



**SITE INVESTIGATION REPORT ADDENDUM
TIDEWATER AND MERRY STREET
PAWTUCKET, RHODE ISLAND**

PREPARED FOR:

RIDEM
Providence, Rhode Island

ON BEHALF OF:

National Grid
Waltham, Massachusetts

PREPARED BY:

GZA GeoEnvironmental, Inc.
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Via E-Mail and U.S. Mail



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Re: Site Investigation Report Addendum
Soil Gas Sampling and Analysis
Former Tidewater Facility
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 *Site Investigation Report Addendum* (SIR Addendum) for the Former Tidewater Manufactured Gas Plant (MGP) and Power Plant Site located in Pawtucket, Rhode Island (the Site).

The activities described in the attached were performed in general accordance with the RIDEM-approved, May 2013 *Supplemental Site Investigation Work Plan* (SSIWP) prepared by GZA. This SIR Addendum presents the results of soil gas sampling and analyses activities performed to evaluate the quality of soil gas at interior Site locations as well as along the western Site perimeter.

We look forward to continue to work cooperatively with RIDEM to advance this Site to compliance with the applicable regulations. 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 (781) 907-3651.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

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Attachment: *Site Investigation Report Addendum*

cc: Barbara Morin, RIDEM
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Michele Leone, National Grid

TABLE OF CONTENTS

	<u>Page</u>
1.00 INTRODUCTION	1
1.10 PROJECT OBJECTIVE	1
1.20 SCOPE OF SERVICES	1
1.30 REPORT ORGANIZATION	2
2.00 SUPPLEMENTAL SITE INVESTIGATION PROGRAM	2
2.10 ABUTTER NOTIFICATION	3
2.20 CRMC PERMITTING	3
2.30 SOIL GAS PROBE INSTALLATIONS	3
2.40 AMBIENT AIR SAMPLING PROGRAM	4
2.50 SOIL GAS SAMPLING PROGRAM	4
3.00 SUPPLEMENTAL SITE INVESTIGATION RESULTS	5
3.10 SOIL GAS CRITERIA AND SCREENING LEVELS	6
3.20 AMBIENT AIR SAMPLING RESULTS	7
3.30 INTERIOR SOIL GAS SAMPLING RESULTS	7
3.40 PERIMETER SOIL GAS SAMPLING RESULTS	8
3.50 QUALITY ASURANCE/QUALITY CONTROL (QA/QC) SAMPLING RESULTS	10
4.00 SUMMARY AND CONCLUSTIONS	10

TABLES

TABLE NO. 1	SUMMARY OF AMBIENT AIR SAMPLING
TABLE NO. 2	SUMMARY OF INTERIOR SOIL GAS SAMPLING
TABLE NO. 3	SUMMARY OF PERIMETER SOIL GAS SAMPLING
TABLE NO. 4	SUMMARY OF QA/QC SOIL GAS SAMPLING



TABLE OF CONTENTS (CONT')

FIGURES

FIGURE NO. 1	LOCUS PLAN
FIGURE NO. 2	SITE PLAN



APPENDICES

APPENDIX A	LIMITATIONS
APPENDIX B	ABUTTERS NOTIFICATION
APPENDIX C	CRMC FONSI #2013-06-046
APPENDIX D	PHOTOGRAPHS
APPENDIX E	PROBE INSTALLATION LOGS
APPENDIX F	AIR MONITORING GRAPHS
APPENDIX G	FIELD SAMPLING LOGS
APPENDIX H	LABORATORY CERTIFICATES

1.00 INTRODUCTION



On behalf of The Narragansett Electric Company, d/b/a National Grid (National Grid), GZA GeoEnvironmental Inc. (GZA) has prepared this *Site Investigation Report Addendum (SIR Addendum)* describing the sampling and analyses of air beneath the ground (“soil gas”) at the former Tidewater facility located at the terminus of Tidewater and Merry Streets in Pawtucket, Rhode Island (herein referred to as the Site or the Tidewater Site). Figure 1 presents a *Site Locus Plan*.

This addendum describes the soil gas investigation that was performed consistent with the May 2013 *Supplemental Site Investigation Work Plan (SSIWP)*, which was prepared by GZA and submitted to the Rhode Island Department of Environmental Management (subsequently referred to as RIDEM or the Department). The May 2013 SSIWP described tasks necessary to evaluate the quality of soil gas at interior Site locations as well as along the western Site perimeter. The soil gas investigation program and results described herein serve to supplement the *Site Investigation Report (SIR)* which was completed with the submission of the *Site Investigation Data Report (SIDR)* in January 2011 and the *Remedial Alternative Evaluation* in July 2011. The *SIDR* and *Remedial Alternative Evaluation* serve to fulfill RIDEM’s Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Remediation Regulations–DEM-DSR-01-93), Sections 7.03, 7.04, and 7.05 for a *SIR*.¹

As described herein, the results of this testing indicate that potential migration of impacted soil gas from the Tidewater Site towards neighboring properties and structures does not pose a risk to the neighbors.

This report and its conclusions are subject to the Limitations presented in Appendix A and are subject to modification if subsequent information is developed by GZA or any other party.

1.10 PROJECT OBJECTIVE

The Site is located on the west side of the Seekonk River and is bound to the west by residential properties, to the south and southwest by the Francis J. Variieur School and Max Read Athletic Field, and to the north by undeveloped property owned by the City of Pawtucket. It encompasses approximately 23 acres and was the location of the former Tidewater Manufactured Gas Plant (MGP) and the Pawtucket No. 1 Power Station. Today, the Site is largely vacant with the exception of an active natural gas regulating station, an active switching station and electric substation, and two transmission towers owned and operated by National Grid.

In response to public comments regarding the potential for vapor migration from the Tidewater Site towards neighboring properties, RIDEM requested that National Grid evaluate the quality of soil gas at the Tidewater Site. In May 2013, National Grid submitted a SSIWP describing the proposed soil gas investigation plan to RIDEM to measure the quality of soil gas at both interior and property boundary locations in order to assess the quality of soil gas near neighboring properties.² Recently,

¹For details regarding the existing and historic Site conditions, including Site plans, previous Site investigations, hydrogeologic setting and observed impacts, please refer to reports previously submitted to RIDEM. These reports are available electronically on RIDEM’s website (www.dem.ri.gov/programs/benviron/waste/tide.htm) or on National Grid’s website for the Tidewater Site (www.tidewatersite.com).

²Please note that based on our evaluation of the nature and extent of volatile constituents detected on-Site, the Site hydrogeologic setting, and current use (no occupied structures), a specific evaluation of soil gas quality was not warranted and therefore not included as part of the previous investigations performed to support development of the *SIR*.



National Grid completed the soil gas tests, which involved collecting and analyzing soil gas samples both in the interior portions of the Site (SG-100 series) and along the western property boundary (perimeter samples, SG-200 series). It is noted that the State of Rhode Island does not have screening levels or criteria for soil gas quality. As part of this evaluation, GZA compared the soil gas results to screening levels and/or regulatory criteria established in guidance documents by nearby states, including Connecticut, Massachusetts and New Jersey.

1.20 SCOPE OF WORK

The following summarizes the scope of these supplemental investigations which was performed consistent with our May 2013 SSIWP Addendum. Any deviations from the work plan were minor and did not affect the data or the conclusions of this report.

- Installation of thirty-four (34) soil gas probes along the western perimeter of the Site and installation of ten (10) soil gas probes in the interior portion of the Site.
- Collection of thirty-three (33) soil gas samples from perimeter soil gas probes and nine (9) soil gas samples from the interior soil gas probes to characterize the nature of soil gas quality at the Site.³
- Collection of ten (10) samples of ambient air (i.e., the outside air aboveground).
- Preparation of this SIR Addendum.

1.30 REPORT ORGANIZATION

This SIR Addendum is organized as follows:

- Section 1.00 provides this introduction to the project and presents the primary objective of the supplemental investigations;
- Section 2.00 describes the supplemental investigations performed;
- Section 3.00 presents a summary of the investigation results and a discussion of the regulatory screening levels and/or criteria considered as part of the evaluation; and
- Section 4.00 presents a summary of our findings and conclusions.

2.00 SUPPLEMENTAL SITE INVESTIGATION PROGRAM

Consistent with our May 2013 SSIWP and/or information subsequently requested by RIDEM, the scope of work for the supplemental investigation consisted of the following tasks:

- Abutter notification;
- Preparation of a Coastal Resource Management Council (CRMC) Assent modification request;
- Installation of soil gas probes;
- Collection of ambient air samples;
- Collection of soil gas samples for analytical testing; and

for the Tidewater Site. In addition, the potential migration of impacted soil gas was not identified as an exposure pathway for the Site as part of the Remedial Alternative Evaluation.

³ GZA noted the presence of groundwater in three (3) of the soil gas probes (SG-101D, SG-102D and SG-201) at the time of sampling. As such, soil gas samples were not collected from these probes due to presence of water interfering with sample collection. One soil gas probe (SG-110S) was sampled twice.

- Preparation of this SIR Addendum.

The following sections describe the scope of these activities. The results of the sampling activities described below are presented in Section 3.00.

2.10 ABUTTER NOTIFICATION



In accordance with Section 7.07A of the Remediation Regulations and the November 2012 draft Public Involvement Plan (PIP), GZA identified and subsequently provided notifications to the abutting property owners and tenants, including those additional interested parties on the Tidewater mailing list, to let them know that National Grid would be performing environmental investigations at the Site. The abutter notifications were documented in a letter dated June 13, 2013, which was subsequently provided to the Department. This notification was also sent via email to those parties who elected to sign up for the Tidewater email list. A copy of the notification is provided in Appendix B.

2.20 CRMC PERMITTING

As indicated on Figure 2, portions of the Site are within 200 feet of a coastal feature (the Seekonk River), and as such, these activities were subject to the jurisdiction of the CRMC. On June 11, 2013, an Application for a Finding of No Significant Impact (FONSI) was submitted to the CRMC to address the additional investigation activities presented in the May 2013 SSIWP. CRMC granted the request by issuing a CRMC FONSI #2013-06-046 dated June 11, 2013. Copies of the FONSI application and the CRMC permit #2013-06-046 are provided in Appendix C.

2.30 SOIL GAS PROBE INSTALLATIONS

GZA installed the soil gas probes in two phases. The first phase of probes was installed between July 8th and July 11th, 2013; these probes were installed using direct push technology (i.e., via a Geoprobe® rig) in the following manner:

- At each location, a specially designed, stainless steel vapor sampling tip was advanced to the desired depth with fluoropolymer tubing that was connected to each tip and extended to the ground surface to allow for the collection of a soil gas sample.
- Filter sand was placed in the space directly around the vapor sampling tip to one foot above the tip.
- The sand and tip was then sealed with at least two feet of hydrated bentonite (a type of clay).
- The remainder of the borehole was backfilled with sand or with hydrated bentonite to the ground surface.
- A small diameter road box was placed over each probe to protect the sample tubing and sealed at the surface with a 1-foot thick plug of Portland cement or a 5-gallon bucket⁴ was temporarily placed over each probe prior to sampling.

The second phase of probe installation was completed on August 22, 2013, and these probes (SG-114 to SG-120) were installed using direct push methodology via a hand operated vibratory hammer. These locations were otherwise installed in the same manner as the first phase. Figure 2,

⁴ Buckets were placed over certain probes in order to perform the helium leak test, as the size of the protective casings (3-foot tall) would limit the performance of this test. The 5-gallon buckets will be replaced with steel protective casings in the near future.



Soil Gas Locations, shows the location of the installed soil gas probes. Select photos are included as Appendix D to show the installation procedure. Soil gas probe logs are included as Appendix E.

The installed depth of the interior soil gas probe locations (SG-200 series) was approximately one foot above the seasonal high water table (ranging from 3 to 7 feet below ground surface (bgs)). In addition, at location SG-203, three depths (each separated by one foot vertically) were installed to evaluate soil gas quality at multiple depths. Perimeter soil gas probes SG-100 to SG-113 were installed at two depths: approximately one foot above seasonal high water table (designated by the suffix “D”; installation depths ranging from 8 to 30 feet bgs) and five feet below grade (designated by the suffix “S”).⁵The perimeter locations from the second phase of installation (SG-114 to SG-120) were installed at five feet below grade only.

GZA performed real-time air quality monitoring during installation activities using hand held instruments generally consistent with the May 2013 SSIWP. This monitoring included total volatile organic compounds (TVOCs) and dust in both the worker breathing zone and work zone perimeter. TVOCs were monitored using a hand held photoionization detector equipped with a 10.6 eV lamp. Particulate dust was monitored using a DustTrak. Equipment was calibrated at the beginning of work every day. The work zone perimeter action limit for TVOCs and dust was set at 0.1 parts per million (ppmv) and 150 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), respectively, which are consistent with the Site perimeter action limits established in the AQMP. No transient or sustained readings above the threshold values were noted for either TVOCs or dust during the air monitoring completed for the soil gas probe installations. The air monitoring data was posted to both the Site’s website (www.tidewatersite.com) and to the bulletin boards at the end of Tidewater Street and Bowles Court on the Monday following installation. Air monitoring data graphs are included as Appendix F.

2.40 AMBIENT AIR SAMPLING PROGRAM

GZA collected ten (10) ambient air samples near the Tidewater Site between July 24 and August 1, 2013, including five (5) at the bulletin board located near Bowles Court and five (5) at the bulletin board located at the end of Tidewater Street. Ambient air samples were collected utilizing 3-L summa air canisters with 8-hour flow controllers. Samples were submitted to Contest Analytical Laboratory, of East Longmeadow, Massachusetts, for volatile organic compounds (VOC) analysis via EPA Method TO-15. Laboratory data reports are included in Appendix H.

2.50 SOIL GAS SAMPLING PROGRAM

After installation, each soil gas probe was allowed to equilibrate prior to sample collection. The first phase of sampling (SG-100 to SG-113 and SG-200 series) occurred at least one week after installation, while the probes from the second phase of installation (SG-114 to SG-120) were allowed to equilibrate for at least 3 hours. First, a shut-in test of the sampling train was conducted to verify that the fittings and tubing were leak free. Each probe was sampled using dedicated tubing and fittings. A shut-in test consisted of assembling the dedicated sampling apparatus (valves, lines, and fittings downstream of the top of the probe), evacuating the lines to a measured vacuum of approximately 100 inches of Water Column (in. WC), and then shutting the vacuum in by closing the valves on the opposite ends of the sampling train. The vacuum gauge was observed for at least 1 minute, and if there was a loss of vacuum of more than 1 in. WC, the fittings were

⁵ Two soil gas probes that were proposed in the May 2013 SSIWP were not able to be installed due to underground obstructions (SG-103D and SG-208).



adjusted as needed until the vacuum in the above-ground portion of the sample train did not noticeably dissipate.

To verify the integrity of the bentonite seal and probe itself, helium was used as a tracer compound with a shroud placed over the probe. Helium was released into the shroud with a target concentration of 10 – 20%, measured with a Radiodetection MGD-2002 portable helium meter. Well purging was performed utilizing a Gillian GilAir Plus pump at a flow rate of approximately 200 milliliters per minute to limit the potential for short-circuiting. During purging, soil gas was monitored for TVOCs using a MiniRAE ppbRAE or MiniRAE 3000 equipped with a 10.6 eV lamp and oxygen, carbon dioxide and methane was monitored using a Lantec Gem3000 or Lantec Gem2000 Gas Meter. Equipment was calibrated at the beginning of work every day. Helium was also measured utilizing a portable helium detector to assess the integrity of the seal. There were no leaks detected during the helium shroud and purging process. In general, the probes were purged until the screening parameters reached stable values or at least 30 minutes (more than 10 purge volumes). Field sampling logs are included in Appendix G.

GZA collected twenty-five (25) perimeter soil gas samples between July 24 and August 1, 2013, including fourteen (14) from probes installed five feet below grade (noted with an “S” on Figure 2) and eleven (11) samples from probes installed approximately one foot above seasonal high water table (noted with a “D” on Figure 2). Nine (9) interior soil gas samples were collected between August 1 and August 2, 2013, from probes installed approximately one foot above seasonal high water table. Seven (7) additional perimeter soil gas samples were collected on August 22 and August 23, 2013, from the probes installed on August 22, 2013, (SG-114S to SG-120S). One (1) confirmatory soil gas sample was collected from SG-110S on August 23, 2013. Soil gas samples were collected from each probe using 3-L summa canisters equipped with 15-minute flow controllers. Samples were submitted to Contest Analytical Laboratory for VOC analysis via EPA Method TO-15 and helium analysis via EPA Method TO-3C. Helium analysis was performed by the laboratory to further verify the integrity of the probe. Select photos are included in Appendix D to illustrate the sampling procedure.

The first phase of perimeter soil gas probe installation (SG-100 to SG-113) was completed along the western property line to evaluate soil gas quality adjacent to neighboring properties. The second phase of the perimeter soil gas probe installation (SG-114 to SG-120) was performed to further define the extent of VOC detections in soil gas at two locations (SG-105S and SG-110S), consistent with vapor intrusion guidance published by the New Jersey Department of Environmental Protection (NJDEP) (March 2013 Vapor Intrusion Technical Guidance, Version 3.1). As described further below, this additional sampling included stepping out towards the western property line at two locations where VOCs were detected (SG-110S and SG-105S).

3.00 SUPPLEMENTAL SITE INVESTIGATION RESULTS

The soil gas results were compared to screening levels and/or regulatory criteria developed by Connecticut (CT), Massachusetts (MA) and New Jersey (NJ). As described below, the test results indicate that potential migration of impacted soil gas from the Tidewater Site towards neighboring properties and structures does not pose a risk to the neighbors. Section 3.10 presents a discussion of how the standards/screening values were developed and their applicability. Sections 3.20, 3.30, and 3.40 present the results of ambient air sampling, interior soil gas sampling and perimeter soil gas sampling, respectively. Section 3.50 presents our Quality Assurance/Quality Control results.



3.10 SOIL GAS CRITERIA AND SCREENING LEVELS

As indicated previously, RIDEM has not defined any soil gas screening levels or criteria to evaluate the potential for vapor intrusion. Based on our experience on other projects and communications with representatives of RIDEM's Office of Air Resources and Office of Waste Management, RIDEM typically refers to soil gas criteria developed by the Connecticut Department of Energy and Environmental Protection (CTDEEP).

