112 | 70-130 |  |  |    |
| 2-Chlorotoluene            | 9.64 |  | ug/L | 10.00 |  | 96  | 70-130 |  |  |    |
| 2-Hexanone                 | 53.6 |  | ug/L | 50.00 |  | 107 | 70-130 |  |  |    |
| 4-Chlorotoluene            | 9.81 |  | ug/L | 10.00 |  | 98  | 70-130 |  |  |    |
| 4-Isopropyltoluene         | 9.80 |  | ug/L | 10.00 |  | 98  | 70-130 |  |  |    |
| 4-Methyl-2-Pentanone       | 55.7 |  | ug/L | 50.00 |  | 111 | 70-130 |  |  |    |
| Acetone                    | 67.0 |  | ug/L | 50.00 |  | 134 | 70-130 |  |  | B+ |
| Benzene                    | 10.9 |  | ug/L | 10.00 |  | 109 | 70-130 |  |  |    |
| Bromobenzene               | 10.1 |  | ug/L | 10.00 |  | 101 | 70-130 |  |  |    |
| Bromochloromethane         | 11.4 |  | ug/L | 10.00 |  | 114 | 70-130 |  |  |    |
| Bromodichloromethane       | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 |  |  |    |
| Bromoform                  | 10.5 |  | ug/L | 10.00 |  | 105 | 70-130 |  |  |    |
| Bromomethane               | 8.62 |  | ug/L | 10.00 |  | 86  | 70-130 |  |  |    |
| Carbon Disulfide           | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 |  |  |    |
| Carbon Tetrachloride       | 11.8 |  | ug/L | 10.00 |  | 118 | 70-130 |  |  |    |
| Chlorobenzene              | 10.0 |  | ug/L | 10.00 |  | 100 | 70-130 |  |  |    |
| Chloroethane               | 8.83 |  | ug/L | 10.00 |  | 88  | 70-130 |  |  |    |
| Chloroform                 | 10.9 |  | ug/L | 10.00 |  | 109 | 70-130 |  |  |    |
| Chloromethane              | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 |  |  |    |
| cis-1,2-Dichloroethene     | 11.0 |  | ug/L | 10.00 |  | 110 | 70-130 |  |  |    |
| cis-1,3-Dichloropropene    | 9.86 |  | ug/L | 10.00 |  | 99  | 70-130 |  |  |    |
| Dibromochloromethane       | 9.98 |  | ug/L | 10.00 |  | 100 | 70-130 |  |  |    |
| Dibromomethane             | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 |  |  |    |
| Dichlorodifluoromethane    | 11.3 |  | ug/L | 10.00 |  | 113 | 70-130 |  |  |    |
| Diethyl Ether              | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 |  |  |    |
| Di-isopropyl ether         | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 |  |  |    |
| Ethyl tertiary-butyl ether | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 |  |  |    |
| Ethylbenzene               | 10.3 |  | ug/L | 10.00 |  | 103 | 70-130 |  |  |    |
| Hexachlorobutadiene        | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 |  |  |    |
| Hexachloroethane           | 12.7 |  | ug/L | 10.00 |  | 127 | 70-130 |  |  |    |
| Isopropylbenzene           | 9.45 |  | ug/L | 10.00 |  | 94  | 70-130 |  |  |    |
| Methyl tert-Butyl Ether    | 11.2 |  | ug/L | 10.00 |  | 112 | 70-130 |  |  |    |
| Methylene Chloride         | 11.4 |  | ug/L | 10.00 |  | 114 | 70-130 |  |  |    |
| Naphthalene                | 9.06 |  | ug/L | 10.00 |  | 91  | 70-130 |  |  |    |
| n-Butylbenzene             | 9.16 |  | ug/L | 10.00 |  | 92  | 70-130 |  |  |    |
| n-Propylbenzene            | 9.45 |  | ug/L | 10.00 |  | 94  | 70-130 |  |  |    |
| sec-Butylbenzene           | 9.91 |  | ug/L | 10.00 |  | 99  | 70-130 |  |  |    |
| Styrene                    | 8.64 |  | ug/L | 10.00 |  | 86  | 70-130 |  |  |    |
| tert-Butylbenzene          | 9.70 |  | ug/L | 10.00 |  | 97  | 70-130 |  |  |    |
| Tertiary-amyl methyl ether | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 |  |  |    |
| Tetrachloroethene          | 9.64 |  | ug/L | 10.00 |  | 96  | 70-130 |  |  |    |
| Tetrahydrofuran            | 11.5 |  | ug/L | 10.00 |  | 115 | 70-130 |  |  |    |
| Toluene                    | 11.4 |  | ug/L | 10.00 |  | 114 | 70-130 |  |  |    |
| trans-1,2-Dichloroethene   | 10.5 |  | ug/L | 10.00 |  | 105 | 70-130 |  |  |    |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410603

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ42737 - 5030B**

|                                  |        |  |      |         |  |     |        |  |  |    |
|----------------------------------|--------|--|------|---------|--|-----|--------|--|--|----|
| trans-1,3-Dichloropropene        | 9.99   |  | ug/L | 10.00   |  | 100 | 70-130 |  |  |    |
| Trichloroethene                  | 10.6   |  | ug/L | 10.00   |  | 106 | 70-130 |  |  |    |
| Trichlorofluoromethane           | 10.6   |  | ug/L | 10.00   |  | 106 | 70-130 |  |  |    |
| Vinyl Acetate                    | 11.7   |  | ug/L | 10.00   |  | 117 | 70-130 |  |  |    |
| Vinyl Chloride                   | 11.5   |  | ug/L | 10.00   |  | 115 | 70-130 |  |  |    |
| Xylene O                         | 10.6   |  | ug/L | 10.00   |  | 106 | 70-130 |  |  |    |
| Xylene P,M                       | 20.9   |  | ug/L | 20.00   |  | 104 | 70-130 |  |  |    |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0205 |  | mg/L | 0.02500 |  | 82  | 70-130 |  |  |    |
| Surrogate: 4-Bromofluorobenzene  | 0.0172 |  | mg/L | 0.02500 |  | 69  | 70-130 |  |  | S- |
| Surrogate: Dibromofluoromethane  | 0.0206 |  | mg/L | 0.02500 |  | 83  | 70-130 |  |  |    |
| Surrogate: Toluene-d8            | 0.0172 |  | mg/L | 0.02500 |  | 69  | 70-130 |  |  | S- |

**LCS Dup**

|                             |      |  |      |       |  |     |        |     |     |  |
|-----------------------------|------|--|------|-------|--|-----|--------|-----|-----|--|
| 1,1,1,2-Tetrachloroethane   | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 | 0.6 | 25  |  |
| 1,1,1-Trichloroethane       | 12.5 |  | ug/L | 10.00 |  | 125 | 70-130 | 0.3 | 25  |  |
| 1,1,2,2-Tetrachloroethane   | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 | 2   | 25  |  |
| 1,1,2-Trichloroethane       | 11.2 |  | ug/L | 10.00 |  | 112 | 70-130 | 2   | 25  |  |
| 1,1-Dichloroethane          | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 | 2   | 25  |  |
| 1,1-Dichloroethene          | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 | 0.4 | 25  |  |
| 1,1-Dichloropropene         | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 | 1   | 25  |  |
| 1,2,3-Trichlorobenzene      | 10.1 |  | ug/L | 10.00 |  | 101 | 70-130 | 9   | 25  |  |
| 1,2,3-Trichloropropane      | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 | 2   | 25  |  |
| 1,2,4-Trichlorobenzene      | 9.67 |  | ug/L | 10.00 |  | 97  | 70-130 | 9   | 25  |  |
| 1,2,4-Trimethylbenzene      | 10.5 |  | ug/L | 10.00 |  | 105 | 70-130 | 6   | 25  |  |
| 1,2-Dibromo-3-Chloropropane | 10.9 |  | ug/L | 10.00 |  | 109 | 70-130 | 1   | 25  |  |
| 1,2-Dibromoethane           | 9.77 |  | ug/L | 10.00 |  | 98  | 70-130 | 0.5 | 25  |  |
| 1,2-Dichlorobenzene         | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 | 4   | 25  |  |
| 1,2-Dichloroethane          | 11.3 |  | ug/L | 10.00 |  | 113 | 70-130 | 0.3 | 25  |  |
| 1,2-Dichloropropane         | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 | 1   | 25  |  |
| 1,3,5-Trimethylbenzene      | 11.0 |  | ug/L | 10.00 |  | 110 | 70-130 | 4   | 25  |  |
| 1,3-Dichlorobenzene         | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 | 1   | 25  |  |
| 1,3-Dichloropropane         | 10.9 |  | ug/L | 10.00 |  | 109 | 70-130 | 1   | 25  |  |
| 1,4-Dichlorobenzene         | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 | 6   | 25  |  |
| 1,4-Dioxane - Screen        | 229  |  | ug/L | 200.0 |  | 114 | 0-332  | 0.8 | 200 |  |
| 1-Chlorohexane              | 9.29 |  | ug/L | 10.00 |  | 93  | 70-130 | 0.8 | 25  |  |
| 2,2-Dichloropropane         | 14.2 |  | ug/L | 10.00 |  | 142 | 70-130 | 2   | 25  |  |
| 2-Butanone                  | 53.9 |  | ug/L | 50.00 |  | 108 | 70-130 | 4   | 25  |  |
| 2-Chlorotoluene             | 9.95 |  | ug/L | 10.00 |  | 100 | 70-130 | 3   | 25  |  |
| 2-Hexanone                  | 54.9 |  | ug/L | 50.00 |  | 110 | 70-130 | 2   | 25  |  |
| 4-Chlorotoluene             | 10.3 |  | ug/L | 10.00 |  | 103 | 70-130 | 4   | 25  |  |
| 4-Isopropyltoluene          | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 | 8   | 25  |  |
| 4-Methyl-2-Pentanone        | 54.7 |  | ug/L | 50.00 |  | 109 | 70-130 | 2   | 25  |  |
| Acetone                     | 57.5 |  | ug/L | 50.00 |  | 115 | 70-130 | 15  | 25  |  |
| Benzene                     | 11.0 |  | ug/L | 10.00 |  | 110 | 70-130 | 1   | 25  |  |
| Bromobenzene                | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 | 3   | 25  |  |
| Bromochloromethane          | 11.6 |  | ug/L | 10.00 |  | 116 | 70-130 | 2   | 25  |  |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410603

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ42737 - 5030B**

|                                  |        |  |      |         |  |     |        |      |    |    |
|----------------------------------|--------|--|------|---------|--|-----|--------|------|----|----|
| Bromodichloromethane             | 10.5   |  | ug/L | 10.00   |  | 105 | 70-130 | 0.5  | 25 |    |
| Bromoform                        | 10.5   |  | ug/L | 10.00   |  | 105 | 70-130 | 0.6  | 25 |    |
| Bromomethane                     | 8.87   |  | ug/L | 10.00   |  | 89  | 70-130 | 3    | 25 |    |
| Carbon Disulfide                 | 10.6   |  | ug/L | 10.00   |  | 106 | 70-130 | 2    | 25 |    |
| Carbon Tetrachloride             | 12.0   |  | ug/L | 10.00   |  | 120 | 70-130 | 0.9  | 25 |    |
| Chlorobenzene                    | 10.4   |  | ug/L | 10.00   |  | 104 | 70-130 | 3    | 25 |    |
| Chloroethane                     | 7.80   |  | ug/L | 10.00   |  | 78  | 70-130 | 12   | 25 |    |
| Chloroform                       | 10.9   |  | ug/L | 10.00   |  | 109 | 70-130 | 0.09 | 25 |    |
| Chloromethane                    | 10.6   |  | ug/L | 10.00   |  | 106 | 70-130 | 0.4  | 25 |    |
| cis-1,2-Dichloroethene           | 11.1   |  | ug/L | 10.00   |  | 111 | 70-130 | 1    | 25 |    |
| cis-1,3-Dichloropropene          | 10.0   |  | ug/L | 10.00   |  | 100 | 70-130 | 1    | 25 |    |
| Dibromochloromethane             | 10.0   |  | ug/L | 10.00   |  | 100 | 70-130 | 0.6  | 25 |    |
| Dibromomethane                   | 10.8   |  | ug/L | 10.00   |  | 108 | 70-130 | 0.5  | 25 |    |
| Dichlorodifluoromethane          | 11.1   |  | ug/L | 10.00   |  | 111 | 70-130 | 2    | 25 |    |
| Diethyl Ether                    | 11.0   |  | ug/L | 10.00   |  | 110 | 70-130 | 2    | 25 |    |
| Di-isopropyl ether               | 10.4   |  | ug/L | 10.00   |  | 104 | 70-130 | 2    | 25 |    |
| Ethyl tertiary-butyl ether       | 10.6   |  | ug/L | 10.00   |  | 106 | 70-130 | 0.5  | 25 |    |
| Ethylbenzene                     | 10.6   |  | ug/L | 10.00   |  | 106 | 70-130 | 2    | 25 |    |
| Hexachlorobutadiene              | 11.0   |  | ug/L | 10.00   |  | 110 | 70-130 | 5    | 25 |    |
| Hexachloroethane                 | 13.1   |  | ug/L | 10.00   |  | 131 | 70-130 | 3    | 25 | B+ |
| Isopropylbenzene                 | 9.82   |  | ug/L | 10.00   |  | 98  | 70-130 | 4    | 25 |    |
| Methyl tert-Butyl Ether          | 11.2   |  | ug/L | 10.00   |  | 112 | 70-130 | 0.09 | 25 |    |
| Methylene Chloride               | 11.4   |  | ug/L | 10.00   |  | 114 | 70-130 | 0.9  | 25 |    |
| Naphthalene                      | 9.96   |  | ug/L | 10.00   |  | 100 | 70-130 | 9    | 25 |    |
| n-Butylbenzene                   | 10.6   |  | ug/L | 10.00   |  | 106 | 70-130 | 14   | 25 |    |
| n-Propylbenzene                  | 9.91   |  | ug/L | 10.00   |  | 99  | 70-130 | 5    | 25 |    |
| sec-Butylbenzene                 | 10.4   |  | ug/L | 10.00   |  | 104 | 70-130 | 5    | 25 |    |
| Styrene                          | 8.86   |  | ug/L | 10.00   |  | 89  | 70-130 | 3    | 25 |    |
| tert-Butylbenzene                | 10.0   |  | ug/L | 10.00   |  | 100 | 70-130 | 4    | 25 |    |
| Tertiary-amyl methyl ether       | 10.6   |  | ug/L | 10.00   |  | 106 | 70-130 | 0.7  | 25 |    |
| Tetrachloroethene                | 9.93   |  | ug/L | 10.00   |  | 99  | 70-130 | 3    | 25 |    |
| Tetrahydrofuran                  | 11.8   |  | ug/L | 10.00   |  | 118 | 70-130 | 2    | 25 |    |
| Toluene                          | 11.6   |  | ug/L | 10.00   |  | 116 | 70-130 | 1    | 25 |    |
| trans-1,2-Dichloroethene         | 10.7   |  | ug/L | 10.00   |  | 107 | 70-130 | 1    | 25 |    |
| trans-1,3-Dichloropropene        | 10.2   |  | ug/L | 10.00   |  | 102 | 70-130 | 2    | 25 |    |
| Trichloroethene                  | 10.8   |  | ug/L | 10.00   |  | 108 | 70-130 | 2    | 25 |    |
| Trichlorofluoromethane           | 10.8   |  | ug/L | 10.00   |  | 108 | 70-130 | 1    | 25 |    |
| Vinyl Acetate                    | 11.7   |  | ug/L | 10.00   |  | 117 | 70-130 | 0    | 25 |    |
| Vinyl Chloride                   | 11.7   |  | ug/L | 10.00   |  | 117 | 70-130 | 1    | 25 |    |
| Xylene O                         | 10.7   |  | ug/L | 10.00   |  | 107 | 70-130 | 2    | 25 |    |
| Xylene P,M                       | 21.4   |  | ug/L | 20.00   |  | 107 | 70-130 | 2    | 25 |    |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0253 |  | mg/L | 0.02500 |  | 101 | 70-130 |      |    |    |
| Surrogate: 4-Bromofluorobenzene  | 0.0209 |  | mg/L | 0.02500 |  | 84  | 70-130 |      |    |    |
| Surrogate: Dibromofluoromethane  | 0.0252 |  | mg/L | 0.02500 |  | 101 | 70-130 |      |    |    |
| Surrogate: Toluene-d8            | 0.0217 |  | mg/L | 0.02500 |  | 87  | 70-130 |      |    |    |





*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410603

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ42810 - 5030B**

**Blank**

|                             |    |        |      |
|-----------------------------|----|--------|------|
| 1,1,1,2-Tetrachloroethane   | ND | 0.0010 | mg/L |
| 1,1,1-Trichloroethane       | ND | 0.0010 | mg/L |
| 1,1,2,2-Tetrachloroethane   | ND | 0.0005 | mg/L |
| 1,1,2-Trichloroethane       | ND | 0.0010 | mg/L |
| 1,1-Dichloroethane          | ND | 0.0010 | mg/L |
| 1,1-Dichloroethene          | ND | 0.0010 | mg/L |
| 1,1-Dichloropropene         | ND | 0.0020 | mg/L |
| 1,2,3-Trichlorobenzene      | ND | 0.0010 | mg/L |
| 1,2,3-Trichloropropane      | ND | 0.0010 | mg/L |
| 1,2,4-Trichlorobenzene      | ND | 0.0010 | mg/L |
| 1,2,4-Trimethylbenzene      | ND | 0.0010 | mg/L |
| 1,2-Dibromo-3-Chloropropane | ND | 0.0050 | mg/L |
| 1,2-Dibromoethane           | ND | 0.0010 | mg/L |
| 1,2-Dichlorobenzene         | ND | 0.0010 | mg/L |
| 1,2-Dichloroethane          | ND | 0.0010 | mg/L |
| 1,2-Dichloropropane         | ND | 0.0010 | mg/L |
| 1,3,5-Trimethylbenzene      | ND | 0.0010 | mg/L |
| 1,3-Dichlorobenzene         | ND | 0.0010 | mg/L |
| 1,3-Dichloropropane         | ND | 0.0010 | mg/L |
| 1,4-Dichlorobenzene         | ND | 0.0010 | mg/L |
| 1,4-Dioxane - Screen        | ND | 0.500  | mg/L |
| 1-Chlorohexane              | ND | 0.0010 | mg/L |
| 2,2-Dichloropropane         | ND | 0.0010 | mg/L |
| 2-Butanone                  | ND | 0.0100 | mg/L |
| 2-Chlorotoluene             | ND | 0.0010 | mg/L |
| 2-Hexanone                  | ND | 0.0100 | mg/L |
| 4-Chlorotoluene             | ND | 0.0010 | mg/L |
| 4-Isopropyltoluene          | ND | 0.0010 | mg/L |
| 4-Methyl-2-Pentanone        | ND | 0.0250 | mg/L |
| Acetone                     | ND | 0.0100 | mg/L |
| Benzene                     | ND | 0.0010 | mg/L |
| Bromobenzene                | ND | 0.0020 | mg/L |
| Bromochloromethane          | ND | 0.0010 | mg/L |
| Bromodichloromethane        | ND | 0.0006 | mg/L |
| Bromoform                   | ND | 0.0010 | mg/L |
| Bromomethane                | ND | 0.0020 | mg/L |
| Carbon Disulfide            | ND | 0.0010 | mg/L |
| Carbon Tetrachloride        | ND | 0.0010 | mg/L |
| Chlorobenzene               | ND | 0.0010 | mg/L |
| Chloroethane                | ND | 0.0020 | mg/L |
| Chloroform                  | ND | 0.0010 | mg/L |
| Chloromethane               | ND | 0.0020 | mg/L |
| cis-1,2-Dichloroethene      | ND | 0.0010 | mg/L |
| cis-1,3-Dichloropropene     | ND | 0.0004 | mg/L |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410603

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ42810 - 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 | 0.0303 |        | mg/L | 0.02500 |  | 121 | 70-130 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0237 |        | mg/L | 0.02500 |  | 95  | 70-130 |  |  |  |
| Surrogate: Dibromofluoromethane  | 0.0294 |        | mg/L | 0.02500 |  | 118 | 70-130 |  |  |  |
| Surrogate: Toluene-d8            | 0.0254 |        | mg/L | 0.02500 |  | 102 | 70-130 |  |  |  |

**LCS**

|                           |      |  |      |       |  |     |        |  |  |  |
|---------------------------|------|--|------|-------|--|-----|--------|--|--|--|
| 1,1,1,2-Tetrachloroethane | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 |  |  |  |
| 1,1,1-Trichloroethane     | 12.2 |  | ug/L | 10.00 |  | 122 | 70-130 |  |  |  |
| 1,1,2,2-Tetrachloroethane | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 |  |  |  |
| 1,1,2-Trichloroethane     | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 |  |  |  |
| 1,1-Dichloroethane        | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 |  |  |  |
| 1,1-Dichloroethene        | 10.5 |  | ug/L | 10.00 |  | 105 | 70-130 |  |  |  |
| 1,1-Dichloropropene       | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 |  |  |  |
| 1,2,3-Trichlorobenzene    | 10.1 |  | ug/L | 10.00 |  | 101 | 70-130 |  |  |  |
| 1,2,3-Trichloropropane    | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 |  |  |  |
| 1,2,4-Trichlorobenzene    | 9.73 |  | ug/L | 10.00 |  | 97  | 70-130 |  |  |  |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410603

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch C342810 - 5030B**

|                             |      |  |      |       |  |     |        |  |  |    |
|-----------------------------|------|--|------|-------|--|-----|--------|--|--|----|
| 1,2,4-Trimethylbenzene      | 10.5 |  | ug/L | 10.00 |  | 105 | 70-130 |  |  |    |
| 1,2-Dibromo-3-Chloropropane | 11.1 |  | ug/L | 10.00 |  | 111 | 70-130 |  |  |    |
| 1,2-Dibromoethane           | 9.97 |  | ug/L | 10.00 |  | 100 | 70-130 |  |  |    |
| 1,2-Dichlorobenzene         | 10.3 |  | ug/L | 10.00 |  | 103 | 70-130 |  |  |    |
| 1,2-Dichloroethane          | 11.1 |  | ug/L | 10.00 |  | 111 | 70-130 |  |  |    |
| 1,2-Dichloropropane         | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 |  |  |    |
| 1,3,5-Trimethylbenzene      | 11.1 |  | ug/L | 10.00 |  | 111 | 70-130 |  |  |    |
| 1,3-Dichlorobenzene         | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 |  |  |    |
| 1,3-Dichloropropane         | 11.0 |  | ug/L | 10.00 |  | 110 | 70-130 |  |  |    |
| 1,4-Dichlorobenzene         | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 |  |  |    |
| 1,4-Dioxane - Screen        | 223  |  | ug/L | 200.0 |  | 111 | 0-332  |  |  |    |
| 1-Chlorohexane              | 9.50 |  | ug/L | 10.00 |  | 95  | 70-130 |  |  |    |
| 2,2-Dichloropropane         | 13.8 |  | ug/L | 10.00 |  | 138 | 70-130 |  |  | B+ |
| 2-Butanone                  | 51.4 |  | ug/L | 50.00 |  | 103 | 70-130 |  |  |    |
| 2-Chlorotoluene             | 9.95 |  | ug/L | 10.00 |  | 100 | 70-130 |  |  |    |
| 2-Hexanone                  | 53.1 |  | ug/L | 50.00 |  | 106 | 70-130 |  |  |    |
| 4-Chlorotoluene             | 9.98 |  | ug/L | 10.00 |  | 100 | 70-130 |  |  |    |
| 4-Isopropyltoluene          | 10.5 |  | ug/L | 10.00 |  | 105 | 70-130 |  |  |    |
| 4-Methyl-2-Pentanone        | 52.3 |  | ug/L | 50.00 |  | 105 | 70-130 |  |  |    |
| Acetone                     | 54.0 |  | ug/L | 50.00 |  | 108 | 70-130 |  |  |    |
| Benzene                     | 10.9 |  | ug/L | 10.00 |  | 109 | 70-130 |  |  |    |
| Bromobenzene                | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 |  |  |    |
| Bromochloromethane          | 11.2 |  | ug/L | 10.00 |  | 112 | 70-130 |  |  |    |
| Bromodichloromethane        | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 |  |  |    |
| Bromoform                   | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 |  |  |    |
| Bromomethane                | 10.1 |  | ug/L | 10.00 |  | 101 | 70-130 |  |  |    |
| Carbon Disulfide            | 10.1 |  | ug/L | 10.00 |  | 101 | 70-130 |  |  |    |
| Carbon Tetrachloride        | 11.6 |  | ug/L | 10.00 |  | 116 | 70-130 |  |  |    |
| Chlorobenzene               | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 |  |  |    |
| Chloroethane                | 7.75 |  | ug/L | 10.00 |  | 78  | 70-130 |  |  |    |
| Chloroform                  | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 |  |  |    |
| Chloromethane               | 10.9 |  | ug/L | 10.00 |  | 109 | 70-130 |  |  |    |
| cis-1,2-Dichloroethene      | 11.0 |  | ug/L | 10.00 |  | 110 | 70-130 |  |  |    |
| cis-1,3-Dichloropropene     | 9.72 |  | ug/L | 10.00 |  | 97  | 70-130 |  |  |    |
| Dibromochloromethane        | 10.1 |  | ug/L | 10.00 |  | 101 | 70-130 |  |  |    |
| Dibromomethane              | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 |  |  |    |
| Dichlorodifluoromethane     | 10.5 |  | ug/L | 10.00 |  | 105 | 70-130 |  |  |    |
| Diethyl Ether               | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 |  |  |    |
| Di-isopropyl ether          | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 |  |  |    |
| Ethyl tertiary-butyl ether  | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 |  |  |    |
| Ethylbenzene                | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 |  |  |    |
| Hexachlorobutadiene         | 11.0 |  | ug/L | 10.00 |  | 110 | 70-130 |  |  |    |
| Hexachloroethane            | 13.3 |  | ug/L | 10.00 |  | 133 | 70-130 |  |  | B+ |
| Isopropylbenzene            | 10.0 |  | ug/L | 10.00 |  | 100 | 70-130 |  |  |    |
| Methyl tert-Butyl Ether     | 11.1 |  | ug/L | 10.00 |  | 111 | 70-130 |  |  |    |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410603

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ42810 - 5030B**

|                                  |        |  |      |         |  |     |        |  |  |  |
|----------------------------------|--------|--|------|---------|--|-----|--------|--|--|--|
| Methylene Chloride               | 11.1   |  | ug/L | 10.00   |  | 111 | 70-130 |  |  |  |
| Naphthalene                      | 10.4   |  | ug/L | 10.00   |  | 104 | 70-130 |  |  |  |
| n-Butylbenzene                   | 9.95   |  | ug/L | 10.00   |  | 100 | 70-130 |  |  |  |
| n-Propylbenzene                  | 9.92   |  | ug/L | 10.00   |  | 99  | 70-130 |  |  |  |
| sec-Butylbenzene                 | 10.4   |  | ug/L | 10.00   |  | 104 | 70-130 |  |  |  |
| Styrene                          | 9.64   |  | ug/L | 10.00   |  | 96  | 70-130 |  |  |  |
| tert-Butylbenzene                | 10.2   |  | ug/L | 10.00   |  | 102 | 70-130 |  |  |  |
| Tertiary-amyl methyl ether       | 10.5   |  | ug/L | 10.00   |  | 105 | 70-130 |  |  |  |
| Tetrachloroethene                | 10.1   |  | ug/L | 10.00   |  | 101 | 70-130 |  |  |  |
| Tetrahydrofuran                  | 10.4   |  | ug/L | 10.00   |  | 104 | 70-130 |  |  |  |
| Toluene                          | 11.4   |  | ug/L | 10.00   |  | 114 | 70-130 |  |  |  |
| trans-1,2-Dichloroethene         | 10.5   |  | ug/L | 10.00   |  | 105 | 70-130 |  |  |  |
| trans-1,3-Dichloropropene        | 9.97   |  | ug/L | 10.00   |  | 100 | 70-130 |  |  |  |
| Trichloroethene                  | 10.8   |  | ug/L | 10.00   |  | 108 | 70-130 |  |  |  |
| Trichlorofluoromethane           | 10.4   |  | ug/L | 10.00   |  | 104 | 70-130 |  |  |  |
| Vinyl Acetate                    | 11.7   |  | ug/L | 10.00   |  | 117 | 70-130 |  |  |  |
| Vinyl Chloride                   | 11.5   |  | ug/L | 10.00   |  | 115 | 70-130 |  |  |  |
| Xylene O                         | 11.0   |  | ug/L | 10.00   |  | 110 | 70-130 |  |  |  |
| Xylene P,M                       | 21.9   |  | ug/L | 20.00   |  | 110 | 70-130 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0201 |  | mg/L | 0.02500 |  | 80  | 70-130 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0183 |  | mg/L | 0.02500 |  | 73  | 70-130 |  |  |  |
| Surrogate: Dibromofluoromethane  | 0.0205 |  | mg/L | 0.02500 |  | 82  | 70-130 |  |  |  |
| Surrogate: Toluene-d8            | 0.0190 |  | mg/L | 0.02500 |  | 76  | 70-130 |  |  |  |

**LCS Dup**

|                             |      |  |      |       |  |     |        |      |     |  |
|-----------------------------|------|--|------|-------|--|-----|--------|------|-----|--|
| 1,1,1,2-Tetrachloroethane   | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 | 1    | 25  |  |
| 1,1,1-Trichloroethane       | 12.4 |  | ug/L | 10.00 |  | 124 | 70-130 | 1    | 25  |  |
| 1,1,2,2-Tetrachloroethane   | 10.3 |  | ug/L | 10.00 |  | 103 | 70-130 | 1    | 25  |  |
| 1,1,2-Trichloroethane       | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 | 0.4  | 25  |  |
| 1,1-Dichloroethane          | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 | 0.09 | 25  |  |
| 1,1-Dichloroethene          | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 | 3    | 25  |  |
| 1,1-Dichloropropene         | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 | 0.6  | 25  |  |
| 1,2,3-Trichlorobenzene      | 10.0 |  | ug/L | 10.00 |  | 100 | 70-130 | 0.8  | 25  |  |
| 1,2,3-Trichloropropane      | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 | 4    | 25  |  |
| 1,2,4-Trichlorobenzene      | 9.78 |  | ug/L | 10.00 |  | 98  | 70-130 | 0.5  | 25  |  |
| 1,2,4-Trimethylbenzene      | 10.5 |  | ug/L | 10.00 |  | 105 | 70-130 | 0.4  | 25  |  |
| 1,2-Dibromo-3-Chloropropane | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 | 3    | 25  |  |
| 1,2-Dibromoethane           | 10.1 |  | ug/L | 10.00 |  | 101 | 70-130 | 1    | 25  |  |
| 1,2-Dichlorobenzene         | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 | 1    | 25  |  |
| 1,2-Dichloroethane          | 11.1 |  | ug/L | 10.00 |  | 111 | 70-130 | 0    | 25  |  |
| 1,2-Dichloropropane         | 10.3 |  | ug/L | 10.00 |  | 103 | 70-130 | 1    | 25  |  |
| 1,3,5-Trimethylbenzene      | 11.1 |  | ug/L | 10.00 |  | 111 | 70-130 | 0.2  | 25  |  |
| 1,3-Dichlorobenzene         | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 | 0.1  | 25  |  |
| 1,3-Dichloropropane         | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 | 1    | 25  |  |
| 1,4-Dichlorobenzene         | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 | 2    | 25  |  |
| 1,4-Dioxane - Screen        | 239  |  | ug/L | 200.0 |  | 120 | 0-332  | 7    | 200 |  |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410603