For the purpose of this evaluation, soil gas results were compared to criteria and/or screening values for nearby states, specifically to soil gas criteria published by the CTDEEP and to soil gas screening levels published by the New Jersey Department of Environmental Protection (NJDEP) and the Massachusetts Department of Environmental Protection (MADEP). GZA obtained CTDEEP soil gas residential and industrial/commercial criteria from the 2013 Connecticut Remediation Standards Regulations (CT-RSRs) and draft 2008 Connecticut Remediation Criteria: Technical Support Document, Appendix J. The CTDEEP 2013 soil gas criteria are promulgated values that have been incorporated into their regulations as target cleanup levels for soil gas beneath an occupied structure to protect the potential for migration into indoor air; however the list of compounds included is relatively limited, and values were developed as part of the 1996 CT-RSRs and were not revised in the recent RSRs. Revised criteria and criteria for additional compounds were included in the 2008 Draft and CTDEEP has indicated the 2008 values:

- better reflect risk;
- are more consistent with EPA's vapor intrusion models;
- use updated toxicological information; and
- are approvable for site-specific use.

NJDEP soil gas residential and industrial/commercial screening values were obtained from Table 1 - NJDEP Master Table Generic Vapor Intrusion Screen Levels as referenced in the 2013 Vapor Intrusion Technical Guidance. MADEP soil gas screening levels were obtained from the 2011 Interim Final Vapor Intrusion Guidance last revised in March 2013. Both NJDEP and MADEP soil gas values are general screening levels and unlike the CTDEEP values, they are not cleanup standards. These conservative screening values are meant to assist in identifying conditions which may warrant additional investigation at a site.

The soil gas criteria published by the CTDEEP and screening values published by New Jersey and Massachusetts have been developed using different methods. Soil gas criteria published by the CTDEEP were determined using a *calculated* soil gas to Target Indoor Air Concentration (TAC) based on an attenuation factor (defined as the ratio between the indoor air concentration of a compound to the soil gas concentration of a compound) and the volatility of an individual chemical. The attenuation factor for each compound was calculated using a revised Johnson and Ettinger Model with assumptions set by the CTDEEP and incorporating both dispersion and advection (i.e., horizontal movement) as mechanisms of soil gas transport into buildings. The soil gas to indoor air TAC related the concentration of soil gas to indoor air concentrations; the higher the attenuation factor the more dilution between soil gas concentrations and indoor air concentrations. In other words, for the same measured soil gas concentration, a larger attenuation factor and lower chemical volatility would result in lower expected indoor air values. CTDEEP determined TACs for each compound based on background levels or calculated risk based levels. Risk based levels were calculated using a hazard quotient of 1 and a target cancer risk of 10^{-6} with differing exposure levels for residential versus industrial/commercial. Residential levels assume exposure for 350 days per year for 30 years while industrial/commercial levels assume exposure



for 12 hours per day, 250 days per year for 25 years. Given the contaminant specific assumptions and methodology used to develop these criteria, while higher than the other state screening values, the CTDEEP criteria are more representative of how different compounds are likely to migrate in soil gas. Additional information regarding this calculation is available in the 2008 Connecticut Remediation Criteria: Technical Support Document Appendices J (including calculations) and K (which discusses the revised Johnson and Ettinger Model).

Soil gas screening values for Massachusetts and New Jersey were calculated using a *generic* sub-slab (i.e., beneath a concrete foundation) soil gas to indoor air threshold values (TVs) dilution factors, ranging from 70 to 50, respectively. (In other words, MADEP screening values assume more dilution between soil gas and indoor air than NJDEP values.) MADEP determined indoor air TVs for each compound based on background levels or calculated risk based levels, while NJDEP determined TVs for each compound based on laboratory reporting limits or calculated risk based levels. Risk-based levels for MADEP were calculated using a hazard quotient of 0.2 and a target cancer risk of 10^{-6} with differing exposure levels for residential versus industrial/commercial. Residential levels assume exposure for 365 days per year for 30 years while industrial/commercial levels assume exposure for 8 hours per day, 250 days per year for 27 years. NJDEP risk-based levels were calculated assuming a hazard quotient of 1 and a target cancer risk of 10^{-6} with differing exposure levels for residential versus industrial/commercial (i.e., residential levels assume exposure for 350 days per year for 30 years while industrial/commercial levels assume exposure for 8 hours per day, 250 days per year for 25 years). Specifics regarding the calculations for the MADEP and NJDEP soil gas screening values are available in the MADEP 2011 Interim Final Vapor Intrusion Guidance and NJDEP 2013 Vapor Intrusion Technical Guidance, respectively.

The guidance documents referenced above recommend comparing screening levels and criteria to soil gas that is collected beneath or close (<10 feet) to an occupied building. Since there are no occupied buildings on-Site or close to the western property boundary, comparisons to the screening levels and criteria should be considered conservative.

3.20 AMBIENT AIR SAMPLING RESULTS

Ambient air was sampled on a generally daily basis to characterize the quality of outdoor air proximate to the Tidewater Site. The ambient air samples were collected proximate to the bulletin boards located near Tidewater Street and Bowles Court. Analytical results of the ambient air sampling are presented in Table 1. Results indicate the presence of low level constituents in ambient air, primarily acetone, benzene, carbon tetrachloride, chloromethane, Freon 12, ethanol, 2-hexanone, methylene chloride, 4- methyl-2-pentanone, naphthalene, toluene, Freon 11, and Freon 113. There were no exceedances of the RIDEM 1-hour or 24-hour Acceptable Ambient Air Levels (AALs). RIDEM AALs are listed in Air Pollution Control (APC) Regulation No.22 - Air Toxics. The compounds and limited range of concentrations that were detected are commonly found in ambient air in urban settings and are associated with common products such as gasoline, home heating oils, and air conditioners.

3.30 INTERIOR SOIL GAS SAMPLING RESULTS

GZA installed the interior soil gas probes in areas with known elevated VOC detections in both the soil and groundwater and in locations where underground utilities are located. These probes were installed and sampled to assess likely worst-case scenario soil gas concentrations at the Tidewater Site. Interior probes are located between approximately 250 – 650 feet from the western property line and between 300 – 700 feet from any occupied structure. As indicated previously, there are no



occupied buildings at the Tidewater Site; therefore the potential for impacted vapor intrusion is not a concern under current Site conditions.

Results of the interior soil gas sampling are presented in Table 2. Helium was not detected in any sample, indicating the integrity of the soil gas probes and sampling methodologies. The compounds that were detected in the interior soil gas samples were generally consistent with historical VOCs in soil and groundwater that have been detected near these probes. Primary compounds detected included: benzene, ethylbenzene, naphthalene, styrene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and xylenes. The table below indicates the number of detections and the range of concentrations detected for each compound.

Compound	2008 Draft CTDEEP Soil Gas Criteria($\mu\text{g}/\text{m}^3$)		Detections	Range of Concentration Detected ($\mu\text{g}/\text{m}^3$)
	Residential	Industrial / Commercial		
benzene	2,456	4,501	8/9	1.3 – 4,000
ethylbenzene	43,882	410,364	8/9	0.36 – 13,000
naphthalene	1,284	12,203	9/9	8.5 – 52,000
styrene	45,420	425,838	7/9	0.38 – 29,000
1,2,4-trimethylbenzene	2,578	23,601	9/9	0.96 – 57,000
1,3,5-trimethylbenzene	2,578	23,601	9/9	0.36 – 33,000
m&p-xylene	44,967	421,609	8/9	1.5 – 170,000
o-xylene	44,967	421,609	9/9	0.26 – 84,000

One soil gas probe (SG-207) is located directly proximate to the City of Pawtucket drainage line on Site. This drainage line collects stormwater from upgradient (uphill) of the Tidewater Site and discharges the stormwater into the Seekonk River via an outfall on the Tidewater Site. Naphthalene was detected at this location but at a relatively low concentration of $370 \mu\text{g}/\text{m}^3$. One soil gas probe (SG-202) is located proximate to a 4-inch water line on Site. The water line receives water supply from the Pawtucket Water Supply Board via Merry Street. There were no significant detections at SG-202. The results from the on-Site samples collected proximate to these utilities indicate that the potential for off-Site migration of impacted soil gas via subsurface utilities lines is very limited and not considered an issue.

3.40 PERIMETER SOIL GAS SAMPLING RESULTS

Results of the perimeter soil gas sampling are presented in Table 3. Similar to the interior probes, helium was not detected indicating the integrity of the sampling methodologies. No compounds were detected in excess of the CTDEEP residential or industrial/commercial soil gas criteria. The compounds that were detected in excess of at least one of the NJDEP or MADEP screening levels include: benzene, chloroform, naphthalene, tetrachloroethylene (PCE) and trichloroethylene (TCE).

Site-related constituents detected above the NJDEP and/or MADEP screening levels in the perimeter probes were limited to benzene and naphthalene (chloroform, tetrachloroethylene (PCE) and trichloroethylene (TCE) are not site-related). As described further herein, no Site related compounds were detected in excess of the NJDEP or MADEP screening levels in the perimeter probes located closest to the neighboring buildings.



Benzene was detected in twenty-three of thirty-three (23/33) perimeter soil gas samples, with only one elevated detection at location SG-105S; at a concentration of $1,700 \mu\text{g}/\text{m}^3$. This concentration is below the CTDEEP residential criteria and above both the NJDEP residential and industrial/commercial screening levels and the MADEP residential and industrial/commercial screening levels. This probe is located near a natural gas regulator and is at least 120 feet from the nearest occupied building. To confirm that soil gas was not migrating from SG-105S towards the neighboring buildings, another probe (SG-114S) was installed and sampled as part of the second phase of sampling. SG-114S is located approximately 70 feet from an occupied building. Benzene was detected at a concentration of $0.67 \mu\text{g}/\text{m}^3$ in SG-114S, well below both the NJDEP and MADEP residential screening levels. The results showed the closer the samples got to the boundary of the Site, the lower the concentrations of the compound.

Naphthalene was detected in thirty-one of thirty-three (31/33) perimeter soil gas samples, with only one elevated detection at location SG-110S (concentration of $550 \mu\text{g}/\text{m}^3$ on July 31, 2013 and $160 \mu\text{g}/\text{m}^3$ on August 23, 2013). As shown on Figure 2, this probe is located near the western boundary of the Site. The naphthalene concentrations detected at this location are below the CTDEEP criteria and above both the NJDEP and MADEP screening levels for soil gas. Six additional probes were installed during the second phase of sampling to further delineate this naphthalene concentration. Consistent with soil gas assessment guidance, four of these additional probes (SG-115S, SG-117S, SG-119S and SG-120S) were installed closer to the western property line from the Site to assess the potential for impacted soil gas migration. Naphthalene was detected in each of these samples, but at lower concentrations, which do not exceed MADEP and NJDEP screening levels. Like the additional test results for benzene, these test results showed the closer the naphthalene samples got to the boundary of the Site, the lower their concentrations.

The Site-related compounds benzene and naphthalene are in the petroleum hydrocarbon family. Petroleum hydrocarbons typically readily degrade under aerobic conditions in groundwater as well as in unsaturated soil zones (above the groundwater table). Studies have shown that microorganisms which are capable of biologically degrading petroleum hydrocarbons can be found in all types of soil environments, and that in the presence of oxygen and water, these organisms will aerobically degrade available petroleum hydrocarbons. This degradation process is typically very rapid (on the order of hours or days). Given this degradation process, the relatively low levels detected near the Site perimeter, and the distance to occupied structures, the potential migration of these compounds towards neighboring properties and structures does not pose a risk to the neighbors.

TCE and PCE were detected below CTDEEP criteria but above NJDEP and MADEP screening levels and chloroform was detected below CTDEEP criteria and MADEP screening levels but above NJDEP screening levels in several perimeter soil gas samples. These compounds are chlorinated compounds and are not typically associated with MGP operations. Typical sources of these compounds include solvents used in dry cleaning and vapor-degreasing operations. TCE, PCE and chloroform have only been detected in very low concentrations in soil in few sporadic locations on the Site with no exceedances of any RIDEM direct exposure criteria for these constituents on-Site. TCE has been detected in groundwater at one monitoring well only in very low concentrations, with no exceedances of the RIDEM groundwater criteria (either GB or GA Groundwater Objectives). Chloroform has been detected in two groundwater monitoring wells at very low concentrations. RIDEM has not set any groundwater criteria for chloroform. Due to these very limited and low-level detections and historic Site use, chlorinated compounds are not considered to be compounds of concern for the Tidewater Site and are most likely associated with an off-site source. Generally, the elevated levels of TCE, PCE and chloroform were detected along



the western boundary of the Site near an approximately 20-foot deep, 48-inch diameter Narragansett Bay Commission (NBC) sewer pipe (interceptor).

Unlike petroleum hydrocarbons, most chlorinated compounds typically degrade under anaerobic conditions. Due to the very limited detections of chlorinated compounds at the Tidewater Site, coupled with the fact that chlorinated compounds are not typical constituents of concern at MGP sites, the potential for these compounds to be originating from the Tidewater Site is very low. Possible sources include the NBC sewer main that runs adjacent to western property boundary and/or a potential upgradient (uphill) source from the Site. Recent studies in Massachusetts have documented that vapors originating from domestic sewer lines can be a source of chlorinated VOCs (specifically PCE) in indoor air⁶.

3.50 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) SAMPLING RESULTS

GZA submitted forty-two (42) soil gas samples and three (3) blind duplicate samples to Contest Analytical Laboratory for analysis. The samples were transported to the laboratory under chain of custody protocol. As indicated on page 3 of each laboratory report, the samples were received intact. Three duplicate sample sets were submitted for VOCs and helium analysis to evaluate sample reproducibility. The relative percent difference (RPD) was calculated for each compound. Elevated RPDs (more than 40% difference) were noted for a small number of compounds. Given the nature of the observed Site impacts, the variability in the VOC results in these samples does not significantly affect data usability. Results of QA/QC samples are presented on Table 4. Copies of the original laboratory data, laboratory QA/QC, methods, and chain-of-custody forms are included as Appendix H.

4.00 SUMMARY AND CONCLUSIONS

National Grid and its engineering contractor GZA completed soil gas sampling and testing at the Former Tidewater MGP and Electric Generation Site. The soil gas investigation was conducted under the direction of the RIDEM. The purpose of the testing was to measure the quality of soil gas at interior Site locations and along the property's western boundary in order to assess the quality of soil gas near neighboring properties. Overall, the test results indicate that potential migration of impacted soil gas from the Tidewater Site towards neighboring properties and structures does not pose a risk to the neighbors. The observations made during this supplemental investigation program and the analytical testing results do not alter the conclusions presented in our July 2011 *Remedial Alternative Evaluation*.

A total of thirty-four (34) soil gas probes were installed along the western Site edge for the purpose of evaluating the nature of the soil gas in both the shallow and deeper zones along the property boundary. Ten (10) soil gas probes were installed in the interior portion of the Site to characterize the nature of the soil gas on-Site. Thirty-three (33) perimeter soil gas samples and nine (9)⁷ interior soil gas samples were submitted for analysis of VOCs via EPA Method TO-15. The analytical results from the samples collected were compared to soil gas screening values

⁶Pennell, Kelly G. et al. *Sewer Gas: An Indoor Air Source of PCE to Consider During Vapor Intrusion Investigations*. Groundwater Monitoring & Remediation 33, no.3. Summer 2013. Pages 119-126.

⁷As previously indicated, due to the presence of groundwater in the probes, only 9 samples were collected from the 10 interior soil gas probe and 32 samples were collected from the 34 perimeter soil gas probes.

published by the NJDEP and MADEP, as well as regulatory criteria from the CTDEEP for both residential and industrial/commercial settings.

The results of the interior soil gas testing are consistent with previous soil and groundwater testing at the Tidewater Site and support the following conclusions:



- While certain compounds were detected at low levels, none of the 33 perimeter soil gas samples collected exceeded regulatory criteria established by the CTDEEP for both residential and industrial/commercial settings. In addition, the results from the perimeter locations closest to the western property boundary and neighboring buildings were below the residential soil gas screening values published by MADEP and NJDEP for all Tidewater Site related compounds. These results showed that the closer the samples got to the boundary of the Site, the lower the concentrations of the compounds in question.
- PCE, TCE, and chloroform were detected at levels in excess of certain NJDEP and MADEP screening levels in probes located along the western boundary of the Site near an approximately 20-foot deep, 48-inch diameter NBC sewer interceptor; however, these compounds are not Site-related and they are not considered to be compounds of concern for the Tidewater Site.
- Given that benzene and naphthalene degrade rapidly in the presence of oxygen and water, the relatively low levels detected near the Site perimeter, and the distance to occupied structures, the potential migration of these Site-related compounds towards neighboring properties and structures does not pose a risk to the neighbors.

Based on the results presented herein, no additional soil gas testing is anticipated. We currently expect a follow-up soil and groundwater investigation within the natural gas regulator station in the vicinity of SG-105S where benzene was detected in soil gas. National Grid will prepare and submit a work-plan to RIDEM under separate covering describing this proposed investigation, and is committed to keeping neighbors, the nearby schools, parents and other stakeholders informed about the activities at the Tidewater Site.

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TABLES

TABLE 1
Summary of Ambient Air Sampling
Former Tidewater Facility
Pawtucket, Rhode Island

	RIDEM Acceptable Ambient Air Levels (AALs)		Units	Varieur 72413 13G1044-02 Ambient Air 7/24/2013	Tidewater-72513 13G1148-01 Ambient Air 7/25/2013	Varieur-72513 13G1148-02 Ambient Air 7/25/2013	Tidewater-72913 13H0055-01 Ambient Air 7/29/2013	Varieur-72913 13H0055-02 Ambient Air 7/29/2013	Tidewater-73013 13H0055-06 Ambient Air 7/30/2013	Varieur-73013 13H0055-07 Ambient Air 7/30/2013	Tidewater-73113 13H0055-11 Ambient Air 7/31/2013	Varieur-73113 13H0055-12 Ambient Air 7/31/2013	Tidewater - 8113 13H0164-01 Ambient Air 8/1/2013
	1 hour	24 hour											
EPA TO-15 Full List													
Acetone	60,000	30,000	µg/m ³	31	12	17	18	42	33	34	31	35	26
Benzene	30	20	µg/m ³	0.22	0.23	0.23	0.24	0.36	0.26	0.43	0.23	0.27	0.29
Benzyl chloride	200	NE	µg/m ³	<0.18	<0.18	<0.18	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26
Bromodichloromethane	100	70	µg/m ³	<0.24	<0.12	<0.12	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Bromoform	2,000	70	µg/m ³	<0.36	<0.36	<0.36	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52
Bromomethane	200	NE	µg/m ³	<0.14	<0.14	<0.14	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19
1,3-Butadiene	NE	NE	µg/m ³	<0.078	<0.078	<0.078	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11
2-Butanone (MEK)	10,000	5,000	µg/m ³	5.7	<4.1	<4.1	<5.9	<5.9	<5.9	<5.9	<5.9	6.6	<5.9
Carbon Disulfide	6,000	NE	µg/m ³	<1.1	<1.1	<1.1	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6
Carbon Tetrachloride	2,000	200	µg/m ³	0.45	0.45	0.45	0.26	0.43	0.46	0.46	0.46	0.43	0.44
Chlorobenzene	NE	NE	µg/m ³	<0.16	<0.16	<0.16	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23
Chloroethane	40,000	10,000	µg/m ³	<0.093	<0.093	<0.093	<0.13	<0.13	<0.13	0.22	<0.13	<0.13	<0.13
Chloroform	100	NE	µg/m ³	0.28	0.11	0.11	<0.12	0.16	<0.12	0.3	<0.12	<0.12	<0.12
Chloromethane	1,000	400	µg/m ³	1.3	0.95	1	0.88	1	1	1.5	0.99	0.9	1.1
Cyclohexane	NE	6,000	µg/m ³	<0.12	<0.12	<0.12	<0.17	0.34	<0.17	0.29	<0.17	<0.17	<0.17
Dibromochloromethane	300	70	µg/m ³	<0.30	<0.15	<0.15	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21
1,2-Dibromoethane (EDB)	NE	9	µg/m ³	<0.27	<0.13	<0.13	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19
1,2-Dichlorobenzene	2000	NE	µg/m ³	<0.21	<0.21	<0.21	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
1,3-Dichlorobenzene	NE	NE	µg/m ³	<0.21	<0.21	<0.21	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
1,4-Dichlorobenzene	12,000	800	µg/m ³	<0.21	<0.21	<0.21	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Dichlorodifluoromethane (Freon 12)	NE	NE	µg/m ³	2	1.2	1.2	1.1	1.7	1.4	1.4	1.8	1.8	2
1,1-Dichloroethane	NE	NE	µg/m ³	<0.14	<0.071	<0.071	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,2-Dichloroethane	NE	NE	µg/m ³	<0.14	<0.14	<0.14	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,1-Dichloroethylene	NE	NE	µg/m ³	<0.14	<0.070	<0.070	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099
cis-1,2-Dichloroethylene	3,000	1,000	µg/m ³	<0.14	<0.070	<0.070	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099
trans-1,2-Dichloroethylene	800	NE	µg/m ³	<0.14	<0.070	<0.070	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099
1,2-Dichloropropane	200	4	µg/m ³	<0.16	<0.081	<0.081	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
cis-1,3-Dichloropropene	NE	20	µg/m ³	<0.16	<0.080	<0.080	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11
trans-1,3-Dichloropropene	NE	20	µg/m ³	<0.16	<0.080	<0.080	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	NE	NE	µg/m ³	<0.25	<0.25	<0.25	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35
1,4-Dioxane	3,000	NE	µg/m ³	<1.3	<1.3	<1.3	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
Ethanol	NE	NE	µg/m ³	8.8	4.1	4.5	6.5	25	12	9.5	11	10	8.8
Ethyl Acetate	NE	NE	µg/m ³	1.4	0.29	0.67	0.52	6.4	0.72	<0.18	0.5	<0.18	<0.18
Ethylbenzene	40,000	3,000	µg/m ³	<0.15	<0.15	<0.15	<0.22	<0.22	<0.22	0.61	<0.22	<0.22	<0.22
4-Ethyltoluene	NE	NE	µg/m ³	<0.17	<0.17	<0.17	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Heptane	NE	NE	µg/m ³	0.3	0.16	<0.14	<0.20	0.61	<0.20	0.86	<0.20	<0.20	0.23
Hexachlorobutadiene	NE	0.7	µg/m ³	<0.37	<0.37	<0.37	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53
Hexane	NE	NE	µg/m ³	<4.9	<4.9	<4.9	<7.0	12	<7.0	<7.0	<7.0	<7.0	<7.0
2-Hexanone (MBK)	NE	3,000	µg/m ³	0.77	0.6	0.48	0.88	0.88	1.3	0.58	1.8	1.8	1.1
Indane	NE	NE	µg/m ³	<0.44	<0.44	<0.44	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62
Indene	NE	NE	µg/m ³	<0.44	<0.44	<0.44	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63
Isopropanol	3,000	NE	µg/m ³	<3.4	<3.4	<3.4	<4.9	8.5	<4.9	<4.9	<4.9	<4.9	<4.9
Isopropylbenzene (Cumene)	NE	400	µg/m ³	<0.44	<0.44	<0.44	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62
Methyl tert-Butyl Ether (MTBE)	7,000	3,000	µg/m ³	<0.13	<0.13	<0.13	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18
Methylene Chloride	2,000	1,000	µg/m ³	2.2	<1.2	2.8	4.4	6.7	5.2	3.2	1.9	<1.7	<1.7
4-Methyl-2-pentanone (MIBK)	NE	NE	µg/m ³	<0.14	0.22	0.18	0.28	0.42	0.52	<0.20	0.67	0.68	0.4
Naphthalene	NE	3	µg/m ³	0.37	0.27	0.22	0.29	0.48	0.39	0.31	<0.26	<0.26	0.3

TABLE 1
Summary of Ambient Air Sampling
 Former Tidewater Facility
 Pawtucket, Rhode Island

	RIDEM Acceptable Ambient Air Levels (AALs)		Units	Varieur 72413	Tidewater-72513	Varieur-72513	Tidewater-72913	Varieur-72913	Tidewater-73013	Varieur-73013	Tidewater-73113	Varieur-73113	Tidewater - 8113
	1 hour	24 hour		13G1044-02	13G1148-01	13G1148-02	13H0055-01	13H0055-02	13H0055-06	13H0055-07	13H0055-11	13H0055-12	13H0164-01
				Ambient Air	Ambient Air	Ambient Air	Ambient Air	Ambient Air	Ambient Air	Ambient Air	Ambient Air	Ambient Air	Ambient Air
				7/24/2013	7/25/2013	7/25/2013	7/29/2013	7/29/2013	7/30/2013	7/30/2013	7/31/2013	7/31/2013	8/1/2013
EPA TO-15 Full List													
Propene	NE	NE	µg/m ³	<2.4	<2.4	<2.4	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4
Styrene	9,000	1,000	µg/m ³	<0.15	<0.15	<0.15	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21
1,1,2,2-Tetrachloroethane	NE	2,000	µg/m ³	<0.24	<0.12	<0.12	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Tetrachloroethylene	1,000	NE	µg/m ³	<0.24	<0.12	<0.12	<0.17	<0.17	<0.17	<0.17	0.21	<0.17	0.18
Tetrahydrofuran	NE	NE	µg/m ³	<0.10	<0.10	<0.10	<0.15	0.2	<0.15	<0.15	<0.15	<0.15	<0.15
Toluene	4,000	NE	µg/m ³	0.71	0.85	0.8	0.58	1.3	0.72	2.8	0.77	1.1	0.91
1,2,4-Trichlorobenzene	NE	30	µg/m ³	<0.26	<0.26	<0.26	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37
1,1,1-Trichloroethane	9,000	6,000	µg/m ³	<0.19	<0.096	<0.096	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14
1,1,2-Trichloroethane	NE	10	µg/m ³	<0.19	<0.096	<0.096	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14
Trichloroethylene	10,000	500	µg/m ³	0.28	<0.094	<0.094	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13
Trichlorofluoromethane (Freon 11)	NE	1,000	µg/m ³	1.8	1.1	1.2	0.99	1.6	1.6	1.5	1.6	1.4	1.6
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NE	NE	µg/m ³	1.4	0.58	0.6	0.46	0.9	1.5	1.4	1.9	0.99	1.7
1,2,4-Trimethylbenzene	NE	NE	µg/m ³	<0.17	<0.17	<0.17	<0.25	<0.25	<0.25	0.75	<0.25	<0.25	<0.25
1,3,5-Trimethylbenzene	NE	NE	µg/m ³	<0.17	<0.17	<0.17	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Vinyl Acetate	NE	200	µg/m ³	<2.5	<2.5	<2.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5
Vinyl Chloride	1,000	100	µg/m ³	<0.090	<0.045	<0.045	<0.064	<0.064	<0.064	<0.064	<0.064	<0.064	<0.064
m&p-Xylene	9,000	3,000	µg/m ³	<0.30	0.33	<0.30	<0.43	0.48	<0.43	1.8	<0.43	<0.43	<0.43
o-Xylene	9,000	3,000	µg/m ³	<0.15	<0.15	<0.15	<0.22	<0.22	<0.22	0.74	<0.22	<0.22	<0.22

Notes:

NE - Not Established

Bolded text indicates an exceedance of the 1-hour RIDEM AALs

A gray shaded cell indicates an exceedance of RIDEM 8-hour RIDEM AALs

A blue shaded cell indicates that the detection limit exceeds relative criteria / screening level.

RIDEM 1-hour and 24-hour Acceptable Ambient Air Levels (AALs) are obtained from Air Pollution Control Regulation No.22 - Air Toxics published by the RIDEM. AALs are presented in units of µg/m3.

TABLE 2
Summary of Interior Soil Gas Sampling
Former Tidewater Facility
Pawtucket, Rhode Island

	2008 CT DEEP Criteria		2013 MADEP Screening Levels		2013 NJDEP Screening Levels		Units	SG-200	SG-202	SG-203S	SG-203M	SG-203D	SG-204	SG-205	SG-206	SG-207
	Residential	Industrial/Commercial	Residential	Industrial/Commercial	Residential	Industrial/Commercial		13H0164-09 Soil Gas 8/2/2013	13H0164-05 Soil Gas 8/2/2013	13H0164-06 Soil Gas 8/2/2013	13H0164-07 Soil Gas 8/2/2013	13H0164-08 Soil Gas 8/2/2013	13H0164-10 Soil Gas 8/2/2013	13H0164-14 Soil Gas 8/1/2013	13H0164-13 Soil Gas 8/1/2013	13H0164-11 Soil Gas 8/1/2013
EPA TO-3C																
Helium	NE	NE	NE	NE	NE	NE	%	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
EPA TO-15 Full List																
Acetone	378,030	500,000	6,400	50,000	1,600,000	6,800,000	µg/m ³	19	16	<190	<190	<95	<95	11	<95	8.2
Benzene	2,456	4,501	160	770	16	79	µg/m ³	7.2	1.3	4000	2400	45	930	<0.16	4.9	1.8
Benzyl chloride	NE	NE	NE	NE	NE	NE	µg/m ³	<0.26	<0.26	<10	<10	<5.2	<5.2	<0.26	<5.2	<0.26
Bromodichloromethane	1,340	1,340	9.1	46	34	34	µg/m ³	<0.17	<0.17	<6.7	<6.7	<3.4	<3.4	<0.17	<3.4	<0.17
Bromoform	NE	NE	150	700	110	560	µg/m ³	<0.52	<0.52	<21	<21	<10	<10	<0.52	<10	<0.52
Bromomethane	780	6,930	42	310	260	1,100	µg/m ³	<0.19	<0.19	<7.8	<7.8	<3.9	<3.9	<0.19	<3.9	<0.19
1,3-Butadiene	NE	NE	NE	NE	11	20	µg/m ³	<0.11	<0.11	<4.4	<4.4	<2.2	<2.2	<0.11	<2.2	<0.11
2-Butanone (MEK)	377,771	500,000	840	310,000	260,000	1,100,000	µg/m ³	<5.9	<5.9	<240	<240	<120	<120	<5.9	<120	<5.9
Carbon Disulfide	NE	NE	NE	NE	36,000	150,000	µg/m ³	2.1	17	110	<62	<31	<31	19	<31	2.6
Carbon Tetrachloride	1,300	1,300	38	130	31	100	µg/m ³	0.57	<0.16	<6.3	<6.3	<3.1	<3.1	0.56	<3.1	<0.16
Chlorobenzene	30,254	282,730	160	1,300	2,600	11,000	µg/m ³	<0.23	<0.23	<9.2	<9.2	<4.6	<4.6	<0.23	<4.6	<0.23
Chloroethane	378,671	500,000	NE	NE	520,000	2,200,000	µg/m ³	0.15	<0.066	<2.6	<2.6	<1.3	<1.3	<0.066	<1.3	<0.066
Chloroform	1,513	13,864	130	210	24	27	µg/m ³	11	0.5	<4.9	<4.9	<2.4	<2.4	0.66	<2.4	0.39
Chloromethane	3,926	37,362	NE	NE	4,700	20,000	µg/m ³	0.53	0.84	<8.3	<8.3	6.9	<4.1	<0.21	<4.1	0.47
Cyclohexane	378,242	500,000	NE	NE	310,000	1,300,000	µg/m ³	0.89	<0.17	15	<6.9	<3.4	<3.4	0.82	360	1.3
Dibromochloromethane	NE	NE	6.8	34	43	43	µg/m ³	<0.21	<0.21	<8.5	<8.5	<4.3	<4.3	<0.21	<4.3	<0.21
1,2-Dibromoethane (EDB)	NE	NE	0.55	2.7	38	38	µg/m ³	<0.19	<0.19	<7.7	<7.7	<3.8	<3.8	<0.19	<3.8	<0.19
1,2-Dichlorobenzene	60,527	500,000	50	13,000	10,000	44,000	µg/m ³	<0.30	<0.30	<12	<12	<6.0	<6.0	<0.30	<6.0	<0.30
1,3-Dichlorobenzene	1,515	13,865	42	13,000	NE	NE	µg/m ³	<0.30	<0.30	<12	<12	<6.0	<6.0	<0.30	<6.0	<0.30
1,4-Dichlorobenzene	18,156	33,277	35	120	30	56	µg/m ³	<0.30	<0.30	<12	<12	<6.0	<6.0	<0.30	<6.0	<0.30
Dichlorodifluoromethane (Freon 12)	75,770	500,000	NE	NE	5,200	22,000	µg/m ³	1.5	1.2	<9.9	<9.9	<4.9	<4.9	1.6	<4.9	1.5
1,1-Dichloroethane	15,147	141,568	56	31,000	76	380	µg/m ³	<0.10	<0.10	<4.0	<4.0	<2.0	<2.0	<0.10	<2.0	<0.10
1,2-Dichloroethane	800	800	6	31	20	24	µg/m ³	<0.10	<0.10	<4.0	<4.0	<2.0	<2.0	<0.10	<2.0	<0.10
1,1-Dichloroethylene	7,560	70,654	56	13,000	10,000	44,000	µg/m ³	<0.099	<0.099	<4.0	<4.0	<2.0	<2.0	<0.099	<2.0	<0.099
cis-1,2-Dichloroethylene	15,119	141,301	56	2,200	3,100	13,000	µg/m ³	<0.099	<0.099	<4.0	<4.0	<2.0	<2.0	<0.099	<2.0	<0.099
trans-1,2-Dichloroethylene	15,119	141,305	56	4,300	3,100	13,000	µg/m ³	<0.099	<0.099	<4.0	<4.0	<2.0	<2.0	<0.099	<2.0	<0.099
1,2-Dichloropropane	900	1,109	8.4	42	23	61	µg/m ³	<0.12	<0.12	<4.6	<4.6	<2.3	<2.3	<0.12	<2.3	<0.12
cis-1,3-Dichloropropene	900	2,774	41	200	30	150	µg/m ³	<0.11	<0.11	<4.5	<4.5	<2.3	<2.3	<0.11	<2.3	<0.11
trans-1,3-Dichloropropene	900	2,774	41	200	30	150	µg/m ³	<0.11	<0.11	<4.5	<4.5	<2.3	<2.3	<0.11	<2.3	<0.11
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	NE	NE	NE	NE	NE	NE	µg/m ³	<0.35	<0.35	<14	<14	<7.0	<7.0	<0.35	<7.0	<0.35
1,4-Dioxane	NE	NE	40	200	NE	NE	µg/m ³	<1.8	<1.8	<72	<72	<36	<36	<1.8	<36	<1.8
Ethanol	NE	NE	NE	NE	NE	NE	µg/m ³	4.1	<3.8	<150	<150	<75	<75	<3.8	<75	<3.8
Ethyl Acetate	377,762	500,000	NE	NE	NE	NE	µg/m ³	0.94	<0.18	<7.2	<7.2	<3.6	<3.6	0.83	<3.6	<0.18
Ethylbenzene	43,882	410,364	520	62,000	49	250	µg/m ³	5.3	<0.22	13000	6800	190	730	0.47	24	0.36
4-Ethyltoluene	NE	NE	NE	NE	NE	NE	µg/m ³	6.6	<0.25	6000	3000	260	110	4.8	6.9	0.44
Heptane	NE	NE	NE	NE	NE	NE	µg/m ³	0.3	<0.20	55	41	<4.1	7.9	0.84	360	<0.20
Hexachlorobutadiene	NE	NE	7.7	320	53	53	µg/m ³	<0.53	<0.53	<21	<21	<11	<11	<0.53	<11	<0.53
Hexane	302,386	500,000	NE	NE	36,000	150,000	µg/m ³	<7.0	<7.0	<280	<280	<140	<140	<7.0	390	<7.0
2-Hexanone (MBK)	NE	NE	NE	NE	NE	NE	µg/m ³	0.75	0.53	<8.2	<8.2	<4.1	<4.1	<0.20	<4.1	<0.20
Indane	NE	NE	NE	NE	NE	NE	µg/m ³	18	<0.62	8200	3100	570	240	5.8	<12	1.4
Indene	NE	NE	NE	NE	NE	NE	µg/m ³	18	<0.63	160000	20000	8900	940	26	<13	1.2
Isopropanol	NE	NE	NE	NE	NE	NE	µg/m ³	<4.9	<4.9	<200	<200	<98	<98	<4.9	<98	<4.9
Isopropylbenzene (Cumene)	29,545	54,140	NE	NE	NE	NE	µg/m ³	0.67	<0.62	460	200	<12	<12	<0.62	<12	<0.62
Methyl tert-Butyl Ether (MTBE)	129,581	263,819	2,700	190,000	470	2,400	µg/m ³	<0.18	<0.18	<7.2	<7.2	<3.6	<3.6	<0.18	<3.6	<0.18
Methylene Chloride	2,269	23,554	770	37,000	4,800	61,000	µg/m ³	3.8	2.8	<69	<69	<35	<35	2.5	<35	2.4
4-Methyl-2-pentanone (MIBK)	378,459	500,000	150	190,000	160,000	660,000	µg/m ³	<0.20	<0.20	<8.2	<8.2	<4.1	<4.1	<0.20	<4.1	<0.20
Naphthalene	1,284	12,203	42	190	26	26	µg/m ³	140	9.4	52000	36000	8100	1300	530	8.5	370

TABLE 2
Summary of Interior Soil Gas Sampling
 Former Tidewater Facility
 Pawtucket, Rhode Island