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ42810 - 5030B**

|                            |      |  |      |       |  |     |        |     |    |    |
|----------------------------|------|--|------|-------|--|-----|--------|-----|----|----|
| 1-Chlorohexane             | 9.39 |  | ug/L | 10.00 |  | 94  | 70-130 | 1   | 25 |    |
| 2,2-Dichloropropane        | 14.3 |  | ug/L | 10.00 |  | 143 | 70-130 | 4   | 25 | B+ |
| 2-Butanone                 | 60.6 |  | ug/L | 50.00 |  | 121 | 70-130 | 16  | 25 |    |
| 2-Chlorotoluene            | 9.91 |  | ug/L | 10.00 |  | 99  | 70-130 | 0.4 | 25 |    |
| 2-Hexanone                 | 60.4 |  | ug/L | 50.00 |  | 121 | 70-130 | 13  | 25 |    |
| 4-Chlorotoluene            | 10.3 |  | ug/L | 10.00 |  | 103 | 70-130 | 3   | 25 |    |
| 4-Isopropyltoluene         | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 | 0.3 | 25 |    |
| 4-Methyl-2-Pentanone       | 55.8 |  | ug/L | 50.00 |  | 112 | 70-130 | 6   | 25 |    |
| Acetone                    | 84.2 |  | ug/L | 50.00 |  | 168 | 70-130 | 44  | 25 | B+ |
| Benzene                    | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 | 1   | 25 |    |
| Bromobenzene               | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 | 0.7 | 25 |    |
| Bromochloromethane         | 11.3 |  | ug/L | 10.00 |  | 113 | 70-130 | 0.4 | 25 |    |
| Bromodichloromethane       | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 | 0.5 | 25 |    |
| Bromoform                  | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 | 0.7 | 25 |    |
| Bromomethane               | 9.92 |  | ug/L | 10.00 |  | 99  | 70-130 | 2   | 25 |    |
| Carbon Disulfide           | 10.1 |  | ug/L | 10.00 |  | 101 | 70-130 | 0.2 | 25 |    |
| Carbon Tetrachloride       | 11.8 |  | ug/L | 10.00 |  | 118 | 70-130 | 1   | 25 |    |
| Chlorobenzene              | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 | 3   | 25 |    |
| Chloroethane               | 7.27 |  | ug/L | 10.00 |  | 73  | 70-130 | 6   | 25 |    |
| Chloroform                 | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 | 0.8 | 25 |    |
| Chloromethane              | 10.5 |  | ug/L | 10.00 |  | 105 | 70-130 | 4   | 25 |    |
| cis-1,2-Dichloroethene     | 10.9 |  | ug/L | 10.00 |  | 109 | 70-130 | 0.9 | 25 |    |
| cis-1,3-Dichloropropene    | 9.88 |  | ug/L | 10.00 |  | 99  | 70-130 | 2   | 25 |    |
| Dibromochloromethane       | 10.1 |  | ug/L | 10.00 |  | 101 | 70-130 | 0.3 | 25 |    |
| Dibromomethane             | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 | 0.6 | 25 |    |
| Dichlorodifluoromethane    | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 | 0.8 | 25 |    |
| Diethyl Ether              | 10.9 |  | ug/L | 10.00 |  | 109 | 70-130 | 0.8 | 25 |    |
| Di-isopropyl ether         | 10.3 |  | ug/L | 10.00 |  | 103 | 70-130 | 1   | 25 |    |
| Ethyl tertiary-butyl ether | 11.0 |  | ug/L | 10.00 |  | 110 | 70-130 | 4   | 25 |    |
| Ethylbenzene               | 10.5 |  | ug/L | 10.00 |  | 105 | 70-130 | 2   | 25 |    |
| Hexachlorobutadiene        | 11.0 |  | ug/L | 10.00 |  | 110 | 70-130 | 0.2 | 25 |    |
| Hexachloroethane           | 13.3 |  | ug/L | 10.00 |  | 133 | 70-130 | 0.4 | 25 | B+ |
| Isopropylbenzene           | 9.88 |  | ug/L | 10.00 |  | 99  | 70-130 | 1   | 25 |    |
| Methyl tert-Butyl Ether    | 11.3 |  | ug/L | 10.00 |  | 113 | 70-130 | 2   | 25 |    |
| Methylene Chloride         | 11.0 |  | ug/L | 10.00 |  | 110 | 70-130 | 1   | 25 |    |
| Naphthalene                | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 | 1   | 25 |    |
| n-Butylbenzene             | 10.0 |  | ug/L | 10.00 |  | 100 | 70-130 | 0.8 | 25 |    |
| n-Propylbenzene            | 9.90 |  | ug/L | 10.00 |  | 99  | 70-130 | 0.2 | 25 |    |
| sec-Butylbenzene           | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 | 0   | 25 |    |
| Styrene                    | 9.43 |  | ug/L | 10.00 |  | 94  | 70-130 | 2   | 25 |    |
| tert-Butylbenzene          | 10.0 |  | ug/L | 10.00 |  | 100 | 70-130 | 1   | 25 |    |
| Tertiary-amyl methyl ether | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 | 2   | 25 |    |
| Tetrachloroethene          | 9.99 |  | ug/L | 10.00 |  | 100 | 70-130 | 1   | 25 |    |
| Tetrahydrofuran            | 11.1 |  | ug/L | 10.00 |  | 111 | 70-130 | 7   | 25 |    |
| Toluene                    | 11.4 |  | ug/L | 10.00 |  | 114 | 70-130 | 0.6 | 25 |    |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410603

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ42810 - 5030B**

|                                  |        |  |      |         |  |     |        |     |    |  |
|----------------------------------|--------|--|------|---------|--|-----|--------|-----|----|--|
| trans-1,2-Dichloroethene         | 10.7   |  | ug/L | 10.00   |  | 107 | 70-130 | 1   | 25 |  |
| trans-1,3-Dichloropropene        | 10.1   |  | ug/L | 10.00   |  | 101 | 70-130 | 0.9 | 25 |  |
| Trichloroethene                  | 10.7   |  | ug/L | 10.00   |  | 107 | 70-130 | 0.5 | 25 |  |
| Trichlorofluoromethane           | 10.4   |  | ug/L | 10.00   |  | 104 | 70-130 | 0.9 | 25 |  |
| Vinyl Acetate                    | 12.0   |  | ug/L | 10.00   |  | 120 | 70-130 | 2   | 25 |  |
| Vinyl Chloride                   | 11.5   |  | ug/L | 10.00   |  | 115 | 70-130 | 0.2 | 25 |  |
| Xylene O                         | 10.8   |  | ug/L | 10.00   |  | 108 | 70-130 | 2   | 25 |  |
| Xylene P,M                       | 21.5   |  | ug/L | 20.00   |  | 107 | 70-130 | 2   | 25 |  |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0241 |  | mg/L | 0.02500 |  | 96  | 70-130 |     |    |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0213 |  | mg/L | 0.02500 |  | 85  | 70-130 |     |    |  |
| Surrogate: Dibromofluoromethane  | 0.0246 |  | mg/L | 0.02500 |  | 98  | 70-130 |     |    |  |
| Surrogate: Toluene-d8            | 0.0221 |  | mg/L | 0.02500 |  | 88  | 70-130 |     |    |  |

**Batch CJ42842 - 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: Tidewater GH

ESS Laboratory Work Order: 1410603

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ42842 - 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 | 0.0295 |        | mg/L | 0.02500 |  | 118 | 70-130 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0244 |        | mg/L | 0.02500 |  | 98  | 70-130 |  |  |  |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410603

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ42842 - 5030B**

|                                 |        |  |      |         |  |     |        |  |  |  |
|---------------------------------|--------|--|------|---------|--|-----|--------|--|--|--|
| Surrogate: Dibromofluoromethane | 0.0289 |  | mg/L | 0.02500 |  | 115 | 70-130 |  |  |  |
| Surrogate: Toluene-d8           | 0.0256 |  | mg/L | 0.02500 |  | 102 | 70-130 |  |  |  |

|                             |      |  |      |       |  |     |        |  |  |    |
|-----------------------------|------|--|------|-------|--|-----|--------|--|--|----|
| <b>LCS</b>                  |      |  |      |       |  |     |        |  |  |    |
| 1,1,1,2-Tetrachloroethane   | 9.81 |  | ug/L | 10.00 |  | 98  | 70-130 |  |  |    |
| 1,1,1-Trichloroethane       | 11.0 |  | ug/L | 10.00 |  | 110 | 70-130 |  |  |    |
| 1,1,2,2-Tetrachloroethane   | 9.00 |  | ug/L | 10.00 |  | 90  | 70-130 |  |  |    |
| 1,1,2-Trichloroethane       | 9.70 |  | ug/L | 10.00 |  | 97  | 70-130 |  |  |    |
| 1,1-Dichloroethane          | 9.50 |  | ug/L | 10.00 |  | 95  | 70-130 |  |  |    |
| 1,1-Dichloroethene          | 9.79 |  | ug/L | 10.00 |  | 98  | 70-130 |  |  |    |
| 1,1-Dichloropropene         | 9.79 |  | ug/L | 10.00 |  | 98  | 70-130 |  |  |    |
| 1,2,3-Trichlorobenzene      | 9.18 |  | ug/L | 10.00 |  | 92  | 70-130 |  |  |    |
| 1,2,3-Trichloropropane      | 9.12 |  | ug/L | 10.00 |  | 91  | 70-130 |  |  |    |
| 1,2,4-Trichlorobenzene      | 8.86 |  | ug/L | 10.00 |  | 89  | 70-130 |  |  |    |
| 1,2,4-Trimethylbenzene      | 9.64 |  | ug/L | 10.00 |  | 96  | 70-130 |  |  |    |
| 1,2-Dibromo-3-Chloropropane | 9.49 |  | ug/L | 10.00 |  | 95  | 70-130 |  |  |    |
| 1,2-Dibromoethane           | 8.84 |  | ug/L | 10.00 |  | 88  | 70-130 |  |  |    |
| 1,2-Dichlorobenzene         | 9.11 |  | ug/L | 10.00 |  | 91  | 70-130 |  |  |    |
| 1,2-Dichloroethane          | 9.85 |  | ug/L | 10.00 |  | 98  | 70-130 |  |  |    |
| 1,2-Dichloropropane         | 9.24 |  | ug/L | 10.00 |  | 92  | 70-130 |  |  |    |
| 1,3,5-Trimethylbenzene      | 10.0 |  | ug/L | 10.00 |  | 100 | 70-130 |  |  |    |
| 1,3-Dichlorobenzene         | 9.13 |  | ug/L | 10.00 |  | 91  | 70-130 |  |  |    |
| 1,3-Dichloropropane         | 9.82 |  | ug/L | 10.00 |  | 98  | 70-130 |  |  |    |
| 1,4-Dichlorobenzene         | 9.30 |  | ug/L | 10.00 |  | 93  | 70-130 |  |  |    |
| 1,4-Dioxane - Screen        | 188  |  | ug/L | 200.0 |  | 94  | 0-332  |  |  |    |
| 1-Chlorohexane              | 9.01 |  | ug/L | 10.00 |  | 90  | 70-130 |  |  |    |
| 2,2-Dichloropropane         | 12.7 |  | ug/L | 10.00 |  | 127 | 70-130 |  |  |    |
| 2-Butanone                  | 48.8 |  | ug/L | 50.00 |  | 98  | 70-130 |  |  |    |
| 2-Chlorotoluene             | 9.16 |  | ug/L | 10.00 |  | 92  | 70-130 |  |  |    |
| 2-Hexanone                  | 46.2 |  | ug/L | 50.00 |  | 92  | 70-130 |  |  |    |
| 4-Chlorotoluene             | 9.17 |  | ug/L | 10.00 |  | 92  | 70-130 |  |  |    |
| 4-Isopropyltoluene          | 9.63 |  | ug/L | 10.00 |  | 96  | 70-130 |  |  |    |
| 4-Methyl-2-Pentanone        | 45.5 |  | ug/L | 50.00 |  | 91  | 70-130 |  |  |    |
| Acetone                     | 57.2 |  | ug/L | 50.00 |  | 114 | 70-130 |  |  |    |
| Benzene                     | 9.91 |  | ug/L | 10.00 |  | 99  | 70-130 |  |  |    |
| Bromobenzene                | 9.54 |  | ug/L | 10.00 |  | 95  | 70-130 |  |  |    |
| Bromochloromethane          | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 |  |  |    |
| Bromodichloromethane        | 9.21 |  | ug/L | 10.00 |  | 92  | 70-130 |  |  |    |
| Bromoform                   | 9.30 |  | ug/L | 10.00 |  | 93  | 70-130 |  |  |    |
| Bromomethane                | 6.47 |  | ug/L | 10.00 |  | 65  | 70-130 |  |  | B- |
| Carbon Disulfide            | 9.15 |  | ug/L | 10.00 |  | 92  | 70-130 |  |  |    |
| Carbon Tetrachloride        | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 |  |  |    |
| Chlorobenzene               | 9.26 |  | ug/L | 10.00 |  | 93  | 70-130 |  |  |    |
| Chloroethane                | 6.42 |  | ug/L | 10.00 |  | 64  | 70-130 |  |  | B- |
| Chloroform                  | 9.54 |  | ug/L | 10.00 |  | 95  | 70-130 |  |  |    |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410603

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ42842 - 5030B**

|                                  |        |  |      |         |  |     |        |  |  |  |
|----------------------------------|--------|--|------|---------|--|-----|--------|--|--|--|
| Chloromethane                    | 9.47   |  | ug/L | 10.00   |  | 95  | 70-130 |  |  |  |
| cis-1,2-Dichloroethene           | 10.1   |  | ug/L | 10.00   |  | 101 | 70-130 |  |  |  |
| cis-1,3-Dichloropropene          | 8.98   |  | ug/L | 10.00   |  | 90  | 70-130 |  |  |  |
| Dibromochloromethane             | 9.07   |  | ug/L | 10.00   |  | 91  | 70-130 |  |  |  |
| Dibromomethane                   | 9.46   |  | ug/L | 10.00   |  | 95  | 70-130 |  |  |  |
| Dichlorodifluoromethane          | 9.73   |  | ug/L | 10.00   |  | 97  | 70-130 |  |  |  |
| Diethyl Ether                    | 9.99   |  | ug/L | 10.00   |  | 100 | 70-130 |  |  |  |
| Di-isopropyl ether               | 9.45   |  | ug/L | 10.00   |  | 94  | 70-130 |  |  |  |
| Ethyl tertiary-butyl ether       | 10.8   |  | ug/L | 10.00   |  | 108 | 70-130 |  |  |  |
| Ethylbenzene                     | 9.72   |  | ug/L | 10.00   |  | 97  | 70-130 |  |  |  |
| Hexachlorobutadiene              | 9.87   |  | ug/L | 10.00   |  | 99  | 70-130 |  |  |  |
| Hexachloroethane                 | 12.1   |  | ug/L | 10.00   |  | 121 | 70-130 |  |  |  |
| Isopropylbenzene                 | 9.15   |  | ug/L | 10.00   |  | 92  | 70-130 |  |  |  |
| Methyl tert-Butyl Ether          | 10.6   |  | ug/L | 10.00   |  | 106 | 70-130 |  |  |  |
| Methylene Chloride               | 9.82   |  | ug/L | 10.00   |  | 98  | 70-130 |  |  |  |
| Naphthalene                      | 10.4   |  | ug/L | 10.00   |  | 104 | 70-130 |  |  |  |
| n-Butylbenzene                   | 9.33   |  | ug/L | 10.00   |  | 93  | 70-130 |  |  |  |
| n-Propylbenzene                  | 9.04   |  | ug/L | 10.00   |  | 90  | 70-130 |  |  |  |
| sec-Butylbenzene                 | 9.48   |  | ug/L | 10.00   |  | 95  | 70-130 |  |  |  |
| Styrene                          | 8.35   |  | ug/L | 10.00   |  | 84  | 70-130 |  |  |  |
| tert-Butylbenzene                | 9.36   |  | ug/L | 10.00   |  | 94  | 70-130 |  |  |  |
| Tertiary-amyl methyl ether       | 11.3   |  | ug/L | 10.00   |  | 113 | 70-130 |  |  |  |
| Tetrachloroethene                | 9.04   |  | ug/L | 10.00   |  | 90  | 70-130 |  |  |  |
| Tetrahydrofuran                  | 9.78   |  | ug/L | 10.00   |  | 98  | 70-130 |  |  |  |
| Toluene                          | 10.4   |  | ug/L | 10.00   |  | 104 | 70-130 |  |  |  |
| trans-1,2-Dichloroethene         | 9.60   |  | ug/L | 10.00   |  | 96  | 70-130 |  |  |  |
| trans-1,3-Dichloropropene        | 9.21   |  | ug/L | 10.00   |  | 92  | 70-130 |  |  |  |
| Trichloroethene                  | 9.70   |  | ug/L | 10.00   |  | 97  | 70-130 |  |  |  |
| Trichlorofluoromethane           | 9.39   |  | ug/L | 10.00   |  | 94  | 70-130 |  |  |  |
| Vinyl Acetate                    | 11.1   |  | ug/L | 10.00   |  | 111 | 70-130 |  |  |  |
| Vinyl Chloride                   | 10.4   |  | ug/L | 10.00   |  | 104 | 70-130 |  |  |  |
| Xylene O                         | 9.85   |  | ug/L | 10.00   |  | 98  | 70-130 |  |  |  |
| Xylene P,M                       | 19.6   |  | ug/L | 20.00   |  | 98  | 70-130 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0211 |  | mg/L | 0.02500 |  | 84  | 70-130 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0190 |  | mg/L | 0.02500 |  | 76  | 70-130 |  |  |  |
| Surrogate: Dibromofluoromethane  | 0.0215 |  | mg/L | 0.02500 |  | 86  | 70-130 |  |  |  |
| Surrogate: Toluene-d8            | 0.0201 |  | mg/L | 0.02500 |  | 80  | 70-130 |  |  |  |

**LCS Dup**

|                           |      |  |      |       |  |     |        |   |    |  |
|---------------------------|------|--|------|-------|--|-----|--------|---|----|--|
| 1,1,1,2-Tetrachloroethane | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 | 4 | 25 |  |
| 1,1,1-Trichloroethane     | 11.5 |  | ug/L | 10.00 |  | 115 | 70-130 | 5 | 25 |  |
| 1,1,2,2-Tetrachloroethane | 9.52 |  | ug/L | 10.00 |  | 95  | 70-130 | 6 | 25 |  |
| 1,1,2-Trichloroethane     | 10.3 |  | ug/L | 10.00 |  | 103 | 70-130 | 6 | 25 |  |
| 1,1-Dichloroethane        | 10.1 |  | ug/L | 10.00 |  | 101 | 70-130 | 6 | 25 |  |
| 1,1-Dichloroethene        | 10.3 |  | ug/L | 10.00 |  | 103 | 70-130 | 5 | 25 |  |
| 1,1-Dichloropropene       | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 | 9 | 25 |  |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410603

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ42842 - 5030B**

|                             |      |  |      |       |  |     |        |    |     |    |
|-----------------------------|------|--|------|-------|--|-----|--------|----|-----|----|
| 1,2,3-Trichlorobenzene      | 10.1 |  | ug/L | 10.00 |  | 101 | 70-130 | 9  | 25  |    |
| 1,2,3-Trichloropropane      | 9.71 |  | ug/L | 10.00 |  | 97  | 70-130 | 6  | 25  |    |
| 1,2,4-Trichlorobenzene      | 9.85 |  | ug/L | 10.00 |  | 98  | 70-130 | 11 | 25  |    |
| 1,2,4-Trimethylbenzene      | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 | 7  | 25  |    |
| 1,2-Dibromo-3-Chloropropane | 10.3 |  | ug/L | 10.00 |  | 103 | 70-130 | 8  | 25  |    |
| 1,2-Dibromoethane           | 9.46 |  | ug/L | 10.00 |  | 95  | 70-130 | 7  | 25  |    |
| 1,2-Dichlorobenzene         | 9.71 |  | ug/L | 10.00 |  | 97  | 70-130 | 6  | 25  |    |
| 1,2-Dichloroethane          | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 | 7  | 25  |    |
| 1,2-Dichloropropane         | 9.54 |  | ug/L | 10.00 |  | 95  | 70-130 | 3  | 25  |    |
| 1,3,5-Trimethylbenzene      | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 | 7  | 25  |    |
| 1,3-Dichlorobenzene         | 9.81 |  | ug/L | 10.00 |  | 98  | 70-130 | 7  | 25  |    |
| 1,3-Dichloropropane         | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 | 6  | 25  |    |
| 1,4-Dichlorobenzene         | 10.0 |  | ug/L | 10.00 |  | 100 | 70-130 | 8  | 25  |    |
| 1,4-Dioxane - Screen        | 224  |  | ug/L | 200.0 |  | 112 | 0-332  | 17 | 200 |    |
| 1-Chlorohexane              | 9.47 |  | ug/L | 10.00 |  | 95  | 70-130 | 5  | 25  |    |
| 2,2-Dichloropropane         | 13.5 |  | ug/L | 10.00 |  | 135 | 70-130 | 6  | 25  | B+ |
| 2-Butanone                  | 51.9 |  | ug/L | 50.00 |  | 104 | 70-130 | 6  | 25  |    |
| 2-Chlorotoluene             | 9.54 |  | ug/L | 10.00 |  | 95  | 70-130 | 4  | 25  |    |
| 2-Hexanone                  | 50.4 |  | ug/L | 50.00 |  | 101 | 70-130 | 9  | 25  |    |
| 4-Chlorotoluene             | 9.94 |  | ug/L | 10.00 |  | 99  | 70-130 | 8  | 25  |    |
| 4-Isopropyltoluene          | 10.5 |  | ug/L | 10.00 |  | 105 | 70-130 | 9  | 25  |    |
| 4-Methyl-2-Pentanone        | 50.5 |  | ug/L | 50.00 |  | 101 | 70-130 | 10 | 25  |    |
| Acetone                     | 64.7 |  | ug/L | 50.00 |  | 129 | 70-130 | 12 | 25  |    |
| Benzene                     | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 | 5  | 25  |    |
| Bromobenzene                | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 | 6  | 25  |    |
| Bromochloromethane          | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 | 6  | 25  |    |
| Bromodichloromethane        | 9.89 |  | ug/L | 10.00 |  | 99  | 70-130 | 7  | 25  |    |
| Bromoform                   | 10.0 |  | ug/L | 10.00 |  | 100 | 70-130 | 8  | 25  |    |
| Bromomethane                | 7.18 |  | ug/L | 10.00 |  | 72  | 70-130 | 10 | 25  |    |
| Carbon Disulfide            | 9.74 |  | ug/L | 10.00 |  | 97  | 70-130 | 6  | 25  |    |
| Carbon Tetrachloride        | 11.2 |  | ug/L | 10.00 |  | 112 | 70-130 | 5  | 25  |    |
| Chlorobenzene               | 9.93 |  | ug/L | 10.00 |  | 99  | 70-130 | 7  | 25  |    |
| Chloroethane                | 7.10 |  | ug/L | 10.00 |  | 71  | 70-130 | 10 | 25  |    |
| Chloroform                  | 10.0 |  | ug/L | 10.00 |  | 100 | 70-130 | 5  | 25  |    |
| Chloromethane               | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 | 7  | 25  |    |
| cis-1,2-Dichloroethene      | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 | 6  | 25  |    |
| cis-1,3-Dichloropropene     | 9.48 |  | ug/L | 10.00 |  | 95  | 70-130 | 5  | 25  |    |
| Dibromochloromethane        | 9.63 |  | ug/L | 10.00 |  | 96  | 70-130 | 6  | 25  |    |
| Dibromomethane              | 10.0 |  | ug/L | 10.00 |  | 100 | 70-130 | 6  | 25  |    |
| Dichlorodifluoromethane     | 10.3 |  | ug/L | 10.00 |  | 103 | 70-130 | 6  | 25  |    |
| Diethyl Ether               | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 | 6  | 25  |    |
| Di-isopropyl ether          | 10.0 |  | ug/L | 10.00 |  | 100 | 70-130 | 6  | 25  |    |
| Ethyl tertiary-butyl ether  | 11.4 |  | ug/L | 10.00 |  | 114 | 70-130 | 5  | 25  |    |
| Ethylbenzene                | 10.3 |  | ug/L | 10.00 |  | 103 | 70-130 | 6  | 25  |    |
| Hexachlorobutadiene         | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 | 9  | 25  |    |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410603

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ42842 - 5030B**

|                                  |        |  |      |         |  |     |        |    |    |  |
|----------------------------------|--------|--|------|---------|--|-----|--------|----|----|--|
| Hexachloroethane                 | 12.8   |  | ug/L | 10.00   |  | 128 | 70-130 | 6  | 25 |  |
| Isopropylbenzene                 | 9.64   |  | ug/L | 10.00   |  | 96  | 70-130 | 5  | 25 |  |
| Methyl tert-Butyl Ether          | 11.3   |  | ug/L | 10.00   |  | 113 | 70-130 | 6  | 25 |  |
| Methylene Chloride               | 10.3   |  | ug/L | 10.00   |  | 103 | 70-130 | 5  | 25 |  |
| Naphthalene                      | 11.5   |  | ug/L | 10.00   |  | 115 | 70-130 | 10 | 25 |  |
| n-Butylbenzene                   | 10.5   |  | ug/L | 10.00   |  | 105 | 70-130 | 12 | 25 |  |
| n-Propylbenzene                  | 9.66   |  | ug/L | 10.00   |  | 97  | 70-130 | 7  | 25 |  |
| sec-Butylbenzene                 | 10.1   |  | ug/L | 10.00   |  | 101 | 70-130 | 6  | 25 |  |
| Styrene                          | 9.29   |  | ug/L | 10.00   |  | 93  | 70-130 | 11 | 25 |  |
| tert-Butylbenzene                | 9.91   |  | ug/L | 10.00   |  | 99  | 70-130 | 6  | 25 |  |
| Tertiary-amyl methyl ether       | 11.8   |  | ug/L | 10.00   |  | 118 | 70-130 | 5  | 25 |  |
| Tetrachloroethene                | 9.55   |  | ug/L | 10.00   |  | 96  | 70-130 | 5  | 25 |  |
| Tetrahydrofuran                  | 10.8   |  | ug/L | 10.00   |  | 108 | 70-130 | 10 | 25 |  |
| Toluene                          | 10.9   |  | ug/L | 10.00   |  | 109 | 70-130 | 5  | 25 |  |
| trans-1,2-Dichloroethene         | 10.3   |  | ug/L | 10.00   |  | 103 | 70-130 | 7  | 25 |  |
| trans-1,3-Dichloropropene        | 9.62   |  | ug/L | 10.00   |  | 96  | 70-130 | 4  | 25 |  |
| Trichloroethene                  | 10.2   |  | ug/L | 10.00   |  | 102 | 70-130 | 5  | 25 |  |
| Trichlorofluoromethane           | 9.90   |  | ug/L | 10.00   |  | 99  | 70-130 | 5  | 25 |  |
| Vinyl Acetate                    | 11.6   |  | ug/L | 10.00   |  | 116 | 70-130 | 5  | 25 |  |
| Vinyl Chloride                   | 11.0   |  | ug/L | 10.00   |  | 110 | 70-130 | 5  | 25 |  |
| Xylene O                         | 10.4   |  | ug/L | 10.00   |  | 104 | 70-130 | 5  | 25 |  |
| Xylene P,M                       | 20.8   |  | ug/L | 20.00   |  | 104 | 70-130 | 6  | 25 |  |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0249 |  | mg/L | 0.02500 |  | 99  | 70-130 |    |    |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0225 |  | mg/L | 0.02500 |  | 90  | 70-130 |    |    |  |
| Surrogate: Dibromofluoromethane  | 0.0253 |  | mg/L | 0.02500 |  | 101 | 70-130 |    |    |  |
| Surrogate: Toluene-d8            | 0.0236 |  | mg/L | 0.02500 |  | 94  | 70-130 |    |    |  |

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

**Batch CJ42402 - 3510C**

|                        |    |         |      |  |  |  |  |  |  |  |
|------------------------|----|---------|------|--|--|--|--|--|--|--|
| <b>Blank</b>           |    |         |      |  |  |  |  |  |  |  |
| 2-Methylnaphthalene    | ND | 0.0002  | mg/L |  |  |  |  |  |  |  |
| Acenaphthene           | ND | 0.0002  | mg/L |  |  |  |  |  |  |  |
| Acenaphthylene         | ND | 0.0002  | mg/L |  |  |  |  |  |  |  |
| Anthracene             | ND | 0.0002  | mg/L |  |  |  |  |  |  |  |
| Benzo(a)anthracene     | ND | 0.00005 | mg/L |  |  |  |  |  |  |  |
| Benzo(a)pyrene         | ND | 0.00005 | mg/L |  |  |  |  |  |  |  |
| Benzo(b)fluoranthene   | ND | 0.00005 | mg/L |  |  |  |  |  |  |  |
| Benzo(g,h,i)perylene   | ND | 0.0002  | mg/L |  |  |  |  |  |  |  |
| Benzo(k)fluoranthene   | ND | 0.00005 | mg/L |  |  |  |  |  |  |  |
| Chrysene               | ND | 0.00005 | mg/L |  |  |  |  |  |  |  |
| Dibenzo(a,h)Anthracene | ND | 0.00005 | mg/L |  |  |  |  |  |  |  |
| Fluoranthene           | ND | 0.0002  | mg/L |  |  |  |  |  |  |  |
| Fluorene               | ND | 0.0002  | mg/L |  |  |  |  |  |  |  |
| Indeno(1,2,3-cd)Pyrene | ND | 0.00005 | mg/L |  |  |  |  |  |  |  |
| Naphthalene            | ND | 0.0002  | mg/L |  |  |  |  |  |  |  |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410603

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

**Batch CJ42402 - 3510C**

|                                   |          |        |      |          |  |    |        |  |  |    |
|-----------------------------------|----------|--------|------|----------|--|----|--------|--|--|----|
| Phenanthrene                      | ND       | 0.0002 | mg/L |          |  |    |        |  |  |    |
| Pyrene                            | ND       | 0.0002 | mg/L |          |  |    |        |  |  |    |
| Surrogate: 1,2-Dichlorobenzene-d4 | 0.000533 |        | mg/L | 0.002500 |  | 21 | 30-130 |  |  | S- |
| Surrogate: 2-Fluorobiphenyl       | 0.000761 |        | mg/L | 0.002500 |  | 30 | 30-130 |  |  |    |
| Surrogate: Nitrobenzene-d5        | 0.00103  |        | mg/L | 0.002500 |  | 41 | 30-130 |  |  |    |
| Surrogate: p-Terphenyl-d14        | 0.00172  |        | mg/L | 0.002500 |  | 69 | 30-130 |  |  |    |

**LCS**

|                                   |          |         |      |          |  |    |        |  |  |    |
|-----------------------------------|----------|---------|------|----------|--|----|--------|--|--|----|
| 2-Methylnaphthalene               | 0.0015   | 0.0002  | mg/L | 0.004000 |  | 39 | 40-140 |  |  | B- |
| Acenaphthene                      | 0.0020   | 0.0002  | mg/L | 0.004000 |  | 49 | 40-140 |  |  |    |
| Acenaphthylene                    | 0.0019   | 0.0002  | mg/L | 0.004000 |  | 48 | 40-140 |  |  |    |
| Anthracene                        | 0.0022   | 0.0002  | mg/L | 0.004000 |  | 56 | 40-140 |  |  |    |
| Benzo(a)anthracene                | 0.0026   | 0.00005 | mg/L | 0.004000 |  | 64 | 40-140 |  |  |    |
| Benzo(a)pyrene                    | 0.0026   | 0.00005 | mg/L | 0.004000 |  | 64 | 40-140 |  |  |    |
| Benzo(b)fluoranthene              | 0.0025   | 0.00005 | mg/L | 0.004000 |  | 61 | 40-140 |  |  |    |
| Benzo(g,h,i)perylene              | 0.0026   | 0.0002  | mg/L | 0.004000 |  | 64 | 40-140 |  |  |    |
| Benzo(k)fluoranthene              | 0.0025   | 0.00005 | mg/L | 0.004000 |  | 63 | 40-140 |  |  |    |
| Chrysene                          | 0.0026   | 0.00005 | mg/L | 0.004000 |  | 64 | 40-140 |  |  |    |
| Dibenzo(a,h)Anthracene            | 0.0026   | 0.00005 | mg/L | 0.004000 |  | 64 | 40-140 |  |  |    |
| Fluoranthene                      | 0.0025   | 0.0002  | mg/L | 0.004000 |  | 62 | 40-140 |  |  |    |
| Fluorene                          | 0.0021   | 0.0002  | mg/L | 0.004000 |  | 53 | 40-140 |  |  |    |
| Indeno(1,2,3-cd)Pyrene            | 0.0026   | 0.00005 | mg/L | 0.004000 |  | 64 | 40-140 |  |  |    |
| Naphthalene                       | 0.0016   | 0.0002  | mg/L | 0.004000 |  | 40 | 40-140 |  |  |    |
| Phenanthrene                      | 0.0022   | 0.0002  | mg/L | 0.004000 |  | 55 | 40-140 |  |  |    |
| Pyrene                            | 0.0024   | 0.0002  | mg/L | 0.004000 |  | 60 | 40-140 |  |  |    |
| Surrogate: 1,2-Dichlorobenzene-d4 | 0.000882 |         | mg/L | 0.002500 |  | 35 | 30-130 |  |  |    |
| Surrogate: 2-Fluorobiphenyl       | 0.00118  |         | mg/L | 0.002500 |  | 47 | 30-130 |  |  |    |
| Surrogate: Nitrobenzene-d5        | 0.00156  |         | mg/L | 0.002500 |  | 62 | 30-130 |  |  |    |
| Surrogate: p-Terphenyl-d14        | 0.00186  |         | mg/L | 0.002500 |  | 74 | 30-130 |  |  |    |

**LCS Dup**

|                        |        |         |      |          |  |     |        |    |    |    |
|------------------------|--------|---------|------|----------|--|-----|--------|----|----|----|
| 2-Methylnaphthalene    | 0.0017 | 0.0002  | mg/L | 0.004000 |  | 43  | 40-140 | 12 | 20 |    |
| Acenaphthene           | 0.0022 | 0.0002  | mg/L | 0.004000 |  | 56  | 40-140 | 13 | 20 |    |
| Acenaphthylene         | 0.0022 | 0.0002  | mg/L | 0.004000 |  | 55  | 40-140 | 12 | 20 |    |
| Anthracene             | 0.0026 | 0.0002  | mg/L | 0.004000 |  | 64  | 40-140 | 14 | 20 |    |
| Benzo(a)anthracene     | 0.0025 | 0.00005 | mg/L | 0.004000 |  | 63  | 40-140 | 3  | 20 |    |
| Benzo(a)pyrene         | 0.0029 | 0.00005 | mg/L | 0.004000 |  | 72  | 40-140 | 11 | 20 |    |
| Benzo(b)fluoranthene   | 0.0027 | 0.00005 | mg/L | 0.004000 |  | 68  | 40-140 | 10 | 20 |    |
| Benzo(g,h,i)perylene   | 0.0029 | 0.0002  | mg/L | 0.004000 |  | 72  | 40-140 | 12 | 20 |    |
| Benzo(k)fluoranthene   | 0.0026 | 0.00005 | mg/L | 0.004000 |  | 65  | 40-140 | 4  | 20 |    |
| Chrysene               | 0.0028 | 0.00005 | mg/L | 0.004000 |  | 70  | 40-140 | 9  | 20 |    |
| Dibenzo(a,h)Anthracene | 0.0042 | 0.00005 | mg/L | 0.004000 |  | 105 | 40-140 | 48 | 20 | D+ |
| Fluoranthene           | 0.0027 | 0.0002  | mg/L | 0.004000 |  | 69  | 40-140 | 10 | 20 |    |
| Fluorene               | 0.0024 | 0.0002  | mg/L | 0.004000 |  | 60  | 40-140 | 13 | 20 |    |
| Indeno(1,2,3-cd)Pyrene | 0.0029 | 0.00005 | mg/L | 0.004000 |  | 73  | 40-140 | 13 | 20 |    |
| Naphthalene            | 0.0018 | 0.0002  | mg/L | 0.004000 |  | 44  | 40-140 | 12 | 20 |    |
| Phenanthrene           | 0.0026 | 0.0002  | mg/L | 0.004000 |  | 64  | 40-140 | 15 | 20 |    |





*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410603

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

**Batch CJ42402 - 3510C**

|                                   |         |        |      |          |  |    |        |    |    |  |
|-----------------------------------|---------|--------|------|----------|--|----|--------|----|----|--|
| Pyrene                            | 0.0027  | 0.0002 | mg/L | 0.004000 |  | 67 | 40-140 | 11 | 20 |  |
| Surrogate: 1,2-Dichlorobenzene-d4 | 0.00116 |        | mg/L | 0.002500 |  | 46 | 30-130 |    |    |  |
| Surrogate: 2-Fluorobiphenyl       | 0.00148 |        | mg/L | 0.002500 |  | 59 | 30-130 |    |    |  |
| Surrogate: Nitrobenzene-d5        | 0.00174 |        | mg/L | 0.002500 |  | 70 | 30-130 |    |    |  |
| Surrogate: p-Terphenyl-d14        | 0.00204 |        | mg/L | 0.002500 |  | 82 | 30-130 |    |    |  |

**Batch CJ42711 - 3510C**

**Blank**

|                                   |          |         |      |          |  |    |        |  |  |  |
|-----------------------------------|----------|---------|------|----------|--|----|--------|--|--|--|
| 2-Methylnaphthalene               | ND       | 0.0002  | mg/L |          |  |    |        |  |  |  |
| Acenaphthene                      | ND       | 0.0002  | mg/L |          |  |    |        |  |  |  |
| Acenaphthylene                    | ND       | 0.0002  | mg/L |          |  |    |        |  |  |  |
| Anthracene                        | ND       | 0.0002  | mg/L |          |  |    |        |  |  |  |
| Benzo(a)anthracene                | ND       | 0.00005 | mg/L |          |  |    |        |  |  |  |
| Benzo(a)pyrene                    | ND       | 0.00005 | mg/L |          |  |    |        |  |  |  |
| Benzo(b)fluoranthene              | ND       | 0.00005 | mg/L |          |  |    |        |  |  |  |
| Benzo(g,h,i)perylene              | ND       | 0.0002  | mg/L |          |  |    |        |  |  |  |
| Benzo(k)fluoranthene              | ND       | 0.00005 | mg/L |          |  |    |        |  |  |  |
| Chrysene                          | ND       | 0.00005 | mg/L |          |  |    |        |  |  |  |
| Dibenzo(a,h)Anthracene            | ND       | 0.00005 | mg/L |          |  |    |        |  |  |  |
| Fluoranthene                      | ND       | 0.0002  | mg/L |          |  |    |        |  |  |  |
| Fluorene                          | ND       | 0.0002  | mg/L |          |  |    |        |  |  |  |
| Indeno(1,2,3-cd)Pyrene            | ND       | 0.00005 | mg/L |          |  |    |        |  |  |  |
| Naphthalene                       | ND       | 0.0002  | mg/L |          |  |    |        |  |  |  |
| Phenanthrene                      | ND       | 0.0002  | mg/L |          |  |    |        |  |  |  |
| Pyrene                            | ND       | 0.0002  | mg/L |          |  |    |        |  |  |  |
| Surrogate: 1,2-Dichlorobenzene-d4 | 0.000904 |         | mg/L | 0.002500 |  | 36 | 30-130 |  |  |  |
| Surrogate: 2-Fluorobiphenyl       | 0.00108  |         | mg/L | 0.002500 |  | 43 | 30-130 |  |  |  |
| Surrogate: Nitrobenzene-d5        | 0.00112  |         | mg/L | 0.002500 |  | 45 | 30-130 |  |  |  |
| Surrogate: p-Terphenyl-d14        | 0.00180  |         | mg/L | 0.002500 |  | 72 | 30-130 |  |  |  |

**LCS**

|                        |        |         |      |          |  |    |        |  |  |  |
|------------------------|--------|---------|------|----------|--|----|--------|--|--|--|
| 2-Methylnaphthalene    | 0.0017 | 0.0002  | mg/L | 0.004000 |  | 43 | 40-140 |  |  |  |
| Acenaphthene           | 0.0022 | 0.0002  | mg/L | 0.004000 |  | 56 | 40-140 |  |  |  |
| Acenaphthylene         | 0.0022 | 0.0002  | mg/L | 0.004000 |  | 54 | 40-140 |  |  |  |
| Anthracene             | 0.0024 | 0.0002  | mg/L | 0.004000 |  | 61 | 40-140 |  |  |  |
| Benzo(a)anthracene     | 0.0029 | 0.00005 | mg/L | 0.004000 |  | 73 | 40-140 |  |  |  |
| Benzo(a)pyrene         | 0.0031 | 0.00005 | mg/L | 0.004000 |  | 78 | 40-140 |  |  |  |
| Benzo(b)fluoranthene   | 0.0030 | 0.00005 | mg/L | 0.004000 |  | 75 | 40-140 |  |  |  |
| Benzo(g,h,i)perylene   | 0.0032 | 0.0002  | mg/L | 0.004000 |  | 79 | 40-140 |  |  |  |
| Benzo(k)fluoranthene   | 0.0031 | 0.00005 | mg/L | 0.004000 |  | 77 | 40-140 |  |  |  |
| Chrysene               | 0.0031 | 0.00005 | mg/L | 0.004000 |  | 77 | 40-140 |  |  |  |
| Dibenzo(a,h)Anthracene | 0.0032 | 0.00005 | mg/L | 0.004000 |  | 80 | 40-140 |  |  |  |
| Fluoranthene           | 0.0028 | 0.0002  | mg/L | 0.004000 |  | 70 | 40-140 |  |  |  |
| Fluorene               | 0.0023 | 0.0002  | mg/L | 0.004000 |  | 57 | 40-140 |  |  |  |
| Indeno(1,2,3-cd)Pyrene | 0.0032 | 0.00005 | mg/L | 0.004000 |  | 79 | 40-140 |  |  |  |
| Naphthalene            | 0.0018 | 0.0002  | mg/L | 0.004000 |  | 44 | 40-140 |  |  |  |
| Phenanthrene           | 0.0024 | 0.0002  | mg/L | 0.004000 |  | 59 | 40-140 |  |  |  |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410603

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

**Batch CJ42711 - 3510C**

|                                   |         |        |      |          |  |    |        |  |  |  |
|-----------------------------------|---------|--------|------|----------|--|----|--------|--|--|--|
| Pyrene                            | 0.0028  | 0.0002 | mg/L | 0.004000 |  | 70 | 40-140 |  |  |  |
| Surrogate: 1,2-Dichlorobenzene-d4 | 0.00106 |        | mg/L | 0.002500 |  | 43 | 30-130 |  |  |  |
| Surrogate: 2-Fluorobiphenyl       | 0.00135 |        | mg/L | 0.002500 |  | 54 | 30-130 |  |  |  |
| Surrogate: Nitrobenzene-d5        | 0.00142 |        | mg/L | 0.002500 |  | 57 | 30-130 |  |  |  |
| Surrogate: p-Terphenyl-d14        | 0.00198 |        | mg/L | 0.002500 |  | 79 | 30-130 |  |  |  |

**LCS Dup**

|                                   |         |         |      |          |  |    |        |    |    |  |
|-----------------------------------|---------|---------|------|----------|--|----|--------|----|----|--|
| 2-Methylnaphthalene               | 0.0019  | 0.0002  | mg/L | 0.004000 |  | 47 | 40-140 | 10 | 20 |  |
| Acenaphthene                      | 0.0024  | 0.0002  | mg/L | 0.004000 |  | 60 | 40-140 | 8  | 20 |  |
| Acenaphthylene                    | 0.0024  | 0.0002  | mg/L | 0.004000 |  | 60 | 40-140 | 9  | 20 |  |
| Anthracene                        | 0.0026  | 0.0002  | mg/L | 0.004000 |  | 65 | 40-140 | 7  | 20 |  |
| Benzo(a)anthracene                | 0.0032  | 0.00005 | mg/L | 0.004000 |  | 80 | 40-140 | 9  | 20 |  |
| Benzo(a)pyrene                    | 0.0034  | 0.00005 | mg/L | 0.004000 |  | 84 | 40-140 | 7  | 20 |  |
| Benzo(b)fluoranthene              | 0.0032  | 0.00005 | mg/L | 0.004000 |  | 81 | 40-140 | 7  | 20 |  |
| Benzo(g,h,i)perylene              | 0.0034  | 0.0002  | mg/L | 0.004000 |  | 84 | 40-140 | 7  | 20 |  |
| Benzo(k)fluoranthene              | 0.0033  | 0.00005 | mg/L | 0.004000 |  | 83 | 40-140 | 8  | 20 |  |
| Chrysene                          | 0.0033  | 0.00005 | mg/L | 0.004000 |  | 84 | 40-140 | 8  | 20 |  |
| Dibenzo(a,h)Anthracene            | 0.0034  | 0.00005 | mg/L | 0.004000 |  | 86 | 40-140 | 6  | 20 |  |
| Fluoranthene                      | 0.0030  | 0.0002  | mg/L | 0.004000 |  | 75 | 40-140 | 8  | 20 |  |
| Fluorene                          | 0.0025  | 0.0002  | mg/L | 0.004000 |  | 62 | 40-140 | 8  | 20 |  |
| Indeno(1,2,3-cd)Pyrene            | 0.0034  | 0.00005 | mg/L | 0.004000 |  | 84 | 40-140 | 6  | 20 |  |
| Naphthalene                       | 0.0021  | 0.0002  | mg/L | 0.004000 |  | 51 | 40-140 | 16 | 20 |  |
| Phenanthrene                      | 0.0025  | 0.0002  | mg/L | 0.004000 |  | 64 | 40-140 | 7  | 20 |  |
| Pyrene                            | 0.0031  | 0.0002  | mg/L | 0.004000 |  | 77 | 40-140 | 10 | 20 |  |
| Surrogate: 1,2-Dichlorobenzene-d4 | 0.00118 |         | mg/L | 0.002500 |  | 47 | 30-130 |    |    |  |
| Surrogate: 2-Fluorobiphenyl       | 0.00146 |         | mg/L | 0.002500 |  | 58 | 30-130 |    |    |  |
| Surrogate: Nitrobenzene-d5        | 0.00162 |         | mg/L | 0.002500 |  | 65 | 30-130 |    |    |  |
| Surrogate: p-Terphenyl-d14        | 0.00211 |         | mg/L | 0.002500 |  | 85 | 30-130 |    |    |  |

**Classical Chemistry**

**Batch CJ42801 - TCN Prep**

**Blank**

|                    |    |         |      |  |  |  |  |  |  |  |
|--------------------|----|---------|------|--|--|--|--|--|--|--|
| Total Cyanide (LL) | ND | 0.00500 | mg/L |  |  |  |  |  |  |  |
|--------------------|----|---------|------|--|--|--|--|--|--|--|

**LCS**

|                    |        |         |      |         |  |    |        |  |  |  |
|--------------------|--------|---------|------|---------|--|----|--------|--|--|--|
| Total Cyanide (LL) | 0.0194 | 0.00500 | mg/L | 0.02006 |  | 97 | 90-110 |  |  |  |
|--------------------|--------|---------|------|---------|--|----|--------|--|--|--|

**LCS**

|                    |       |         |      |        |  |     |        |  |  |  |
|--------------------|-------|---------|------|--------|--|-----|--------|--|--|--|
| Total Cyanide (LL) | 0.153 | 0.00500 | mg/L | 0.1504 |  | 101 | 90-110 |  |  |  |
|--------------------|-------|---------|------|--------|--|-----|--------|--|--|--|

**LCS Dup**

|                    |       |         |      |        |  |     |        |     |    |  |
|--------------------|-------|---------|------|--------|--|-----|--------|-----|----|--|
| Total Cyanide (LL) | 0.154 | 0.00500 | mg/L | 0.1504 |  | 102 | 90-110 | 0.7 | 20 |  |
|--------------------|-------|---------|------|--------|--|-----|--------|-----|----|--|

**Batch CJ42911 - TCN Prep**

**Blank**

|                   |    |       |      |  |  |  |  |  |  |  |
|-------------------|----|-------|------|--|--|--|--|--|--|--|
| Dissolved Cyanide | ND | 0.005 | mg/L |  |  |  |  |  |  |  |
|-------------------|----|-------|------|--|--|--|--|--|--|--|

**LCS**

|                   |       |       |      |         |  |    |        |  |  |  |
|-------------------|-------|-------|------|---------|--|----|--------|--|--|--|
| Dissolved Cyanide | 0.020 | 0.005 | mg/L | 0.02006 |  | 99 | 90-110 |  |  |  |
|-------------------|-------|-------|------|---------|--|----|--------|--|--|--|



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410603

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike<br>Level | Source<br>Result | %REC | %REC<br>Limits | RPD | RPD<br>Limit | Qualifier |
|---------|--------|-----|-------|----------------|------------------|------|----------------|-----|--------------|-----------|
|---------|--------|-----|-------|----------------|------------------|------|----------------|-----|--------------|-----------|

Classical Chemistry

**Batch CJ42911 - TCN Prep**

**LCS**

|                   |       |       |      |        |  |     |        |  |  |  |
|-------------------|-------|-------|------|--------|--|-----|--------|--|--|--|
| Dissolved Cyanide | 0.150 | 0.005 | mg/L | 0.1504 |  | 100 | 90-110 |  |  |  |
|-------------------|-------|-------|------|--------|--|-----|--------|--|--|--|

**LCS Dup**

|                   |       |       |      |        |  |     |        |     |    |  |
|-------------------|-------|-------|------|--------|--|-----|--------|-----|----|--|
| Dissolved Cyanide | 0.152 | 0.005 | mg/L | 0.1504 |  | 101 | 90-110 | 0.7 | 20 |  |
|-------------------|-------|-------|------|--------|--|-----|--------|-----|----|--|



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410603

**Notes and Definitions**

|        |                                                                                                     |
|--------|-----------------------------------------------------------------------------------------------------|
| U      | Analyte included in the analysis, but not detected                                                  |
| S-     | Surrogate recovery(ies) below lower control limit (S-).                                             |
| IM     | Internal Standard(s) outside of criteria due to matrix (UCM/coelution is present) (IM).             |
| D+     | Relative percent difference for duplicate is outside of criteria (D+).                              |
| D      | Diluted.                                                                                            |
| C+     | Continuing Calibration recovery is above upper control limit (C+).                                  |
| C-     | Continuing Calibration recovery is below lower control limit (C-).                                  |
| 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                                                         |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410603

**ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS**

**ENVIRONMENTAL**

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)

A2LA Accredited: Testing Cert# 2864.01

<http://www.a2la.org/scopepdf/2864-01.pdf>

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](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: RI0002

<http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

[http://datamine2.state.nj.us/DEP\\_Opra/OpraMain/pi\\_main?mode=pi\\_by\\_site&sort\\_order=PI\\_NAMEA&Select+a+Site:=58715](http://datamine2.state.nj.us/DEP_Opra/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715)

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

[http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory\\_accreditation\\_program/590095](http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095)

**CHEMISTRY**

A2LA Accredited: Testing Cert # 2864.01

Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)

<http://www.A2LA.org/dirsearchnew/newsearch.cfm>

CPSC ID# 1141

Lead Paint, Lead in Children's Metals Jewelry

<http://www.cpsc.gov/cgi-bin/labapplist.aspx>

**Sample and Cooler Receipt Checklist**Client: GZA GeoEnvironmental, Inc.

Client Project ID: \_\_\_\_\_

Shipped/Delivered Via: ClientESS Project ID: 14100603Date Project Due: 10/30/2014Days For Project: 5 Day**Items to be checked upon receipt:**

1. Air Bill Manifest Present?

☒ **No**

Air No.: \_\_\_\_\_

2. Were Custody Seals Present?

☐ **No**

3. Were Custody Seals Intact?

☐ **N/A**

4. Is Radiation count &lt; 100 CPM?

☐ **Yes**

5. Is a cooler present?

☐ **Yes**Cooler Temp: 6.0Iced With: Ice

6. Was COC included with samples?

☐ **Yes**

7. Was COC signed and dated by client?

☐ **Yes**

8. Does the COC match the sample

☐ **Yes**

9. Is COC complete and correct?

☐ **Yes**

10. Are the samples properly preserved?

☐ **Yes**

11. Proper sample containers used?

☐ **Yes**

12. Any air bubbles in the VOA vials?

☒ **No**

13. Holding times exceeded?

☐ **No**

14. Sufficient sample volumes?

☐ **Yes**

15. Any Subcontracting needed?

☐ **No**

16. Are ESS labels on correct containers?

☒ **Yes** ☐ **No**

17. Were samples received intact?

☒ **Yes** ☐ **No**

ESS Sample IDs: \_\_\_\_\_

Sub Lab: \_\_\_\_\_

Analysis: \_\_\_\_\_

TAT: \_\_\_\_\_

18. Was there need to call project manager to discuss status? If yes, please explain.

Sample #3 Bottle ID - M+E MW-2 Chain - M+E MW-1  
ALCU PH 7.12 unless otherwise noted 10/23/14 @ 2100 hrs  
10/23/14

Who was called?: \_\_\_\_\_

By whom? \_\_\_\_\_

| Sample Number | Properly Preserved | Container Type | # of Containers | Preservative |
|---------------|--------------------|----------------|-----------------|--------------|
| 1             | Yes                | 1 L Glass      | 3               | NP           |
| 1             | Yes                | 250 ml Plastic | 2               | NaOH         |
| 1             | Yes                | 40 ml - VOA    | 3               | HCL          |
| 2             | Yes                | 1 L Glass      | 3               | NP           |
| 2             | Yes                | 250 ml Plastic | 2               | NaOH         |
| 2             | Yes                | 40 ml - VOA    | 3               | HCL          |
| 3             | Yes                | 1 L Glass      | 3               | NP           |
| 3             | Yes                | 250 ml Plastic | 2               | NaOH         |
| 3             | Yes                | 40 ml - VOA    | 3               | HCL          |
| 4             | Yes                | 1 L Glass      | 3               | NP           |
| 4             | Yes                | 250 ml Plastic | 2               | NaOH         |
| 4             | Yes                | 40 ml - VOA    | 3               | HCL          |
| 5             | Yes                | 1 L Glass      | 3               | NP           |
| 5             | Yes                | 250 ml Plastic | 2               | NaOH         |
| 5             | Yes                | 40 ml - VOA    | 3               | HCL          |
| 6             | Yes                | 1 L Glass      | 3               | NP           |
| 6             | Yes                | 250 ml Plastic | 2               | NaOH         |
| 6             | Yes                | 40 ml - VOA    | 3               | HCL          |
| 7             | Yes                | 1 L Glass      | 3               | NP           |
| 7             | Yes                | 250 ml Plastic | 2               | NaOH         |
| 7             | Yes                | 40 ml - VOA    | 3               | HCL          |
| 8             | Yes                | 1 L Glass      | 3               | NP           |
| 8             | Yes                | 250 ml Plastic | 2               | NaOH         |
| 8             | Yes                | 40 ml - VOA    | 3               | HCL          |
| 9             | Yes                | 1 L Glass      | 3               | NP           |

pH=10 for both  
10/23/14 @ 2044

pH=10 for both  
10/23/14 @ 2051

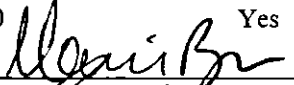
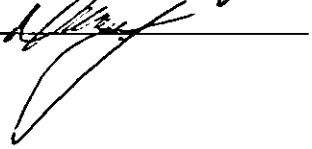
TCU=10 pH  
DCU=12 pH  
10/23/14 @ 2053



## Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.ESS Project ID: 14100603

|    |     |                |   |      |
|----|-----|----------------|---|------|
| 9  | Yes | 250 ml Plastic | 2 | NaOH |
| 9  | Yes | 40 ml - VOA    | 3 | HCL  |
| 10 | Yes | 1 L Glass      | 3 | NP   |
| 10 | Yes | 250 ml Plastic | 2 | NaOH |
| 10 | Yes | 40 ml - VOA    | 3 | HCL  |
| 11 | Yes | 1 L Glass      | 3 | NP   |
| 11 | Yes | 250 ml Plastic | 2 | NaOH |
| 11 | Yes | 40 ml - VOA    | 3 | HCL  |
| 12 | Yes | 1 L Glass      | 3 | NP   |
| 12 | Yes | 250 ml Plastic | 2 | NaOH |
| 12 | Yes | 40 ml - VOA    | 3 | HCL  |
| 13 | Yes | 1 L Glass      | 3 | NP   |
| 13 | Yes | 250 ml Plastic | 2 | NaOH |
| 13 | Yes | 40 ml - VOA    | 3 | HCL  |
| 14 | Yes | 1 L Glass      | 3 | NP   |
| 14 | Yes | 250 ml Plastic | 2 | NaOH |
| 14 | Yes | 40 ml - VOA    | 3 | HCL  |
| 15 | Yes | 1 L Glass      | 3 | NP   |
| 15 | Yes | 250 ml Plastic | 2 | NaOH |
| 15 | Yes | 40 ml - VOA    | 3 | HCL  |
| 16 | Yes | 1 L Glass      | 3 | NP   |
| 16 | Yes | 250 ml Plastic | 2 | NaOH |
| 16 | Yes | 40 ml - VOA    | 3 | HCL  |
| 17 | Yes | 1 L Glass      | 3 | NP   |
| 17 | Yes | 250 ml Plastic | 2 | NaOH |
| 17 | Yes | 40 ml - VOA    | 3 | HCL  |
| 18 | Yes | 1 L Glass      | 3 | NP   |
| 18 | Yes | 250 ml Plastic | 2 | NaOH |
| 18 | Yes | 40 ml - VOA    | 3 | HCL  |
| 19 | Yes | 1 L Glass      | 3 | NP   |
| 19 | Yes | 250 ml Plastic | 2 | NaOH |
| 19 | Yes | 40 ml - VOA    | 3 | HCL  |
| 20 | Yes | 40 ml - VOA    | 1 | HCL  |

Completed By: Date/Time: 10/23/14 2:00Reviewed By: Date/Time: 10/24/14 1:06

# ESS Laboratory

Division of Thielsch Engineering, Inc.  
185 Frances Avenue, Cranston, RI 02910-2211  
Tel. (401) 461-7181 Fax (401) 461-4486  
www.esslaboratory.com

# CHAIN OF CUSTODY

Page 1 of 3

|                                                                                |       |
|--------------------------------------------------------------------------------|-------|
| Turn Time<br>If faster than 5 days, prior approval by laboratory is required # | Other |
| State where samples were collected from:                                       |       |
| MA CT NH NJ NY ME                                                              |       |
| Is this project for any of the following:                                      |       |
| MA-MCP                                                                         | USACE |
| Navy                                                                           | Other |

|                                                                                                                                                          |                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Reporting Limits                                                                                                                                         | ESS LAB PROJECT ID                                                  |
| 60                                                                                                                                                       | 1416003                                                             |
| Electronic Deliverable                                                                                                                                   | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| Format: Excel <input checked="" type="checkbox"/> Access <input type="checkbox"/> PDF <input checked="" type="checkbox"/> Other <input type="checkbox"/> |                                                                     |

|                                 |                         |                                              |                      |              |                                     |                         |  |
|---------------------------------|-------------------------|----------------------------------------------|----------------------|--------------|-------------------------------------|-------------------------|--|
| Co. Name<br>GSK                 | Project #<br>43654      | Project Name (20 Char. or less)<br>TIOEWATER | Number of Containers |              | Type of Containers                  | Write Required Analysis |  |
| Contact Person<br>MEG KUPATZICK | Address<br>530 BROADWAY | City<br>PROVIDENCE                           | State<br>RI          | Zip<br>02909 | Email Address<br>mkupatzick@q2q.com |                         |  |
| Telephone #<br>401-421-4140     | Fax #<br>401-421-4140   |                                              |                      |              |                                     |                         |  |

| ESS LAB Sample # | Date     | Collection Time | COMP                                | GRAB                                | MATRIX | Sample Identification (20 Char. or less) | Pres Code | Write Required Analysis |   |            |   |     |   |                     |   |                         |   |
|------------------|----------|-----------------|-------------------------------------|-------------------------------------|--------|------------------------------------------|-----------|-------------------------|---|------------|---|-----|---|---------------------|---|-------------------------|---|
| 1                | 10/22/14 | 13:45           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | GCW    | MW-3145                                  | 12        | VOCs 82608              | X | PAHs 8230c | X | TPH | X | TOTAL CHLORINE 9014 | X | DISSOLVED CHLORINE 9014 | X |
| 2                |          | 15:10           |                                     |                                     |        | MW-3140                                  |           |                         |   |            |   |     |   |                     |   |                         |   |
| 3                |          | 14:45           |                                     |                                     |        | MAE MW-1                                 |           |                         |   |            |   |     |   |                     |   |                         |   |
| 4                |          | 13:12           |                                     |                                     |        | MW-3265                                  |           |                         |   |            |   |     |   |                     |   |                         |   |
| 5                |          | 13:34           |                                     |                                     |        | MW-326D                                  |           |                         |   |            |   |     |   |                     |   |                         |   |
| 6                |          | 14:48           |                                     |                                     |        | MW-3335                                  |           |                         |   |            |   |     |   |                     |   |                         |   |
| 7                |          | 14:59           |                                     |                                     |        | MW-333D                                  |           |                         |   |            |   |     |   |                     |   |                         |   |
| 8                |          | 8:00            |                                     |                                     |        | BD#1                                     |           |                         |   |            |   |     |   |                     |   |                         |   |
| 9                | 10/22/14 | 7:00            |                                     |                                     |        | TRIP BLANK                               | 2         |                         |   |            |   |     |   |                     |   |                         |   |
| 10               | 10/23/14 | 9:40            |                                     |                                     |        | MW-107                                   | 12        |                         |   |            |   |     |   |                     |   |                         |   |

|                                                                                    |                                                                                                                            |
|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Container Type: P-Poly G-Glass S-Sterile V-VOA                                     | Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters |
| Cooler Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Internal Use Only <input type="checkbox"/> Yes <input type="checkbox"/> No                                                 |
| Seals Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No   | NA: <input type="checkbox"/> Pickup                                                                                        |
| Cooler Temp 49.2-50.6                                                              | 4.1                                                                                                                        |
| Relinquished by (Signature)                                                        | Received by (Signature)                                                                                                    |
| Date/Time 10/22/14 17:05                                                           | Date/Time 10/22/14 17:05                                                                                                   |
| Relinquished by (Signature)                                                        | Received by (Signature)                                                                                                    |
| Date/Time 10/22/14 17:05                                                           | Date/Time 10/22/14 17:05                                                                                                   |
| Relinquished by (Signature)                                                        | Received by (Signature)                                                                                                    |
| Date/Time 10/22/14 17:05                                                           | Date/Time 10/22/14 17:05                                                                                                   |

# ESS Laboratory

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www.esslaboratory.com

## CHAIN OF CUSTODY

Page 2 of 3

Turn Time ☒ Standard Other ☐  
 If faster than 5 days, prior approval by laboratory is required # \_\_\_\_\_  
 State where samples were collected from:  
 MA ☒ RI ☐ CT ☐ NH ☐ NJ ☐ NY ☐ ME ☐ Other \_\_\_\_\_  
 Is this project for any of the following:  
 MA-MCP ☐ Navy ☐ USACE ☐ Other \_\_\_\_\_

Reporting Limits ☐ Electronic Deliverable ☐ Yes ☐ No ☐  
 Format: Excel ☒ Access ☐ PDF ☒ Other ☐  
 ESS LAB PROJECT ID 1062514

|                  |          |                 |      |           |        |                                          |  |                                 |                      |                     |  |
|------------------|----------|-----------------|------|-----------|--------|------------------------------------------|--|---------------------------------|----------------------|---------------------|--|
| Co. Name         |          | 62K             |      | Project # |        | 43654                                    |  | Project Name (20 Char. or less) |                      | TIPMATE             |  |
| Contact Person   |          | MEG KILPATRICK  |      | Address   |        | 530 BROOKHLYN                            |  | Zip                             |                      | 02409               |  |
| City             |          | PROVIDENCE      |      | State     |        | RI                                       |  | PO#                             |                      |                     |  |
| Telephone #      |          | 401-421-4440    |      | Fax #     |        |                                          |  | Email Address                   |                      | mkipatrick@opta.com |  |
| ESS LAB Sample # | Date     | Collection Time | COMP | GRAB      | MATRIX | Sample Identification (20 Char. or less) |  | Pres Code                       | Number of Containers |                     |  |
| 10               | 10/23/14 | 9:00            |      | X         | GW     | MW-3345                                  |  | 1.2.5                           | Type of Containers   |                     |  |
| 11               |          | 10:30           |      |           |        | MW-3345                                  |  |                                 | 82608                |                     |  |
| 12               |          | 11:45           |      |           |        | MW-3185                                  |  |                                 | 02700                |                     |  |
| 13               |          | 11:20           |      |           |        | MW-318D                                  |  |                                 | 8100M                |                     |  |
| 14               |          | 14:45           |      |           |        | MW-3337                                  |  |                                 | TOTAL CHARGE 9014    |                     |  |
| 15               |          | 14:10           |      |           |        | MW-6                                     |  |                                 | DISSOLVENT 9014      |                     |  |
| 16               |          | 15:45           |      |           |        | MW-109                                   |  |                                 |                      |                     |  |
| 17               |          | 13:00           |      |           |        | MW-3167                                  |  |                                 |                      |                     |  |
| 18               |          | 10:13           |      |           |        | MW-3105                                  |  |                                 |                      |                     |  |
| 19               |          | 10:24           |      |           |        | MW-310D                                  |  |                                 |                      |                     |  |

Container Type: P-Poly G-Glass S-Sterile V-VOA Matrix: S-Soil SD-Solid D-Sludge W-W-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ☒ Yes ☐ No Internal Use Only ☐ Preservation Code 1-NP, 2-HCl, 3-H<sub>2</sub>SO<sub>4</sub>, 4-HNO<sub>3</sub>, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAc, 9-\_\_\_\_\_

Seals Intact ☒ Yes ☐ No No NA ☒ [ ] Pickup [ ] Technicians \_\_\_\_\_

Cooler Temp: 4.9, 2.0, 50.6, 0.0 [ ] Technicians \_\_\_\_\_

Relinquished by: (Signature) *[Signature]* Date/Time 10/21/14 1705 Received by: (Signature) *[Signature]* Date/Time 10/23/14 1705

Relinquished by: (Signature) *[Signature]* Date/Time 10/23/14 1705 Received by: (Signature) *[Signature]* Date/Time \_\_\_\_\_

Comments: SAMPLE IS FIELD FILTERED  
NBP 10 LATES APRIL EMAIL SNAKELEWICK@opta.com



*CERTIFICATE OF ANALYSIS*

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

**RE: Tidewater GH (03.0043654.T13)**  
**ESS Laboratory Work Order Number: 1410604**

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 5:32 pm, Oct 31, 2014**

**Analytical Summary**

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

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



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410604

**SAMPLE RECEIPT**

The following samples were received on October 23, 2014 for the analyses specified on the enclosed Chain of Custody Record.