	2008 CT DEEP Criteria		2013 MADEP Screening Levels		2013 NJDEP Screening Levels		Units	SG-200	SG-202	SG-203S	SG-203M	SG-203D	SG-204	SG-205	SG-206	SG-207
	Residential	Industrial/ Commercial	Residential	Industrial/ Commercial	Residential	Industrial/ Commercial		13H0164-09 Soil Gas 8/2/2013	13H0164-05 Soil Gas 8/2/2013	13H0164-06 Soil Gas 8/2/2013	13H0164-07 Soil Gas 8/2/2013	13H0164-08 Soil Gas 8/2/2013	13H0164-10 Soil Gas 8/2/2013	13H0164-14 Soil Gas 8/1/2013	13H0164-13 Soil Gas 8/1/2013	13H0164-11 Soil Gas 8/1/2013
EPA TO-15 Full List																
Propene	NE	NE	NE	NE	NE	NE	µg/m ³	<3.4	<3.4	<140	<140	<69	<69	<3.4	<69	<3.4
Styrene	45,420	425,838	98	1,400	52,000	220,000	µg/m ³	30	<0.21	29000	44000	1800	820	0.55	<4.3	0.38
1,1,2,2-Tetrachloroethane	1,400	1,386	2.8	14	34	34	µg/m ³	<0.17	<0.17	<6.9	<6.9	<3.4	<3.4	<0.17	<3.4	<0.17
Tetrachloroethylene	3,783	6,936	98	290	470	2,400	µg/m ³	3	6	<6.8	80	100	20	9.2	13	1.5
Tetrahydrofuran	605	5,814	NE	NE	NE	NE	µg/m ³	0.48	0.48	<5.9	<5.9	<2.9	<2.9	<0.15	<2.9	<0.15
Toluene	130,246	500,000	3,800	310,000	260,000	1,100,000	µg/m ³	20	0.46	95000	100000	1300	12000	0.41	13	2.9
1,2,4-Trichlorobenzene	1,135	11,093	240	13,000	100	440	µg/m ³	<0.37	<0.37	<15	<15	<7.4	<7.4	<0.37	<7.4	<0.37
1,1,1-Trichloroethane	115,135	500,000	210	320,000	260,000	1,100,000	µg/m ³	2.5	<0.14	<5.5	<5.5	<2.7	<2.7	0.5	<2.7	0.51
1,1,2-Trichloroethane	1,100	1,100	11	50	27	38	µg/m ³	<0.14	<0.14	<5.5	<5.5	<2.7	<2.7	<0.14	<2.7	<0.14
Trichloroethylene	1,100	1,385	28	130	27	150	µg/m ³	<0.13	<0.13	<5.4	<5.4	<2.7	<2.7	<0.13	<2.7	<0.13
Trichlorofluoromethane (Freon 11)	378,591	500,000	NE	NE	36,000	150,000	µg/m ³	1.6	1.2	<11	<11	<5.6	<5.6	3.8	<5.6	2.4
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	378,304	500,000	NE	NE	1,600,000	6,600,000	µg/m ³	0.6	0.61	<15	<15	<7.7	<7.7	0.83	<7.7	0.73
1,2,4-Trimethylbenzene	2,578	23,601	NE	NE	NE	NE	µg/m ³	56	0.96	57000	23000	3000	1300	15	6.3	5.7
1,3,5-Trimethylbenzene	2,578	23,601	NE	NE	NE	NE	µg/m ³	57	0.36	33000	10000	1200	880	8.5	5.5	3
Vinyl Acetate	86,247	500,000	NE	NE	NE	NE	µg/m ³	<3.5	<3.5	<140	<140	<70	<70	<3.5	<70	<3.5
Vinyl Chloride	500	1,249	19	91	13	140	µg/m ³	<0.064	<0.064	<2.6	<2.6	<1.3	<1.3	<0.064	<1.3	<0.064
m&p-Xylene	44,967	421,609	1,400	6,200	5,200	22,000	µg/m ³	48	<0.43	170000	76000	3800	6300	1.5	41	4.5
o-Xylene	44,967	421,609	1,400	6,200	5,200	22,000	µg/m ³	29	0.26	84000	30000	1500	2200	1.6	22	1.4

Notes:

NE - Not Established

Bolded text indicates an exceedance of MADEP residential screening levels.

A gray shaded cell indicates an exceedance of MADEP industrial/commercial screening levels.

Red text indicates an exceedance of NJDEP residential screening levels.

Underlined text indicates an exceedance of NJDEP industrial/commercial screening levels.

Italicized text indicates an exceedance of CTDEEP residential criteria

A bold bordered cell indicates an exceedance of CTDEEP industrial/commercial criteria.

A blue shaded cell indicates that the detection limit exceeds relative criteria / screening level.

CTDEEP residential and industrial/commercial criteria is obtained from the 2008 Connecticut Remediation Criteria: Technical Support Document Appendix J published by the CTDEEP.

CTDEEP Criteria is presented in the 2008 Connecticut Remediation Criteria: Technical Support Document Appendix J - Table J6 and J8 in parts per million (ppmv) with adjustments presented for analytical capabilities and maximum values. To obtain criteria in mg/m³ units, ppmv criteria is multiplied by the molecular weight of the compound divided by 24.45 (a conversion factor). The mg/m³ criteria is multiplied by 1000 to obtain µg/m³.

MADEP Screening Levels obtained from the 2011 Interim Final Vapor Intrusion Guidance last revised in 2013 published by MADEP. Screening levels are presented in units of µg/m³.

NJDEP Residential and industrial/commercial screening values are obtained from Table 1 - NJDEP Master Table Generic Vapor Intrusion Screen Levels as referenced in the 2013 Vapor Intrusion Technical Guidance published by NJDEP. Screening levels are presented in units of µg/m³.

TABLE 3
Summary of Perimeter Soil Gas Sampling
Former Tidewater Facility
Pawtucket, Rhode Island

	2008 CT DEEP Criteria		2013 MADEP Screening Levels		2013 NJDEP Screening Levels		Units	SG-100S	SG-100D	SG-101S	SG-102S	SG-103S	SG-104S	SG-104D	SG-105S	SG-105D	SG-106S	SG-106D	SG-107S	SG-107D
	Residential	Industrial/ Commercial	Residential	Industrial/ Commercial	Residential	Industrial/ Commercial		13H0055-04 Soil Gas 7/29/2013	13H0055-03 Soil Gas 7/29/2013	13H0055-08 Soil Gas 7/30/2013	13H0055-09 Soil Gas 7/30/2013	13H0055-10 Soil Gas 7/30/2013	13G1044-05 Soil Gas 7/24/2013	13G1044-04 Soil Gas 7/24/2013	13H0055-13 Soil Gas 7/31/2013	13G1148-07 Soil Gas 7/25/2013	13G1148-06 Soil Gas 7/25/2013	13G1148-05 Soil Gas 7/25/2013	13G1148-04 Soil Gas 7/25/2013	13G1148-03 Soil Gas 7/25/2013
EPA TO-3C																				
Helium	NE	NE	NE	NE	NE	NE	%	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
EPA TO-15 Full List																				
Acetone	378,030	500,000	6,400	50,000	1,600,000	6,800,000	µg/m ³	42	18	6	17	16	13	36	<4.8	34	16	59	37	13
Benzene	2,456	4,501	160	770	16	79	µg/m ³	<0.16	<0.16	<0.16	0.23	0.24	<0.16	<0.16	1700	0.2	<0.16	0.24	<0.16	<0.16
Benzyl chloride	NE	NE	NE	NE	NE	NE	µg/m ³	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26
Bromodichloromethane	1,340	1,340	9.1	46	34	34	µg/m ³	0.37	<0.17	<0.17	<0.17	<0.17	<0.34	<0.34	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Bromoform	NE	NE	150	700	110	560	µg/m ³	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52
Bromomethane	780	6,930	42	310	260	1,100	µg/m ³	<0.19	<0.19	<0.19	<0.19	<0.19	0.21	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19
1,3-Butadiene	NE	NE	NE	NE	11	20	µg/m ³	0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11
2-Butanone (MEK)	377,771	500,000	840	310,000	260,000	1,100,000	µg/m ³	6.7	<5.9	<5.9	<5.9	<5.9	<5.9	7.1	<5.9	6.5	<5.9	14	7.9	<5.9
Carbon Disulfide	NE	NE	NE	NE	36,000	150,000	µg/m ³	<1.6	18	11	<1.6	<1.6	<1.6	2.2	<1.6	<1.6	<1.6	2.1	4	<1.6
Carbon Tetrachloride	1,300	1,300	38	130	31	100	µg/m ³	0.54	<0.16	<0.16	<0.16	0.18	<0.31	<0.31	<0.16	<0.16	0.25	0.24	0.36	0.31
Chlorobenzene	30,254	282,730	160	1,300	2,600	11,000	µg/m ³	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23
Chloroethane	378,671	500,000	NE	NE	520,000	2,200,000	µg/m ³	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13
Chloroform	1,513	13,864	130	210	24	27	µg/m ³	63	0.35	2.6	0.6	0.45	0.27	0.44	<0.12	0.37	0.18	2.8	0.28	0.31
Chloromethane	3,926	37,362	NE	NE	4,700	20,000	µg/m ³	0.33	0.43	<0.21	<0.21	0.23	0.47	<0.21	<0.21	0.24	<0.21	0.39	<0.21	<0.21
Cyclohexane	378,242	500,000	NE	NE	310,000	1,300,000	µg/m ³	<0.17	0.33	<0.17	<0.17	<0.17	<0.17	<0.17	860	0.47	<0.17	<0.17	<0.17	<0.17
Dibromochloromethane	NE	NE	6.8	34	43	43	µg/m ³	<0.21	<0.21	<0.21	<0.21	<0.21	<0.43	<0.43	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21
1,2-Dibromoethane (EDB)	NE	NE	0.55	2.7	38	38	µg/m ³	<0.19	<0.19	<0.19	<0.19	<0.19	<0.38	<0.38	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19
1,2-Dichlorobenzene	60,527	500,000	50	13,000	10,000	44,000	µg/m ³	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
1,3-Dichlorobenzene	1,515	13,865	42	13,000	NE	NE	µg/m ³	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
1,4-Dichlorobenzene	18,156	33,277	35	120	30	56	µg/m ³	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Dichlorodifluoromethane (Freon 12)	75,770	500,000	NE	NE	5,200	22,000	µg/m ³	1.9	1.6	1.8	1.9	22	2.8	3.6	<0.25	1.2	1.4	2	2	2.1
1,1-Dichloroethane	15,147	141,568	56	31,000	76	380	µg/m ³	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,2-Dichloroethane	800	800	6	31	20	24	µg/m ³	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.20	0.8	<0.10	<0.10	<0.10	<0.10	<0.10
1,1-Dichloroethylene	7,560	70,654	56	13,000	10,000	44,000	µg/m ³	<0.099	<0.099	<0.099	<0.099	<0.099	<0.20	<0.20	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099
cis-1,2-Dichloroethylene	15,119	141,301	56	2,200	3,100	13,000	µg/m ³	<0.099	<0.099	<0.099	<0.099	<0.099	<0.20	<0.20	0.29	<0.099	<0.099	0.89	<0.099	<0.099
trans-1,2-Dichloroethylene	15,119	141,305	56	4,300	3,100	13,000	µg/m ³	<0.099	<0.099	<0.099	<0.099	<0.099	<0.20	<0.20	<0.099	<0.099	<0.099	0.18	<0.099	<0.099
1,2-Dichloropropane	900	1,109	8.4	42	23	61	µg/m ³	<0.12	<0.12	<0.12	<0.12	<0.12	<0.23	<0.23	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
cis-1,3-Dichloropropene	900	2,774	41	200	30	150	µg/m ³	<0.11	<0.11	<0.11	<0.11	<0.11	<0.23	<0.23	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11
trans-1,3-Dichloropropene	900	2,774	41	200	30	150	µg/m ³	<0.11	<0.11	<0.11	<0.11	<0.11	<0.23	<0.23	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	NE	NE	NE	NE	NE	NE	µg/m ³	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35
1,4-Dioxane	NE	NE	40	200	NE	NE	µg/m ³	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
Ethanol	NE	NE	NE	NE	NE	NE	µg/m ³	5.5	6.9	<3.8	4	<3.8	<3.8	4.7	<3.8	5.9	<3.8	11	4.4	<3.8
Ethyl Acetate	377,762	500,000	NE	NE	NE	NE	µg/m ³	1.1	<0.18	2.3	22	1.9	0.48	0.5	<0.18	0.61	<0.18	0.69	0.3	<0.18
Ethylbenzene	43,882	410,364	520	62,000	49	250	µg/m ³	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	40	<0.22	<0.22	<0.22	<0.22	<0.22
4-Ethyltoluene	NE	NE	NE	NE	NE	NE	µg/m ³	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	35	<0.25	<0.25	<0.25	<0.25	<0.25
Heptane	NE	NE	NE	NE	NE	NE	µg/m ³	0.26	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	1100	<0.20	<0.20	0.48	<0.20	<0.20
Hexachlorobutadiene	NE	NE	7.7	320	53	53	µg/m ³	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53
Hexane	302,386	500,000	NE	NE	36,000	150,000	µg/m ³	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	2100	<7.0	<7.0	<7.0	<7.0	<7.0
2-Hexanone (MBK)	NE	NE	NE	NE	NE	NE	µg/m ³	2.3	1.3	<0.20	0.33	0.34	0.58	1.5	<0.20	2.3	0.65	4.3	2.9	0.68
Indane	NE	NE	NE	NE	NE	NE	µg/m ³	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	10	<0.62	<0.62	<0.62	<0.62	<0.62
Indene	NE	NE	NE	NE	NE	NE	µg/m ³	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	0.96	<0.63	<0.63	<0.63	<0.63	<0.63
Isopropanol	NE	NE	NE	NE	NE	NE	µg/m ³	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	5.7	<4.9	<4.9
Isopropylbenzene (Cumene)	29,545	54,140	NE	NE	NE	NE	µg/m ³	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	30	<0.62	<0.62	<0.62	<0.62	<0.62
Methyl tert-Butyl Ether (MTBE)	129,581	263,819	2,700	190,000	470	2,400	µg/m ³	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18
Methylene Chloride	2,269	23,554	770	37,000	4,800	61,000	µg/m ³	<1.7	<1.7	<1.7	23	2.3	<1.7	<1.7	<1.7	5.5	<1.7	<1.7	<1.7	<1.7
4-Methyl-2-pentanone (MIBK)	378,459	500,000	150	190,000	160,000	660,000	µg/m ³	1	0.52	<0.20	<0.20	<0.20	1.4	<0.20	<0.20	0.8	0.43	1.5	1	0.36
Naphthalene	1,284	12,203	42	190	26	26	µg/m ³	0.33	0.67	<0.26	0.47	0.35	0.63	0.5	1.1	0.39	0.28	0.39	0.46	<0.26

TABLE 3
Summary of Perimeter Soil Gas Sampling
 Former Tidewater Facility
 Pawtucket, Rhode Island

	2008 CT DEEP Criteria		2013 MADEP Screening Levels		2013 NJDEP Screening Levels		Units	SG-100S	SG-100D	SG-101S	SG-102S	SG-103S	SG-104S	SG-104D	SG-105S	SG-105D	SG-106S	SG-106D	SG-107S	SG-107D
	Residential	Industrial/ Commercial	Residential	Industrial/ Commercial	Residential	Industrial/ Commercial		13H0055-04 Soil Gas 7/29/2013	13H0055-03 Soil Gas 7/29/2013	13H0055-08 Soil Gas 7/30/2013	13H0055-09 Soil Gas 7/30/2013	13H0055-10 Soil Gas 7/30/2013	13G1044-05 Soil Gas 7/24/2013	13G1044-04 Soil Gas 7/24/2013	13H0055-13 Soil Gas 7/31/2013	13G1148-07 Soil Gas 7/25/2013	13G1148-06 Soil Gas 7/25/2013	13G1148-05 Soil Gas 7/25/2013	13G1148-04 Soil Gas 7/25/2013	13G1148-03 Soil Gas 7/25/2013
EPA TO-15 Full List																				
Propene	NE	NE	NE	NE	NE	NE	µg/m ³	4.1	<3.4	<3.4	<3.4	<3.4	<3.4	3.6	<3.4	<3.4	<3.4	7.5	3.9	<3.4
Styrene	45,420	425,838	98	1,400	52,000	220,000	µg/m ³	<0.21	<0.21	1.4	<0.21	<0.21	<0.21	<0.21	5.5	<0.21	<0.21	<0.21	<0.21	<0.21
1,1,2,2-Tetrachloroethane	1,400	1,386	2.8	14	34	34	µg/m ³	<0.17	<0.17	<0.17	<0.17	<0.17	<0.34	<0.34	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Tetrachloroethylene	3,783	6,936	98	290	470	2,400	µg/m ³	64	<0.17	0.2	8.2	0.66	6.5	7.9	1	120	27	320	47	37
Tetrahydrofuran	605	5,814	NE	NE	NE	NE	µg/m ³	0.25	<0.15	<0.15	<0.15	<0.15	<0.15	0.42	<0.15	0.15	<0.15	0.23	0.15	<0.15
Toluene	130,246	500,000	3,800	310,000	260,000	1,100,000	µg/m ³	<0.19	<0.19	0.28	1.2	0.42	0.21	<0.19	180	<0.19	<0.19	0.28	<0.19	<0.19
1,2,4-Trichlorobenzene	1,135	11,093	240	13,000	100	440	µg/m ³	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37
1,1,1-Trichloroethane	115,135	500,000	210	320,000	260,000	1,100,000	µg/m ³	3.4	0.33	0.17	0.94	<0.14	0.75	0.61	<0.14	0.21	<0.14	1.5	0.27	0.34
1,1,2-Trichloroethane	1,100	1,100	11	50	27	38	µg/m ³	<0.14	<0.14	<0.14	<0.14	<0.14	<0.27	<0.27	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14
Trichloroethylene	1,100	1,385	28	130	27	150	µg/m ³	25	<0.13	<0.13	<0.13	<0.13	<0.27	<0.27	0.3	0.25	<0.13	25	<0.13	0.17
Trichlorofluoromethane (Freon 11)	378,591	500,000	NE	NE	36,000	150,000	µg/m ³	3.2	1.7	1.6	2.7	6.9	2.4	4.3	<0.28	2.4	1.5	3	2.8	2
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	378,304	500,000	NE	NE	1,600,000	6,600,000	µg/m ³	5	0.69	0.67	0.56	0.51	1.2	6.2	<0.38	3.3	0.98	3.5	3	0.93
1,2,4-Trimethylbenzene	2,578	23,601	NE	NE	NE	NE	µg/m ³	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	130	<0.25	<0.25	<0.25	<0.25	<0.25
1,3,5-Trimethylbenzene	2,578	23,601	NE	NE	NE	NE	µg/m ³	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	77	<0.25	<0.25	<0.25	<0.25	<0.25
Vinyl Acetate	86,247	500,000	NE	NE	NE	NE	µg/m ³	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5
Vinyl Chloride	500	1,249	19	91	13	140	µg/m ³	<0.064	<0.064	<0.064	<0.064	<0.064	<0.13	<0.13	<0.064	<0.064	<0.064	<0.064	<0.064	<0.064
m&p-Xylene	44,967	421,609	1,400	6,200	5,200	22,000	µg/m ³	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43	280	<0.43	<0.43	<0.43	<0.43	<0.43
o-Xylene	44,967	421,609	1,400	6,200	5,200	22,000	µg/m ³	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	94	<0.22	<0.22	<0.22	<0.22	<0.22

Notes:

NE - Not Established

Bolded text indicates an exceedance of MADEP residential screening levels.

A gray shaded cell indicates an exceedance of MADEP industrial/commercial screening levels.

Red text indicates an exceedance of NJDEP residential screening levels.

Underlined text indicates an exceedance of NJDEP industrial/commercial screening levels.

Italicized text indicates an exceedance of CTDEEP residential criteria

A bold bordered cell indicates an exceedance of CTDEEP industrial/commercial criteria.

A blue shaded cell indicates that the detection limit exceeds relative criteria / screening level.

CTDEEP residential and industrial/commercial criteria is obtained from the 2008 Connecticut Remediation Criteria: Technical Support Document Appendix J published by the CTDEEP.

CTDEEP Criteria is presented in the 2008 Connecticut Remediation Criteria: Technical Support Document Appendix J - Table J6 and J8 in parts per million (ppmv) with adjustments presented for analytical capabilities and maximum values. To obtain criteria in mg/m³ units, ppmv criteria is multiplied by the molecular weight of the compound divided by 24.45 (a conversion factor). The mg/m³ criteria is multiplied by 1000 to obtain µg/m³.

MADEP Screening Levels obtained from the 2011 Interim Final Vapor Intrusion Guidance last revised in 2013 published by MADEP. Screening levels are presented in units of µg/m³.

NJDEP Residential and industrial/commercial screening values are obtained from Table 1 - NJDEP Master Table Generic Vapor Intrusion Screen Levels as referenced in the 2013 Vapor Intrusion Technical Guidance published by NJDEP. Screening levels are presented in units of µg/m³.

TABLE 3
Summary of Perimeter Soil Gas Sampling
 Former Tidewater Facility
 Pawtucket, Rhode Island

	2008 CT DEEP Criteria		2013 MADEP Screening Levels		2013 NJDEP Screening Levels		Units	SG-108S	SG-108D	SG-109S	SG-109D	SG-110S	SG-110S	SG-110D	SG-111S	SG-111D	SG-112S	SG-112D	SG-113S	SG-113D	
	Residential	Industrial/ Commercial	Residential	Industrial/ Commercial	Residential	Industrial/ Commercial		13H0055-14 Soil Gas 7/31/2013	13H0055-15 Soil Gas 7/31/2013	13H0055-16 Soil Gas 7/31/2013	13H0055-17 Soil Gas 7/31/2013	13H0055-18 Soil Gas 7/31/2013	13H0996-01 Soil Gas 8/26/2013	13H0055-19 Soil Gas 7/31/2013	13H0055-20 Soil Gas 7/31/2013	13H0055-21 Soil Gas 7/31/2013	13H0164-15 Soil Gas 8/1/2013	13H0164-12 Soil Gas 8/1/2013	13H0164-02 Soil Gas 8/1/2013	13H0164-16 Soil Gas 8/1/2013	
EPA TO-3C																					
Helium	NE	NE	NE	NE	NE	NE	%	<0.40	<0.40	<0.40	<0.40	<0.40	<0.41	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	
EPA TO-15 Full List																					
Acetone	378,030	500,000	6,400	50,000	1,600,000	6,800,000	µg/m ³	42	51	16	12	47	7.5	61	24	42	26	15	20	13	
Benzene	2,456	4,501	160	770	16	79	µg/m ³	0.69	1.8	0.48	0.19	2.7	1.9	0.38	<0.16	0.23	5.8	2.2	<0.16	0.29	
Benzyl chloride	NE	NE	NE	NE	NE	NE	µg/m ³	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	
Bromodichloromethane	1,340	1,340	9.1	46	34	34	µg/m ³	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	
Bromoform	NE	NE	150	700	110	560	µg/m ³	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	
Bromomethane	780	6,930	42	310	260	1,100	µg/m ³	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	
1,3-Butadiene	NE	NE	NE	NE	11	20	µg/m ³	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	2.3	<0.11	<0.11	<0.11	
2-Butanone (MEK)	377,771	500,000	840	310,000	260,000	1,100,000	µg/m ³	8.3	6.2	<5.9	<5.9	9.2	<5.9	13	<5.9	6.9	<5.9	<5.9	<5.9	<5.9	
Carbon Disulfide	NE	NE	NE	NE	36,000	150,000	µg/m ³	2.9	2.6	<1.6	<1.6	3.6	2.4	2.7	14	3.4	41	2.3	5.7	2.4	
Carbon Tetrachloride	1,300	1,300	38	130	31	100	µg/m ³	0.59	0.84	0.27	0.36	0.44	0.43	0.18	0.36	0.44	6	5.3	0.96	2.2	
Chlorobenzene	30,254	282,730	160	1,300	2,600	11,000	µg/m ³	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	
Chloroethane	378,671	500,000	NE	NE	520,000	2,200,000	µg/m ³	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	0.19	0.13	<0.066	<0.066	
Chloroform	1,513	13,864	130	210	24	27	µg/m ³	2.5	3	2.7	23	0.69	0.72	0.4	0.83	6.8	1	11	1.2	1.2	
Chloromethane	3,926	37,362	NE	NE	4,700	20,000	µg/m ³	0.27	<0.21	0.5	<0.21	1.2	1	<0.21	0.22	<0.21	4.5	0.58	0.36	0.52	
Cyclohexane	378,242	500,000	NE	NE	310,000	1,300,000	µg/m ³	<0.17	0.83	<0.17	<0.17	0.29	<0.17	<0.17	<0.17	<0.17	1.6	0.46	<0.17	0.34	
Dibromochloromethane	NE	NE	6.8	34	43	43	µg/m ³	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	
1,2-Dibromoethane (EDB)	NE	NE	0.55	2.7	38	38	µg/m ³	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	
1,2-Dichlorobenzene	60,527	500,000	50	13,000	10,000	44,000	µg/m ³	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	0.47	<0.30	<0.30	
1,3-Dichlorobenzene	1,515	13,865	42	13,000	NE	NE	µg/m ³	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	
1,4-Dichlorobenzene	18,156	33,277	35	120	30	56	µg/m ³	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	1.7	<0.30	<0.30	2.4	0.72	<0.30	<0.30	
Dichlorodifluoromethane (Freon 12)	75,770	500,000	NE	NE	5,200	22,000	µg/m ³	3.3	3.7	1.6	2	1.9	1.9	2	1.6	2.2	1.5	1.4	1.4	1.4	
1,1-Dichloroethane	15,147	141,568	56	31,000	76	380	µg/m ³	<0.10	<0.10	<0.10	0.43	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
1,2-Dichloroethane	800	800	6	31	20	24	µg/m ³	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
1,1-Dichloroethylene	7,560	70,654	56	13,000	10,000	44,000	µg/m ³	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099	
cis-1,2-Dichloroethylene	15,119	141,301	56	2,200	3,100	13,000	µg/m ³	<0.099	<0.099	<0.099	6.5	<0.099	<0.099	27	0.28	34	<0.099	<0.099	<0.099	<0.099	
trans-1,2-Dichloroethylene	15,119	141,305	56	4,300	3,100	13,000	µg/m ³	<0.099	<0.099	<0.099	0.83	<0.099	<0.099	1	<0.099	0.96	<0.099	<0.099	<0.099	<0.099	
1,2-Dichloropropane	900	1,109	8.4	42	23	61	µg/m ³	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	
cis-1,3-Dichloropropene	900	2,774	41	200	30	150	µg/m ³	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	
trans-1,3-Dichloropropene	900	2,774	41	200	30	150	µg/m ³	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	NE	NE	NE	NE	NE	NE	µg/m ³	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	
1,4-Dioxane	NE	NE	40	200	NE	NE	µg/m ³	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	
Ethanol	NE	NE	NE	NE	NE	NE	µg/m ³	6.9	3.9	<3.8	<3.8	5.3	<3.8	12	6.9	4.6	<3.8	<3.8	<3.8	<3.8	
Ethyl Acetate	377,762	500,000	NE	NE	NE	NE	µg/m ³	<0.18	1.6	1	1.6	1.2	0.58	1.4	<0.18	2.6	2.2	2.4	0.65	1.5	
Ethylbenzene	43,882	410,364	520	62,000	49	250	µg/m ³	<0.22	<0.22	<0.22	<0.22	0.42	<0.22	0.75	<0.22	<0.22	17	1	0.26	0.5	
4-Ethyltoluene	NE	NE	NE	NE	NE	NE	µg/m ³	0.28	<0.25	<0.25	<0.25	0.5	<0.25	0.58	<0.25	<0.25	2.4	0.5	0.81	0.28	
Heptane	NE	NE	NE	NE	NE	NE	µg/m ³	0.65	1.4	<0.20	<0.20	0.25	<0.20	0.57	<0.20	0.33	1.2	<0.20	<0.20	<0.20	
Hexachlorobutadiene	NE	NE	7.7	320	53	53	µg/m ³	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	
Hexane	302,386	500,000	NE	NE	36,000	150,000	µg/m ³	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	
2-Hexanone (MBK)	NE	NE	NE	NE	NE	NE	µg/m ³	2.9	2	0.73	0.52	2.7	0.31	3.7	0.94	2.3	0.28	0.35	0.49	0.46	
Indane	NE	NE	NE	NE	NE	NE	µg/m ³	<0.62	<0.62	<0.62	<0.62	2.3	0.83	0.76	<0.62	<0.62	0.93	<0.62	<0.62	<0.62	
Indene	NE	NE	NE	NE	NE	NE	µg/m ³	<0.63	<0.63	<0.63	<0.63	16	5.3	<0.63	<0.63	<0.63	8.3	2.1	<0.63	<0.63	
Isopropanol	NE	NE	NE	NE	NE	NE	µg/m ³	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	
Isopropylbenzene (Cumene)	29,545	54,140	NE	NE	NE	NE	µg/m ³	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	0.81	<0.62	<0.62	<0.62	
Methyl tert-Butyl Ether (MTBE)	129,581	263,819	2,700	190,000	470	2,400	µg/m ³	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	
Methylene Chloride	2,269	23,554	770	37,000	4,800	61,000	µg/m ³	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	7.5	<1.7	6.4	3.4	<1.7	2.2	
4-Methyl-2-pentanone (MIBK)	378,459	500,000	150	190,000	160,000	660,000	µg/m ³	1.1	<0.20	0.45	0.21	1.2	<0.20	1.3	0.36	1	<0.20	<0.20	<0.20	0.27	
Naphthalene	1,284	12,203	42	190	26	26	µg/m ³	0.41	0.35	0.29	0.31	550	160	13	1.9	1	14	16	0.82	1.4	

TABLE 3
Summary of Perimeter Soil Gas Sampling
 Former Tidewater Facility
 Pawtucket, Rhode Island

	2008 CT DEEP Criteria		2013 MADEP Screening Levels		2013 NJDEP Screening Levels		Units	SG-108S	SG-108D	SG-109S	SG-109D	SG-110S	SG-110S	SG-110D	SG-111S	SG-111D	SG-112S	SG-112D	SG-113S	SG-113D
	Residential	Industrial/ Commercial	Residential	Industrial/ Commercial	Residential	Industrial/ Commercial		13H0055-14 Soil Gas 7/31/2013	13H0055-15 Soil Gas 7/31/2013	13H0055-16 Soil Gas 7/31/2013	13H0055-17 Soil Gas 7/31/2013	13H0055-18 Soil Gas 7/31/2013	13H0996-01 Soil Gas 8/26/2013	13H0055-19 Soil Gas 7/31/2013	13H0055-20 Soil Gas 7/31/2013	13H0055-21 Soil Gas 7/31/2013	13H0164-15 Soil Gas 8/1/2013	13H0164-12 Soil Gas 8/1/2013	13H0164-02 Soil Gas 8/1/2013	13H0164-16 Soil Gas 8/1/2013
EPA TO-15 Full List																				
Propene	NE	NE	NE	NE	NE	NE	µg/m ³	14	<3.4	<3.4	<3.4	5.8	<3.4	8.8	<3.4	4.7	27	<3.4	<3.4	<3.4
Styrene	45,420	425,838	98	1,400	52,000	220,000	µg/m ³	<0.21	<0.21	<0.21	<0.21	1.3	0.61	1.6	<0.21	<0.21	15	0.61	<0.21	1.4
1,1,2,2-Tetrachloroethane	1,400	1,386	2.8	14	34	34	µg/m ³	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Tetrachloroethylene	3,783	6,936	98	290	470	2,400	µg/m ³	18	24	1100	1100	13	11	40	330	650	3	<0.17	39	7.5
Tetrahydrofuran	605	5,814	NE	NE	NE	NE	µg/m ³	0.84	0.23	<0.15	<0.15	0.19	<0.15	0.42	<0.15	0.29	0.22	<0.15	<0.15	<0.15
Toluene	130,246	500,000	3,800	310,000	260,000	1,100,000	µg/m ³	0.37	0.55	0.27	0.26	2.3	0.93	0.73	0.29	0.55	11	5.3	0.26	1
1,2,4-Trichlorobenzene	1,135	11,093	240	13,000	100	440	µg/m ³	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	0.7	1.6	<0.37	<0.37
1,1,1-Trichloroethane	115,135	500,000	210	320,000	260,000	1,100,000	µg/m ³	0.52	0.67	9	9.9	0.14	<0.14	0.22	0.86	3.1	0.63	5.6	1.3	1
1,1,2-Trichloroethane	1,100	1,100	11	50	27	38	µg/m ³	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14
Trichloroethylene	1,100	1,385	28	130	27	150	µg/m ³	0.22	1.5	260	690	0.27	<0.13	21	12	160	<0.13	<0.13	1.3	0.47
Trichlorofluoromethane (Freon 11)	378,591	500,000	NE	NE	36,000	150,000	µg/m ³	4.8	5.1	3.9	6.9	5.5	4.9	71	1.5	4.8	1.9	2.7	1.6	1.5
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	378,304	500,000	NE	NE	1,600,000	6,600,000	µg/m ³	4.3	4.6	0.8	1.2	3.7	0.67	5.5	0.66	6.1	0.84	0.8	0.72	0.92
1,2,4-Trimethylbenzene	2,578	23,601	NE	NE	NE	NE	µg/m ³	0.93	<0.25	<0.25	<0.25	5.6	1.8	4.7	<0.25	0.3	1	2.5	2.7	0.87
1,3,5-Trimethylbenzene	2,578	23,601	NE	NE	NE	NE	µg/m ³	0.34	<0.25	<0.25	<0.25	1.8	0.65	1.8	<0.25	<0.25	6	2.8	0.97	0.28
Vinyl Acetate	86,247	500,000	NE	NE	NE	NE	µg/m ³	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5
Vinyl Chloride	500	1,249	19	91	13	140	µg/m ³	<0.064	<0.064	<0.064	<0.064	<0.064	<0.064	0.13	<0.064	<0.064	<0.064	<0.064	<0.064	<0.064
m&p-Xylene	44,967	421,609	1,400	6,200	5,200	22,000	µg/m ³	<0.43	0.44	<0.43	<0.43	2.7	1.1	1.1	<0.43	<0.43	6.1	5.3	0.79	0.68
o-Xylene	44,967	421,609	1,400	6,200	5,200	22,000	µg/m ³	<0.22	<0.22	<0.22	<0.22	1.4	0.54	0.62	<0.22	<0.22	8.6	2.7	0.24	0.35

Notes:

NE - Not Established

Bolded text indicates an exceedance of MADEP residential screening levels.

A gray shaded cell indicates an exceedance of MADEP industrial/commercial screening levels.

Red text indicates an exceedance of NJDEP residential screening levels.

Underlined text indicates an exceedance of NJDEP industrial/commercial screening levels.

Italicized text indicates an exceedance of CTDEEP residential criteria

A bold bordered cell indicates an exceedance of CTDEEP industrial/commercial criteria.

A blue shaded cell indicates that the detection limit exceeds relative criteria / screening level.

CTDEEP residential and industrial/commercial criteria is obtained from the 2008 Connecticut Remediation Criteria: Technical Support Document Appendix J published by the CTDEEP.

CTDEEP Criteria is presented in the 2008 Connecticut Remediation Criteria: Technical Support Document Appendix J - Table J6 and J8 in parts per million (ppmv) with adjustments presented for analytical capabilities and maximum values. To obtain criteria in mg/m³ units, ppmv criteria is multiplied by the molecular weight of the compound divided by 24.45 (a conversion factor). The mg/m³ criteria is multiplied by 1000 to obtain µg/m³.

MADEP Screening Levels obtained from the 2011 Interim Final Vapor Intrusion Guidance last revised in 2013 published by MADEP. Screening levels are presented in units of µg/m³.

NJDEP Residential and industrial/commercial screening values are obtained from Table 1 - NJDEP Master Table Generic Vapor Intrusion Screen Levels as referenced in the 2013 Vapor Intrusion Technical Guidance published by NJDEP. Screening levels are presented in units of µg/m³.