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

pH for Cyanide container was less than the method requirement of >12: "MW-339S" (1410604-04). To be analyzed per client request.

| Lab Number | Sample Name  | Matrix       | Analysis                      |
|------------|--------------|--------------|-------------------------------|
| 1410604-01 | MW-312S      | Ground Water | 8100M, 8260B, 8270C SIM, 9014 |
| 1410604-02 | MW-312D      | Ground Water | 8100M, 8260B, 8270C SIM, 9014 |
| 1410604-03 | MW-7         | Ground Water | 8100M, 8260B, 8270C SIM, 9014 |
| 1410604-04 | MW-339S      | Ground Water | 8100M, 8260B, 8270C SIM, 9014 |
| 1410604-05 | MW-339D      | Ground Water | 8100M, 8260B, 8270C SIM, 9014 |
| 1410604-06 | MW-201       | Ground Water | 8100M, 8260B, 8270C SIM, 9014 |
| 1410604-07 | MW-208       | Ground Water | 8100M, 8260B, 8270C SIM, 9014 |
| 1410604-08 | MW-BD-102314 | Ground Water | 8100M, 8260B, 8270C SIM, 9014 |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410604

**PROJECT NARRATIVE**

**8100M Total Petroleum Hydrocarbons**

CJ42436-BSD1 Relative percent difference for duplicate is outside of criteria (D+).  
Decane (C10) (26%), Nonane (C9) (26%)

**8260B Volatile Organic Compounds**

CJ42810-BS1 Blank Spike recovery is above upper control limit (B+).  
2,2-Dichloropropane (138% @ 70-130%), Hexachloroethane (133% @ 70-130%)

CJ42810-BSD1 Blank Spike recovery is above upper control limit (B+).  
2,2-Dichloropropane (143% @ 70-130%), Acetone (168% @ 70-130%), Hexachloroethane (133% @ 70-130%)

CJ42842-BS1 Blank Spike recovery is below lower control limit (B-).  
Bromomethane (65% @ 70-130%), Chloroethane (64% @ 70-130%)

CJ42842-BSD1 Blank Spike recovery is above upper control limit (B+).  
2,2-Dichloropropane (135% @ 70-130%)

CJ43004-BS1 Blank Spike recovery is above upper control limit (B+).  
2,2-Dichloropropane (140% @ 70-130%), Acetone (132% @ 70-130%)

CJ43004-BSD1 Blank Spike recovery is above upper control limit (B+).  
2,2-Dichloropropane (143% @ 70-130%), Hexachloroethane (132% @ 70-130%)

CXJ0385-CCV1 Continuing Calibration recovery is above upper control limit (C+).  
2,2-Dichloropropane (131% @ 70-130%)

CXJ0403-CCV1 Continuing Calibration recovery is below lower control limit (C-).  
Bromomethane (50% @ 70-130%), Chloroethane (67% @ 70-130%)

CXJ0431-CCV1 Continuing Calibration recovery is above upper control limit (C+).  
2,2-Dichloropropane (132% @ 70-130%)

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

1410604-05 Internal Standard(s) outside of criteria (I).  
Naphthalene-d8 (38% @ 50-200%)

1410604-05 Surrogate recovery(ies) above upper control limit (S+).  
Nitrobenzene-d5 (188% @ 30-130%)

**No other observations noted.**

**End of Project Narrative.**





*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410604

**DATA USABILITY LINKS**

[Definitions of Quality Control Parameters](#)  
[Semivolatile Organics Internal Standard Information](#)  
[Semivolatile Organics Surrogate Information](#)  
[Volatile Organics Internal Standard Information](#)  
[Volatile Organics Surrogate Information](#)  
[EPH and VPH Alkane Lists](#)

**CURRENT SW-846 METHODOLOGY VERSIONS**

**Analytical Methods**

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

**Prep Methods**

3005A - Aqueous ICP and Graphite Furnace Digestion  
3020A - Aqueous 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



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-312S  
Date Sampled: 10/23/14 08:51  
Percent Solids: N/A  
Initial Volume: 1070  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410604  
ESS Laboratory Sample ID: 1410604-01  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: DPS  
Prepared: 10/24/14 13:25

All methods used are in accordance with 40 CFR 136.

**8100M Total Petroleum Hydrocarbons**

| <u>Analyte</u>               | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------------|----------------------|------------------|------------------|---------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons | 6.22 (0.19)          |                  | 8100M            |               | 1         | 10/25/14 21:34  | CXJ0357         | CJ42436      |
| <hr/>                        |                      |                  |                  |               |           |                 |                 |              |
|                              |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                 |                 |              |
| Surrogate: O-Terphenyl       |                      | 70 %             |                  | 40-140        |           |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-312S

Date Sampled: 10/23/14 08:51

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-01

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>                | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane     | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| 1,1,1-Trichloroethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| 1,1,2,2-Tetrachloroethane     | ND (0.0005)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| 1,1,2-Trichloroethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| 1,1-Dichloroethane            | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| 1,1-Dichloroethene            | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| 1,1-Dichloropropene           | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| 1,2,3-Trichlorobenzene        | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| 1,2,3-Trichloropropane        | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| 1,2,4-Trichlorobenzene        | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| <b>1,2,4-Trimethylbenzene</b> | <b>0.114</b> (0.0500)  |            | 8260B         |              | 50        | 10/28/14 16:44  | CXJ0385         | CJ42810      |
| 1,2-Dibromo-3-Chloropropane   | ND (0.0050)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| 1,2-Dibromoethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| 1,2-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| 1,2-Dichloroethane            | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| 1,2-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| <b>1,3,5-Trimethylbenzene</b> | <b>0.0131</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| 1,3-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| 1,3-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| 1,4-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| 1,4-Dioxane - Screen          | ND (0.500)             |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| 1-Chlorohexane                | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| 2,2-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| 2-Butanone                    | ND (0.0100)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| 2-Chlorotoluene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| 2-Hexanone                    | ND (0.0100)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| 4-Chlorotoluene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| <b>4-Isopropyltoluene</b>     | <b>0.0026</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| 4-Methyl-2-Pentanone          | ND (0.0250)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| <b>Acetone</b>                | <b>0.0347</b> (0.0100) |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| <b>Benzene</b>                | <b>0.0437</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| Bromobenzene                  | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-312S

Date Sampled: 10/23/14 08:51

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-01

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| Bromodichloromethane       | ND (0.0006)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| Bromoform                  | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| Bromomethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| <b>Carbon Disulfide</b>    | <b>0.0097</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| Carbon Tetrachloride       | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| Chlorobenzene              | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| Chloroethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| Chloroform                 | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| Chloromethane              | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| cis-1,2-Dichloroethene     | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| cis-1,3-Dichloropropene    | ND (0.0004)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| Dibromochloromethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| Dibromomethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| Dichlorodifluoromethane    | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| Diethyl Ether              | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| Di-isopropyl ether         | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| Ethyl tertiary-butyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| <b>Ethylbenzene</b>        | <b>0.588</b> (0.0500)  |            | 8260B         |              | 50        | 10/28/14 16:44  | CXJ0385         | CJ42810      |
| Hexachlorobutadiene        | ND (0.0006)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| Hexachloroethane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| <b>Isopropylbenzene</b>    | <b>0.0235</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| Methyl tert-Butyl Ether    | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| Methylene Chloride         | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| <b>Naphthalene</b>         | <b>2.03</b> (0.0500)   |            | 8260B         |              | 50        | 10/28/14 16:44  | CXJ0385         | CJ42810      |
| n-Butylbenzene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| <b>n-Propylbenzene</b>     | <b>0.0102</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| <b>sec-Butylbenzene</b>    | <b>0.0013</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| Styrene                    | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| tert-Butylbenzene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| Tertiary-amyl methyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| Tetrachloroethene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-312S

Date Sampled: 10/23/14 08:51

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-01

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.0050)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| <b>Toluene</b>            | <b>0.0069</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| trans-1,2-Dichloroethene  | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| trans-1,3-Dichloropropene | ND (0.0004)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| Trichloroethene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| Trichlorofluoromethane    | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| Vinyl Acetate             | ND (0.0050)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| Vinyl Chloride            | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| <b>Xylene O</b>           | <b>0.0935</b> (0.0500) |            | 8260B         |              | 50        | 10/28/14 16:44  | CXJ0385         | CJ42810      |
| <b>Xylene P,M</b>         | <b>0.0263</b> (0.0020) |            | 8260B         |              | 1         | 10/27/14 20:01  | CXJ0385         | CJ42810      |
| <b>Xylenes (Total)</b>    | <b>0.120</b> (0.0500)  |            | 8260B         |              | 50        | 10/28/14 16:44  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.0010)            |            | 8260B         |              |           | 10/27/14 20:01  |                 | [CALC]       |

|                                         | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>108 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>101 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>114 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Toluene-d8</i>            | <i>109 %</i>     |                  | <i>70-130</i> |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-312S

Date Sampled: 10/23/14 08:51

Percent Solids: N/A

Initial Volume: 1070

Final Volume: 0.25

Extraction Method: 3510C

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-01

Sample Matrix: Ground Water

Units: mg/L

Analyst: VSC

Prepared: 10/27/14 14:36

All methods used are in accordance with 40 CFR 136.

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

| <u>Analyte</u>         | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 2-Methylnaphthalene    | 0.0309 (0.0009)      |            | 8270C SIM     |              | 5         | 10/30/14 0:49   | CXJ0423         | CJ42711      |
| Acenaphthene           | 0.134 (0.0093)       |            | 8270C SIM     |              | 50        | 10/30/14 13:14  | CXJ0423         | CJ42711      |
| Acenaphthylene         | 0.0087 (0.0009)      |            | 8270C SIM     |              | 5         | 10/30/14 0:49   | CXJ0423         | CJ42711      |
| Anthracene             | 0.0207 (0.0093)      |            | 8270C SIM     |              | 50        | 10/30/14 13:14  | CXJ0423         | CJ42711      |
| Benzo(a)anthracene     | 0.0056 (0.0002)      |            | 8270C SIM     |              | 5         | 10/30/14 0:49   | CXJ0423         | CJ42711      |
| Benzo(a)pyrene         | 0.0044 (0.0002)      |            | 8270C SIM     |              | 5         | 10/30/14 0:49   | CXJ0423         | CJ42711      |
| Benzo(b)fluoranthene   | 0.0032 (0.0002)      |            | 8270C SIM     |              | 5         | 10/30/14 0:49   | CXJ0423         | CJ42711      |
| Benzo(g,h,i)perylene   | 0.0020 (0.0009)      |            | 8270C SIM     |              | 5         | 10/30/14 0:49   | CXJ0423         | CJ42711      |
| Benzo(k)fluoranthene   | 0.0011 (0.0002)      |            | 8270C SIM     |              | 5         | 10/30/14 0:49   | CXJ0423         | CJ42711      |
| Chrysene               | 0.0051 (0.0002)      |            | 8270C SIM     |              | 5         | 10/30/14 0:49   | CXJ0423         | CJ42711      |
| Dibenzo(a,h)Anthracene | 0.0005 (0.0002)      |            | 8270C SIM     |              | 5         | 10/30/14 0:49   | CXJ0423         | CJ42711      |
| Fluoranthene           | 0.0128 (0.0009)      |            | 8270C SIM     |              | 5         | 10/30/14 0:49   | CXJ0423         | CJ42711      |
| Fluorene               | 0.0443 (0.0009)      |            | 8270C SIM     |              | 5         | 10/30/14 0:49   | CXJ0423         | CJ42711      |
| Indeno(1,2,3-cd)Pyrene | 0.0020 (0.0002)      |            | 8270C SIM     |              | 5         | 10/30/14 0:49   | CXJ0423         | CJ42711      |
| Naphthalene            | 0.742 (0.0935)       |            | 8270C SIM     |              | 500       | 10/30/14 23:46  | CXJ0423         | CJ42711      |
| Phenanthrene           | 0.0817 (0.0093)      |            | 8270C SIM     |              | 50        | 10/30/14 13:14  | CXJ0423         | CJ42711      |
| Pyrene                 | 0.0186 (0.0009)      |            | 8270C SIM     |              | 5         | 10/30/14 0:49   | CXJ0423         | CJ42711      |

|                                   | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichlorobenzene-d4 | 36 %             |                  | 30-130        |
| Surrogate: 2-Fluorobiphenyl       | 44 %             |                  | 30-130        |
| Surrogate: Nitrobenzene-d5        | 66 %             |                  | 30-130        |
| Surrogate: p-Terphenyl-d14        | 55 %             |                  | 30-130        |





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-312S  
Date Sampled: 10/23/14 08:51  
Percent Solids: N/A

ESS Laboratory Work Order: 1410604  
ESS Laboratory Sample ID: 1410604-01  
Sample Matrix: Ground Water

All methods used are in accordance with 40 CFR 136.

**Classical Chemistry**

| <u>Analyte</u>     | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|--------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Dissolved Cyanide  | 0.5 (0.02)           |            | 9014          |              | 5         | EEM            | 10/27/14 12:40  | mg/L         | CJ42718      |
| Total Cyanide (LL) | 0.638 (0.0250)       |            | 9014          |              | 5         | EEM            | 10/27/14 12:40  | mg/L         | CJ42718      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-312D  
Date Sampled: 10/23/14 08:32  
Percent Solids: N/A  
Initial Volume: 1070  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410604  
ESS Laboratory Sample ID: 1410604-02  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: DPS  
Prepared: 10/24/14 13:25

All methods used are in accordance with 40 CFR 136.

**8100M Total Petroleum Hydrocarbons**

| <u>Analyte</u>               | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------------|----------------------|------------------|------------------|---------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons | 8.39 (0.19)          |                  | 8100M            |               | 1         | 10/25/14 22:13  | CXJ0357         | CJ42436      |
| <hr/>                        |                      |                  |                  |               |           |                 |                 |              |
|                              |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                 |                 |              |
| Surrogate: O-Terphenyl       |                      | 68 %             |                  | 40-140        |           |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-312D

Date Sampled: 10/23/14 08:32

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-02

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>                | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane     | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| 1,1,1-Trichloroethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| 1,1,2,2-Tetrachloroethane     | ND (0.0005)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| 1,1,2-Trichloroethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| 1,1-Dichloroethane            | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| 1,1-Dichloroethene            | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| 1,1-Dichloropropene           | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| 1,2,3-Trichlorobenzene        | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| 1,2,3-Trichloropropane        | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| 1,2,4-Trichlorobenzene        | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| <b>1,2,4-Trimethylbenzene</b> | <b>0.378</b> (0.100)   |            | 8260B         |              | 100       | 10/28/14 17:35  | CXJ0385         | CJ42810      |
| 1,2-Dibromo-3-Chloropropane   | ND (0.0050)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| 1,2-Dibromoethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| 1,2-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| 1,2-Dichloroethane            | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| 1,2-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| <b>1,3,5-Trimethylbenzene</b> | <b>0.0182</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| 1,3-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| 1,3-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| 1,4-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| 1,4-Dioxane - Screen          | ND (0.500)             |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| 1-Chlorohexane                | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| 2,2-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| 2-Butanone                    | ND (0.0100)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| 2-Chlorotoluene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| 2-Hexanone                    | ND (0.0100)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| 4-Chlorotoluene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| <b>4-Isopropyltoluene</b>     | <b>0.0063</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| 4-Methyl-2-Pentanone          | ND (0.0250)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| Acetone                       | ND (0.0100)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| <b>Benzene</b>                | <b>5.98</b> (0.100)    |            | 8260B         |              | 100       | 10/28/14 17:35  | CXJ0385         | CJ42810      |
| Bromobenzene                  | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-312D

Date Sampled: 10/23/14 08:32

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-02

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| Bromodichloromethane       | ND (0.0006)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| Bromoform                  | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| Bromomethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| Carbon Disulfide           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| Carbon Tetrachloride       | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| Chlorobenzene              | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| Chloroethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| Chloroform                 | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| Chloromethane              | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| cis-1,2-Dichloroethene     | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| cis-1,3-Dichloropropene    | ND (0.0004)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| Dibromochloromethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| Dibromomethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| Dichlorodifluoromethane    | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| Diethyl Ether              | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| Di-isopropyl ether         | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| Ethyl tertiary-butyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| <b>Ethylbenzene</b>        | <b>1.93</b> (0.100)    |            | 8260B         |              | 100       | 10/28/14 17:35  | CXJ0385         | CJ42810      |
| Hexachlorobutadiene        | ND (0.0006)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| Hexachloroethane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| <b>Isopropylbenzene</b>    | <b>0.0560</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| Methyl tert-Butyl Ether    | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| Methylene Chloride         | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| <b>Naphthalene</b>         | <b>8.17</b> (0.100)    |            | 8260B         |              | 100       | 10/28/14 17:35  | CXJ0385         | CJ42810      |
| n-Butylbenzene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| <b>n-Propylbenzene</b>     | <b>0.0219</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| sec-Butylbenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| <b>Styrene</b>             | <b>0.0015</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| tert-Butylbenzene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| Tertiary-amyl methyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| Tetrachloroethene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-312D  
Date Sampled: 10/23/14 08:32  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1410604  
ESS Laboratory Sample ID: 1410604-02  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.0050)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| <b>Toluene</b>            | <b>0.0088</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| trans-1,2-Dichloroethene  | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| trans-1,3-Dichloropropene | ND (0.0004)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| Trichloroethene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| Trichlorofluoromethane    | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| Vinyl Acetate             | ND (0.0050)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| Vinyl Chloride            | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| <b>Xylene O</b>           | <b>0.515</b> (0.100)   |            | 8260B         |              | 100       | 10/28/14 17:35  | CXJ0385         | CJ42810      |
| <b>Xylene P,M</b>         | <b>0.0448</b> (0.0020) |            | 8260B         |              | 1         | 10/27/14 20:26  | CXJ0385         | CJ42810      |
| <b>Xylenes (Total)</b>    | <b>0.560</b> (0.100)   |            | 8260B         |              | 100       | 10/28/14 17:35  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.0010)            |            | 8260B         |              |           | 10/27/14 20:26  |                 | [CALC]       |

|                                  | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichloroethane-d4 | 106 %            |                  | 70-130        |
| Surrogate: 4-Bromofluorobenzene  | 106 %            |                  | 70-130        |
| Surrogate: Dibromofluoromethane  | 110 %            |                  | 70-130        |
| Surrogate: Toluene-d8            | 110 %            |                  | 70-130        |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-312D  
Date Sampled: 10/23/14 08:32  
Percent Solids: N/A  
Initial Volume: 1050  
Final Volume: 0.25  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410604  
ESS Laboratory Sample ID: 1410604-02  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: VSC  
Prepared: 10/27/14 14:36

All methods used are in accordance with 40 CFR 136.

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

| <u>Analyte</u>         | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 2-Methylnaphthalene    | 0.130 (0.0095)       |            | 8270C SIM     |              | 50        | 10/31/14 1:26   | CXJ0451         | CJ42711      |
| Acenaphthene           | 0.0905 (0.0095)      |            | 8270C SIM     |              | 50        | 10/31/14 1:26   | CXJ0451         | CJ42711      |
| Acenaphthylene         | ND (0.0095)          |            | 8270C SIM     |              | 50        | 10/31/14 1:26   | CXJ0451         | CJ42711      |
| Anthracene             | 0.0219 (0.0095)      |            | 8270C SIM     |              | 50        | 10/31/14 1:26   | CXJ0451         | CJ42711      |
| Benzo(a)anthracene     | ND (0.0024)          |            | 8270C SIM     |              | 50        | 10/31/14 1:26   | CXJ0451         | CJ42711      |
| Benzo(a)pyrene         | ND (0.0024)          |            | 8270C SIM     |              | 50        | 10/31/14 1:26   | CXJ0451         | CJ42711      |
| Benzo(b)fluoranthene   | ND (0.0024)          |            | 8270C SIM     |              | 50        | 10/31/14 1:26   | CXJ0451         | CJ42711      |
| Benzo(g,h,i)perylene   | ND (0.0095)          |            | 8270C SIM     |              | 50        | 10/31/14 1:26   | CXJ0451         | CJ42711      |
| Benzo(k)fluoranthene   | ND (0.0024)          |            | 8270C SIM     |              | 50        | 10/31/14 1:26   | CXJ0451         | CJ42711      |
| Chrysene               | ND (0.0024)          |            | 8270C SIM     |              | 50        | 10/31/14 1:26   | CXJ0451         | CJ42711      |
| Dibenzo(a,h)Anthracene | ND (0.0024)          |            | 8270C SIM     |              | 50        | 10/31/14 1:26   | CXJ0451         | CJ42711      |
| Fluoranthene           | ND (0.0095)          |            | 8270C SIM     |              | 50        | 10/31/14 1:26   | CXJ0451         | CJ42711      |
| Fluorene               | 0.0233 (0.0095)      |            | 8270C SIM     |              | 50        | 10/31/14 1:26   | CXJ0451         | CJ42711      |
| Indeno(1,2,3-cd)Pyrene | ND (0.0024)          |            | 8270C SIM     |              | 50        | 10/31/14 1:26   | CXJ0451         | CJ42711      |
| Naphthalene            | 3.02 (0.0952)        |            | 8270C SIM     |              | 500       | 10/31/14 11:35  | CXJ0451         | CJ42711      |
| Phenanthrene           | 0.0218 (0.0095)      |            | 8270C SIM     |              | 50        | 10/31/14 1:26   | CXJ0451         | CJ42711      |
| Pyrene                 | ND (0.0095)          |            | 8270C SIM     |              | 50        | 10/31/14 1:26   | CXJ0451         | CJ42711      |

|                                   | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichlorobenzene-d4 | 49 %             |                  | 30-130        |
| Surrogate: 2-Fluorobiphenyl       | 63 %             |                  | 30-130        |
| Surrogate: Nitrobenzene-d5        | 64 %             |                  | 30-130        |
| Surrogate: p-Terphenyl-d14        | 68 %             |                  | 30-130        |





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-312D  
Date Sampled: 10/23/14 08:32  
Percent Solids: N/A

ESS Laboratory Work Order: 1410604  
ESS Laboratory Sample ID: 1410604-02  
Sample Matrix: Ground Water

All methods used are in accordance with 40 CFR 136.

**Classical Chemistry**

| <u>Analyte</u>     | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|--------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Dissolved Cyanide  | 0.8 (0.05)           |            | 9014          |              | 10        | EEM            | 10/27/14 12:40  | mg/L         | CJ42718      |
| Total Cyanide (LL) | 0.875 (0.0500)       |            | 9014          |              | 10        | EEM            | 10/27/14 12:40  | mg/L         | CJ42718      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-7  
Date Sampled: 10/23/14 15:55  
Percent Solids: N/A  
Initial Volume: 1070  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410604  
ESS Laboratory Sample ID: 1410604-03  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: JXS  
Prepared: 10/24/14 13:25

All methods used are in accordance with 40 CFR 136.

**8100M Total Petroleum Hydrocarbons**

| <u>Analyte</u>                | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|----------------------|------------------|------------------|---------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons  | ND (0.19)            |                  | 8100M            |               | 1         | 10/27/14 12:20  | CXJ0363         | CJ42436      |
| <hr/>                         |                      |                  |                  |               |           |                 |                 |              |
|                               |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                 |                 |              |
| <i>Surrogate: O-Terphenyl</i> |                      | 75 %             |                  | 40-140        |           |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-7

Date Sampled: 10/23/14 15:55

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-03

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

**All methods used are in accordance with 40 CFR 136.**

**8260B Volatile Organic Compounds**

| <u>Analyte</u>              | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane   | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 1,1,1-Trichloroethane       | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 1,1,2,2-Tetrachloroethane   | ND (0.0005)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 1,1,2-Trichloroethane       | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 1,1-Dichloroethane          | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 1,1-Dichloroethene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 1,1-Dichloropropene         | ND (0.0020)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 1,2,3-Trichlorobenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 1,2,3-Trichloropropane      | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 1,2,4-Trichlorobenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 1,2,4-Trimethylbenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 1,2-Dibromo-3-Chloropropane | ND (0.0050)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 1,2-Dibromoethane           | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 1,2-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 1,2-Dichloroethane          | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 1,2-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 1,3,5-Trimethylbenzene      | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 1,3-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 1,3-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 1,4-Dichlorobenzene         | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 1,4-Dioxane - Screen        | ND (0.500)           |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 1-Chlorohexane              | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 2,2-Dichloropropane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 2-Butanone                  | ND (0.0100)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 2-Chlorotoluene             | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 2-Hexanone                  | ND (0.0100)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 4-Chlorotoluene             | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 4-Isopropyltoluene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| 4-Methyl-2-Pentanone        | ND (0.0250)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Acetone                     | ND (0.0100)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Benzene                     | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Bromobenzene                | ND (0.0020)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-7

Date Sampled: 10/23/14 15:55

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-03

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

**All methods used are in accordance with 40 CFR 136.**

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane         | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Bromodichloromethane       | ND (0.0006)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Bromoform                  | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Bromomethane               | ND (0.0020)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Carbon Disulfide           | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Carbon Tetrachloride       | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Chlorobenzene              | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Chloroethane               | ND (0.0020)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Chloroform                 | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Chloromethane              | ND (0.0020)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| cis-1,2-Dichloroethene     | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| cis-1,3-Dichloropropene    | ND (0.0004)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Dibromochloromethane       | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Dibromomethane             | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Dichlorodifluoromethane    | ND (0.0020)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Diethyl Ether              | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Di-isopropyl ether         | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Ethyl tertiary-butyl ether | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Ethylbenzene               | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Hexachlorobutadiene        | ND (0.0006)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Hexachloroethane           | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Isopropylbenzene           | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Methyl tert-Butyl Ether    | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Methylene Chloride         | ND (0.0020)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Naphthalene                | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| n-Butylbenzene             | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| n-Propylbenzene            | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| sec-Butylbenzene           | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Styrene                    | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| tert-Butylbenzene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Tertiary-amyl methyl ether | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Tetrachloroethene          | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-7

Date Sampled: 10/23/14 15:55

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-03

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.0050)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Toluene                   | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| trans-1,2-Dichloroethene  | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| trans-1,3-Dichloropropene | ND (0.0004)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Trichloroethene           | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Trichlorofluoromethane    | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Vinyl Acetate             | ND (0.0050)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Vinyl Chloride            | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Xylene O                  | ND (0.0010)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Xylene P,M                | ND (0.0020)          |            | 8260B         |              | 1         | 10/27/14 18:20  | CXJ0385         | CJ42810      |
| Xylenes (Total)           | ND (0.0020)          |            | 8260B         |              | 1         | 10/27/14 18:20  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.0010)          |            | 8260B         |              |           | 10/27/14 18:20  |                 | [CALC]       |

|                                         | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>126 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>96 %</i>      |                  | <i>70-130</i> |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>120 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Toluene-d8</i>            | <i>103 %</i>     |                  | <i>70-130</i> |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-7

Date Sampled: 10/23/14 15:55

Percent Solids: N/A

Initial Volume: 1050

Final Volume: 0.25

Extraction Method: 3510C

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-03

Sample Matrix: Ground Water

Units: mg/L

Analyst: VSC

Prepared: 10/27/14 14:36

All methods used are in accordance with 40 CFR 136.

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

| <u>Analyte</u>         | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 2-Methylnaphthalene    | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/30/14 3:20   | CXJ0423         | CJ42711      |
| Acenaphthene           | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/30/14 3:20   | CXJ0423         | CJ42711      |
| Acenaphthylene         | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/30/14 3:20   | CXJ0423         | CJ42711      |
| Anthracene             | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/30/14 3:20   | CXJ0423         | CJ42711      |
| Benzo(a)anthracene     | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/30/14 3:20   | CXJ0423         | CJ42711      |
| Benzo(a)pyrene         | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/30/14 3:20   | CXJ0423         | CJ42711      |
| Benzo(b)fluoranthene   | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/30/14 3:20   | CXJ0423         | CJ42711      |
| Benzo(g,h,i)perylene   | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/30/14 3:20   | CXJ0423         | CJ42711      |
| Benzo(k)fluoranthene   | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/30/14 3:20   | CXJ0423         | CJ42711      |
| Chrysene               | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/30/14 3:20   | CXJ0423         | CJ42711      |
| Dibenzo(a,h)Anthracene | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/30/14 3:20   | CXJ0423         | CJ42711      |
| Fluoranthene           | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/30/14 3:20   | CXJ0423         | CJ42711      |
| Fluorene               | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/30/14 3:20   | CXJ0423         | CJ42711      |
| Indeno(1,2,3-cd)Pyrene | ND (0.00005)           |            | 8270C SIM     |              | 1         | 10/30/14 3:20   | CXJ0423         | CJ42711      |
| <b>Naphthalene</b>     | <b>0.0012</b> (0.0002) |            | 8270C SIM     |              | 1         | 10/30/14 3:20   | CXJ0423         | CJ42711      |
| Phenanthrene           | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/30/14 3:20   | CXJ0423         | CJ42711      |
| Pyrene                 | ND (0.0002)            |            | 8270C SIM     |              | 1         | 10/30/14 3:20   | CXJ0423         | CJ42711      |

|                                   | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichlorobenzene-d4 | 45 %             |                  | 30-130        |
| Surrogate: 2-Fluorobiphenyl       | 57 %             |                  | 30-130        |
| Surrogate: Nitrobenzene-d5        | 67 %             |                  | 30-130        |
| Surrogate: p-Terphenyl-d14        | 64 %             |                  | 30-130        |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-7  
Date Sampled: 10/23/14 15:55  
Percent Solids: N/A

ESS Laboratory Work Order: 1410604  
ESS Laboratory Sample ID: 1410604-03  
Sample Matrix: Ground Water

All methods used are in accordance with 40 CFR 136.

**Classical Chemistry**

| <u>Analyte</u>     | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|--------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Dissolved Cyanide  | 0.02 (0.005)         |            | 9014          |              | 1         | EEM            | 10/27/14 12:40  | mg/L         | CJ42718      |
| Total Cyanide (LL) | 0.0454 (0.0050)      |            | 9014          |              | 1         | EEM            | 10/27/14 12:40  | mg/L         | CJ42718      |





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-339S  
Date Sampled: 10/23/14 14:12  
Percent Solids: N/A  
Initial Volume: 1070  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410604  
ESS Laboratory Sample ID: 1410604-04  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: JXS  
Prepared: 10/24/14 13:25

All methods used are in accordance with 40 CFR 136.