TABLE 3
Summary of Perimeter Soil Gas Sampling
Former Tidewater Facility
Pawtucket, Rhode Island

	2008 CT DEEP Criteria		2013 MADEP Screening Levels		2013 NJDEP Screening Levels		Units	SG-1145	SG-1155	SG-1165	SG-1175	SG-1185	SG-1195	SG-1205
	Residential	Industrial/ Commercial	Residential	Industrial/ Commercial	Residential	Industrial/ Commercial		13H0996-02 Soil Gas 8/23/2013	13H0917-04 Soil Gas 8/23/2013	13H0917-05 Soil Gas 8/23/2013	13H0917-03 Soil Gas 8/22/2013	13H0996-03 Soil Gas 8/23/2013	13H0917-02 Soil Gas 8/22/2013	13H0917-01 Soil Gas 8/22/2013
EPA TO-3C														
Helium	NE	NE	NE	NE	NE	NE	%	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
EPA TO-15 Full List														
Acetone	378,030	500,000	6,400	50,000	1,600,000	6,800,000	µg/m ³	12	36	23	25	26	47	52
Benzene	2,456	4,501	160	770	16	79	µg/m ³	0.67	1.3	1.2	1.1	1.5	4.4	6.2
Benzyl chloride	NE	NE	NE	NE	NE	NE	µg/m ³	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26
Bromodichloromethane	1,340	1,340	9.1	46	34	34	µg/m ³	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Bromoform	NE	NE	150	700	110	560	µg/m ³	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52
Bromomethane	780	6,930	42	310	260	1,100	µg/m ³	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19
1,3-Butadiene	NE	NE	NE	NE	11	20	µg/m ³	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11
2-Butanone (MEK)	377,771	500,000	840	310,000	260,000	1,100,000	µg/m ³	<5.9	<5.9	<5.9	<5.9	<5.9	<5.9	<5.9
Carbon Disulfide	NE	NE	NE	NE	36,000	150,000	µg/m ³	<1.6	3.1	2.1	3	3.3	8.1	7.4
Carbon Tetrachloride	1,300	1,300	38	130	31	100	µg/m ³	<0.16	<0.16	0.36	<0.16	<0.16	0.34	1
Chlorobenzene	30,254	282,730	160	1,300	2,600	11,000	µg/m ³	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23
Chloroethane	378,671	500,000	NE	NE	520,000	2,200,000	µg/m ³	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13
Chloroform	1,513	13,864	130	210	24	27	µg/m ³	0.76	2.1	1.6	0.25	0.68	1.4	35
Chloromethane	3,926	37,362	NE	NE	4,700	20,000	µg/m ³	<0.21	<0.21	0.31	<0.21	0.22	0.21	<0.21
Cyclohexane	378,242	500,000	NE	NE	310,000	1,300,000	µg/m ³	<0.17	<0.17	<0.17	<0.17	<0.17	0.62	<0.17
Dibromochloromethane	NE	NE	6.8	34	43	43	µg/m ³	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21
1,2-Dibromoethane (EDB)	NE	NE	0.55	2.7	38	38	µg/m ³	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19
1,2-Dichlorobenzene	60,527	500,000	50	13,000	10,000	44,000	µg/m ³	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
1,3-Dichlorobenzene	1,515	13,865	42	13,000	NE	NE	µg/m ³	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
1,4-Dichlorobenzene	18,156	33,277	35	120	30	56	µg/m ³	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Dichlorodifluoromethane (Freon 12)	75,770	500,000	NE	NE	5,200	22,000	µg/m ³	1.8	1.9	1.8	1.9	1.8	1.8	1.9
1,1-Dichloroethane	15,147	141,568	56	31,000	76	380	µg/m ³	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.24
1,2-Dichloroethane	800	800	6	31	20	24	µg/m ³	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,1-Dichloroethylene	7,560	70,654	56	13,000	10,000	44,000	µg/m ³	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099
cis-1,2-Dichloroethylene	15,119	141,301	56	2,200	3,100	13,000	µg/m ³	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099	0.33
trans-1,2-Dichloroethylene	15,119	141,305	56	4,300	3,100	13,000	µg/m ³	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099	0.71
1,2-Dichloropropane	900	1,109	8.4	42	23	61	µg/m ³	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
cis-1,3-Dichloropropene	900	2,774	41	200	30	150	µg/m ³	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11
trans-1,3-Dichloropropene	900	2,774	41	200	30	150	µg/m ³	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	NE	NE	NE	NE	NE	NE	µg/m ³	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35
1,4-Dioxane	NE	NE	40	200	NE	NE	µg/m ³	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
Ethanol	NE	NE	NE	NE	NE	NE	µg/m ³	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8
Ethyl Acetate	377,762	500,000	NE	NE	NE	NE	µg/m ³	6.3	28	31	27	21	32	36
Ethylbenzene	43,882	410,364	520	62,000	49	250	µg/m ³	0.5	0.88	1.2	0.96	1.5	5	2.8
4-Ethyltoluene	NE	NE	NE	NE	NE	NE	µg/m ³	0.47	0.61	1	0.56	0.65	1.4	1.1
Heptane	NE	NE	NE	NE	NE	NE	µg/m ³	<0.20	0.24	0.25	0.26	<0.20	0.77	0.38
Hexachlorobutadiene	NE	NE	7.7	320	53	53	µg/m ³	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53
Hexane	302,386	500,000	NE	NE	36,000	150,000	µg/m ³	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0
2-Hexanone (MBK)	NE	NE	NE	NE	NE	NE	µg/m ³	0.43	0.52	0.6	0.48	0.61	0.82	1.3
Indane	NE	NE	NE	NE	NE	NE	µg/m ³	<0.62	<0.62	1.6	<0.62	0.65	0.79	1
Indene	NE	NE	NE	NE	NE	NE	µg/m ³	<0.63	<0.63	4.9	0.82	1.4	0.87	3.9
Isopropanol	NE	NE	NE	NE	NE	NE	µg/m ³	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9
Isopropylbenzene (Cumene)	29,545	54,140	NE	NE	NE	NE	µg/m ³	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62
Methyl tert-Butyl Ether (MTBE)	129,581	263,819	2,700	190,000	470	2,400	µg/m ³	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18
Methylene Chloride	2,269	23,554	770	37,000	4,800	61,000	µg/m ³	<1.7	<1.7	2.2	<1.7	2.6	<1.7	<1.7
4-Methyl-2-pentanone (MIBK)	378,459	500,000	150	190,000	160,000	660,000	µg/m ³	<0.20	<0.20	<0.20	0.29	<0.20	<0.20	0.43
Naphthalene	1,284	12,203	42	190	26	26	µg/m ³	13	10	14	12	12	11	26

TABLE 3
Summary of Perimeter Soil Gas Sampling
 Former Tidewater Facility
 Pawtucket, Rhode Island

	2008 CT DEEP Criteria		2013 MADEP Screening Levels		2013 NJDEP Screening Levels		Units	SG-1145	SG-1155	SG-1165	SG-1175	SG-1185	SG-1195	SG-1205
	Residential	Industrial/ Commercial	Residential	Industrial/ Commercial	Residential	Industrial/ Commercial		13H0996-02 Soil Gas 8/23/2013	13H0917-04 Soil Gas 8/23/2013	13H0917-05 Soil Gas 8/23/2013	13H0917-03 Soil Gas 8/22/2013	13H0996-03 Soil Gas 8/23/2013	13H0917-02 Soil Gas 8/22/2013	13H0917-01 Soil Gas 8/22/2013
EPA TO-15 Full List														
Propene	NE	NE	NE	NE	NE	NE	µg/m ³	<3.4	<3.4	<3.4	<3.4	<3.4	7.6	<3.4
Styrene	45,420	425,838	98	1,400	52,000	220,000	µg/m ³	0.24	0.36	1.4	0.69	0.98	3.3	7.9
1,1,2,2-Tetrachloroethane	1,400	1,386	2.8	14	34	34	µg/m ³	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Tetrachloroethylene	3,783	6,936	98	290	470	2,400	µg/m ³	120	170	8	4	17	29	2000
Tetrahydrofuran	605	5,814	NE	NE	NE	NE	µg/m ³	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
Toluene	130,246	500,000	3,800	310,000	260,000	1,100,000	µg/m ³	4.8	13	13	8.8	10	22	25
1,2,4-Trichlorobenzene	1,135	11,093	240	13,000	100	440	µg/m ³	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37
1,1,1-Trichloroethane	115,135	500,000	210	320,000	260,000	1,100,000	µg/m ³	0.56	1.5	<0.14	<0.14	<0.14	0.29	11
1,1,2-Trichloroethane	1,100	1,100	11	50	27	38	µg/m ³	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14
Trichloroethylene	1,100	1,385	28	130	27	150	µg/m ³	3.4	1.6	<0.13	<0.13	<0.13	<0.13	350
Trichlorofluoromethane (Freon 11)	378,591	500,000	NE	NE	36,000	150,000	µg/m ³	1.5	19	6	14	3.5	3.3	2
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	378,304	500,000	NE	NE	1,600,000	6,600,000	µg/m ³	0.72	0.75	0.72	0.67	0.72	0.72	1.2
1,2,4-Trimethylbenzene	2,578	23,601	NE	NE	NE	NE	µg/m ³	2.5	2.7	5.8	2.5	2.6	3.9	4.9
1,3,5-Trimethylbenzene	2,578	23,601	NE	NE	NE	NE	µg/m ³	0.63	0.67	2.6	0.63	0.65	1.1	1.4
Vinyl Acetate	86,247	500,000	NE	NE	NE	NE	µg/m ³	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5
Vinyl Chloride	500	1,249	19	91	13	140	µg/m ³	<0.064	<0.064	<0.064	<0.064	<0.064	<0.064	<0.064
m&p-Xylene	44,967	421,609	1,400	6,200	5,200	22,000	µg/m ³	2	3	4	2.4	2.9	5.8	6.6
o-Xylene	44,967	421,609	1,400	6,200	5,200	22,000	µg/m ³	0.92	1.3	2.1	1	1.3	2.5	3.6

Notes:

NE - Not Established

Bolded text indicates an exceedance of MADEP residential screening levels.

A gray shaded cell indicates an exceedance of MADEP industrial/commercial screening levels.

Red text indicates an exceedance of NJDEP residential screening levels.

Underlined text indicates an exceedance of NJDEP industrial/commercial screening levels.

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CTDEEP Criteria is presented in the 2008 Connecticut Remediation Criteria: Technical Support Document Appendix J - Table J6 and J8 in parts per million (ppmv) with adjustments presented for analytical capabilities and maximum values. To obtain criteria in mg/m³ units, ppmv criteria is multiplied by the molecular weight of the compound divided by 24.45 (a conversion factor). The mg/m³ criteria is multiplied by 1000 to obtain µg/m³.

MADEP Screening Levels obtained from the 2011 Interim Final Vapor Intrusion Guidance last revised in 2013 published by MADEP. Screening levels are presented in units of µg/m³.

NJDEP Residential and industrial/commercial screening values are obtained from Table 1 - NJDEP Master Table Generic Vapor Intrusion Screen Levels as referenced in the 2013 Vapor Intrusion Technical Guidance published by NJDEP. Screening levels are presented in units of µg/m³.

TABLE 4
Summary of QA/QC Soil Gas Sampling
Former Tidewater Facility
Pawtucket, Rhode Island

	2008 CT DEEP Criteria		2013 MADEP Screening Levels		2013 NJDEP Screening Levels		Units	SG-1005	Duplicate #1	SG-113D	Duplicate #2	SG-118S	Duplicate #3
	Residential	Industrial/ Commercial	Residential	Industrial/ Commercial	Residential	Industrial/ Commercial		13H0055-04 Soil Gas 7/29/2013	13H0055-05 Soil Gas 7/29/2013	13H0164-16 Soil Gas 8/1/2013	13H0164-03 Soil Gas 8/1/2013	13H0996-03 Soil Gas 8/23/2013	13H0996-04 Soil Gas 8/23/2013
EPA TO-3C													
Helium	NE	NE	NE	NE	NE	NE	%	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
EPA TO-15 Full List													
Acetone	378,030	500,000	6,400	50,000	1,600,000	6,800,000	µg/m ³	42	7.8	13	18	26	25
Benzene	2,456	4,501	160	770	16	79	µg/m ³	<0.16	<0.16	0.29	0.32	1.5	1.5
Benzyl chloride	NE	NE	NE	NE	NE	NE	µg/m ³	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26
Bromodichloromethane	1,340	1,340	9.1	46	34	34	µg/m ³	0.37	0.36	<0.17	<0.17	<0.17	<0.17
Bromoform	NE	NE	150	700	110	560	µg/m ³	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52
Bromomethane	780	6,930	42	310	260	1,100	µg/m ³	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19
1,3-Butadiene	NE	NE	NE	NE	11	20	µg/m ³	0.11	<0.11	<0.11	<0.11	<0.11	<0.11
2-Butanone (MEK)	377,771	500,000	840	310,000	260,000	1,100,000	µg/m ³	6.7	<5.9	<5.9	<5.9	<5.9	<5.9
Carbon Disulfide	NE	NE	NE	NE	36,000	150,000	µg/m ³	<1.6	<1.6	2.4	2.1	3.3	3.2
Carbon Tetrachloride	1,300	1,300	38	130	31	100	µg/m ³	0.54	0.52	2.2	2.1	<0.16	0.32
Chlorobenzene	30,254	282,730	160	1,300	2,600	11,000	µg/m ³	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23
Chloroethane	378,671	500,000	NE	NE	520,000	2,200,000	µg/m ³	<0.13	<0.13	<0.066	<0.066	<0.13	<0.13
Chloroform	1,513	13,864	130	210	24	27	µg/m ³	63	63	1.2	0.94	0.68	0.71
Chloromethane	3,926	37,362	NE	NE	4,700	20,000	µg/m ³	0.33	0.21	0.52	0.63	0.22	<0.21
Cyclohexane	378,242	500,000	NE	NE	310,000	1,300,000	µg/m ³	<0.17	<0.17	0.34	<0.17	<0.17	<0.17
Dibromochloromethane	NE	NE	6.8	34	43	43	µg/m ³	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21
1,2-Dibromoethane (EDB)	NE	NE	0.55	2.7	38	38	µg/m ³	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19
1,2-Dichlorobenzene	60,527	500,000	50	13,000	10,000	44,000	µg/m ³	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
1,3-Dichlorobenzene	1,515	13,865	42	13,000	NE	NE	µg/m ³	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
1,4-Dichlorobenzene	18,156	33,277	35	120	30	56	µg/m ³	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Dichlorodifluoromethane (Freon 12)	75,770	500,000	NE	NE	5,200	22,000	µg/m ³	1.9	1.7	1.4	1.4	1.8	1.8
1,1-Dichloroethane	15,147	141,568	56	31,000	76	380	µg/m ³	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,2-Dichloroethane	800	800	6	31	20	24	µg/m ³	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,1-Dichloroethylene	7,560	70,654	56	13,000	10,000	44,000	µg/m ³	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099
cis-1,2-Dichloroethylene	15,119	141,301	56	2,200	3,100	13,000	µg/m ³	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099
trans-1,2-Dichloroethylene	15,119	141,305	56	4,300	3,100	13,000	µg/m ³	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099
1,2-Dichloropropane	900	1,109	8.4	42	23	61	µg/m ³	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
cis-1,3-Dichloropropene	900	2,774	41	200	30	150	µg/m ³	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11
trans-1,3-Dichloropropene	900	2,774	41	200	30	150	µg/m ³	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	NE	NE	NE	NE	NE	NE	µg/m ³	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35
1,4-Dioxane	NE	NE	40	200	NE	NE	µg/m ³	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
Ethanol	NE	NE	NE	NE	NE	NE	µg/m ³	5.5	<3.8	<3.8	9	<3.8	<3.8
Ethyl Acetate	377,762	500,000	NE	NE	NE	NE	µg/m ³	1.1	1.2	1.5	1.8	21	20
Ethylbenzene	43,882	410,364	520	62,000	49	250	µg/m ³	<0.22	<0.22	0.5	0.42	1.5	1.5
4-Ethyltoluene	NE	NE	NE	NE	NE	NE	µg/m ³	<0.25	<0.25	0.28	<0.25	0.65	0.68
Heptane	NE	NE	NE	NE	NE	NE	µg/m ³	0.26	<0.20	<0.20	0.36	<0.20	<0.20
Hexachlorobutadiene	NE	NE	7.7	320	53	53	µg/m ³	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53
Hexane	302,386	500,000	NE	NE	36,000	150,000	µg/m ³	<7.0	<7.0	<7.0	7.3	<7.0	<7.0
2-Hexanone (MBK)	NE	NE	NE	NE	NE	NE	µg/m ³	2.3	<0.20	0.46	<0.20	0.61	0.66
Indane	NE	NE	NE	NE	NE	NE	µg/m ³	<0.62	<0.62	<0.62	<0.62	0.65	0.63
Indene	NE	NE	NE	NE	NE	NE	µg/m ³	<0.63	<0.63	<0.63	<0.63	1.4	1.3
Isopropanol	NE	NE	NE	NE	NE	NE	µg/m ³	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9
Isopropylbenzene (Cumene)	29,545	54,140	NE	NE	NE	NE	µg/m ³	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62
Methyl tert-Butyl Ether (MTBE)	129,581	263,819	2,700	190,000	470	2,400	µg/m ³	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18
Methylene Chloride	2,269	23,554	770	37,000	4,800	61,000	µg/m ³	<1.7	<1.7	2.2	2.9	2.6	<1.7
4-Methyl-2-pentanone (MIBK)	378,459	500,000	150	190,000	160,000	660,000	µg/m ³	1	<0.20	0.27	<0.20	<0.20	<0.20
Naphthalene	1,284	12,203	42	190	26	26	µg/m ³	0.33	<0.26	1.4	0.62	12	12

TABLE 4
Summary of QA/QC Soil Gas Sampling
Former Tidewater Facility
Pawtucket, Rhode Island

	2008 CT DEEP Criteria		2013 MADEP Screening Levels		2013 NJDEP Screening Levels		Units	SG-1005 13H0055-04 Soil Gas 7/29/2013	Duplicate #1 13H0055-05 Soil Gas 7/29/2013	SG-113D 13H0164-16 Soil Gas 8/1/2013	Duplicate #2 13H0164-03 Soil Gas 8/1/2013	SG-118S 13H0996-03 Soil Gas 8/23/2013	Duplicate #3 13H0996-04 Soil Gas 8/23/2013
	Residential	Industrial/ Commercial	Residential	Industrial/ Commercial	Residential	Industrial/ Commercial							
EPA TO-15 Full List													
Propene	NE	NE	NE	NE	NE	NE	µg/m ³	4.1	<3.4	<3.4	<3.4	<3.4	<3.4
Styrene	45,420	425,838	98	1,400	52,000	220,000	µg/m ³	<0.21	<0.21	1.4	1	0.98	0.98
1,1,2,2-Tetrachloroethane	1,400	1,386	2.8	14	34	34	µg/m ³	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Tetrachloroethylene	3,783	6,936	98	290	470	2,400	µg/m ³	64	62	7.5	6	17	16
Tetrahydrofuran	605	5,814	NE	NE	NE	NE	µg/m ³	0.25	<0.15	<0.15	<0.15	<0.15	<0.15
Toluene	130,246	500,000	3,800	310,000	260,000	1,100,000	µg/m ³	<0.19	<0.19	1	0.98	10	9.9
1,2,4-Trichlorobenzene	1,135	11,093	240	13,000	100	440	µg/m ³	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37
1,1,1-Trichloroethane	115,135	500,000	210	320,000	260,000	1,100,000	µg/m ³	3.4	3.4	1	0.92	<0.14	<0.14
1,1,2-Trichloroethane	1,100	1,100	11	50	27	38	µg/m ³	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14
Trichloroethylene	1,100	1,385	28	130	27	150	µg/m ³	25	24	0.47	<0.13	<0.13	<0.13
Trichlorofluoromethane (Freon 11)	378,591	500,000	NE	NE	36,000	150,000	µg/m ³	3.2	1.6	1.5	1.5	3.5	3.4
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	378,304	500,000	NE	NE	1,600,000	6,600,000	µg/m ³	5	0.77	0.92	0.74	0.72	0.72
1,2,4-Trimethylbenzene	2,578	23,601	NE	NE	NE	NE	µg/m ³	<0.25	<0.25	0.87	0.7	2.6	2.6
1,3,5-Trimethylbenzene	2,578	23,601	NE	NE	NE	NE	µg/m ³	<0.25	<0.25	0.28	<0.25	0.65	0.65
Vinyl Acetate	86,247	500,000	NE	NE	NE	NE	µg/m ³	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5
Vinyl Chloride	500	1,249	19	91	13	140	µg/m ³	<0.064	<0.064	<0.064	<0.064	<0.064	<0.064
m&p-Xylene	44,967	421,609	1,400	6,200	5,200	22,000	µg/m ³	<0.43	<0.43	0.68	0.61	2.9	2.8
o-Xylene	44,967	421,609	1,400	6,200	5,200	22,000	µg/m ³	<0.22	<0.22	0.35	0.3	1.3	1.2

Notes:

NE - Not Established

Bolded text indicates an exceedance of MADEP residential screening levels.