**8100M Total Petroleum Hydrocarbons**

| <u>Analyte</u>               | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------------|----------------------|------------------|------------------|---------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons | 1.03 (0.19)          |                  | 8100M            |               | 1         | 10/27/14 12:58  | CXJ0363         | CJ42436      |
| <hr/>                        |                      |                  |                  |               |           |                 |                 |              |
|                              |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                 |                 |              |
| Surrogate: O-Terphenyl       |                      | 77 %             |                  | 40-140        |           |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-339S

Date Sampled: 10/23/14 14:12

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-04

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>                | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane     | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| 1,1,1-Trichloroethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| 1,1,2,2-Tetrachloroethane     | ND (0.0005)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| 1,1,2-Trichloroethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| 1,1-Dichloroethane            | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| 1,1-Dichloroethene            | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| 1,1-Dichloropropene           | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| 1,2,3-Trichlorobenzene        | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| 1,2,3-Trichloropropane        | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| 1,2,4-Trichlorobenzene        | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| <b>1,2,4-Trimethylbenzene</b> | <b>0.0082</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| 1,2-Dibromo-3-Chloropropane   | ND (0.0050)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| 1,2-Dibromoethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| 1,2-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| 1,2-Dichloroethane            | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| 1,2-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| <b>1,3,5-Trimethylbenzene</b> | <b>0.0026</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| 1,3-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| 1,3-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| 1,4-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| 1,4-Dioxane - Screen          | ND (0.500)             |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| 1-Chlorohexane                | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| 2,2-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| 2-Butanone                    | ND (0.0100)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| 2-Chlorotoluene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| 2-Hexanone                    | ND (0.0100)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| 4-Chlorotoluene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| 4-Isopropyltoluene            | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| 4-Methyl-2-Pentanone          | ND (0.0250)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| <b>Acetone</b>                | <b>0.0546</b> (0.0100) |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Benzene                       | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Bromobenzene                  | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-339S

Date Sampled: 10/23/14 14:12

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-04

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u>  | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|-----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane         | ND (0.0010)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Bromodichloromethane       | ND (0.0006)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Bromoform                  | ND (0.0010)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Bromomethane               | ND (0.0020)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Carbon Disulfide           | ND (0.0010)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Carbon Tetrachloride       | ND (0.0010)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Chlorobenzene              | ND (0.0010)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Chloroethane               | ND (0.0020)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Chloroform                 | ND (0.0010)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Chloromethane              | ND (0.0020)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| cis-1,2-Dichloroethene     | ND (0.0010)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| cis-1,3-Dichloropropene    | ND (0.0004)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Dibromochloromethane       | ND (0.0010)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Dibromomethane             | ND (0.0010)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Dichlorodifluoromethane    | ND (0.0020)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Diethyl Ether              | ND (0.0010)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Di-isopropyl ether         | ND (0.0010)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Ethyl tertiary-butyl ether | ND (0.0010)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Ethylbenzene               | ND (0.0010)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Hexachlorobutadiene        | ND (0.0006)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Hexachloroethane           | ND (0.0010)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Isopropylbenzene           | ND (0.0010)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Methyl tert-Butyl Ether    | ND (0.0010)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Methylene Chloride         | ND (0.0020)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| <b>Naphthalene</b>         | <b>0.300</b> (0.0100) |            | 8260B         |              | 10        | 10/28/14 16:19  | CXJ0385         | CJ42810      |
| n-Butylbenzene             | ND (0.0010)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| n-Propylbenzene            | ND (0.0010)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| sec-Butylbenzene           | ND (0.0010)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Styrene                    | ND (0.0010)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| tert-Butylbenzene          | ND (0.0010)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Tertiary-amyl methyl ether | ND (0.0010)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Tetrachloroethene          | ND (0.0010)           |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-339S

Date Sampled: 10/23/14 14:12

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-04

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.0050)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Toluene                   | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| trans-1,2-Dichloroethene  | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| trans-1,3-Dichloropropene | ND (0.0004)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Trichloroethene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Trichlorofluoromethane    | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Vinyl Acetate             | ND (0.0050)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Vinyl Chloride            | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| <b>Xylene O</b>           | <b>0.0010</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Xylene P,M                | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 18:45  | CXJ0385         | CJ42810      |
| Xylenes (Total)           | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 18:45  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.0010)            |            | 8260B         |              |           | 10/27/14 18:45  |                 | [CALC]       |

|                                         | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>125 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>101 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>119 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Toluene-d8</i>            | <i>104 %</i>     |                  | <i>70-130</i> |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-339S

Date Sampled: 10/23/14 14:12

Percent Solids: N/A

Initial Volume: 1070

Final Volume: 0.25

Extraction Method: 3510C

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-04

Sample Matrix: Ground Water

Units: mg/L

Analyst: IBM

Prepared: 10/27/14 14:36

All methods used are in accordance with 40 CFR 136.

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

| <u>Analyte</u>         | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 2-Methylnaphthalene    | 0.0276 (0.0019)      |            | 8270C SIM     |              | 10        | 10/30/14 14:05  | CXJ0423         | CJ42711      |
| Acenaphthene           | 0.0005 (0.0002)      |            | 8270C SIM     |              | 1         | 10/30/14 4:10   | CXJ0423         | CJ42711      |
| Acenaphthylene         | 0.0006 (0.0002)      |            | 8270C SIM     |              | 1         | 10/30/14 4:10   | CXJ0423         | CJ42711      |
| Anthracene             | 0.0005 (0.0002)      |            | 8270C SIM     |              | 1         | 10/30/14 4:10   | CXJ0423         | CJ42711      |
| Benzo(a)anthracene     | 0.0001 (0.00005)     |            | 8270C SIM     |              | 1         | 10/30/14 4:10   | CXJ0423         | CJ42711      |
| Benzo(a)pyrene         | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/30/14 4:10   | CXJ0423         | CJ42711      |
| Benzo(b)fluoranthene   | 0.00007 (0.00005)    |            | 8270C SIM     |              | 1         | 10/30/14 4:10   | CXJ0423         | CJ42711      |
| Benzo(g,h,i)perylene   | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/30/14 4:10   | CXJ0423         | CJ42711      |
| Benzo(k)fluoranthene   | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/30/14 4:10   | CXJ0423         | CJ42711      |
| Chrysene               | 0.0001 (0.00005)     |            | 8270C SIM     |              | 1         | 10/30/14 4:10   | CXJ0423         | CJ42711      |
| Dibenzo(a,h)Anthracene | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/30/14 4:10   | CXJ0423         | CJ42711      |
| Fluoranthene           | 0.0004 (0.0002)      |            | 8270C SIM     |              | 1         | 10/30/14 4:10   | CXJ0423         | CJ42711      |
| Fluorene               | 0.0011 (0.0002)      |            | 8270C SIM     |              | 1         | 10/30/14 4:10   | CXJ0423         | CJ42711      |
| Indeno(1,2,3-cd)Pyrene | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/30/14 4:10   | CXJ0423         | CJ42711      |
| Naphthalene            | 0.101 (0.0019)       |            | 8270C SIM     |              | 10        | 10/30/14 14:05  | CXJ0423         | CJ42711      |
| Phenanthrene           | 0.0014 (0.0002)      |            | 8270C SIM     |              | 1         | 10/30/14 4:10   | CXJ0423         | CJ42711      |
| Pyrene                 | 0.0005 (0.0002)      |            | 8270C SIM     |              | 1         | 10/30/14 4:10   | CXJ0423         | CJ42711      |

|                                   | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichlorobenzene-d4 | 39 %             |                  | 30-130        |
| Surrogate: 2-Fluorobiphenyl       | 47 %             |                  | 30-130        |
| Surrogate: Nitrobenzene-d5        | 58 %             |                  | 30-130        |
| Surrogate: p-Terphenyl-d14        | 55 %             |                  | 30-130        |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-339S  
Date Sampled: 10/23/14 14:12  
Percent Solids: N/A

ESS Laboratory Work Order: 1410604  
ESS Laboratory Sample ID: 1410604-04  
Sample Matrix: Ground Water

All methods used are in accordance with 40 CFR 136.

**Classical Chemistry**

| <u>Analyte</u>     | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|--------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Dissolved Cyanide  | 0.2 (0.01)           |            | 9014          |              | 2         | EEM            | 10/27/14 12:40  | mg/L         | CJ42718      |
| Total Cyanide (LL) | 0.218 (0.0100)       |            | 9014          |              | 2         | EEM            | 10/27/14 12:40  | mg/L         | CJ42718      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-339D  
Date Sampled: 10/23/14 14:23  
Percent Solids: N/A  
Initial Volume: 1070  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410604  
ESS Laboratory Sample ID: 1410604-05  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: JXS  
Prepared: 10/24/14 13:25

All methods used are in accordance with 40 CFR 136.

**8100M Total Petroleum Hydrocarbons**

| <u>Analyte</u>               | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------------|----------------------|------------------|------------------|---------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons | 7.04 (0.19)          |                  | 8100M            |               | 1         | 10/27/14 13:37  | CXJ0363         | CJ42436      |
| <hr/>                        |                      |                  |                  |               |           |                 |                 |              |
|                              |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                 |                 |              |
| Surrogate: O-Terphenyl       |                      | 84 %             |                  | 40-140        |           |                 |                 |              |





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-339D

Date Sampled: 10/23/14 14:23

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-05

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>                | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane     | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| 1,1,1-Trichloroethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| 1,1,2,2-Tetrachloroethane     | ND (0.0005)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| 1,1,2-Trichloroethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| 1,1-Dichloroethane            | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| 1,1-Dichloroethene            | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| 1,1-Dichloropropene           | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| 1,2,3-Trichlorobenzene        | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| 1,2,3-Trichloropropane        | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| 1,2,4-Trichlorobenzene        | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| <b>1,2,4-Trimethylbenzene</b> | <b>0.400</b> (0.0500)  |            | 8260B         |              | 50        | 10/28/14 17:10  | CXJ0385         | CJ42810      |
| 1,2-Dibromo-3-Chloropropane   | ND (0.0050)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| 1,2-Dibromoethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| 1,2-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| 1,2-Dichloroethane            | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| 1,2-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| <b>1,3,5-Trimethylbenzene</b> | <b>0.0855</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| 1,3-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| 1,3-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| 1,4-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| 1,4-Dioxane - Screen          | ND (0.500)             |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| 1-Chlorohexane                | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| 2,2-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| 2-Butanone                    | ND (0.0100)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| 2-Chlorotoluene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| 2-Hexanone                    | ND (0.0100)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| 4-Chlorotoluene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| <b>4-Isopropyltoluene</b>     | <b>0.0073</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| 4-Methyl-2-Pentanone          | ND (0.0250)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| Acetone                       | ND (0.0100)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| <b>Benzene</b>                | <b>0.0265</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| Bromobenzene                  | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-339D

Date Sampled: 10/23/14 14:23

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-05

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| Bromodichloromethane       | ND (0.0006)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| Bromoform                  | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| Bromomethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| Carbon Disulfide           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| Carbon Tetrachloride       | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| Chlorobenzene              | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| Chloroethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| Chloroform                 | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| Chloromethane              | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| cis-1,2-Dichloroethene     | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| cis-1,3-Dichloropropene    | ND (0.0004)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| Dibromochloromethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| Dibromomethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| Dichlorodifluoromethane    | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| Diethyl Ether              | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| Di-isopropyl ether         | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| Ethyl tertiary-butyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| <b>Ethylbenzene</b>        | <b>0.183</b> (0.0500)  |            | 8260B         |              | 50        | 10/28/14 17:10  | CXJ0385         | CJ42810      |
| Hexachlorobutadiene        | ND (0.0006)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| Hexachloroethane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| <b>Isopropylbenzene</b>    | <b>0.0437</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| Methyl tert-Butyl Ether    | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| Methylene Chloride         | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| <b>Naphthalene</b>         | <b>4.29</b> (0.0500)   |            | 8260B         |              | 50        | 10/28/14 17:10  | CXJ0385         | CJ42810      |
| n-Butylbenzene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| <b>n-Propylbenzene</b>     | <b>0.0260</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| <b>sec-Butylbenzene</b>    | <b>0.0013</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| <b>Styrene</b>             | <b>0.0158</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| tert-Butylbenzene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| Tertiary-amyl methyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| Tetrachloroethene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-339D

Date Sampled: 10/23/14 14:23

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-05

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.0050)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| <b>Toluene</b>            | <b>0.0398</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| trans-1,2-Dichloroethene  | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| trans-1,3-Dichloropropene | ND (0.0004)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| Trichloroethene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| Trichlorofluoromethane    | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| Vinyl Acetate             | ND (0.0050)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| Vinyl Chloride            | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 22:06  | CXJ0385         | CJ42810      |
| <b>Xylene O</b>           | <b>0.344</b> (0.0500)  |            | 8260B         |              | 50        | 10/28/14 17:10  | CXJ0385         | CJ42810      |
| <b>Xylene P,M</b>         | <b>0.317</b> (0.100)   |            | 8260B         |              | 50        | 10/28/14 17:10  | CXJ0385         | CJ42810      |
| <b>Xylenes (Total)</b>    | <b>0.661</b> (0.100)   |            | 8260B         |              | 50        | 10/28/14 17:10  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.0010)            |            | 8260B         |              |           | 10/27/14 22:06  |                 | [CALC]       |

|                                  | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichloroethane-d4 | 104 %            |                  | 70-130        |
| Surrogate: 4-Bromofluorobenzene  | 105 %            |                  | 70-130        |
| Surrogate: Dibromofluoromethane  | 111 %            |                  | 70-130        |
| Surrogate: Toluene-d8            | 109 %            |                  | 70-130        |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-339D  
Date Sampled: 10/23/14 14:23  
Percent Solids: N/A  
Initial Volume: 1070  
Final Volume: 0.25  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410604  
ESS Laboratory Sample ID: 1410604-05  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: VSC  
Prepared: 10/27/14 14:36

All methods used are in accordance with 40 CFR 136.

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

| <u>Analyte</u>         | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 2-Methylnaphthalene    | 0.190 (0.0187)       |            | 8270C SIM     |              | 100       | 10/30/14 22:56  | CXJ0427         | CJ42711      |
| Acenaphthene           | 0.0564 (0.0009)      |            | 8270C SIM     |              | 5         | 10/30/14 11:34  | CXJ0427         | CJ42711      |
| Acenaphthylene         | 0.0696 (0.0187)      |            | 8270C SIM     |              | 100       | 10/30/14 22:56  | CXJ0427         | CJ42711      |
| Anthracene             | 0.0037 (0.0009)      |            | 8270C SIM     |              | 5         | 10/30/14 11:34  | CXJ0427         | CJ42711      |
| Benzo(a)anthracene     | ND (0.0002)          |            | 8270C SIM     |              | 5         | 10/30/14 11:34  | CXJ0427         | CJ42711      |
| Benzo(a)pyrene         | ND (0.0002)          |            | 8270C SIM     |              | 5         | 10/30/14 11:34  | CXJ0427         | CJ42711      |
| Benzo(b)fluoranthene   | ND (0.0002)          |            | 8270C SIM     |              | 5         | 10/30/14 11:34  | CXJ0427         | CJ42711      |
| Benzo(g,h,i)perylene   | ND (0.0009)          |            | 8270C SIM     |              | 5         | 10/30/14 11:34  | CXJ0427         | CJ42711      |
| Benzo(k)fluoranthene   | ND (0.0002)          |            | 8270C SIM     |              | 5         | 10/30/14 11:34  | CXJ0427         | CJ42711      |
| Chrysene               | ND (0.0002)          |            | 8270C SIM     |              | 5         | 10/30/14 11:34  | CXJ0427         | CJ42711      |
| Dibenzo(a,h)Anthracene | ND (0.0002)          |            | 8270C SIM     |              | 5         | 10/30/14 11:34  | CXJ0427         | CJ42711      |
| Fluoranthene           | 0.0010 (0.0009)      |            | 8270C SIM     |              | 5         | 10/30/14 11:34  | CXJ0427         | CJ42711      |
| Fluorene               | 0.0287 (0.0009)      |            | 8270C SIM     |              | 5         | 10/30/14 11:34  | CXJ0427         | CJ42711      |
| Indeno(1,2,3-cd)Pyrene | ND (0.0002)          |            | 8270C SIM     |              | 5         | 10/30/14 11:34  | CXJ0427         | CJ42711      |
| Naphthalene            | 1.42 (0.0935)        |            | 8270C SIM     |              | 500       | 10/31/14 12:24  | CXJ0427         | CJ42711      |
| Phenanthrene           | 0.0259 (0.0009)      |            | 8270C SIM     |              | 5         | 10/30/14 11:34  | CXJ0427         | CJ42711      |
| Pyrene                 | 0.0012 (0.0009)      |            | 8270C SIM     |              | 5         | 10/30/14 11:34  | CXJ0427         | CJ42711      |

|                                   | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichlorobenzene-d4 | 43 %             |                  | 30-130        |
| Surrogate: 2-Fluorobiphenyl       | 56 %             |                  | 30-130        |
| Surrogate: Nitrobenzene-d5        | 188 %            | S+               | 30-130        |
| Surrogate: p-Terphenyl-d14        | 69 %             |                  | 30-130        |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-339D  
Date Sampled: 10/23/14 14:23  
Percent Solids: N/A

ESS Laboratory Work Order: 1410604  
ESS Laboratory Sample ID: 1410604-05  
Sample Matrix: Ground Water

All methods used are in accordance with 40 CFR 136.

**Classical Chemistry**

| <u>Analyte</u>     | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|--------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Dissolved Cyanide  | 0.09 (0.005)         |            | 9014          |              | 1         | EEM            | 10/27/14 12:40  | mg/L         | CJ42718      |
| Total Cyanide (LL) | 0.144 (0.0050)       |            | 9014          |              | 1         | EEM            | 10/27/14 12:40  | mg/L         | CJ42718      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-201  
Date Sampled: 10/23/14 12:23  
Percent Solids: N/A  
Initial Volume: 990  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410604  
ESS Laboratory Sample ID: 1410604-06  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: JXS  
Prepared: 10/24/14 13:25

All methods used are in accordance with 40 CFR 136.

**8100M Total Petroleum Hydrocarbons**

| <u>Analyte</u>               | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons | 1.65 (0.20)          |            | 8100M         |              | 1         | 10/27/14 14:16  | CXJ0363         | CJ42436      |

|                               | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-------------------------------|------------------|------------------|---------------|
| <i>Surrogate: O-Terphenyl</i> | 85 %             |                  | 40-140        |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-201

Date Sampled: 10/23/14 12:23

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-06

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>                | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane     | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| 1,1,1-Trichloroethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| 1,1,2,2-Tetrachloroethane     | ND (0.0005)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| 1,1,2-Trichloroethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| 1,1-Dichloroethane            | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| 1,1-Dichloroethene            | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| 1,1-Dichloropropene           | ND (0.0020)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| 1,2,3-Trichlorobenzene        | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| 1,2,3-Trichloropropane        | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| 1,2,4-Trichlorobenzene        | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| <b>1,2,4-Trimethylbenzene</b> | <b>0.0066</b> (0.0010) |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| 1,2-Dibromo-3-Chloropropane   | ND (0.0050)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| 1,2-Dibromoethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| 1,2-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| 1,2-Dichloroethane            | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| 1,2-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| 1,3,5-Trimethylbenzene        | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| 1,3-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| 1,3-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| 1,4-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| 1,4-Dioxane - Screen          | ND (0.500)             |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| 1-Chlorohexane                | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| 2,2-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| 2-Butanone                    | ND (0.0100)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| 2-Chlorotoluene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| 2-Hexanone                    | ND (0.0100)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| 4-Chlorotoluene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| 4-Isopropyltoluene            | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| 4-Methyl-2-Pentanone          | ND (0.0250)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| Acetone                       | ND (0.0100)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| <b>Benzene</b>                | <b>0.133</b> (0.0100)  |            | 8260B         |              | 10        | 10/29/14 18:54  | CXJ0403         | CJ42842      |
| Bromobenzene                  | ND (0.0020)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-201

Date Sampled: 10/23/14 12:23

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-06

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| Bromodichloromethane       | ND (0.0006)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| Bromoform                  | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| Bromomethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| <b>Carbon Disulfide</b>    | <b>0.0094</b> (0.0010) |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| Carbon Tetrachloride       | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| Chlorobenzene              | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| Chloroethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| Chloroform                 | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| Chloromethane              | ND (0.0020)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| cis-1,2-Dichloroethene     | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| cis-1,3-Dichloropropene    | ND (0.0004)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| Dibromochloromethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| Dibromomethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| Dichlorodifluoromethane    | ND (0.0020)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| Diethyl Ether              | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| Di-isopropyl ether         | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| Ethyl tertiary-butyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| <b>Ethylbenzene</b>        | <b>0.0166</b> (0.0010) |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| Hexachlorobutadiene        | ND (0.0006)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| Hexachloroethane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| <b>Isopropylbenzene</b>    | <b>0.0172</b> (0.0010) |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| Methyl tert-Butyl Ether    | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| Methylene Chloride         | ND (0.0020)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| <b>Naphthalene</b>         | <b>0.0115</b> (0.0010) |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| <b>n-Butylbenzene</b>      | <b>0.0048</b> (0.0010) |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| <b>n-Propylbenzene</b>     | <b>0.0142</b> (0.0010) |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| <b>sec-Butylbenzene</b>    | <b>0.0016</b> (0.0010) |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| <b>Styrene</b>             | <b>0.0015</b> (0.0010) |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| tert-Butylbenzene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| Tertiary-amyl methyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| Tetrachloroethene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-201  
Date Sampled: 10/23/14 12:23  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1410604  
ESS Laboratory Sample ID: 1410604-06  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.0050)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| <b>Toluene</b>            | <b>0.0012</b> (0.0010) |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| trans-1,2-Dichloroethene  | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| trans-1,3-Dichloropropene | ND (0.0004)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| Trichloroethene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| Trichlorofluoromethane    | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| Vinyl Acetate             | ND (0.0050)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| Vinyl Chloride            | ND (0.0010)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| <b>Xylene O</b>           | <b>0.0056</b> (0.0010) |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| Xylene P,M                | ND (0.0020)            |            | 8260B         |              | 1         | 10/28/14 15:04  | CXJ0403         | CJ42842      |
| <b>Xylenes (Total)</b>    | <b>0.0056</b> (0.0020) |            | 8260B         |              | 1         | 10/28/14 15:04  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.0010)            |            | 8260B         |              |           | 10/28/14 15:04  |                 | [CALC]       |

|                                  | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichloroethane-d4 | 121 %            |                  | 70-130        |
| Surrogate: 4-Bromofluorobenzene  | 104 %            |                  | 70-130        |
| Surrogate: Dibromofluoromethane  | 121 %            |                  | 70-130        |
| Surrogate: Toluene-d8            | 103 %            |                  | 70-130        |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-201

Date Sampled: 10/23/14 12:23

Percent Solids: N/A

Initial Volume: 1070

Final Volume: 0.25

Extraction Method: 3510C

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-06

Sample Matrix: Ground Water

Units: mg/L

Analyst: VSC

Prepared: 10/27/14 14:36

All methods used are in accordance with 40 CFR 136.

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

| <u>Analyte</u>         | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 2-Methylnaphthalene    | 0.0002 (0.0002)      |            | 8270C SIM     |              | 1         | 10/30/14 5:50   | CXJ0423         | CJ42711      |
| Acenaphthene           | 0.0052 (0.0002)      |            | 8270C SIM     |              | 1         | 10/30/14 5:50   | CXJ0423         | CJ42711      |
| Acenaphthylene         | 0.0011 (0.0002)      |            | 8270C SIM     |              | 1         | 10/30/14 5:50   | CXJ0423         | CJ42711      |
| Anthracene             | 0.0025 (0.0002)      |            | 8270C SIM     |              | 1         | 10/30/14 5:50   | CXJ0423         | CJ42711      |
| Benzo(a)anthracene     | 0.0003 (0.00005)     |            | 8270C SIM     |              | 1         | 10/30/14 5:50   | CXJ0423         | CJ42711      |
| Benzo(a)pyrene         | 0.0001 (0.00005)     |            | 8270C SIM     |              | 1         | 10/30/14 5:50   | CXJ0423         | CJ42711      |
| Benzo(b)fluoranthene   | 0.0001 (0.00005)     |            | 8270C SIM     |              | 1         | 10/30/14 5:50   | CXJ0423         | CJ42711      |
| Benzo(g,h,i)perylene   | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/30/14 5:50   | CXJ0423         | CJ42711      |
| Benzo(k)fluoranthene   | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/30/14 5:50   | CXJ0423         | CJ42711      |
| Chrysene               | 0.0002 (0.00005)     |            | 8270C SIM     |              | 1         | 10/30/14 5:50   | CXJ0423         | CJ42711      |
| Dibenzo(a,h)Anthracene | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/30/14 5:50   | CXJ0423         | CJ42711      |
| Fluoranthene           | 0.0015 (0.0002)      |            | 8270C SIM     |              | 1         | 10/30/14 5:50   | CXJ0423         | CJ42711      |
| Fluorene               | 0.0103 (0.0002)      |            | 8270C SIM     |              | 1         | 10/30/14 5:50   | CXJ0423         | CJ42711      |
| Indeno(1,2,3-cd)Pyrene | 0.00008 (0.00005)    |            | 8270C SIM     |              | 1         | 10/30/14 5:50   | CXJ0423         | CJ42711      |
| Naphthalene            | 0.0065 (0.0002)      |            | 8270C SIM     |              | 1         | 10/30/14 5:50   | CXJ0423         | CJ42711      |
| Phenanthrene           | 0.0075 (0.0002)      |            | 8270C SIM     |              | 1         | 10/30/14 5:50   | CXJ0423         | CJ42711      |
| Pyrene                 | 0.0019 (0.0002)      |            | 8270C SIM     |              | 1         | 10/30/14 5:50   | CXJ0423         | CJ42711      |

|                                   | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichlorobenzene-d4 | 44 %             |                  | 30-130        |
| Surrogate: 2-Fluorobiphenyl       | 48 %             |                  | 30-130        |
| Surrogate: Nitrobenzene-d5        | 68 %             |                  | 30-130        |
| Surrogate: p-Terphenyl-d14        | 58 %             |                  | 30-130        |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-201  
Date Sampled: 10/23/14 12:23  
Percent Solids: N/A

ESS Laboratory Work Order: 1410604  
ESS Laboratory Sample ID: 1410604-06  
Sample Matrix: Ground Water

All methods used are in accordance with 40 CFR 136.

**Classical Chemistry**

| <u>Analyte</u>     | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|--------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Dissolved Cyanide  | 1 (0.05)             |            | 9014          |              | 10        | EEM            | 10/27/14 12:40  | mg/L         | CJ42718      |
| Total Cyanide (LL) | 1.16 (0.0500)        |            | 9014          |              | 10        | EEM            | 10/27/14 12:40  | mg/L         | CJ42718      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-208  
Date Sampled: 10/23/14 11:48  
Percent Solids: N/A  
Initial Volume: 1070  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410604  
ESS Laboratory Sample ID: 1410604-07  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: JXS  
Prepared: 10/24/14 13:25

All methods used are in accordance with 40 CFR 136.

**8100M Total Petroleum Hydrocarbons**

| <u>Analyte</u>               | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------------|----------------------|------------------|------------------|---------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons | 0.48 (0.19)          |                  | 8100M            |               | 1         | 10/27/14 14:55  | CXJ0363         | CJ42436      |
| <hr/>                        |                      |                  |                  |               |           |                 |                 |              |
|                              |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                 |                 |              |
| Surrogate: O-Terphenyl       |                      | 84 %             |                  | 40-140        |           |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-208

Date Sampled: 10/23/14 11:48

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-07

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>              | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-----------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane   | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 1,1,1-Trichloroethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 1,1,2,2-Tetrachloroethane   | ND (0.0005)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 1,1,2-Trichloroethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 1,1-Dichloroethane          | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 1,1-Dichloroethene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 1,1-Dichloropropene         | ND (0.0020)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 1,2,3-Trichlorobenzene      | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 1,2,3-Trichloropropane      | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 1,2,4-Trichlorobenzene      | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 1,2,4-Trimethylbenzene      | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 1,2-Dibromo-3-Chloropropane | ND (0.0050)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 1,2-Dibromoethane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 1,2-Dichlorobenzene         | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 1,2-Dichloroethane          | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 1,2-Dichloropropane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 1,3,5-Trimethylbenzene      | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 1,3-Dichlorobenzene         | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 1,3-Dichloropropane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 1,4-Dichlorobenzene         | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 1,4-Dioxane - Screen        | ND (0.500)             |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 1-Chlorohexane              | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 2,2-Dichloropropane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 2-Butanone                  | ND (0.0100)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 2-Chlorotoluene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 2-Hexanone                  | ND (0.0100)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 4-Chlorotoluene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 4-Isopropyltoluene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| 4-Methyl-2-Pentanone        | ND (0.0250)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Acetone                     | ND (0.0100)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| <b>Benzene</b>              | <b>0.0016</b> (0.0010) |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Bromobenzene                | ND (0.0020)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-208

Date Sampled: 10/23/14 11:48

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-07

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Bromodichloromethane       | ND (0.0006)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Bromoform                  | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Bromomethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Carbon Disulfide           | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Carbon Tetrachloride       | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Chlorobenzene              | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Chloroethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Chloroform                 | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Chloromethane              | ND (0.0020)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| cis-1,2-Dichloroethene     | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| cis-1,3-Dichloropropene    | ND (0.0004)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Dibromochloromethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Dibromomethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Dichlorodifluoromethane    | ND (0.0020)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Diethyl Ether              | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Di-isopropyl ether         | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Ethyl tertiary-butyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Ethylbenzene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Hexachlorobutadiene        | ND (0.0006)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Hexachloroethane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Isopropylbenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Methyl tert-Butyl Ether    | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Methylene Chloride         | ND (0.0020)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Naphthalene                | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| n-Butylbenzene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| n-Propylbenzene            | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| <b>sec-Butylbenzene</b>    | <b>0.0032 (0.0010)</b> |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Styrene                    | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| tert-Butylbenzene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Tertiary-amyl methyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Tetrachloroethene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-208

Date Sampled: 10/23/14 11:48

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-07

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.0050)          |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Toluene                   | ND (0.0010)          |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| trans-1,2-Dichloroethene  | ND (0.0010)          |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| trans-1,3-Dichloropropene | ND (0.0004)          |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Trichloroethene           | ND (0.0010)          |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Trichlorofluoromethane    | ND (0.0010)          |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Vinyl Acetate             | ND (0.0050)          |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Vinyl Chloride            | ND (0.0010)          |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Xylene O                  | ND (0.0010)          |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Xylene P,M                | ND (0.0020)          |            | 8260B         |              | 1         | 10/29/14 14:41  | CXJ0431         | CJ43004      |
| Xylenes (Total)           | ND (0.0020)          |            | 8260B         |              | 1         | 10/29/14 14:41  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.0010)          |            | 8260B         |              |           | 10/29/14 14:41  |                 | [CALC]       |

|                                         | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>123 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>110 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>118 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Toluene-d8</i>            | <i>98 %</i>      |                  | <i>70-130</i> |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-208

Date Sampled: 10/23/14 11:48

Percent Solids: N/A

Initial Volume: 1030

Final Volume: 0.25

Extraction Method: 3510C

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-07

Sample Matrix: Ground Water

Units: mg/L

Analyst: VSC

Prepared: 10/27/14 14:36

All methods used are in accordance with 40 CFR 136.

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

| <u>Analyte</u>         | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 2-Methylnaphthalene    | 0.0002 (0.0002)      |            | 8270C SIM     |              | 1         | 10/30/14 6:40   | CXJ0423         | CJ42711      |
| Acenaphthene           | 0.0014 (0.0002)      |            | 8270C SIM     |              | 1         | 10/30/14 6:40   | CXJ0423         | CJ42711      |
| Acenaphthylene         | 0.0005 (0.0002)      |            | 8270C SIM     |              | 1         | 10/30/14 6:40   | CXJ0423         | CJ42711      |
| Anthracene             | 0.0002 (0.0002)      |            | 8270C SIM     |              | 1         | 10/30/14 6:40   | CXJ0423         | CJ42711      |
| Benzo(a)anthracene     | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/30/14 6:40   | CXJ0423         | CJ42711      |
| Benzo(a)pyrene         | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/30/14 6:40   | CXJ0423         | CJ42711      |
| Benzo(b)fluoranthene   | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/30/14 6:40   | CXJ0423         | CJ42711      |
| Benzo(g,h,i)perylene   | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/30/14 6:40   | CXJ0423         | CJ42711      |
| Benzo(k)fluoranthene   | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/30/14 6:40   | CXJ0423         | CJ42711      |
| Chrysene               | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/30/14 6:40   | CXJ0423         | CJ42711      |
| Dibenzo(a,h)Anthracene | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/30/14 6:40   | CXJ0423         | CJ42711      |
| Fluoranthene           | ND (0.0002)          |            | 8270C SIM     |              | 1         | 10/30/14 6:40   | CXJ0423         | CJ42711      |
| Fluorene               | 0.0020 (0.0002)      |            | 8270C SIM     |              | 1         | 10/30/14 6:40   | CXJ0423         | CJ42711      |
| Indeno(1,2,3-cd)Pyrene | ND (0.00005)         |            | 8270C SIM     |              | 1         | 10/30/14 6:40   | CXJ0423         | CJ42711      |
| Naphthalene            | 0.0047 (0.0002)      |            | 8270C SIM     |              | 1         | 10/30/14 6:40   | CXJ0423         | CJ42711      |
| Phenanthrene           | 0.0012 (0.0002)      |            | 8270C SIM     |              | 1         | 10/30/14 6:40   | CXJ0423         | CJ42711      |
| Pyrene                 | 0.0002 (0.0002)      |            | 8270C SIM     |              | 1         | 10/30/14 6:40   | CXJ0423         | CJ42711      |

|                                   | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichlorobenzene-d4 | 43 %             |                  | 30-130        |
| Surrogate: 2-Fluorobiphenyl       | 58 %             |                  | 30-130        |
| Surrogate: Nitrobenzene-d5        | 67 %             |                  | 30-130        |
| Surrogate: p-Terphenyl-d14        | 66 %             |                  | 30-130        |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-208  
Date Sampled: 10/23/14 11:48  
Percent Solids: N/A

ESS Laboratory Work Order: 1410604  
ESS Laboratory Sample ID: 1410604-07  
Sample Matrix: Ground Water

All methods used are in accordance with 40 CFR 136.

**Classical Chemistry**

| <u>Analyte</u>     | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|--------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Dissolved Cyanide  | 0.09 (0.005)         |            | 9014          |              | 1         | EEM            | 10/27/14 12:40  | mg/L         | CJ42718      |
| Total Cyanide (LL) | 0.108 (0.0050)       |            | 9014          |              | 1         | EEM            | 10/27/14 12:40  | mg/L         | CJ42718      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-BD-102314  
Date Sampled: 10/23/14 08:00  
Percent Solids: N/A  
Initial Volume: 1070  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1410604  
ESS Laboratory Sample ID: 1410604-08  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: JXS  
Prepared: 10/24/14 13:25

All methods used are in accordance with 40 CFR 136.

**8100M Total Petroleum Hydrocarbons**

| <u>Analyte</u>               | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------------|----------------------|------------------|------------------|---------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons | 10.1 (0.19)          |                  | 8100M            |               | 1         | 10/27/14 15:34  | CXJ0363         | CJ42436      |
| <hr/>                        |                      |                  |                  |               |           |                 |                 |              |
|                              |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                 |                 |              |
| Surrogate: O-Terphenyl       |                      | 81 %             |                  | 40-140        |           |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-BD-102314

Date Sampled: 10/23/14 08:00

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-08

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>                | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,1,1,2-Tetrachloroethane     | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| 1,1,1-Trichloroethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| 1,1,2,2-Tetrachloroethane     | ND (0.0005)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| 1,1,2-Trichloroethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| 1,1-Dichloroethane            | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| 1,1-Dichloroethene            | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| 1,1-Dichloropropene           | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| 1,2,3-Trichlorobenzene        | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| 1,2,3-Trichloropropane        | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| 1,2,4-Trichlorobenzene        | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| <b>1,2,4-Trimethylbenzene</b> | <b>0.376</b> (0.100)   |            | 8260B         |              | 100       | 10/28/14 18:00  | CXJ0385         | CJ42810      |
| 1,2-Dibromo-3-Chloropropane   | ND (0.0050)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| 1,2-Dibromoethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| 1,2-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| 1,2-Dichloroethane            | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| 1,2-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| <b>1,3,5-Trimethylbenzene</b> | <b>0.0274</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| 1,3-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| 1,3-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| 1,4-Dichlorobenzene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| 1,4-Dioxane - Screen          | ND (0.500)             |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| 1-Chlorohexane                | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| 2,2-Dichloropropane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| 2-Butanone                    | ND (0.0100)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| 2-Chlorotoluene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| 2-Hexanone                    | ND (0.0100)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| 4-Chlorotoluene               | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| <b>4-Isopropyltoluene</b>     | <b>0.0096</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| 4-Methyl-2-Pentanone          | ND (0.0250)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| Acetone                       | ND (0.0100)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| <b>Benzene</b>                | <b>5.94</b> (0.100)    |            | 8260B         |              | 100       | 10/28/14 18:00  | CXJ0385         | CJ42810      |
| Bromobenzene                  | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-BD-102314

Date Sampled: 10/23/14 08:00

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-08

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Bromochloromethane         | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| Bromodichloromethane       | ND (0.0006)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| Bromoform                  | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| Bromomethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| Carbon Disulfide           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| Carbon Tetrachloride       | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| Chlorobenzene              | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| Chloroethane               | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| Chloroform                 | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| Chloromethane              | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| cis-1,2-Dichloroethene     | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| cis-1,3-Dichloropropene    | ND (0.0004)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| Dibromochloromethane       | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| Dibromomethane             | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| Dichlorodifluoromethane    | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| Diethyl Ether              | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| Di-isopropyl ether         | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| Ethyl tertiary-butyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| <b>Ethylbenzene</b>        | <b>1.91</b> (0.100)    |            | 8260B         |              | 100       | 10/28/14 18:00  | CXJ0385         | CJ42810      |
| Hexachlorobutadiene        | ND (0.0006)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| Hexachloroethane           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| <b>Isopropylbenzene</b>    | <b>0.0862</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| Methyl tert-Butyl Ether    | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| Methylene Chloride         | ND (0.0020)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| <b>Naphthalene</b>         | <b>8.13</b> (0.100)    |            | 8260B         |              | 100       | 10/28/14 18:00  | CXJ0385         | CJ42810      |
| n-Butylbenzene             | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| <b>n-Propylbenzene</b>     | <b>0.0337</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| <b>sec-Butylbenzene</b>    | <b>0.0011</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| <b>Styrene</b>             | <b>0.0017</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| tert-Butylbenzene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| Tertiary-amyl methyl ether | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| Tetrachloroethene          | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-BD-102314

Date Sampled: 10/23/14 08:00

Percent Solids: N/A

Initial Volume: 5

Final Volume: 5

Extraction Method: 5030B

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-08

Sample Matrix: Ground Water

Units: mg/L

Analyst: MD

All methods used are in accordance with 40 CFR 136.

**8260B Volatile Organic Compounds**

| <u>Analyte</u>            | <u>Results (MRL)</u>   | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------------|------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tetrahydrofuran           | ND (0.0050)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| <b>Toluene</b>            | <b>0.0090</b> (0.0010) |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| trans-1,2-Dichloroethene  | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| trans-1,3-Dichloropropene | ND (0.0004)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| Trichloroethene           | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| Trichlorofluoromethane    | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| Vinyl Acetate             | ND (0.0050)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| Vinyl Chloride            | ND (0.0010)            |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| <b>Xylene O</b>           | <b>0.512</b> (0.100)   |            | 8260B         |              | 100       | 10/28/14 18:00  | CXJ0385         | CJ42810      |
| <b>Xylene P,M</b>         | <b>0.0468</b> (0.0020) |            | 8260B         |              | 1         | 10/27/14 21:41  | CXJ0385         | CJ42810      |
| <b>Xylenes (Total)</b>    | <b>0.559</b> (0.100)   |            | 8260B         |              | 100       | 10/28/14 18:00  |                 | [CALC]       |
| Trihalomethanes (Total)   | ND (0.0010)            |            | 8260B         |              |           | 10/27/14 21:41  |                 | [CALC]       |

|                                  | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichloroethane-d4 | 104 %            |                  | 70-130        |
| Surrogate: 4-Bromofluorobenzene  | 107 %            |                  | 70-130        |
| Surrogate: Dibromofluoromethane  | 111 %            |                  | 70-130        |
| Surrogate: Toluene-d8            | 111 %            |                  | 70-130        |





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Tidewater GH

Client Sample ID: MW-BD-102314

Date Sampled: 10/23/14 08:00

Percent Solids: N/A

Initial Volume: 1070

Final Volume: 0.25

Extraction Method: 3510C

ESS Laboratory Work Order: 1410604

ESS Laboratory Sample ID: 1410604-08

Sample Matrix: Ground Water

Units: mg/L

Analyst: VSC

Prepared: 10/27/14 14:36

All methods used are in accordance with 40 CFR 136.

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

| <u>Analyte</u>         | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 2-Methylnaphthalene    | 0.159 (0.0093)       |            | 8270C SIM     |              | 50        | 10/31/14 13:15  | CXJ0452         | CJ42711      |
| Acenaphthene           | 0.106 (0.0093)       |            | 8270C SIM     |              | 50        | 10/31/14 13:15  | CXJ0452         | CJ42711      |
| Acenaphthylene         | ND (0.0093)          |            | 8270C SIM     |              | 50        | 10/31/14 13:15  | CXJ0452         | CJ42711      |
| Anthracene             | ND (0.0093)          |            | 8270C SIM     |              | 50        | 10/31/14 13:15  | CXJ0452         | CJ42711      |
| Benzo(a)anthracene     | ND (0.0023)          |            | 8270C SIM     |              | 50        | 10/31/14 13:15  | CXJ0452         | CJ42711      |
| Benzo(a)pyrene         | ND (0.0023)          |            | 8270C SIM     |              | 50        | 10/31/14 13:15  | CXJ0452         | CJ42711      |
| Benzo(b)fluoranthene   | ND (0.0023)          |            | 8270C SIM     |              | 50        | 10/31/14 13:15  | CXJ0452         | CJ42711      |
| Benzo(g,h,i)perylene   | ND (0.0093)          |            | 8270C SIM     |              | 50        | 10/31/14 13:15  | CXJ0452         | CJ42711      |
| Benzo(k)fluoranthene   | ND (0.0023)          |            | 8270C SIM     |              | 50        | 10/31/14 13:15  | CXJ0452         | CJ42711      |
| Chrysene               | ND (0.0023)          |            | 8270C SIM     |              | 50        | 10/31/14 13:15  | CXJ0452         | CJ42711      |
| Dibenzo(a,h)Anthracene | ND (0.0023)          |            | 8270C SIM     |              | 50        | 10/31/14 13:15  | CXJ0452         | CJ42711      |
| Fluoranthene           | ND (0.0093)          |            | 8270C SIM     |              | 50        | 10/31/14 13:15  | CXJ0452         | CJ42711      |
| Fluorene               | 0.0261 (0.0093)      |            | 8270C SIM     |              | 50        | 10/31/14 13:15  | CXJ0452         | CJ42711      |
| Indeno(1,2,3-cd)Pyrene | ND (0.0023)          |            | 8270C SIM     |              | 50        | 10/31/14 13:15  | CXJ0452         | CJ42711      |
| Naphthalene            | 3.26 (0.0935)        |            | 8270C SIM     |              | 500       | 10/31/14 14:06  | CXJ0452         | CJ42711      |
| Phenanthrene           | 0.0232 (0.0093)      |            | 8270C SIM     |              | 50        | 10/31/14 13:15  | CXJ0452         | CJ42711      |
| Pyrene                 | ND (0.0093)          |            | 8270C SIM     |              | 50        | 10/31/14 13:15  | CXJ0452         | CJ42711      |

|                                   | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichlorobenzene-d4 | 55 %             |                  | 30-130        |
| Surrogate: 2-Fluorobiphenyl       | 69 %             |                  | 30-130        |
| Surrogate: Nitrobenzene-d5        | 64 %             |                  | 30-130        |
| Surrogate: p-Terphenyl-d14        | 75 %             |                  | 30-130        |



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Tidewater GH  
Client Sample ID: MW-BD-102314  
Date Sampled: 10/23/14 08:00  
Percent Solids: N/A

ESS Laboratory Work Order: 1410604  
ESS Laboratory Sample ID: 1410604-08  
Sample Matrix: Ground Water

All methods used are in accordance with 40 CFR 136.

**Classical Chemistry**

| <u>Analyte</u>     | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|--------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Dissolved Cyanide  | 0.7 (0.05)           |            | 9014          |              | 10        | EEM            | 10/27/14 12:40  | mg/L         | CJ42718      |
| Total Cyanide (LL) | 0.902 (0.0500)       |            | 9014          |              | 10        | EEM            | 10/27/14 12:40  | mg/L         | CJ42718      |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410604

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8100M Total Petroleum Hydrocarbons**

**Batch CJ42436 - 3510C**

**Blank**

|                              |    |       |      |  |  |  |  |  |  |  |
|------------------------------|----|-------|------|--|--|--|--|--|--|--|
| Decane (C10)                 | ND | 0.005 | mg/L |  |  |  |  |  |  |  |
| Docosane (C22)               | ND | 0.005 | mg/L |  |  |  |  |  |  |  |
| Dodecane (C12)               | ND | 0.005 | mg/L |  |  |  |  |  |  |  |
| Eicosane (C20)               | ND | 0.005 | mg/L |  |  |  |  |  |  |  |
| Hexacosane (C26)             | ND | 0.005 | mg/L |  |  |  |  |  |  |  |
| Hexadecane (C16)             | ND | 0.005 | mg/L |  |  |  |  |  |  |  |
| Nonadecane (C19)             | ND | 0.005 | mg/L |  |  |  |  |  |  |  |
| Nonane (C9)                  | ND | 0.005 | mg/L |  |  |  |  |  |  |  |
| Octacosane (C28)             | ND | 0.005 | mg/L |  |  |  |  |  |  |  |
| Octadecane (C18)             | ND | 0.005 | mg/L |  |  |  |  |  |  |  |
| Tetracosane (C24)            | ND | 0.005 | mg/L |  |  |  |  |  |  |  |
| Tetradecane (C14)            | ND | 0.005 | mg/L |  |  |  |  |  |  |  |
| Total Petroleum Hydrocarbons | ND | 0.20  | mg/L |  |  |  |  |  |  |  |
| Triacontane (C30)            | ND | 0.005 | mg/L |  |  |  |  |  |  |  |

|                        |        |  |      |        |  |    |        |  |  |  |
|------------------------|--------|--|------|--------|--|----|--------|--|--|--|
| Surrogate: O-Terphenyl | 0.0757 |  | mg/L | 0.1000 |  | 76 | 40-140 |  |  |  |
|------------------------|--------|--|------|--------|--|----|--------|--|--|--|

**LCS**

|                              |       |       |      |         |  |    |        |  |  |  |
|------------------------------|-------|-------|------|---------|--|----|--------|--|--|--|
| Decane (C10)                 | 0.035 | 0.005 | mg/L | 0.05000 |  | 70 | 40-140 |  |  |  |
| Docosane (C22)               | 0.045 | 0.005 | mg/L | 0.05000 |  | 91 | 40-140 |  |  |  |
| Dodecane (C12)               | 0.039 | 0.005 | mg/L | 0.05000 |  | 78 | 40-140 |  |  |  |
| Eicosane (C20)               | 0.044 | 0.005 | mg/L | 0.05000 |  | 88 | 40-140 |  |  |  |
| Hexacosane (C26)             | 0.046 | 0.005 | mg/L | 0.05000 |  | 91 | 40-140 |  |  |  |
| Hexadecane (C16)             | 0.041 | 0.005 | mg/L | 0.05000 |  | 82 | 40-140 |  |  |  |
| Nonadecane (C19)             | 0.041 | 0.005 | mg/L | 0.05000 |  | 82 | 40-140 |  |  |  |
| Nonane (C9)                  | 0.029 | 0.005 | mg/L | 0.05000 |  | 59 | 30-140 |  |  |  |
| Octacosane (C28)             | 0.044 | 0.005 | mg/L | 0.05000 |  | 89 | 40-140 |  |  |  |
| Octadecane (C18)             | 0.043 | 0.005 | mg/L | 0.05000 |  | 86 | 40-140 |  |  |  |
| Tetracosane (C24)            | 0.046 | 0.005 | mg/L | 0.05000 |  | 92 | 40-140 |  |  |  |
| Tetradecane (C14)            | 0.041 | 0.005 | mg/L | 0.05000 |  | 81 | 40-140 |  |  |  |
| Total Petroleum Hydrocarbons | 0.571 | 0.20  | mg/L | 0.7000  |  | 82 | 40-140 |  |  |  |
| Triacontane (C30)            | 0.044 | 0.005 | mg/L | 0.05000 |  | 89 | 40-140 |  |  |  |

|                        |        |  |      |        |  |    |        |  |  |  |
|------------------------|--------|--|------|--------|--|----|--------|--|--|--|
| Surrogate: O-Terphenyl | 0.0718 |  | mg/L | 0.1000 |  | 72 | 40-140 |  |  |  |
|------------------------|--------|--|------|--------|--|----|--------|--|--|--|

**LCS Dup**

|                  |       |       |      |         |  |    |        |    |    |    |
|------------------|-------|-------|------|---------|--|----|--------|----|----|----|
| Decane (C10)     | 0.027 | 0.005 | mg/L | 0.05000 |  | 54 | 40-140 | 26 | 25 | D+ |
| Docosane (C22)   | 0.038 | 0.005 | mg/L | 0.05000 |  | 75 | 40-140 | 18 | 25 |    |
| Dodecane (C12)   | 0.032 | 0.005 | mg/L | 0.05000 |  | 63 | 40-140 | 21 | 25 |    |
| Eicosane (C20)   | 0.037 | 0.005 | mg/L | 0.05000 |  | 74 | 40-140 | 16 | 25 |    |
| Hexacosane (C26) | 0.037 | 0.005 | mg/L | 0.05000 |  | 75 | 40-140 | 20 | 25 |    |
| Hexadecane (C16) | 0.034 | 0.005 | mg/L | 0.05000 |  | 68 | 40-140 | 19 | 25 |    |
| Nonadecane (C19) | 0.034 | 0.005 | mg/L | 0.05000 |  | 68 | 40-140 | 19 | 25 |    |
| Nonane (C9)      | 0.023 | 0.005 | mg/L | 0.05000 |  | 45 | 30-140 | 26 | 25 | D+ |
| Octacosane (C28) | 0.037 | 0.005 | mg/L | 0.05000 |  | 73 | 40-140 | 19 | 25 |    |
| Octadecane (C18) | 0.035 | 0.005 | mg/L | 0.05000 |  | 71 | 40-140 | 19 | 25 |    |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410604

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8100M Total Petroleum Hydrocarbons**

**Batch CJ42436 - 3510C**

|                              |       |       |      |         |  |    |        |    |    |  |
|------------------------------|-------|-------|------|---------|--|----|--------|----|----|--|
| Tetracosane (C24)            | 0.036 | 0.005 | mg/L | 0.05000 |  | 73 | 40-140 | 23 | 25 |  |
| Tetradecane (C14)            | 0.032 | 0.005 | mg/L | 0.05000 |  | 63 | 40-140 | 25 | 25 |  |
| Total Petroleum Hydrocarbons | 0.453 | 0.20  | mg/L | 0.7000  |  | 65 | 40-140 | 23 | 25 |  |
| Triacotane (C30)             | 0.037 | 0.005 | mg/L | 0.05000 |  | 74 | 40-140 | 19 | 25 |  |

Surrogate: O-Terphenyl 0.0580 mg/L 0.1000 58 40-140

**8260B Volatile Organic Compounds**

**Batch CJ42810 - 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 |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410604

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ42810 - 5030B**

|                                  |        |        |      |         |  |     |        |  |  |  |
|----------------------------------|--------|--------|------|---------|--|-----|--------|--|--|--|
| 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 | 0.0303 |        | mg/L | 0.02500 |  | 121 | 70-130 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0237 |        | mg/L | 0.02500 |  | 95  | 70-130 |  |  |  |
| Surrogate: Dibromofluoromethane  | 0.0294 |        | mg/L | 0.02500 |  | 118 | 70-130 |  |  |  |
| Surrogate: Toluene-d8            | 0.0254 |        | mg/L | 0.02500 |  | 102 | 70-130 |  |  |  |

**LCS**

|                           |      |  |      |       |  |     |        |  |  |  |
|---------------------------|------|--|------|-------|--|-----|--------|--|--|--|
| 1,1,1,2-Tetrachloroethane | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 |  |  |  |
|---------------------------|------|--|------|-------|--|-----|--------|--|--|--|



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410604

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch C342810 - 5030B**

|                             |      |  |      |       |  |     |        |  |  |    |
|-----------------------------|------|--|------|-------|--|-----|--------|--|--|----|
| 1,1,1-Trichloroethane       | 12.2 |  | ug/L | 10.00 |  | 122 | 70-130 |  |  |    |
| 1,1,2,2-Tetrachloroethane   | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 |  |  |    |
| 1,1,2-Trichloroethane       | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 |  |  |    |
| 1,1-Dichloroethane          | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 |  |  |    |
| 1,1-Dichloroethene          | 10.5 |  | ug/L | 10.00 |  | 105 | 70-130 |  |  |    |
| 1,1-Dichloropropene         | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 |  |  |    |
| 1,2,3-Trichlorobenzene      | 10.1 |  | ug/L | 10.00 |  | 101 | 70-130 |  |  |    |
| 1,2,3-Trichloropropane      | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 |  |  |    |
| 1,2,4-Trichlorobenzene      | 9.73 |  | ug/L | 10.00 |  | 97  | 70-130 |  |  |    |
| 1,2,4-Trimethylbenzene      | 10.5 |  | ug/L | 10.00 |  | 105 | 70-130 |  |  |    |
| 1,2-Dibromo-3-Chloropropane | 11.1 |  | ug/L | 10.00 |  | 111 | 70-130 |  |  |    |
| 1,2-Dibromoethane           | 9.97 |  | ug/L | 10.00 |  | 100 | 70-130 |  |  |    |
| 1,2-Dichlorobenzene         | 10.3 |  | ug/L | 10.00 |  | 103 | 70-130 |  |  |    |
| 1,2-Dichloroethane          | 11.1 |  | ug/L | 10.00 |  | 111 | 70-130 |  |  |    |
| 1,2-Dichloropropane         | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 |  |  |    |
| 1,3,5-Trimethylbenzene      | 11.1 |  | ug/L | 10.00 |  | 111 | 70-130 |  |  |    |
| 1,3-Dichlorobenzene         | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 |  |  |    |
| 1,3-Dichloropropane         | 11.0 |  | ug/L | 10.00 |  | 110 | 70-130 |  |  |    |
| 1,4-Dichlorobenzene         | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 |  |  |    |
| 1,4-Dioxane - Screen        | 223  |  | ug/L | 200.0 |  | 111 | 0-332  |  |  |    |
| 1-Chlorohexane              | 9.50 |  | ug/L | 10.00 |  | 95  | 70-130 |  |  |    |
| 2,2-Dichloropropane         | 13.8 |  | ug/L | 10.00 |  | 138 | 70-130 |  |  | B+ |
| 2-Butanone                  | 51.4 |  | ug/L | 50.00 |  | 103 | 70-130 |  |  |    |
| 2-Chlorotoluene             | 9.95 |  | ug/L | 10.00 |  | 100 | 70-130 |  |  |    |
| 2-Hexanone                  | 53.1 |  | ug/L | 50.00 |  | 106 | 70-130 |  |  |    |
| 4-Chlorotoluene             | 9.98 |  | ug/L | 10.00 |  | 100 | 70-130 |  |  |    |
| 4-Isopropyltoluene          | 10.5 |  | ug/L | 10.00 |  | 105 | 70-130 |  |  |    |
| 4-Methyl-2-Pentanone        | 52.3 |  | ug/L | 50.00 |  | 105 | 70-130 |  |  |    |
| Acetone                     | 54.0 |  | ug/L | 50.00 |  | 108 | 70-130 |  |  |    |
| Benzene                     | 10.9 |  | ug/L | 10.00 |  | 109 | 70-130 |  |  |    |
| Bromobenzene                | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 |  |  |    |
| Bromochloromethane          | 11.2 |  | ug/L | 10.00 |  | 112 | 70-130 |  |  |    |
| Bromodichloromethane        | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 |  |  |    |
| Bromoform                   | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 |  |  |    |
| Bromomethane                | 10.1 |  | ug/L | 10.00 |  | 101 | 70-130 |  |  |    |
| Carbon Disulfide            | 10.1 |  | ug/L | 10.00 |  | 101 | 70-130 |  |  |    |
| Carbon Tetrachloride        | 11.6 |  | ug/L | 10.00 |  | 116 | 70-130 |  |  |    |
| Chlorobenzene               | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 |  |  |    |
| Chloroethane                | 7.75 |  | ug/L | 10.00 |  | 78  | 70-130 |  |  |    |
| Chloroform                  | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 |  |  |    |
| Chloromethane               | 10.9 |  | ug/L | 10.00 |  | 109 | 70-130 |  |  |    |
| cis-1,2-Dichloroethene      | 11.0 |  | ug/L | 10.00 |  | 110 | 70-130 |  |  |    |
| cis-1,3-Dichloropropene     | 9.72 |  | ug/L | 10.00 |  | 97  | 70-130 |  |  |    |
| Dibromochloromethane        | 10.1 |  | ug/L | 10.00 |  | 101 | 70-130 |  |  |    |
| Dibromomethane              | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 |  |  |    |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410604

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ42810 - 5030B**

|                                  |        |  |      |         |  |     |        |  |  |    |
|----------------------------------|--------|--|------|---------|--|-----|--------|--|--|----|
| Dichlorodifluoromethane          | 10.5   |  | ug/L | 10.00   |  | 105 | 70-130 |  |  |    |
| Diethyl Ether                    | 10.8   |  | ug/L | 10.00   |  | 108 | 70-130 |  |  |    |
| Di-isopropyl ether               | 10.2   |  | ug/L | 10.00   |  | 102 | 70-130 |  |  |    |
| Ethyl tertiary-butyl ether       | 10.6   |  | ug/L | 10.00   |  | 106 | 70-130 |  |  |    |
| Ethylbenzene                     | 10.7   |  | ug/L | 10.00   |  | 107 | 70-130 |  |  |    |
| Hexachlorobutadiene              | 11.0   |  | ug/L | 10.00   |  | 110 | 70-130 |  |  |    |
| Hexachloroethane                 | 13.3   |  | ug/L | 10.00   |  | 133 | 70-130 |  |  | B+ |
| Isopropylbenzene                 | 10.0   |  | ug/L | 10.00   |  | 100 | 70-130 |  |  |    |
| Methyl tert-Butyl Ether          | 11.1   |  | ug/L | 10.00   |  | 111 | 70-130 |  |  |    |
| Methylene Chloride               | 11.1   |  | ug/L | 10.00   |  | 111 | 70-130 |  |  |    |
| Naphthalene                      | 10.4   |  | ug/L | 10.00   |  | 104 | 70-130 |  |  |    |
| n-Butylbenzene                   | 9.95   |  | ug/L | 10.00   |  | 100 | 70-130 |  |  |    |
| n-Propylbenzene                  | 9.92   |  | ug/L | 10.00   |  | 99  | 70-130 |  |  |    |
| sec-Butylbenzene                 | 10.4   |  | ug/L | 10.00   |  | 104 | 70-130 |  |  |    |
| Styrene                          | 9.64   |  | ug/L | 10.00   |  | 96  | 70-130 |  |  |    |
| tert-Butylbenzene                | 10.2   |  | ug/L | 10.00   |  | 102 | 70-130 |  |  |    |
| Tertiary-amyl methyl ether       | 10.5   |  | ug/L | 10.00   |  | 105 | 70-130 |  |  |    |
| Tetrachloroethene                | 10.1   |  | ug/L | 10.00   |  | 101 | 70-130 |  |  |    |
| Tetrahydrofuran                  | 10.4   |  | ug/L | 10.00   |  | 104 | 70-130 |  |  |    |
| Toluene                          | 11.4   |  | ug/L | 10.00   |  | 114 | 70-130 |  |  |    |
| trans-1,2-Dichloroethene         | 10.5   |  | ug/L | 10.00   |  | 105 | 70-130 |  |  |    |
| trans-1,3-Dichloropropene        | 9.97   |  | ug/L | 10.00   |  | 100 | 70-130 |  |  |    |
| Trichloroethene                  | 10.8   |  | ug/L | 10.00   |  | 108 | 70-130 |  |  |    |
| Trichlorofluoromethane           | 10.4   |  | ug/L | 10.00   |  | 104 | 70-130 |  |  |    |
| Vinyl Acetate                    | 11.7   |  | ug/L | 10.00   |  | 117 | 70-130 |  |  |    |
| Vinyl Chloride                   | 11.5   |  | ug/L | 10.00   |  | 115 | 70-130 |  |  |    |
| Xylene O                         | 11.0   |  | ug/L | 10.00   |  | 110 | 70-130 |  |  |    |
| Xylene P,M                       | 21.9   |  | ug/L | 20.00   |  | 110 | 70-130 |  |  |    |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0201 |  | mg/L | 0.02500 |  | 80  | 70-130 |  |  |    |
| Surrogate: 4-Bromofluorobenzene  | 0.0183 |  | mg/L | 0.02500 |  | 73  | 70-130 |  |  |    |
| Surrogate: Dibromofluoromethane  | 0.0205 |  | mg/L | 0.02500 |  | 82  | 70-130 |  |  |    |
| Surrogate: Toluene-d8            | 0.0190 |  | mg/L | 0.02500 |  | 76  | 70-130 |  |  |    |

**LCS Dup**

|                             |      |  |      |       |  |     |        |      |    |  |
|-----------------------------|------|--|------|-------|--|-----|--------|------|----|--|
| 1,1,1,2-Tetrachloroethane   | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 | 1    | 25 |  |
| 1,1,1-Trichloroethane       | 12.4 |  | ug/L | 10.00 |  | 124 | 70-130 | 1    | 25 |  |
| 1,1,2,2-Tetrachloroethane   | 10.3 |  | ug/L | 10.00 |  | 103 | 70-130 | 1    | 25 |  |
| 1,1,2-Trichloroethane       | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 | 0.4  | 25 |  |
| 1,1-Dichloroethane          | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 | 0.09 | 25 |  |
| 1,1-Dichloroethene          | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 | 3    | 25 |  |
| 1,1-Dichloropropene         | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 | 0.6  | 25 |  |
| 1,2,3-Trichlorobenzene      | 10.0 |  | ug/L | 10.00 |  | 100 | 70-130 | 0.8  | 25 |  |
| 1,2,3-Trichloropropane      | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 | 4    | 25 |  |
| 1,2,4-Trichlorobenzene      | 9.78 |  | ug/L | 10.00 |  | 98  | 70-130 | 0.5  | 25 |  |
| 1,2,4-Trimethylbenzene      | 10.5 |  | ug/L | 10.00 |  | 105 | 70-130 | 0.4  | 25 |  |
| 1,2-Dibromo-3-Chloropropane | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 | 3    | 25 |  |





*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410604

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ42810 - 5030B**

|                            |      |  |      |       |  |     |        |     |     |    |
|----------------------------|------|--|------|-------|--|-----|--------|-----|-----|----|
| 1,2-Dibromoethane          | 10.1 |  | ug/L | 10.00 |  | 101 | 70-130 | 1   | 25  |    |
| 1,2-Dichlorobenzene        | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 | 1   | 25  |    |
| 1,2-Dichloroethane         | 11.1 |  | ug/L | 10.00 |  | 111 | 70-130 | 0   | 25  |    |
| 1,2-Dichloropropane        | 10.3 |  | ug/L | 10.00 |  | 103 | 70-130 | 1   | 25  |    |
| 1,3,5-Trimethylbenzene     | 11.1 |  | ug/L | 10.00 |  | 111 | 70-130 | 0.2 | 25  |    |
| 1,3-Dichlorobenzene        | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 | 0.1 | 25  |    |
| 1,3-Dichloropropane        | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 | 1   | 25  |    |
| 1,4-Dichlorobenzene        | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 | 2   | 25  |    |
| 1,4-Dioxane - Screen       | 239  |  | ug/L | 200.0 |  | 120 | 0-332  | 7   | 200 |    |
| 1-Chlorohexane             | 9.39 |  | ug/L | 10.00 |  | 94  | 70-130 | 1   | 25  |    |
| 2,2-Dichloropropane        | 14.3 |  | ug/L | 10.00 |  | 143 | 70-130 | 4   | 25  | B+ |
| 2-Butanone                 | 60.6 |  | ug/L | 50.00 |  | 121 | 70-130 | 16  | 25  |    |
| 2-Chlorotoluene            | 9.91 |  | ug/L | 10.00 |  | 99  | 70-130 | 0.4 | 25  |    |
| 2-Hexanone                 | 60.4 |  | ug/L | 50.00 |  | 121 | 70-130 | 13  | 25  |    |
| 4-Chlorotoluene            | 10.3 |  | ug/L | 10.00 |  | 103 | 70-130 | 3   | 25  |    |
| 4-Isopropyltoluene         | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 | 0.3 | 25  |    |
| 4-Methyl-2-Pentanone       | 55.8 |  | ug/L | 50.00 |  | 112 | 70-130 | 6   | 25  |    |
| Acetone                    | 84.2 |  | ug/L | 50.00 |  | 168 | 70-130 | 44  | 25  | B+ |
| Benzene                    | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 | 1   | 25  |    |
| Bromobenzene               | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 | 0.7 | 25  |    |
| Bromochloromethane         | 11.3 |  | ug/L | 10.00 |  | 113 | 70-130 | 0.4 | 25  |    |
| Bromodichloromethane       | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 | 0.5 | 25  |    |
| Bromoform                  | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 | 0.7 | 25  |    |
| Bromomethane               | 9.92 |  | ug/L | 10.00 |  | 99  | 70-130 | 2   | 25  |    |
| Carbon Disulfide           | 10.1 |  | ug/L | 10.00 |  | 101 | 70-130 | 0.2 | 25  |    |
| Carbon Tetrachloride       | 11.8 |  | ug/L | 10.00 |  | 118 | 70-130 | 1   | 25  |    |
| Chlorobenzene              | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 | 3   | 25  |    |
| Chloroethane               | 7.27 |  | ug/L | 10.00 |  | 73  | 70-130 | 6   | 25  |    |
| Chloroform                 | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 | 0.8 | 25  |    |
| Chloromethane              | 10.5 |  | ug/L | 10.00 |  | 105 | 70-130 | 4   | 25  |    |
| cis-1,2-Dichloroethene     | 10.9 |  | ug/L | 10.00 |  | 109 | 70-130 | 0.9 | 25  |    |
| cis-1,3-Dichloropropene    | 9.88 |  | ug/L | 10.00 |  | 99  | 70-130 | 2   | 25  |    |
| Dibromochloromethane       | 10.1 |  | ug/L | 10.00 |  | 101 | 70-130 | 0.3 | 25  |    |
| Dibromomethane             | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 | 0.6 | 25  |    |
| Dichlorodifluoromethane    | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 | 0.8 | 25  |    |
| Diethyl Ether              | 10.9 |  | ug/L | 10.00 |  | 109 | 70-130 | 0.8 | 25  |    |
| Di-isopropyl ether         | 10.3 |  | ug/L | 10.00 |  | 103 | 70-130 | 1   | 25  |    |
| Ethyl tertiary-butyl ether | 11.0 |  | ug/L | 10.00 |  | 110 | 70-130 | 4   | 25  |    |
| Ethylbenzene               | 10.5 |  | ug/L | 10.00 |  | 105 | 70-130 | 2   | 25  |    |
| Hexachlorobutadiene        | 11.0 |  | ug/L | 10.00 |  | 110 | 70-130 | 0.2 | 25  |    |
| Hexachloroethane           | 13.3 |  | ug/L | 10.00 |  | 133 | 70-130 | 0.4 | 25  | B+ |
| Isopropylbenzene           | 9.88 |  | ug/L | 10.00 |  | 99  | 70-130 | 1   | 25  |    |
| Methyl tert-Butyl Ether    | 11.3 |  | ug/L | 10.00 |  | 113 | 70-130 | 2   | 25  |    |
| Methylene Chloride         | 11.0 |  | ug/L | 10.00 |  | 110 | 70-130 | 1   | 25  |    |
| Naphthalene                | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 | 1   | 25  |    |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410604