A gray shaded cell indicates an exceedance of MADEP industrial/commercial screening levels.

Red text indicates an exceedance of NJDEP residential screening levels.

Underlined text indicates an exceedance of NJDEP industrial/commercial screening levels.

Italicized text indicates an exceedance of CTDEEP residential criteria

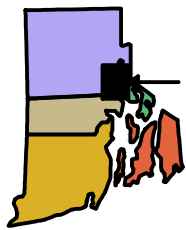
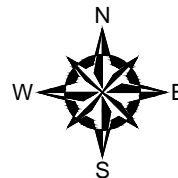
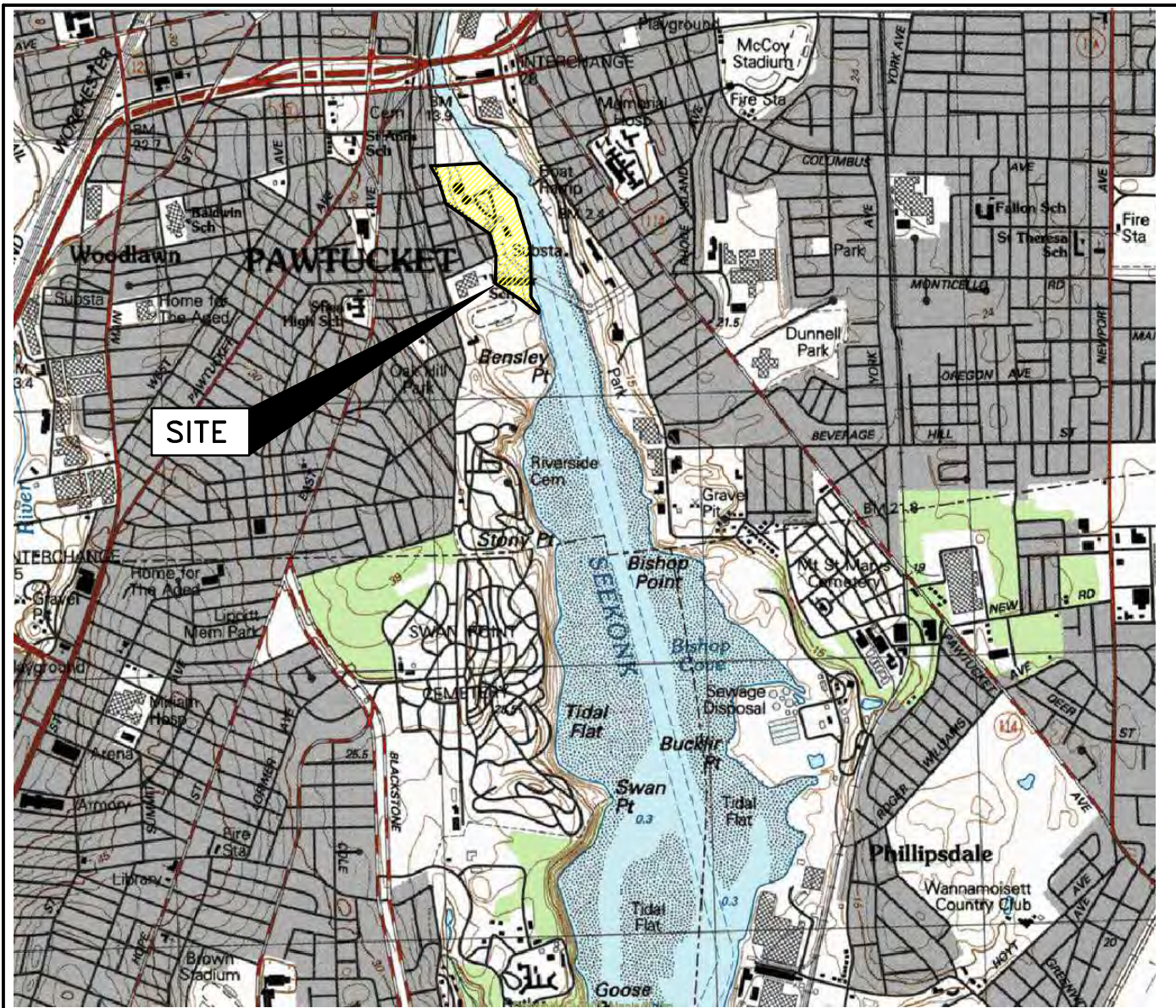
A bold bordered cell indicates an exceedance of CTDEEP industrial/commercial criteria.

A blue shaded cell indicates that the detection limit exceeds relative criteria / screening level.

CTDEEP residential and industrial/commercial criteria is obtained from the 2008 Connecticut Remediation Criteria: Technical Support Document Appendix J published by the CTDEEP.

CTDEEP Criteria is presented in the 2008 Connecticut Remediation Criteria: Technical Support Document Appendix J - Table J6 and J8 in parts per million (ppmv) with adjustments presented for analytical capabilities and maximum values. To obtain criteria in mg/m³ units, ppmv criteria is multiplied by the molecular weight of the compound divided by 24.45 (a conversion factor). The mg/m³ criteria is multiplied by 1000 to obtain µg/m³.MADEP Screening Levels obtained from the 2011 Interim Final Vapor Intrusion Guidance last revised in 2013 published by MADEP. Screening levels are presented in units of µg/m³.NJDEP Residential and industrial/commercial screening values are obtained from Table 1 - NJDEP Master Table Generic Vapor Intrusion Screen Levels as referenced in the 2013 Vapor Intrusion Technical Guidance published by NJDEP. Screening levels are presented in units of µg/m³.

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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TIDEWATER FACILITY
PAWTUCKET, RHODE ISLAND

PREPARED BY:



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

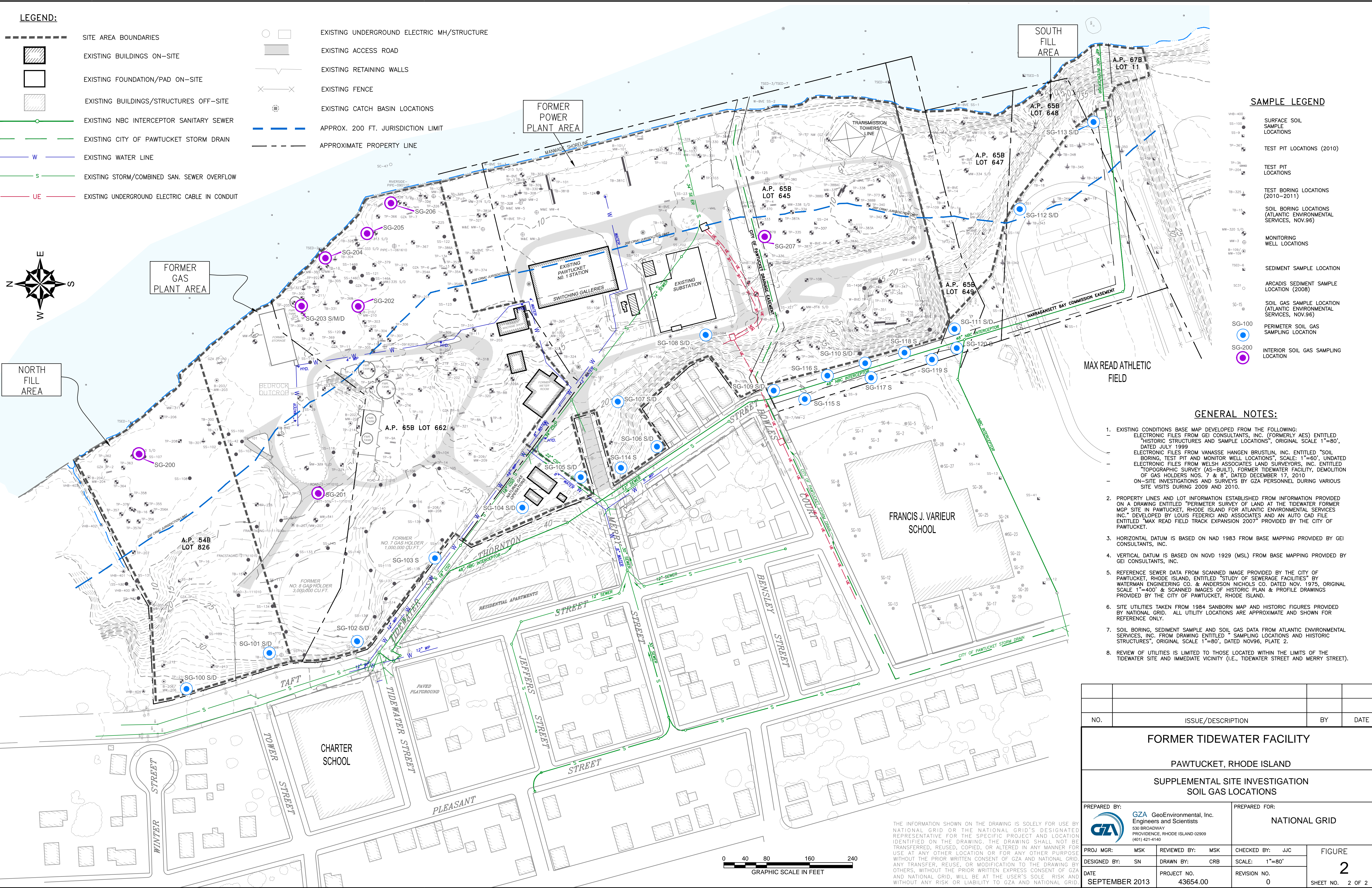
1

DATE: 2013

PROJECT NO. 43654.00

REVISION NO. 0

SHEET NO. 1 OF 2



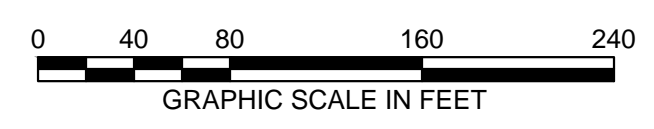
- LEGEND:**
- SITE AREA BOUNDARIES
 - ▨ EXISTING BUILDINGS ON-SITE
 - EXISTING FOUNDATION/PAD ON-SITE
 - ▨ EXISTING BUILDINGS/STRUCTURES OFF-SITE
 - EXISTING NBC INTERCEPTOR SANITARY SEWER
 - EXISTING CITY OF PAWTUCKET STORM DRAIN
 - W— EXISTING WATER LINE
 - S— EXISTING STORM/COMBINED SAN. SEWER OVERFLOW
 - UE— EXISTING UNDERGROUND ELECTRIC CABLE IN CONDUIT
 - □ EXISTING UNDERGROUND ELECTRIC MH/STRUCTURE
 - EXISTING ACCESS ROAD
 - EXISTING RETAINING WALLS
 - X— EXISTING FENCE
 - EXISTING CATCH BASIN LOCATIONS
 - APPROX. 200 FT. JURISDICTION LIMIT
 - APPROXIMATE PROPERTY LINE

- SAMPLE LEGEND**
- SURFACE SOIL SAMPLE LOCATIONS
 - TEST PIT LOCATIONS (2010)
 - TEST PIT LOCATIONS
 - TEST BORING LOCATIONS (2010-2011)
 - SOIL BORING LOCATIONS (ATLANTIC ENVIRONMENTAL SERVICES, NOV.96)
 - MONITORING WELL LOCATIONS
 - SEDIMENT SAMPLE LOCATION
 - ARCADIS SEDIMENT SAMPLE LOCATION (2008)
 - SOIL GAS SAMPLE LOCATION (ATLANTIC ENVIRONMENTAL SERVICES, NOV.96)
 - PERIMETER SOIL GAS SAMPLING LOCATION
 - INTERIOR SOIL GAS SAMPLING LOCATION

- 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.
 - SOIL BORING, SEDIMENT SAMPLE AND SOIL GAS DATA FROM ATLANTIC ENVIRONMENTAL SERVICES, INC. FROM DRAWING ENTITLED "SAMPLING LOCATIONS AND HISTORIC STRUCTURES", ORIGINAL SCALE 1"=80', DATED NOV.96, PLATE 2.
 - REVIEW OF UTILITIES IS LIMITED TO THOSE LOCATED WITHIN THE LIMITS OF THE TIDEWATER SITE AND IMMEDIATE VICINITY (I.E., TIDEWATER STREET AND MERRY STREET).

NO.	ISSUE/DESCRIPTION	BY	DATE
FORMER TIDEWATER FACILITY			
PAWTUCKET, RHODE ISLAND			
SUPPLEMENTAL SITE INVESTIGATION SOIL GAS LOCATIONS			
PREPARED BY:	GZA GeoEnvironmental, Inc. Engineers and Scientists 530 BROADWAY PROVIDENCE, RHODE ISLAND 02909 (401) 421-4140		PREPARED FOR:
PROJ MGR:	MSK	REVIEWED BY:	MSK
DESIGNED BY:	SN	DRAWN BY:	CRB
DATE:	SEPTEMBER 2013	PROJECT NO.:	43654.00
		CHECKED BY:	JJC
		SCALE:	1"=80'
		REVISION NO.:	0
			FIGURE
			2
			SHEET NO. 2 OF 2

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APPENDIX A
LIMITATIONS

LIMITATIONS

1. This Site Investigation Report Addendum has been prepared on behalf of and for the exclusive use of The Narragansett Electric Company d/b/a National Grid (National Grid) and the City of Pawtucket (City of Pawtucket), solely for use in documenting the work completed as described herein at the Former Tidewater MGP and Merry Street ("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 or City of Pawtucket.
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, City of Pawtucket 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.

J:\ENV\43654.msk\WORK\VI Data\Report\Attachments\Attachment A Limitations\43654 Limitations-Appendix A.docx

APPENDIX B

ABUTTERS NOTIFICATION

This is an important notice. Please have it translated.

Este é um aviso importante. Queira mandá-lo traduzir.
Este es un aviso importante. Sírvase mandarlo traducir.
Avis important. Veuillez traduire immédiatement.

ĐÂY LÀ MỘT BẢN THÔNG CÁO QUAN TRỌNG
XIN VUI LÒNG CHO DỊCH LẠI THÔNG CÁO ẤY
Questa è un' informazione importante,
si prega di tradurla.

Это очень важное сообщение.
Пожалуйста, попросите чтобы
вам его перевели.

June 13, 2013
File No. 05.0043654.00-C



Re: Notice to Abutter
Supplemental Site Investigation Work Plan Addendum – Soil Gas Quality
Former Tidewater Facility
Pawtucket, Rhode Island
RIDEM Case No. 95-022

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

Dear Abutter:

The purpose of this letter is to notify you that The Narragansett Electric Company d/b/a National Grid (National Grid) will be conducting additional environmental testing activities associated with the former Tidewater Manufactured Gas Plant (MGP) and the former Pawtucket No. 1 Power Station Site located at the ends of Tidewater and Merry Streets in Pawtucket, Rhode Island. This notice is being provided to abutting property owners, tenants and members of the Tidewater Site mailing list in accordance with requirements established in the Rhode Island Department of Environmental Management's (RIDEM) Rules and Regulation for the Investigation and Remediation of Hazardous Materials (Remediation Regulations). Should you be an owner of property that is leased, we request that you provide a copy of this letter to your tenants.

National Grid is going to test the air beneath the ground at the Site. We will insert about 23 probes into the ground on the property. In certain areas along the western portion of the property, the probes will be installed outside of the existing fence line on National Grid property. The samples will be collected in enclosed air sampling canisters. We will then test and analyze the air samples. Analysis of the air samples will be completed off-Site at a licensed laboratory.

Contractors will begin installing probes on or about July 1, 2013. It will take approximately 4 to 5 days to install the probes and another 2 to 3 days to collect the samples. The results of the evaluation will be submitted to RIDEM and posted to the Tidewater and RIDEM websites (<http://www.tidewatersite.com> and <http://www.dem.ri.gov/programs/benviron/waste/tide.htm>).

The proposed activities are further detailed in a *Supplemental Site Investigation Work Plan (SSIWP) Addendum* submitted to RIDEM in May 2013. There is a 14-day comment period, commencing with the date of delivery of this notice, during which the public may review RIDEM records pertaining to this property and submit written comments regarding the proposed investigation activities described herein. These activities will be conducted in accordance with RIDEM's Remediation Regulations and will be performed by GZA GeoEnvironmental, Inc. (GZA) on behalf of National Grid.

If you would like more information or have any questions, please contact Michele Leone of National Grid at 781-907-3651.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

A handwritten signature in blue ink, appearing to read 'MSK', written over a light blue grid background.

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

A handwritten signature in blue ink, appearing to read 'James J. Clark', written over a light blue grid background.

James J. Clark, P.E.
Principal

MSK/JJC:tja

cc: Joe Martella, RIDEM
Michele Leone, National Grid

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Пожалуйста, попросите чтобы
вам его перевели.