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ42810 - 5030B**

|                                  |        |  |      |         |  |     |        |     |    |  |
|----------------------------------|--------|--|------|---------|--|-----|--------|-----|----|--|
| n-Butylbenzene                   | 10.0   |  | ug/L | 10.00   |  | 100 | 70-130 | 0.8 | 25 |  |
| n-Propylbenzene                  | 9.90   |  | ug/L | 10.00   |  | 99  | 70-130 | 0.2 | 25 |  |
| sec-Butylbenzene                 | 10.4   |  | ug/L | 10.00   |  | 104 | 70-130 | 0   | 25 |  |
| Styrene                          | 9.43   |  | ug/L | 10.00   |  | 94  | 70-130 | 2   | 25 |  |
| tert-Butylbenzene                | 10.0   |  | ug/L | 10.00   |  | 100 | 70-130 | 1   | 25 |  |
| Tertiary-amyl methyl ether       | 10.7   |  | ug/L | 10.00   |  | 107 | 70-130 | 2   | 25 |  |
| Tetrachloroethene                | 9.99   |  | ug/L | 10.00   |  | 100 | 70-130 | 1   | 25 |  |
| Tetrahydrofuran                  | 11.1   |  | ug/L | 10.00   |  | 111 | 70-130 | 7   | 25 |  |
| Toluene                          | 11.4   |  | ug/L | 10.00   |  | 114 | 70-130 | 0.6 | 25 |  |
| trans-1,2-Dichloroethene         | 10.7   |  | ug/L | 10.00   |  | 107 | 70-130 | 1   | 25 |  |
| trans-1,3-Dichloropropene        | 10.1   |  | ug/L | 10.00   |  | 101 | 70-130 | 0.9 | 25 |  |
| Trichloroethene                  | 10.7   |  | ug/L | 10.00   |  | 107 | 70-130 | 0.5 | 25 |  |
| Trichlorofluoromethane           | 10.4   |  | ug/L | 10.00   |  | 104 | 70-130 | 0.9 | 25 |  |
| Vinyl Acetate                    | 12.0   |  | ug/L | 10.00   |  | 120 | 70-130 | 2   | 25 |  |
| Vinyl Chloride                   | 11.5   |  | ug/L | 10.00   |  | 115 | 70-130 | 0.2 | 25 |  |
| Xylene O                         | 10.8   |  | ug/L | 10.00   |  | 108 | 70-130 | 2   | 25 |  |
| Xylene P,M                       | 21.5   |  | ug/L | 20.00   |  | 107 | 70-130 | 2   | 25 |  |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0241 |  | mg/L | 0.02500 |  | 96  | 70-130 |     |    |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0213 |  | mg/L | 0.02500 |  | 85  | 70-130 |     |    |  |
| Surrogate: Dibromofluoromethane  | 0.0246 |  | mg/L | 0.02500 |  | 98  | 70-130 |     |    |  |
| Surrogate: Toluene-d8            | 0.0221 |  | mg/L | 0.02500 |  | 88  | 70-130 |     |    |  |

**Batch CJ42842 - 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 |  |  |  |  |  |  |  |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410604

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ42842 - 5030B**

|                            |    |        |      |
|----------------------------|----|--------|------|
| 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 |
| 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 |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410604

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ42842 - 5030B**

|                                  |        |        |      |         |  |     |        |  |  |  |
|----------------------------------|--------|--------|------|---------|--|-----|--------|--|--|--|
| 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 | 0.0295 |        | mg/L | 0.02500 |  | 118 | 70-130 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0244 |        | mg/L | 0.02500 |  | 98  | 70-130 |  |  |  |
| Surrogate: Dibromofluoromethane  | 0.0289 |        | mg/L | 0.02500 |  | 115 | 70-130 |  |  |  |
| Surrogate: Toluene-d8            | 0.0256 |        | mg/L | 0.02500 |  | 102 | 70-130 |  |  |  |

**LCS**

|                             |      |  |      |       |  |     |        |  |  |  |
|-----------------------------|------|--|------|-------|--|-----|--------|--|--|--|
| 1,1,1,2-Tetrachloroethane   | 9.81 |  | ug/L | 10.00 |  | 98  | 70-130 |  |  |  |
| 1,1,1-Trichloroethane       | 11.0 |  | ug/L | 10.00 |  | 110 | 70-130 |  |  |  |
| 1,1,2,2-Tetrachloroethane   | 9.00 |  | ug/L | 10.00 |  | 90  | 70-130 |  |  |  |
| 1,1,2-Trichloroethane       | 9.70 |  | ug/L | 10.00 |  | 97  | 70-130 |  |  |  |
| 1,1-Dichloroethane          | 9.50 |  | ug/L | 10.00 |  | 95  | 70-130 |  |  |  |
| 1,1-Dichloroethene          | 9.79 |  | ug/L | 10.00 |  | 98  | 70-130 |  |  |  |
| 1,1-Dichloropropene         | 9.79 |  | ug/L | 10.00 |  | 98  | 70-130 |  |  |  |
| 1,2,3-Trichlorobenzene      | 9.18 |  | ug/L | 10.00 |  | 92  | 70-130 |  |  |  |
| 1,2,3-Trichloropropane      | 9.12 |  | ug/L | 10.00 |  | 91  | 70-130 |  |  |  |
| 1,2,4-Trichlorobenzene      | 8.86 |  | ug/L | 10.00 |  | 89  | 70-130 |  |  |  |
| 1,2,4-Trimethylbenzene      | 9.64 |  | ug/L | 10.00 |  | 96  | 70-130 |  |  |  |
| 1,2-Dibromo-3-Chloropropane | 9.49 |  | ug/L | 10.00 |  | 95  | 70-130 |  |  |  |
| 1,2-Dibromoethane           | 8.84 |  | ug/L | 10.00 |  | 88  | 70-130 |  |  |  |
| 1,2-Dichlorobenzene         | 9.11 |  | ug/L | 10.00 |  | 91  | 70-130 |  |  |  |
| 1,2-Dichloroethane          | 9.85 |  | ug/L | 10.00 |  | 98  | 70-130 |  |  |  |
| 1,2-Dichloropropane         | 9.24 |  | ug/L | 10.00 |  | 92  | 70-130 |  |  |  |
| 1,3,5-Trimethylbenzene      | 10.0 |  | ug/L | 10.00 |  | 100 | 70-130 |  |  |  |
| 1,3-Dichlorobenzene         | 9.13 |  | ug/L | 10.00 |  | 91  | 70-130 |  |  |  |
| 1,3-Dichloropropane         | 9.82 |  | ug/L | 10.00 |  | 98  | 70-130 |  |  |  |
| 1,4-Dichlorobenzene         | 9.30 |  | ug/L | 10.00 |  | 93  | 70-130 |  |  |  |
| 1,4-Dioxane - Screen        | 188  |  | ug/L | 200.0 |  | 94  | 0-332  |  |  |  |
| 1-Chlorohexane              | 9.01 |  | ug/L | 10.00 |  | 90  | 70-130 |  |  |  |
| 2,2-Dichloropropane         | 12.7 |  | ug/L | 10.00 |  | 127 | 70-130 |  |  |  |
| 2-Butanone                  | 48.8 |  | ug/L | 50.00 |  | 98  | 70-130 |  |  |  |
| 2-Chlorotoluene             | 9.16 |  | ug/L | 10.00 |  | 92  | 70-130 |  |  |  |
| 2-Hexanone                  | 46.2 |  | ug/L | 50.00 |  | 92  | 70-130 |  |  |  |
| 4-Chlorotoluene             | 9.17 |  | ug/L | 10.00 |  | 92  | 70-130 |  |  |  |
| 4-Isopropyltoluene          | 9.63 |  | ug/L | 10.00 |  | 96  | 70-130 |  |  |  |
| 4-Methyl-2-Pentanone        | 45.5 |  | ug/L | 50.00 |  | 91  | 70-130 |  |  |  |
| Acetone                     | 57.2 |  | ug/L | 50.00 |  | 114 | 70-130 |  |  |  |
| Benzene                     | 9.91 |  | ug/L | 10.00 |  | 99  | 70-130 |  |  |  |
| Bromobenzene                | 9.54 |  | ug/L | 10.00 |  | 95  | 70-130 |  |  |  |
| Bromochloromethane          | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 |  |  |  |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410604

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ42842 - 5030B**

|                                  |        |  |      |         |  |     |        |  |  |    |
|----------------------------------|--------|--|------|---------|--|-----|--------|--|--|----|
| Bromodichloromethane             | 9.21   |  | ug/L | 10.00   |  | 92  | 70-130 |  |  |    |
| Bromoform                        | 9.30   |  | ug/L | 10.00   |  | 93  | 70-130 |  |  |    |
| Bromomethane                     | 6.47   |  | ug/L | 10.00   |  | 65  | 70-130 |  |  | B- |
| Carbon Disulfide                 | 9.15   |  | ug/L | 10.00   |  | 92  | 70-130 |  |  |    |
| Carbon Tetrachloride             | 10.6   |  | ug/L | 10.00   |  | 106 | 70-130 |  |  |    |
| Chlorobenzene                    | 9.26   |  | ug/L | 10.00   |  | 93  | 70-130 |  |  |    |
| Chloroethane                     | 6.42   |  | ug/L | 10.00   |  | 64  | 70-130 |  |  | B- |
| Chloroform                       | 9.54   |  | ug/L | 10.00   |  | 95  | 70-130 |  |  |    |
| Chloromethane                    | 9.47   |  | ug/L | 10.00   |  | 95  | 70-130 |  |  |    |
| cis-1,2-Dichloroethene           | 10.1   |  | ug/L | 10.00   |  | 101 | 70-130 |  |  |    |
| cis-1,3-Dichloropropene          | 8.98   |  | ug/L | 10.00   |  | 90  | 70-130 |  |  |    |
| Dibromochloromethane             | 9.07   |  | ug/L | 10.00   |  | 91  | 70-130 |  |  |    |
| Dibromomethane                   | 9.46   |  | ug/L | 10.00   |  | 95  | 70-130 |  |  |    |
| Dichlorodifluoromethane          | 9.73   |  | ug/L | 10.00   |  | 97  | 70-130 |  |  |    |
| Diethyl Ether                    | 9.99   |  | ug/L | 10.00   |  | 100 | 70-130 |  |  |    |
| Di-isopropyl ether               | 9.45   |  | ug/L | 10.00   |  | 94  | 70-130 |  |  |    |
| Ethyl tertiary-butyl ether       | 10.8   |  | ug/L | 10.00   |  | 108 | 70-130 |  |  |    |
| Ethylbenzene                     | 9.72   |  | ug/L | 10.00   |  | 97  | 70-130 |  |  |    |
| Hexachlorobutadiene              | 9.87   |  | ug/L | 10.00   |  | 99  | 70-130 |  |  |    |
| Hexachloroethane                 | 12.1   |  | ug/L | 10.00   |  | 121 | 70-130 |  |  |    |
| Isopropylbenzene                 | 9.15   |  | ug/L | 10.00   |  | 92  | 70-130 |  |  |    |
| Methyl tert-Butyl Ether          | 10.6   |  | ug/L | 10.00   |  | 106 | 70-130 |  |  |    |
| Methylene Chloride               | 9.82   |  | ug/L | 10.00   |  | 98  | 70-130 |  |  |    |
| Naphthalene                      | 10.4   |  | ug/L | 10.00   |  | 104 | 70-130 |  |  |    |
| n-Butylbenzene                   | 9.33   |  | ug/L | 10.00   |  | 93  | 70-130 |  |  |    |
| n-Propylbenzene                  | 9.04   |  | ug/L | 10.00   |  | 90  | 70-130 |  |  |    |
| sec-Butylbenzene                 | 9.48   |  | ug/L | 10.00   |  | 95  | 70-130 |  |  |    |
| Styrene                          | 8.35   |  | ug/L | 10.00   |  | 84  | 70-130 |  |  |    |
| tert-Butylbenzene                | 9.36   |  | ug/L | 10.00   |  | 94  | 70-130 |  |  |    |
| Tertiary-amyl methyl ether       | 11.3   |  | ug/L | 10.00   |  | 113 | 70-130 |  |  |    |
| Tetrachloroethene                | 9.04   |  | ug/L | 10.00   |  | 90  | 70-130 |  |  |    |
| Tetrahydrofuran                  | 9.78   |  | ug/L | 10.00   |  | 98  | 70-130 |  |  |    |
| Toluene                          | 10.4   |  | ug/L | 10.00   |  | 104 | 70-130 |  |  |    |
| trans-1,2-Dichloroethene         | 9.60   |  | ug/L | 10.00   |  | 96  | 70-130 |  |  |    |
| trans-1,3-Dichloropropene        | 9.21   |  | ug/L | 10.00   |  | 92  | 70-130 |  |  |    |
| Trichloroethene                  | 9.70   |  | ug/L | 10.00   |  | 97  | 70-130 |  |  |    |
| Trichlorofluoromethane           | 9.39   |  | ug/L | 10.00   |  | 94  | 70-130 |  |  |    |
| Vinyl Acetate                    | 11.1   |  | ug/L | 10.00   |  | 111 | 70-130 |  |  |    |
| Vinyl Chloride                   | 10.4   |  | ug/L | 10.00   |  | 104 | 70-130 |  |  |    |
| Xylene O                         | 9.85   |  | ug/L | 10.00   |  | 98  | 70-130 |  |  |    |
| Xylene P,M                       | 19.6   |  | ug/L | 20.00   |  | 98  | 70-130 |  |  |    |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0211 |  | mg/L | 0.02500 |  | 84  | 70-130 |  |  |    |
| Surrogate: 4-Bromofluorobenzene  | 0.0190 |  | mg/L | 0.02500 |  | 76  | 70-130 |  |  |    |
| Surrogate: Dibromofluoromethane  | 0.0215 |  | mg/L | 0.02500 |  | 86  | 70-130 |  |  |    |
| Surrogate: Toluene-d8            | 0.0201 |  | mg/L | 0.02500 |  | 80  | 70-130 |  |  |    |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410604

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ42842 - 5030B**

|                             |      |  |      |       |  |     |        |    |     |    |
|-----------------------------|------|--|------|-------|--|-----|--------|----|-----|----|
| <b>LCS Dup</b>              |      |  |      |       |  |     |        |    |     |    |
| 1,1,1,2-Tetrachloroethane   | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 | 4  | 25  |    |
| 1,1,1-Trichloroethane       | 11.5 |  | ug/L | 10.00 |  | 115 | 70-130 | 5  | 25  |    |
| 1,1,2,2-Tetrachloroethane   | 9.52 |  | ug/L | 10.00 |  | 95  | 70-130 | 6  | 25  |    |
| 1,1,2-Trichloroethane       | 10.3 |  | ug/L | 10.00 |  | 103 | 70-130 | 6  | 25  |    |
| 1,1-Dichloroethane          | 10.1 |  | ug/L | 10.00 |  | 101 | 70-130 | 6  | 25  |    |
| 1,1-Dichloroethene          | 10.3 |  | ug/L | 10.00 |  | 103 | 70-130 | 5  | 25  |    |
| 1,1-Dichloropropene         | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 | 9  | 25  |    |
| 1,2,3-Trichlorobenzene      | 10.1 |  | ug/L | 10.00 |  | 101 | 70-130 | 9  | 25  |    |
| 1,2,3-Trichloropropane      | 9.71 |  | ug/L | 10.00 |  | 97  | 70-130 | 6  | 25  |    |
| 1,2,4-Trichlorobenzene      | 9.85 |  | ug/L | 10.00 |  | 98  | 70-130 | 11 | 25  |    |
| 1,2,4-Trimethylbenzene      | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 | 7  | 25  |    |
| 1,2-Dibromo-3-Chloropropane | 10.3 |  | ug/L | 10.00 |  | 103 | 70-130 | 8  | 25  |    |
| 1,2-Dibromoethane           | 9.46 |  | ug/L | 10.00 |  | 95  | 70-130 | 7  | 25  |    |
| 1,2-Dichlorobenzene         | 9.71 |  | ug/L | 10.00 |  | 97  | 70-130 | 6  | 25  |    |
| 1,2-Dichloroethane          | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 | 7  | 25  |    |
| 1,2-Dichloropropane         | 9.54 |  | ug/L | 10.00 |  | 95  | 70-130 | 3  | 25  |    |
| 1,3,5-Trimethylbenzene      | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 | 7  | 25  |    |
| 1,3-Dichlorobenzene         | 9.81 |  | ug/L | 10.00 |  | 98  | 70-130 | 7  | 25  |    |
| 1,3-Dichloropropane         | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 | 6  | 25  |    |
| 1,4-Dichlorobenzene         | 10.0 |  | ug/L | 10.00 |  | 100 | 70-130 | 8  | 25  |    |
| 1,4-Dioxane - Screen        | 224  |  | ug/L | 200.0 |  | 112 | 0-332  | 17 | 200 |    |
| 1-Chlorohexane              | 9.47 |  | ug/L | 10.00 |  | 95  | 70-130 | 5  | 25  |    |
| 2,2-Dichloropropane         | 13.5 |  | ug/L | 10.00 |  | 135 | 70-130 | 6  | 25  | B+ |
| 2-Butanone                  | 51.9 |  | ug/L | 50.00 |  | 104 | 70-130 | 6  | 25  |    |
| 2-Chlorotoluene             | 9.54 |  | ug/L | 10.00 |  | 95  | 70-130 | 4  | 25  |    |
| 2-Hexanone                  | 50.4 |  | ug/L | 50.00 |  | 101 | 70-130 | 9  | 25  |    |
| 4-Chlorotoluene             | 9.94 |  | ug/L | 10.00 |  | 99  | 70-130 | 8  | 25  |    |
| 4-Isopropyltoluene          | 10.5 |  | ug/L | 10.00 |  | 105 | 70-130 | 9  | 25  |    |
| 4-Methyl-2-Pentanone        | 50.5 |  | ug/L | 50.00 |  | 101 | 70-130 | 10 | 25  |    |
| Acetone                     | 64.7 |  | ug/L | 50.00 |  | 129 | 70-130 | 12 | 25  |    |
| Benzene                     | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 | 5  | 25  |    |
| Bromobenzene                | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 | 6  | 25  |    |
| Bromochloromethane          | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 | 6  | 25  |    |
| Bromodichloromethane        | 9.89 |  | ug/L | 10.00 |  | 99  | 70-130 | 7  | 25  |    |
| Bromoform                   | 10.0 |  | ug/L | 10.00 |  | 100 | 70-130 | 8  | 25  |    |
| Bromomethane                | 7.18 |  | ug/L | 10.00 |  | 72  | 70-130 | 10 | 25  |    |
| Carbon Disulfide            | 9.74 |  | ug/L | 10.00 |  | 97  | 70-130 | 6  | 25  |    |
| Carbon Tetrachloride        | 11.2 |  | ug/L | 10.00 |  | 112 | 70-130 | 5  | 25  |    |
| Chlorobenzene               | 9.93 |  | ug/L | 10.00 |  | 99  | 70-130 | 7  | 25  |    |
| Chloroethane                | 7.10 |  | ug/L | 10.00 |  | 71  | 70-130 | 10 | 25  |    |
| Chloroform                  | 10.0 |  | ug/L | 10.00 |  | 100 | 70-130 | 5  | 25  |    |
| Chloromethane               | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 | 7  | 25  |    |
| cis-1,2-Dichloroethene      | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 | 6  | 25  |    |
| cis-1,3-Dichloropropene     | 9.48 |  | ug/L | 10.00 |  | 95  | 70-130 | 5  | 25  |    |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410604

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ42842 - 5030B**

|                                  |        |  |      |         |  |     |        |    |    |  |
|----------------------------------|--------|--|------|---------|--|-----|--------|----|----|--|
| Dibromochloromethane             | 9.63   |  | ug/L | 10.00   |  | 96  | 70-130 | 6  | 25 |  |
| Dibromomethane                   | 10.0   |  | ug/L | 10.00   |  | 100 | 70-130 | 6  | 25 |  |
| Dichlorodifluoromethane          | 10.3   |  | ug/L | 10.00   |  | 103 | 70-130 | 6  | 25 |  |
| Diethyl Ether                    | 10.6   |  | ug/L | 10.00   |  | 106 | 70-130 | 6  | 25 |  |
| Di-isopropyl ether               | 10.0   |  | ug/L | 10.00   |  | 100 | 70-130 | 6  | 25 |  |
| Ethyl tertiary-butyl ether       | 11.4   |  | ug/L | 10.00   |  | 114 | 70-130 | 5  | 25 |  |
| Ethylbenzene                     | 10.3   |  | ug/L | 10.00   |  | 103 | 70-130 | 6  | 25 |  |
| Hexachlorobutadiene              | 10.8   |  | ug/L | 10.00   |  | 108 | 70-130 | 9  | 25 |  |
| Hexachloroethane                 | 12.8   |  | ug/L | 10.00   |  | 128 | 70-130 | 6  | 25 |  |
| Isopropylbenzene                 | 9.64   |  | ug/L | 10.00   |  | 96  | 70-130 | 5  | 25 |  |
| Methyl tert-Butyl Ether          | 11.3   |  | ug/L | 10.00   |  | 113 | 70-130 | 6  | 25 |  |
| Methylene Chloride               | 10.3   |  | ug/L | 10.00   |  | 103 | 70-130 | 5  | 25 |  |
| Naphthalene                      | 11.5   |  | ug/L | 10.00   |  | 115 | 70-130 | 10 | 25 |  |
| n-Butylbenzene                   | 10.5   |  | ug/L | 10.00   |  | 105 | 70-130 | 12 | 25 |  |
| n-Propylbenzene                  | 9.66   |  | ug/L | 10.00   |  | 97  | 70-130 | 7  | 25 |  |
| sec-Butylbenzene                 | 10.1   |  | ug/L | 10.00   |  | 101 | 70-130 | 6  | 25 |  |
| Styrene                          | 9.29   |  | ug/L | 10.00   |  | 93  | 70-130 | 11 | 25 |  |
| tert-Butylbenzene                | 9.91   |  | ug/L | 10.00   |  | 99  | 70-130 | 6  | 25 |  |
| Tertiary-amyl methyl ether       | 11.8   |  | ug/L | 10.00   |  | 118 | 70-130 | 5  | 25 |  |
| Tetrachloroethene                | 9.55   |  | ug/L | 10.00   |  | 96  | 70-130 | 5  | 25 |  |
| Tetrahydrofuran                  | 10.8   |  | ug/L | 10.00   |  | 108 | 70-130 | 10 | 25 |  |
| Toluene                          | 10.9   |  | ug/L | 10.00   |  | 109 | 70-130 | 5  | 25 |  |
| trans-1,2-Dichloroethene         | 10.3   |  | ug/L | 10.00   |  | 103 | 70-130 | 7  | 25 |  |
| trans-1,3-Dichloropropene        | 9.62   |  | ug/L | 10.00   |  | 96  | 70-130 | 4  | 25 |  |
| Trichloroethene                  | 10.2   |  | ug/L | 10.00   |  | 102 | 70-130 | 5  | 25 |  |
| Trichlorofluoromethane           | 9.90   |  | ug/L | 10.00   |  | 99  | 70-130 | 5  | 25 |  |
| Vinyl Acetate                    | 11.6   |  | ug/L | 10.00   |  | 116 | 70-130 | 5  | 25 |  |
| Vinyl Chloride                   | 11.0   |  | ug/L | 10.00   |  | 110 | 70-130 | 5  | 25 |  |
| Xylene O                         | 10.4   |  | ug/L | 10.00   |  | 104 | 70-130 | 5  | 25 |  |
| Xylene P,M                       | 20.8   |  | ug/L | 20.00   |  | 104 | 70-130 | 6  | 25 |  |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0249 |  | mg/L | 0.02500 |  | 99  | 70-130 |    |    |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0225 |  | mg/L | 0.02500 |  | 90  | 70-130 |    |    |  |
| Surrogate: Dibromofluoromethane  | 0.0253 |  | mg/L | 0.02500 |  | 101 | 70-130 |    |    |  |
| Surrogate: Toluene-d8            | 0.0236 |  | mg/L | 0.02500 |  | 94  | 70-130 |    |    |  |

**Batch CJ43004 - 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 |  |  |  |  |  |  |  |





*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410604

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ43004 - 5030B**

|                             |    |        |      |
|-----------------------------|----|--------|------|
| 1,2,4-Trichlorobenzene      | ND | 0.0010 | mg/L |
| 1,2,4-Trimethylbenzene      | ND | 0.0010 | mg/L |
| 1,2-Dibromo-3-Chloropropane | ND | 0.0050 | mg/L |
| 1,2-Dibromoethane           | ND | 0.0010 | mg/L |
| 1,2-Dichlorobenzene         | ND | 0.0010 | mg/L |
| 1,2-Dichloroethane          | ND | 0.0010 | mg/L |
| 1,2-Dichloropropane         | ND | 0.0010 | mg/L |
| 1,3,5-Trimethylbenzene      | ND | 0.0010 | mg/L |
| 1,3-Dichlorobenzene         | ND | 0.0010 | mg/L |
| 1,3-Dichloropropane         | ND | 0.0010 | mg/L |
| 1,4-Dichlorobenzene         | ND | 0.0010 | mg/L |
| 1,4-Dioxane - Screen        | ND | 0.500  | mg/L |
| 1-Chlorohexane              | ND | 0.0010 | mg/L |
| 2,2-Dichloropropane         | ND | 0.0010 | mg/L |
| 2-Butanone                  | ND | 0.0100 | mg/L |
| 2-Chlorotoluene             | ND | 0.0010 | mg/L |
| 2-Hexanone                  | ND | 0.0100 | mg/L |
| 4-Chlorotoluene             | ND | 0.0010 | mg/L |
| 4-Isopropyltoluene          | ND | 0.0010 | mg/L |
| 4-Methyl-2-Pentanone        | ND | 0.0250 | mg/L |
| Acetone                     | ND | 0.0100 | mg/L |
| Benzene                     | ND | 0.0010 | mg/L |
| Bromobenzene                | ND | 0.0020 | mg/L |
| Bromochloromethane          | ND | 0.0010 | mg/L |
| Bromodichloromethane        | ND | 0.0006 | mg/L |
| Bromoform                   | ND | 0.0010 | mg/L |
| Bromomethane                | ND | 0.0020 | mg/L |
| Carbon Disulfide            | ND | 0.0010 | mg/L |
| Carbon Tetrachloride        | ND | 0.0010 | mg/L |
| Chlorobenzene               | ND | 0.0010 | mg/L |
| Chloroethane                | ND | 0.0020 | mg/L |
| Chloroform                  | ND | 0.0010 | mg/L |
| Chloromethane               | ND | 0.0020 | mg/L |
| cis-1,2-Dichloroethene      | ND | 0.0010 | mg/L |
| cis-1,3-Dichloropropene     | ND | 0.0004 | mg/L |
| Dibromochloromethane        | ND | 0.0010 | mg/L |
| Dibromomethane              | ND | 0.0010 | mg/L |
| Dichlorodifluoromethane     | ND | 0.0020 | mg/L |
| Diethyl Ether               | ND | 0.0010 | mg/L |
| Di-isopropyl ether          | ND | 0.0010 | mg/L |
| Ethyl tertiary-butyl ether  | ND | 0.0010 | mg/L |
| Ethylbenzene                | ND | 0.0010 | mg/L |
| Hexachlorobutadiene         | ND | 0.0006 | mg/L |
| Hexachloroethane            | ND | 0.0010 | mg/L |
| Isopropylbenzene            | ND | 0.0010 | mg/L |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410604

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ43004 - 5030B**

|                                  |        |        |      |         |  |     |        |  |  |  |
|----------------------------------|--------|--------|------|---------|--|-----|--------|--|--|--|
| 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 | 0.0310 |        | mg/L | 0.02500 |  | 124 | 70-130 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0244 |        | mg/L | 0.02500 |  | 98  | 70-130 |  |  |  |
| Surrogate: Dibromofluoromethane  | 0.0297 |        | mg/L | 0.02500 |  | 119 | 70-130 |  |  |  |
| Surrogate: Toluene-d8            | 0.0254 |        | mg/L | 0.02500 |  | 101 | 70-130 |  |  |  |

**LCS**

|                             |      |  |      |       |  |     |        |  |  |  |
|-----------------------------|------|--|------|-------|--|-----|--------|--|--|--|
| 1,1,1,2-Tetrachloroethane   | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 |  |  |  |
| 1,1,1-Trichloroethane       | 12.4 |  | ug/L | 10.00 |  | 124 | 70-130 |  |  |  |
| 1,1,2,2-Tetrachloroethane   | 9.22 |  | ug/L | 10.00 |  | 92  | 70-130 |  |  |  |
| 1,1,2-Trichloroethane       | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 |  |  |  |
| 1,1-Dichloroethane          | 10.1 |  | ug/L | 10.00 |  | 101 | 70-130 |  |  |  |
| 1,1-Dichloroethene          | 10.1 |  | ug/L | 10.00 |  | 101 | 70-130 |  |  |  |
| 1,1-Dichloropropene         | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 |  |  |  |
| 1,2,3-Trichlorobenzene      | 9.27 |  | ug/L | 10.00 |  | 93  | 70-130 |  |  |  |
| 1,2,3-Trichloropropane      | 9.48 |  | ug/L | 10.00 |  | 95  | 70-130 |  |  |  |
| 1,2,4-Trichlorobenzene      | 8.79 |  | ug/L | 10.00 |  | 88  | 70-130 |  |  |  |
| 1,2,4-Trimethylbenzene      | 9.58 |  | ug/L | 10.00 |  | 96  | 70-130 |  |  |  |
| 1,2-Dibromo-3-Chloropropane | 10.5 |  | ug/L | 10.00 |  | 105 | 70-130 |  |  |  |
| 1,2-Dibromoethane           | 9.29 |  | ug/L | 10.00 |  | 93  | 70-130 |  |  |  |
| 1,2-Dichlorobenzene         | 9.26 |  | ug/L | 10.00 |  | 93  | 70-130 |  |  |  |
| 1,2-Dichloroethane          | 11.7 |  | ug/L | 10.00 |  | 117 | 70-130 |  |  |  |
| 1,2-Dichloropropane         | 9.28 |  | ug/L | 10.00 |  | 93  | 70-130 |  |  |  |
| 1,3,5-Trimethylbenzene      | 10.1 |  | ug/L | 10.00 |  | 101 | 70-130 |  |  |  |
| 1,3-Dichlorobenzene         | 9.42 |  | ug/L | 10.00 |  | 94  | 70-130 |  |  |  |
| 1,3-Dichloropropane         | 10.3 |  | ug/L | 10.00 |  | 103 | 70-130 |  |  |  |
| 1,4-Dichlorobenzene         | 9.57 |  | ug/L | 10.00 |  | 96  | 70-130 |  |  |  |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410604

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ43004 - 5030B**

|                            |      |  |      |       |  |     |        |  |  |    |
|----------------------------|------|--|------|-------|--|-----|--------|--|--|----|
| 1,4-Dioxane - Screen       | 216  |  | ug/L | 200.0 |  | 108 | 0-332  |  |  |    |
| 1-Chlorohexane             | 8.40 |  | ug/L | 10.00 |  | 84  | 70-130 |  |  |    |
| 2,2-Dichloropropane        | 14.0 |  | ug/L | 10.00 |  | 140 | 70-130 |  |  | B+ |
| 2-Butanone                 | 50.4 |  | ug/L | 50.00 |  | 101 | 70-130 |  |  |    |
| 2-Chlorotoluene            | 9.04 |  | ug/L | 10.00 |  | 90  | 70-130 |  |  |    |
| 2-Hexanone                 | 48.7 |  | ug/L | 50.00 |  | 97  | 70-130 |  |  |    |
| 4-Chlorotoluene            | 9.06 |  | ug/L | 10.00 |  | 91  | 70-130 |  |  |    |
| 4-Isopropyltoluene         | 9.64 |  | ug/L | 10.00 |  | 96  | 70-130 |  |  |    |
| 4-Methyl-2-Pentanone       | 48.4 |  | ug/L | 50.00 |  | 97  | 70-130 |  |  |    |
| Acetone                    | 66.1 |  | ug/L | 50.00 |  | 132 | 70-130 |  |  | B+ |
| Benzene                    | 10.1 |  | ug/L | 10.00 |  | 101 | 70-130 |  |  |    |
| Bromobenzene               | 9.48 |  | ug/L | 10.00 |  | 95  | 70-130 |  |  |    |
| Bromochloromethane         | 10.9 |  | ug/L | 10.00 |  | 109 | 70-130 |  |  |    |
| Bromodichloromethane       | 10.1 |  | ug/L | 10.00 |  | 101 | 70-130 |  |  |    |
| Bromoform                  | 10.0 |  | ug/L | 10.00 |  | 100 | 70-130 |  |  |    |
| Bromomethane               | 7.68 |  | ug/L | 10.00 |  | 77  | 70-130 |  |  |    |
| Carbon Disulfide           | 9.49 |  | ug/L | 10.00 |  | 95  | 70-130 |  |  |    |
| Carbon Tetrachloride       | 12.0 |  | ug/L | 10.00 |  | 120 | 70-130 |  |  |    |
| Chlorobenzene              | 9.70 |  | ug/L | 10.00 |  | 97  | 70-130 |  |  |    |
| Chloroethane               | 7.68 |  | ug/L | 10.00 |  | 77  | 70-130 |  |  |    |
| Chloroform                 | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 |  |  |    |
| Chloromethane              | 10.1 |  | ug/L | 10.00 |  | 101 | 70-130 |  |  |    |
| cis-1,2-Dichloroethene     | 10.3 |  | ug/L | 10.00 |  | 103 | 70-130 |  |  |    |
| cis-1,3-Dichloropropene    | 9.21 |  | ug/L | 10.00 |  | 92  | 70-130 |  |  |    |
| Dibromochloromethane       | 9.70 |  | ug/L | 10.00 |  | 97  | 70-130 |  |  |    |
| Dibromomethane             | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 |  |  |    |
| Dichlorodifluoromethane    | 11.8 |  | ug/L | 10.00 |  | 118 | 70-130 |  |  |    |
| Diethyl Ether              | 9.77 |  | ug/L | 10.00 |  | 98  | 70-130 |  |  |    |
| Di-isopropyl ether         | 9.25 |  | ug/L | 10.00 |  | 92  | 70-130 |  |  |    |
| Ethyl tertiary-butyl ether | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 |  |  |    |
| Ethylbenzene               | 9.92 |  | ug/L | 10.00 |  | 99  | 70-130 |  |  |    |
| Hexachlorobutadiene        | 10.3 |  | ug/L | 10.00 |  | 103 | 70-130 |  |  |    |
| Hexachloroethane           | 12.6 |  | ug/L | 10.00 |  | 126 | 70-130 |  |  |    |
| Isopropylbenzene           | 8.92 |  | ug/L | 10.00 |  | 89  | 70-130 |  |  |    |
| Methyl tert-Butyl Ether    | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 |  |  |    |
| Methylene Chloride         | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 |  |  |    |
| Naphthalene                | 9.04 |  | ug/L | 10.00 |  | 90  | 70-130 |  |  |    |
| n-Butylbenzene             | 9.23 |  | ug/L | 10.00 |  | 92  | 70-130 |  |  |    |
| n-Propylbenzene            | 8.90 |  | ug/L | 10.00 |  | 89  | 70-130 |  |  |    |
| sec-Butylbenzene           | 9.40 |  | ug/L | 10.00 |  | 94  | 70-130 |  |  |    |
| Styrene                    | 8.34 |  | ug/L | 10.00 |  | 83  | 70-130 |  |  |    |
| tert-Butylbenzene          | 9.28 |  | ug/L | 10.00 |  | 93  | 70-130 |  |  |    |
| Tertiary-amyl methyl ether | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 |  |  |    |
| Tetrachloroethene          | 9.49 |  | ug/L | 10.00 |  | 95  | 70-130 |  |  |    |
| Tetrahydrofuran            | 9.44 |  | ug/L | 10.00 |  | 94  | 70-130 |  |  |    |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410604

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch C343004 - 5030B**

|                                  |        |  |      |         |  |     |        |  |  |  |
|----------------------------------|--------|--|------|---------|--|-----|--------|--|--|--|
| Toluene                          | 10.7   |  | ug/L | 10.00   |  | 107 | 70-130 |  |  |  |
| trans-1,2-Dichloroethene         | 9.79   |  | ug/L | 10.00   |  | 98  | 70-130 |  |  |  |
| trans-1,3-Dichloropropene        | 9.67   |  | ug/L | 10.00   |  | 97  | 70-130 |  |  |  |
| Trichloroethene                  | 10.4   |  | ug/L | 10.00   |  | 104 | 70-130 |  |  |  |
| Trichlorofluoromethane           | 10.9   |  | ug/L | 10.00   |  | 109 | 70-130 |  |  |  |
| Vinyl Acetate                    | 11.2   |  | ug/L | 10.00   |  | 112 | 70-130 |  |  |  |
| Vinyl Chloride                   | 11.6   |  | ug/L | 10.00   |  | 116 | 70-130 |  |  |  |
| Xylene O                         | 10.0   |  | ug/L | 10.00   |  | 100 | 70-130 |  |  |  |
| Xylene P,M                       | 19.9   |  | ug/L | 20.00   |  | 99  | 70-130 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0298 |  | mg/L | 0.02500 |  | 119 | 70-130 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0249 |  | mg/L | 0.02500 |  | 100 | 70-130 |  |  |  |
| Surrogate: Dibromofluoromethane  | 0.0285 |  | mg/L | 0.02500 |  | 114 | 70-130 |  |  |  |
| Surrogate: Toluene-d8            | 0.0245 |  | mg/L | 0.02500 |  | 98  | 70-130 |  |  |  |

**LCS Dup**

|                             |      |  |      |       |  |     |        |      |     |    |
|-----------------------------|------|--|------|-------|--|-----|--------|------|-----|----|
| 1,1,1,2-Tetrachloroethane   | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 | 6    | 25  |    |
| 1,1,1-Trichloroethane       | 12.9 |  | ug/L | 10.00 |  | 129 | 70-130 | 4    | 25  |    |
| 1,1,2,2-Tetrachloroethane   | 9.77 |  | ug/L | 10.00 |  | 98  | 70-130 | 6    | 25  |    |
| 1,1,2-Trichloroethane       | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 | 1    | 25  |    |
| 1,1-Dichloroethane          | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 | 5    | 25  |    |
| 1,1-Dichloroethene          | 10.4 |  | ug/L | 10.00 |  | 104 | 70-130 | 3    | 25  |    |
| 1,1-Dichloropropene         | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 | 4    | 25  |    |
| 1,2,3-Trichlorobenzene      | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 | 10   | 25  |    |
| 1,2,3-Trichloropropane      | 10.3 |  | ug/L | 10.00 |  | 103 | 70-130 | 8    | 25  |    |
| 1,2,4-Trichlorobenzene      | 9.85 |  | ug/L | 10.00 |  | 98  | 70-130 | 11   | 25  |    |
| 1,2,4-Trimethylbenzene      | 10.3 |  | ug/L | 10.00 |  | 103 | 70-130 | 8    | 25  |    |
| 1,2-Dibromo-3-Chloropropane | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 | 3    | 25  |    |
| 1,2-Dibromoethane           | 9.95 |  | ug/L | 10.00 |  | 100 | 70-130 | 7    | 25  |    |
| 1,2-Dichlorobenzene         | 9.82 |  | ug/L | 10.00 |  | 98  | 70-130 | 6    | 25  |    |
| 1,2-Dichloroethane          | 12.0 |  | ug/L | 10.00 |  | 120 | 70-130 | 2    | 25  |    |
| 1,2-Dichloropropane         | 9.72 |  | ug/L | 10.00 |  | 97  | 70-130 | 5    | 25  |    |
| 1,3,5-Trimethylbenzene      | 10.7 |  | ug/L | 10.00 |  | 107 | 70-130 | 6    | 25  |    |
| 1,3-Dichlorobenzene         | 9.95 |  | ug/L | 10.00 |  | 100 | 70-130 | 5    | 25  |    |
| 1,3-Dichloropropane         | 10.8 |  | ug/L | 10.00 |  | 108 | 70-130 | 5    | 25  |    |
| 1,4-Dichlorobenzene         | 10.3 |  | ug/L | 10.00 |  | 103 | 70-130 | 8    | 25  |    |
| 1,4-Dioxane - Screen        | 229  |  | ug/L | 200.0 |  | 114 | 0-332  | 6    | 200 |    |
| 1-Chlorohexane              | 8.96 |  | ug/L | 10.00 |  | 90  | 70-130 | 6    | 25  |    |
| 2,2-Dichloropropane         | 14.3 |  | ug/L | 10.00 |  | 143 | 70-130 | 2    | 25  | B+ |
| 2-Butanone                  | 50.4 |  | ug/L | 50.00 |  | 101 | 70-130 | 0.04 | 25  |    |
| 2-Chlorotoluene             | 9.87 |  | ug/L | 10.00 |  | 99  | 70-130 | 9    | 25  |    |
| 2-Hexanone                  | 51.8 |  | ug/L | 50.00 |  | 104 | 70-130 | 6    | 25  |    |
| 4-Chlorotoluene             | 9.93 |  | ug/L | 10.00 |  | 99  | 70-130 | 9    | 25  |    |
| 4-Isopropyltoluene          | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 | 9    | 25  |    |
| 4-Methyl-2-Pentanone        | 50.4 |  | ug/L | 50.00 |  | 101 | 70-130 | 4    | 25  |    |
| Acetone                     | 63.6 |  | ug/L | 50.00 |  | 127 | 70-130 | 4    | 25  |    |
| Benzene                     | 10.5 |  | ug/L | 10.00 |  | 105 | 70-130 | 3    | 25  |    |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410604

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch C343004 - 5030B**

|                                  |        |  |      |         |  |     |        |     |    |    |
|----------------------------------|--------|--|------|---------|--|-----|--------|-----|----|----|
| Bromobenzene                     | 10.2   |  | ug/L | 10.00   |  | 102 | 70-130 | 8   | 25 |    |
| Bromochloromethane               | 11.3   |  | ug/L | 10.00   |  | 113 | 70-130 | 4   | 25 |    |
| Bromodichloromethane             | 10.6   |  | ug/L | 10.00   |  | 106 | 70-130 | 5   | 25 |    |
| Bromoform                        | 10.6   |  | ug/L | 10.00   |  | 106 | 70-130 | 6   | 25 |    |
| Bromomethane                     | 8.60   |  | ug/L | 10.00   |  | 86  | 70-130 | 11  | 25 |    |
| Carbon Disulfide                 | 9.98   |  | ug/L | 10.00   |  | 100 | 70-130 | 5   | 25 |    |
| Carbon Tetrachloride             | 12.4   |  | ug/L | 10.00   |  | 124 | 70-130 | 3   | 25 |    |
| Chlorobenzene                    | 10.2   |  | ug/L | 10.00   |  | 102 | 70-130 | 5   | 25 |    |
| Chloroethane                     | 7.71   |  | ug/L | 10.00   |  | 77  | 70-130 | 0.4 | 25 |    |
| Chloroform                       | 11.1   |  | ug/L | 10.00   |  | 111 | 70-130 | 4   | 25 |    |
| Chloromethane                    | 10.6   |  | ug/L | 10.00   |  | 106 | 70-130 | 5   | 25 |    |
| cis-1,2-Dichloroethene           | 10.7   |  | ug/L | 10.00   |  | 107 | 70-130 | 4   | 25 |    |
| cis-1,3-Dichloropropene          | 9.69   |  | ug/L | 10.00   |  | 97  | 70-130 | 5   | 25 |    |
| Dibromochloromethane             | 10.2   |  | ug/L | 10.00   |  | 102 | 70-130 | 5   | 25 |    |
| Dibromomethane                   | 10.6   |  | ug/L | 10.00   |  | 106 | 70-130 | 4   | 25 |    |
| Dichlorodifluoromethane          | 12.3   |  | ug/L | 10.00   |  | 123 | 70-130 | 4   | 25 |    |
| Diethyl Ether                    | 10.4   |  | ug/L | 10.00   |  | 104 | 70-130 | 7   | 25 |    |
| Di-isopropyl ether               | 9.55   |  | ug/L | 10.00   |  | 96  | 70-130 | 3   | 25 |    |
| Ethyl tertiary-butyl ether       | 10.9   |  | ug/L | 10.00   |  | 109 | 70-130 | 2   | 25 |    |
| Ethylbenzene                     | 10.5   |  | ug/L | 10.00   |  | 105 | 70-130 | 6   | 25 |    |
| Hexachlorobutadiene              | 11.2   |  | ug/L | 10.00   |  | 112 | 70-130 | 9   | 25 |    |
| Hexachloroethane                 | 13.2   |  | ug/L | 10.00   |  | 132 | 70-130 | 5   | 25 | B+ |
| Isopropylbenzene                 | 9.64   |  | ug/L | 10.00   |  | 96  | 70-130 | 8   | 25 |    |
| Methyl tert-Butyl Ether          | 11.3   |  | ug/L | 10.00   |  | 113 | 70-130 | 5   | 25 |    |
| Methylene Chloride               | 10.6   |  | ug/L | 10.00   |  | 106 | 70-130 | 4   | 25 |    |
| Naphthalene                      | 10.4   |  | ug/L | 10.00   |  | 104 | 70-130 | 14  | 25 |    |
| n-Butylbenzene                   | 10.5   |  | ug/L | 10.00   |  | 105 | 70-130 | 12  | 25 |    |
| n-Propylbenzene                  | 9.63   |  | ug/L | 10.00   |  | 96  | 70-130 | 8   | 25 |    |
| sec-Butylbenzene                 | 10.2   |  | ug/L | 10.00   |  | 102 | 70-130 | 8   | 25 |    |
| Styrene                          | 8.92   |  | ug/L | 10.00   |  | 89  | 70-130 | 7   | 25 |    |
| tert-Butylbenzene                | 10.0   |  | ug/L | 10.00   |  | 100 | 70-130 | 7   | 25 |    |
| Tertiary-amyl methyl ether       | 11.1   |  | ug/L | 10.00   |  | 111 | 70-130 | 2   | 25 |    |
| Tetrachloroethene                | 10.1   |  | ug/L | 10.00   |  | 101 | 70-130 | 6   | 25 |    |
| Tetrahydrofuran                  | 10.0   |  | ug/L | 10.00   |  | 100 | 70-130 | 6   | 25 |    |
| Toluene                          | 11.2   |  | ug/L | 10.00   |  | 112 | 70-130 | 4   | 25 |    |
| trans-1,2-Dichloroethene         | 10.4   |  | ug/L | 10.00   |  | 104 | 70-130 | 6   | 25 |    |
| trans-1,3-Dichloropropene        | 9.98   |  | ug/L | 10.00   |  | 100 | 70-130 | 3   | 25 |    |
| Trichloroethene                  | 10.8   |  | ug/L | 10.00   |  | 108 | 70-130 | 4   | 25 |    |
| Trichlorofluoromethane           | 11.2   |  | ug/L | 10.00   |  | 112 | 70-130 | 2   | 25 |    |
| Vinyl Acetate                    | 11.6   |  | ug/L | 10.00   |  | 116 | 70-130 | 4   | 25 |    |
| Vinyl Chloride                   | 12.4   |  | ug/L | 10.00   |  | 124 | 70-130 | 7   | 25 |    |
| Xylene O                         | 10.7   |  | ug/L | 10.00   |  | 107 | 70-130 | 7   | 25 |    |
| Xylene P,M                       | 21.2   |  | ug/L | 20.00   |  | 106 | 70-130 | 6   | 25 |    |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0295 |  | mg/L | 0.02500 |  | 118 | 70-130 |     |    |    |
| Surrogate: 4-Bromofluorobenzene  | 0.0253 |  | mg/L | 0.02500 |  | 101 | 70-130 |     |    |    |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410604

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CJ43004 - 5030B**

|                                 |        |  |      |         |  |     |        |  |  |  |
|---------------------------------|--------|--|------|---------|--|-----|--------|--|--|--|
| Surrogate: Dibromofluoromethane | 0.0289 |  | mg/L | 0.02500 |  | 116 | 70-130 |  |  |  |
| Surrogate: Toluene-d8           | 0.0252 |  | mg/L | 0.02500 |  | 101 | 70-130 |  |  |  |

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

**Batch CJ42711 - 3510C**

**Blank**

|                                   |          |         |      |          |  |    |        |  |  |  |
|-----------------------------------|----------|---------|------|----------|--|----|--------|--|--|--|
| 2-Methylnaphthalene               | ND       | 0.0002  | mg/L |          |  |    |        |  |  |  |
| Acenaphthene                      | ND       | 0.0002  | mg/L |          |  |    |        |  |  |  |
| Acenaphthylene                    | ND       | 0.0002  | mg/L |          |  |    |        |  |  |  |
| Anthracene                        | ND       | 0.0002  | mg/L |          |  |    |        |  |  |  |
| Benzo(a)anthracene                | ND       | 0.00005 | mg/L |          |  |    |        |  |  |  |
| Benzo(a)pyrene                    | ND       | 0.00005 | mg/L |          |  |    |        |  |  |  |
| Benzo(b)fluoranthene              | ND       | 0.00005 | mg/L |          |  |    |        |  |  |  |
| Benzo(g,h,i)perylene              | ND       | 0.0002  | mg/L |          |  |    |        |  |  |  |
| Benzo(k)fluoranthene              | ND       | 0.00005 | mg/L |          |  |    |        |  |  |  |
| Chrysene                          | ND       | 0.00005 | mg/L |          |  |    |        |  |  |  |
| Dibenzo(a,h)Anthracene            | ND       | 0.00005 | mg/L |          |  |    |        |  |  |  |
| Fluoranthene                      | ND       | 0.0002  | mg/L |          |  |    |        |  |  |  |
| Fluorene                          | ND       | 0.0002  | mg/L |          |  |    |        |  |  |  |
| Indeno(1,2,3-cd)Pyrene            | ND       | 0.00005 | mg/L |          |  |    |        |  |  |  |
| Naphthalene                       | ND       | 0.0002  | mg/L |          |  |    |        |  |  |  |
| Phenanthrene                      | ND       | 0.0002  | mg/L |          |  |    |        |  |  |  |
| Pyrene                            | ND       | 0.0002  | mg/L |          |  |    |        |  |  |  |
| Surrogate: 1,2-Dichlorobenzene-d4 | 0.000904 |         | mg/L | 0.002500 |  | 36 | 30-130 |  |  |  |
| Surrogate: 2-Fluorobiphenyl       | 0.00108  |         | mg/L | 0.002500 |  | 43 | 30-130 |  |  |  |
| Surrogate: Nitrobenzene-d5        | 0.00112  |         | mg/L | 0.002500 |  | 45 | 30-130 |  |  |  |
| Surrogate: p-Terphenyl-d14        | 0.00180  |         | mg/L | 0.002500 |  | 72 | 30-130 |  |  |  |

**LCS**

|                        |        |         |      |          |  |    |        |  |  |  |
|------------------------|--------|---------|------|----------|--|----|--------|--|--|--|
| 2-Methylnaphthalene    | 0.0017 | 0.0002  | mg/L | 0.004000 |  | 43 | 40-140 |  |  |  |
| Acenaphthene           | 0.0022 | 0.0002  | mg/L | 0.004000 |  | 56 | 40-140 |  |  |  |
| Acenaphthylene         | 0.0022 | 0.0002  | mg/L | 0.004000 |  | 54 | 40-140 |  |  |  |
| Anthracene             | 0.0024 | 0.0002  | mg/L | 0.004000 |  | 61 | 40-140 |  |  |  |
| Benzo(a)anthracene     | 0.0029 | 0.00005 | mg/L | 0.004000 |  | 73 | 40-140 |  |  |  |
| Benzo(a)pyrene         | 0.0031 | 0.00005 | mg/L | 0.004000 |  | 78 | 40-140 |  |  |  |
| Benzo(b)fluoranthene   | 0.0030 | 0.00005 | mg/L | 0.004000 |  | 75 | 40-140 |  |  |  |
| Benzo(g,h,i)perylene   | 0.0032 | 0.0002  | mg/L | 0.004000 |  | 79 | 40-140 |  |  |  |
| Benzo(k)fluoranthene   | 0.0031 | 0.00005 | mg/L | 0.004000 |  | 77 | 40-140 |  |  |  |
| Chrysene               | 0.0031 | 0.00005 | mg/L | 0.004000 |  | 77 | 40-140 |  |  |  |
| Dibenzo(a,h)Anthracene | 0.0032 | 0.00005 | mg/L | 0.004000 |  | 80 | 40-140 |  |  |  |
| Fluoranthene           | 0.0028 | 0.0002  | mg/L | 0.004000 |  | 70 | 40-140 |  |  |  |
| Fluorene               | 0.0023 | 0.0002  | mg/L | 0.004000 |  | 57 | 40-140 |  |  |  |
| Indeno(1,2,3-cd)Pyrene | 0.0032 | 0.00005 | mg/L | 0.004000 |  | 79 | 40-140 |  |  |  |
| Naphthalene            | 0.0018 | 0.0002  | mg/L | 0.004000 |  | 44 | 40-140 |  |  |  |
| Phenanthrene           | 0.0024 | 0.0002  | mg/L | 0.004000 |  | 59 | 40-140 |  |  |  |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410604

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8270C(SIM) Polynuclear Aromatic Hydrocarbons**

**Batch CJ42711 - 3510C**

|                                   |         |        |      |          |  |    |        |  |  |  |
|-----------------------------------|---------|--------|------|----------|--|----|--------|--|--|--|
| Pyrene                            | 0.0028  | 0.0002 | mg/L | 0.004000 |  | 70 | 40-140 |  |  |  |
| Surrogate: 1,2-Dichlorobenzene-d4 | 0.00106 |        | mg/L | 0.002500 |  | 43 | 30-130 |  |  |  |
| Surrogate: 2-Fluorobiphenyl       | 0.00135 |        | mg/L | 0.002500 |  | 54 | 30-130 |  |  |  |
| Surrogate: Nitrobenzene-d5        | 0.00142 |        | mg/L | 0.002500 |  | 57 | 30-130 |  |  |  |
| Surrogate: p-Terphenyl-d14        | 0.00198 |        | mg/L | 0.002500 |  | 79 | 30-130 |  |  |  |

**LCS Dup**

|                                   |         |         |      |          |  |    |        |    |    |  |
|-----------------------------------|---------|---------|------|----------|--|----|--------|----|----|--|
| 2-Methylnaphthalene               | 0.0019  | 0.0002  | mg/L | 0.004000 |  | 47 | 40-140 | 10 | 20 |  |
| Acenaphthene                      | 0.0024  | 0.0002  | mg/L | 0.004000 |  | 60 | 40-140 | 8  | 20 |  |
| Acenaphthylene                    | 0.0024  | 0.0002  | mg/L | 0.004000 |  | 60 | 40-140 | 9  | 20 |  |
| Anthracene                        | 0.0026  | 0.0002  | mg/L | 0.004000 |  | 65 | 40-140 | 7  | 20 |  |
| Benzo(a)anthracene                | 0.0032  | 0.00005 | mg/L | 0.004000 |  | 80 | 40-140 | 9  | 20 |  |
| Benzo(a)pyrene                    | 0.0034  | 0.00005 | mg/L | 0.004000 |  | 84 | 40-140 | 7  | 20 |  |
| Benzo(b)fluoranthene              | 0.0032  | 0.00005 | mg/L | 0.004000 |  | 81 | 40-140 | 7  | 20 |  |
| Benzo(g,h,i)perylene              | 0.0034  | 0.0002  | mg/L | 0.004000 |  | 84 | 40-140 | 7  | 20 |  |
| Benzo(k)fluoranthene              | 0.0033  | 0.00005 | mg/L | 0.004000 |  | 83 | 40-140 | 8  | 20 |  |
| Chrysene                          | 0.0033  | 0.00005 | mg/L | 0.004000 |  | 84 | 40-140 | 8  | 20 |  |
| Dibenzo(a,h)Anthracene            | 0.0034  | 0.00005 | mg/L | 0.004000 |  | 86 | 40-140 | 6  | 20 |  |
| Fluoranthene                      | 0.0030  | 0.0002  | mg/L | 0.004000 |  | 75 | 40-140 | 8  | 20 |  |
| Fluorene                          | 0.0025  | 0.0002  | mg/L | 0.004000 |  | 62 | 40-140 | 8  | 20 |  |
| Indeno(1,2,3-cd)Pyrene            | 0.0034  | 0.00005 | mg/L | 0.004000 |  | 84 | 40-140 | 6  | 20 |  |
| Naphthalene                       | 0.0021  | 0.0002  | mg/L | 0.004000 |  | 51 | 40-140 | 16 | 20 |  |
| Phenanthrene                      | 0.0025  | 0.0002  | mg/L | 0.004000 |  | 64 | 40-140 | 7  | 20 |  |
| Pyrene                            | 0.0031  | 0.0002  | mg/L | 0.004000 |  | 77 | 40-140 | 10 | 20 |  |
| Surrogate: 1,2-Dichlorobenzene-d4 | 0.00118 |         | mg/L | 0.002500 |  | 47 | 30-130 |    |    |  |
| Surrogate: 2-Fluorobiphenyl       | 0.00146 |         | mg/L | 0.002500 |  | 58 | 30-130 |    |    |  |
| Surrogate: Nitrobenzene-d5        | 0.00162 |         | mg/L | 0.002500 |  | 65 | 30-130 |    |    |  |
| Surrogate: p-Terphenyl-d14        | 0.00211 |         | mg/L | 0.002500 |  | 85 | 30-130 |    |    |  |

**Classical Chemistry**

**Batch CJ42718 - TCN Prep**

**Blank**

|                    |    |        |      |  |  |  |  |  |  |  |
|--------------------|----|--------|------|--|--|--|--|--|--|--|
| Dissolved Cyanide  | ND | 0.005  | mg/L |  |  |  |  |  |  |  |
| Total Cyanide (LL) | ND | 0.0050 | mg/L |  |  |  |  |  |  |  |

**LCS**

|                    |        |        |      |         |  |    |        |  |  |  |
|--------------------|--------|--------|------|---------|--|----|--------|--|--|--|
| Dissolved Cyanide  | 0.02   | 0.005  | mg/L | 0.02006 |  | 98 | 90-110 |  |  |  |
| Total Cyanide (LL) | 0.0196 | 0.0050 | mg/L | 0.02006 |  | 98 | 90-110 |  |  |  |

**LCS**

|                    |       |        |      |        |  |    |        |  |  |  |
|--------------------|-------|--------|------|--------|--|----|--------|--|--|--|
| Dissolved Cyanide  | 0.1   | 0.005  | mg/L | 0.1504 |  | 99 | 90-110 |  |  |  |
| Total Cyanide (LL) | 0.150 | 0.0050 | mg/L | 0.1504 |  | 99 | 90-110 |  |  |  |

**LCS Dup**

|                    |       |        |      |        |  |    |        |     |    |  |
|--------------------|-------|--------|------|--------|--|----|--------|-----|----|--|
| Dissolved Cyanide  | 0.1   | 0.005  | mg/L | 0.1504 |  | 99 | 90-110 | 0.2 | 20 |  |
| Total Cyanide (LL) | 0.149 | 0.0050 | mg/L | 0.1504 |  | 99 | 90-110 | 0.2 | 20 |  |





*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410604

**Notes and Definitions**

|        |                                                                                                     |
|--------|-----------------------------------------------------------------------------------------------------|
| U      | Analyte included in the analysis, but not detected                                                  |
| S+     | Surrogate recovery(ies) above upper control limit (S+).                                             |
| I      | Internal Standard(s) outside of criteria (I).                                                       |
| D+     | Relative percent difference for duplicate is outside of criteria (D+).                              |
| D      | Diluted.                                                                                            |
| C+     | Continuing Calibration recovery is above upper control limit (C+).                                  |
| C-     | Continuing Calibration recovery is below lower control limit (C-).                                  |
| 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                                                         |



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1410604

**ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS**

**ENVIRONMENTAL**

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)

A2LA Accredited: Testing Cert# 2864.01

<http://www.a2la.org/scopepdf/2864-01.pdf>

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](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: RI0002

<http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

[http://datamine2.state.nj.us/DEP\\_Opra/OpraMain/pi\\_main?mode=pi\\_by\\_site&sort\\_order=PI\\_NAMEA&Select+a+Site:=58715](http://datamine2.state.nj.us/DEP_Opra/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715)

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

[http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory\\_accreditation\\_program/590095](http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095)

**CHEMISTRY**

A2LA Accredited: Testing Cert # 2864.01

Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)

<http://www.A2LA.org/dirsearchnew/newsearch.cfm>

CPSC ID# 1141

Lead Paint, Lead in Children's Metals Jewelry

<http://www.cpsc.gov/cgi-bin/labapplist.aspx>

**Sample and Cooler Receipt Checklist**Client: GZA GeoEnvironmental, Inc.

Client Project ID: \_\_\_\_\_

Shipped/Delivered Via: ClientESS Project ID: 14100604Date Project Due: 10/30/2014Days For Project: 5 Day**Items to be checked upon receipt:**

1. Air Bill Manifest Present?

☒ **No**

Air No.: \_\_\_\_\_

2. Were Custody Seals Present?

☐ **No**

3. Were Custody Seals Intact?

☐ **N/A**

4. Is Radiation count &lt; 100 CPM?

☐ **Yes**

5. Is a cooler present?

☐ **Yes**Cooler Temp: 6.0Iced With: Ice

6. Was COC included with samples?

☐ **Yes**

7. Was COC signed and dated by client?

☐ **Yes**

8. Does the COC match the sample

☐ **Yes**

9. Is COC complete and correct?

☐ **Yes**

10. Are the samples properly preserved?

☐ **Yes**

11. Proper sample containers used?

☐ **Yes**

12. Any air bubbles in the VOA vials?

☒ **No**

13. Holding times exceeded?

☐ **No**

14. Sufficient sample volumes?

☐ **Yes**

15. Any Subcontracting needed?

☐ **No**

16. Are ESS labels on correct containers?

☒ **Yes** ☐ **No**

17. Were samples received intact?

☒ **Yes** ☐ **No**

ESS Sample IDs: \_\_\_\_\_

Sub Lab: \_\_\_\_\_

Analysis: \_\_\_\_\_

TAT: \_\_\_\_\_

18. Was there need to call project manager to discuss status? If yes, please explain.

pH for all CU-12 unless otherwise noted w/10/23/14C-15442044 LRS  
10/23/14

Who was called?: \_\_\_\_\_

By whom? \_\_\_\_\_

| Sample Number | Properly Preserved | Container Type | # of Containers | Preservative |
|---------------|--------------------|----------------|-----------------|--------------|
| 1             | Yes                | 1 L Glass      | 3               | NP           |
| 1             | Yes                | 250 ml Plastic | 2               | NaOH         |
| 1             | Yes                | 40 ml - VOA    | 3               | HCL          |
| 2             | Yes                | 1 L Glass      | 3               | NP           |
| 2             | Yes                | 250 ml Plastic | 2               | NaOH         |
| 2             | Yes                | 40 ml - VOA    | 3               | HCL          |
| 3             | Yes                | 1 L Glass      | 3               | NP           |
| 3             | Yes                | 250 ml Plastic | 2               | NaOH         |
| 3             | Yes                | 40 ml - VOA    | 3               | HCL          |
| 4             | Yes                | 1 L Glass      | 3               | NP           |
| 4             | Yes                | 250 ml Plastic | 2               | NaOH         |
| 4             | Yes                | 40 ml - VOA    | 3               | HCL          |
| 5             | Yes                | 1 L Glass      | 3               | NP           |
| 5             | Yes                | 250 ml Plastic | 2               | NaOH         |
| 5             | Yes                | 40 ml - VOA    | 3               | HCL          |
| 6             | Yes                | 1 L Glass      | 3               | NP           |
| 6             | Yes                | 250 ml Plastic | 2               | NaOH         |
| 6             | Yes                | 40 ml - VOA    | 3               | HCL          |
| 7             | Yes                | 1 L Glass      | 3               | NP           |
| 7             | Yes                | 250 ml Plastic | 2               | NaOH         |
| 7             | Yes                | 40 ml - VOA    | 3               | HCL          |
| 8             | Yes                | 1 L Glass      | 3               | NP           |
| 8             | Yes                | 250 ml Plastic | 2               | NaOH         |
| 8             | Yes                | 40 ml - VOA    | 3               | HCL          |

pH=2 for both  
w/10/23/14  
2040

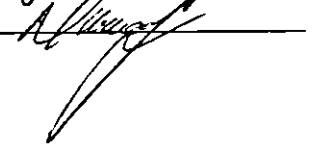
**Sample and Cooler Receipt Checklist**

Client: GZA GeoEnvironmental, Inc.

ESS Project ID: 14100604

Completed By: 

Date/Time: 10/23/14 18442044 <sup>10/23/14</sup>

Reviewed By: 

Date/Time: 10/24/14 1052 <sup>10/23/14</sup>