13 de junio, 2013

Archivo No. 05.0043654.00-C



Ref. Aviso a vecinos aledaños
Agregado del plan de trabajo de investigación adicional del sitio – Calidad del gas en el suelo
Instalaciones conocidas anteriormente como Tidewater
Pawtucket, Rhode Island
RIDEM Caso No. 95-022

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

Estimado vecino aledaño:

El propósito de esta carta es para informarle que The Narragansett Electric Company, conocida también como National Grid (National Grid), estará llevando a cabo otras actividades de evaluación con respecto a los lugares anteriormente conocidos como Tidewater Manufactured Gas Plant (MGP, por sus siglas en inglés) y la Pawtucket Planta de Energía No. 1, localizadas al final de las calles Tidewater y Merry en Pawtucket, Rhode Island. Para cumplir con los requisitos establecidos por el Departamento de Control Ambiental de Rhode Island (RIDEM) en su emisión de Reglas y Regulaciones para la Investigación y Remediación de Materiales Peligrosos (Regulaciones de Remediación), se envía este aviso a todos los dueños de propiedades aledañas, inquilinos y miembros de la lista de contactos por correo. Si usted fuera dueño de alguna propiedad que está en arrendamiento, le pedimos que entregue una copia de esta carta a sus inquilinos.

National Grid va a analizar el aire que se encuentra debajo del suelo en el sitio en cuestión. Se instalarán como 23 sondas en el suelo de la propiedad. En algunas áreas localizadas en la parte oeste de la propiedad, las sondas se instalarán fuera de la actual línea de la barda de la propiedad de National Grid. Las muestras se guardarán en contenedores cerrados para muestras de aire. Luego examinaremos y analizaremos las muestras de aire. El análisis de las muestras de aire se llevará a cabo en otro lugar, es decir, en un laboratorio autorizado.

Los contratistas comenzarán a instalar las sondas como para el 1 de julio, 2013. La instalación de las sondas les tomará aproximadamente de 4 a 5 días y coleccionar las muestras les llevará de 2 a 3 días. Los resultados de la evaluación serán presentados a RIDEM y se darán a conocer en los sitios cibernéticos de Tidewater y RIDEM (<http://www.tidewatersite.com> y <http://www.dem.ri.gov/programs/benviron/waste/tide.htm>)

Las actividades que se proponen están más detalladas en la publicación *Supplemental Site Investigation Work Plan (SSIWP) Addendum* presentado a RIDEM en mayo, 2013. Habrá un periodo de 14 días para comentarios, el cual comenzará en la fecha en que se entregue este aviso; durante ese periodo, el público puede revisar los archivos que RIDEM tiene con respecto a esta propiedad y podrá presentar comentarios escritos con respecto a las actividades de investigación que se proponen y que se describen aquí. Estas actividades se harán de acuerdo a las Regulaciones de Remediación de RIDEM y, a nombre de National Grid, serán llevadas a cabo por GZA GeoEnvironmental, Inc. (GZA).

Si usted desea obtener más información o desea hacer alguna pregunta, por favor comuníquese con Michele Leone de National Grid al 781-907-3651.

Muy atentamente,

GZA GEOENVIRONMENTAL, INC

Margaret S. Kilpatrick, P. E.
Administradora encargada del proyecto

James J. Clark, P. E.
Encargado

Cc: Joe Martella, RIDEM
Michele Leone, National Grid

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ĐÂY LÀ MỘT BẢN THÔNG CÁO QUAN TRỌNG
XIN VUI LÒNG CHO DỊCH LẠI THÔNG CÁO ẤY
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вам его перевели.

13 de junho de 2013
Arquivo nº 05.0043654.00-C



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

Ref: Notificação aos donos de propriedades adjacentes
Adendo ao Plano de Trabalho de Investigação Complementar no Local – Qualidade do Gás do Solo
Previamente Tidewater Facility
Pawtucket, Rhode Island
Caso nº 95-022 RIDEM

Prezados donos de propriedades adjacentes,

O objetivo desta carta é notificá-los de que a Companhia Elétrica Narragansett, sob o nome comercial National Grid (National Grid) estará conduzindo atividades adicionais de testes ambientais associadas à antiga Fábrica de Gás Manufaturado Tidewater (sigla em inglês, MGP) e ao antigo local da Central Elétrica Pawtucket Nº 1, localizados no final das ruas Tidewater e Merry em Pawtucket, Rhode Island. Esta notificação está sendo enviada aos donos das propriedades adjacentes, inquilinos e membros da lista de mala direta da Tidewater Site, de acordo com os requisitos estabelecidos nas Regras e regulamentação para a investigação e remediação de materiais perigosos (Regulamentações de Remediação) do Departamento de Gestão Ambiental de Rhode Island (sigla em inglês, RIDEM). Caso seja dono de uma propriedade que está alugada, solicitamos que forneça uma cópia desta carta aos seus inquilinos.

A National Grid vai testar o ar sob o solo no local. Inseriremos cerca de 23 sondas no solo na propriedade. Em certas áreas ao longo da parte oeste da propriedade, as sondas serão instaladas fora da linha da cerca existente na propriedade da National Grid. As amostras serão coletadas em recipientes fechados para a amostragem de ar. Então, testaremos e analisaremos as amostras de ar. A análise das amostras de ar será concluída fora do local em um laboratório licenciado.

Os empreiteiros começarão a instalar as sondas em 1º de julho de 2013 ou próximo a esta data. Levará aproximadamente 4 a 5 dias para que as sondas sejam instaladas e outros 2 a 3 dias para a coleta das amostras. Os resultados da avaliação serão apresentados ao RIDEM e publicados nos sites da Tidewater e da RIDEM (<http://www.tidewatersite.com> e <http://www.dem.ri.gov/programs/benviron/waste/tide.htm>).

As atividades propostas estão mais detalhadas em um *Adendo ao Plano de Trabalho de Investigação Complementar no Local* (sigla em inglês, SSIWP) apresentado ao RIDEM em maio de 2013. Há um período de 14 dias para comentários, começando a partir da data da entrega desta notificação, durante o qual o público pode analisar os registros do RIDEM referentes a esta propriedade e apresentar comentários por escrito relativos às atividades propostas de investigação aqui descritas. Estas atividades serão conduzidas de acordo com as Regulamentações de Remediação do RIDEM e serão executadas pela GZA GeoEnvironmental, Inc. (GZA), em nome da National Grid.

Caso queiram mais informações ou tenham alguma dúvida, por favor, entrem em contato com Michele Leone da National Grid pelo telefone 781-907-3651.

Sinceramente,

GZA GEOENVIRONMENTAL, INC.

Margaret S. Kilpatrick, P.E.
Gerente Sênior de Projetos

James J. Clark, P.E.
Diretor

cc: Joe Martella, RIDEM
Michele Leone, National Grid

APPENDIX C

CRMC FONSI #2013-06-046



State of Rhode Island and Providence Plantations
Coastal Resources Management Council
Oliver H. Stedman Government Center
4808 Tower Hill Road, Suite 116
Wakefield, RI 02879-1900

(401) 783-3370
Fax (401) 783-3767

FINDING OF NO SIGNIFICANT IMPACT

June 11, 2013

Narragansett Electric Co. d/b/a National Grid
Attn: Michele Leone
40 Sylvan Road
Waltham, MA 02451

RE: CRMC Assent No. F2013-06-046
Site: Taft Street, Pawtucket
Plat: 54|65|67 Lot: 826|648,662|11

Project Description: Install approx. (9) soil gas probes in accordance to plans submitted to CRMC 6/11/2013.

The Coastal Resources Management Council has reviewed your project proposal and has determined the findings of no significant impact on coastal resources. In accordance with revisions to RIGL 46-23-6.3 Expiration Tolling Periods (as amended effective June 8, 2011) this project must be completed on or before **July 1, 2016**. If this project involves excess excavated materials, excess soils, excess construction materials, and debris (including any destructed materials) these materials shall be removed from the site and disposed of at an inland landfill or a suitable and legal upland location. **If the project involves earthwork, appropriate erosion controls shall be utilized.** All applicable policies, prohibitions, and standards of the RICRMP shall be upheld.

CAUTION: The limits of authorized work shall be only for that which was approved by the CRMC. Any activities or alterations which deviate from the approved plans will require a separate application and review. If the information provided to the CRMC for this review is inaccurate or did not reveal all necessary information or data, then this permit may be found to be null and void. Plans for any future alteration of the shoreline or construction or alteration within the 200' zone of CRMC jurisdiction or in coastal waters must be submitted for review to the CRMC prior to commencing such activity. Under no circumstances will this permit authorize any work which is considered prohibited under any of the sections of the Rhode Island Coastal Resources Management Program.

Permits, licenses or easements issued by the Council are valid only with the conditions and stipulation under which they are granted and imply no guarantee of renewal. The initial application or an application for renewal may be subject to denial or modification. If an application is granted, said permit, license and easement may be subject to revocation and/or modification for failure to comply with the conditions and stipulations under which the same was issued or for other good cause.

Applicant agrees that as a condition to the granting of this assent, members of the Coastal Resources Management Council or its staff shall have access to applicant's property to make on-site inspections to insure compliance with the assent.

A copy of this authorization to perform construction related activities shall be kept on site and available for inspection. **NOTE:** Failure to have this letter on site or work in excess of your proposal constitutes a violation under this program.

Sincerely,

William J. Mosunic, Administrative Officer
Coastal Resources Management Council

/rcm

State of Rhode Island and Providence Plantations

**COASTAL RESOURCES MANAGEMENT COUNCIL
NOTICE OF**

ASSENT

CRMC Assent No.: F2013-06-046

Date: June 11, 2013

This certifies that Narragansett Electric Co. d/b/a National Grid
has permission to Install approx. (9) soil gas probes in accordance to plans submitted to CRMC 6/11/2013.

situated at Taft Street
Plat No. 54|65|67

Lot No. 826|648,662|11

Said construction operations to be done in accordance with an approved assent on file in the Offices of the Coastal Resources Management Council and subject further to all the provisions of the building ordinances of the :

City/Town of _____

Pawtucket

and to all the applicable State, Local and Federal provisions. This assent shall expire July 1, 2016



Official Designee
Coastal Resources Management Council

**THIS CARD MUST BE DISPLAYED IN A CONSPICUOUS PLACE ON THE PREMISES.
FAILURE TO DISPLAY WILL RESULT IN LEGAL ACTION.**

June 10, 2013
File No. 43654.00-C

Mr. Kenneth Anderson, P.E.
RI Coastal Resources Management Council
4808 Tower Hill Road; Suite 3
Wakefield, Rhode Island 02879



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

Re: Application for Finding of No Significant Impact (FONSI)
Site Investigation Activities
Former Tidewater Facility
Assessor's Plat (A.P.) 54B Lot 826, A.P. 65B Lots 645, 648 and 662 and A.P. 67B Lot 11
Pawtucket, Rhode Island

Dear Mr. Anderson:

On behalf of our client, the Narragansett Electric Company d/b/a National Grid (National Grid), this application is being submitted by GZA GeoEnvironmental Inc. (GZA) pursuant to the requirements of the Coastal Resources Management Council (CRMC). National Grid is conducting an investigation at the former Tidewater Facility as required by RIDEM's *Rules and Regulations for the Investigation and Remediation of Hazardous Materials Releases* (Remediation Regulations) and is listed as RIDEM Case No 95-022. The project site is the location of the former Tidewater Manufactured Gas Plant (MGP) and the former Pawtucket No. 1 Power Station. This investigation will consist of additional subsurface explorations, specifically the installation of soil gas probes. A Site Locus is provided as Figure 1. The approximate locations of the soil gas probes are shown on the attached Figure 2. We believe these proposed activities will not be a threat to coastal resources and qualify as a Finding of No Significant Impact (FONSI), as presented in Section 110.4 of the CRMC regulations.

Assent No. F2009-12-034 was issued to Narragansett Electric Company on December 11, 2009 and granted permission for the completion of subsurface explorations, including the performance of test borings, test pits, surficial soil sampling, and the installation of additional groundwater monitoring wells at the above referenced parcels. This work was completed between May and July 2010. Two modifications were granted to the above referenced assent later in 2010 and 2011. The original assent expired on December 11, 2012.

The project site associated with this FONSI application consists of the five above listed parcels. The project site is bounded to the east by the Seekonk River (a Type 4 waterway in this location); the eastern Site boundary (i.e., the shoreline with the Seekonk River) has been altered and is mainly considered a manmade shoreline. The 200-foot contiguous area associated with the shoreline extends onto a portion of the project site, as shown on Figure 2. Approximately nine (9) soil gas probes will be installed within the 200-foot contiguous area.

The primary purpose of this non-water dependent project is to evaluate the quality of soil gas at the site. Prior to conducting any explorations, GZA will perform a site reconnaissance to coordinate DigSafe clearance, and to visually evaluate access restrictions. Locations of the explorations maybe altered due to the presence of underground and/or overhead utilities, or other Site conditions that restrict access. The soil gas probes will be installed utilizing a direct push rig to minimize soil disturbance. Erosion controls will be installed, as necessary downgradient of proposed work areas.



Soil gas probes are anticipated to be installed approximately one foot above the seasonal high groundwater table, ranging from approximately 5 to 25 feet below ground surface. The down hole drilling tools will be steam-cleaned between each soil gas probe location, depending on the level of impacts noted at the exploration. A GZA geologist or engineer will be present to oversee probe installations and prepare installation logs.

Excess soil cuttings and wash water (i.e., decontamination water) generated during drilling will be field-screened for total volatile organic compounds (VOCs) with a photoionization detector (PID). Soil cuttings and wash water will then be placed in 55-gallon drums for subsequent off-site disposal at an appropriate facility.

Based on the project scope and the nature of the proposed work, we believe that the proposed work is consistent with the activities described in the CRMC Regulations, Section 110.4, and as such, the applicant is requesting a Finding of No Significant Impact.

Four copies of the following information are provided for your review:

1. Completed application form;
2. Application fee check of \$200, based on an estimated project cost of \$6,000;
3. Site location map (Figure 1);
4. Site figures depicting proposed activities (Figure 2);
5. Photographs of the coastal feature;
6. Property abutters list.

It is our understanding that a letter from the Local Building Official is not required for this project as no activities requiring a building permit will be conducted. Note that proof of ownership letters have been provided to CRMC previously as part of other Assent Applications for this Site.



Should you have any questions or require additional information, please do not hesitate to contact either Margaret or Igor at (401) 421-4140. Thank you for your attention to this matter.

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 'Igor Runge'.

Igor Runge, Ph.D., P.H.
Project Consultant/Reviewer

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

James J. Clark, P.E., LEP
Principal

MSK/JJC:tja

Enclosures: Completed Application Form
 Application Fee
 Figure 1 Locus Plan
 Figure 2 Site Plan
 Photographs of Coastal Feature
 Property Abutters List

cc: Michele Leone, National Grid

APPLICATION FORM

**Stedman Government Center; 4808 Tower Hill Road, Wakefield, RI 02879
(401)783-3370**

Application for State Assent to perform work regulated by the provisions of Chapter 279 of the Public Laws of 1971 Amended.

	File No.: 43654.00
Location No. Street <u>Taft Street</u> City/Town <u>Pawtucket</u>	
Owner's Name <u>Narragansett Electric Company</u> <u>d/b/a National Grid</u> Plat No. <u>54/65/67</u>	826,645, 648, 662 and 11 Lot No.
Mailing Address <u>40 Sylvan Rd.</u> City/Town <u>Waltham</u> State <u>MA</u> Zip Code <u>02451</u>	Res. Tel. # _____ Bus. Tel. # <u>781-907-3651</u>
Contractor RI Lic. # _____ Address _____	Tel. No. _____
Designer <u>GZA</u> Address <u>530 Broadway</u> <u>Providence, RI 02909</u>	Tel. No. <u>401-421-4140</u>
Name of Waterway <u>Seekonk River</u> Est. Project Cost \$ <u>6,000</u>	Fee/Costs \$ <u>200</u>

Have you or any previous owner filed an application for and/or received an assent for any activity on this property? (If so please provide the file and/or assent numbers). See attached listing.

IS THIS APPLICATION BEING SUBMITTED IN RESPONSE TO A COASTAL VIOLATION? YES NO
IF YES, YOU MUST INDICATE NOV OR C&D NUMBER _____

Name and Addresses of adjacent property owners whose property adjoins the project site. (Accurate addresses will ensure proper notification.)

See attached narrative.

I hereby certify that the names and addresses of adjacent property owners whose property adjoins the project site are accurate and current as of the date of application. If said names and addresses are found to be not accurate and/or current, any subsequent Assent may become Null and Void.
Signed: _____

Describe accurately the work proposed. (A brief description must be provided below; however, additional sheets may be provided if necessary and attached to this form.)

See attached narrative.

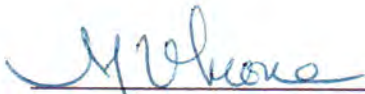
Owner's Signature

NOTE: The applicant acknowledges by evidence of their signature that they have reviewed the Rhode Island Coastal Resources Management Program, and have, where possible, adhered to the policies and standards of the program. Where variances or special exceptions are requested by the applicant, the applicant will be prepared to meet and present testimony on the criteria and burdens of proof for each of these relief provisions. The applicant also acknowledges by evidence of their signature that to the best of their knowledge the information contained in the application is true and valid. If the information provided to the CRMC for this review is inaccurate or did not reveal all necessary information or data, then the permit granted under this application may be found to be null and void. Applicant requires that as a condition to the granting of this assent, members of the CRMC or its staff shall have access to the applicants property to make on-site inspections to insure compliance with the assent. This application is made under oath and subject to the penalties of perjury.

STATEMENT OF DISCLOSURE AND APPLICANT AGREEMENT AS TO FEES

The fees which must be submitted to the Coastal Resources Management Council are based upon representations made to the Coastal Resources Management Council by the applicant. If after submission of this fee the Coastal Resources Management Council determines that an error has been made either in the applicant's submission or in determining the fee to be paid, the applicant understands that additional fees may be assessed by the Coastal Resources Management Council. These fees must be paid prior to the issuance of any assent by the Coastal Resources Management Council.

The applicant understands the above conditions and agrees to comply with them.


Signature

JUNE 7, 2013
Date

MICHELE V. LEONE - NATIONAL GRID
Print Name and Mailing Address
40 SYLVAN RD
WALTHAM, MA 02451

**Filed CRMC Applications
Former Tidewater Facility
Pawtucket, Rhode Island**

GZA File No. 05.00043654.00
5/24/2013

File No.	Project Description	Plat	Lot	Address
1988-05-059	Point Discharges/Drainage			Merry Street
1988-06-015	Utility Transmission (other than sewer)			Tidewater Street
1988-07-055	Power/Energy Facilities			Merry Street
1992-07-022	Utility Transmission (other than sewer)	65 35	645,354,355,356	Merry Street/School Street
2005-10-027	Buffer Zone Management	54B 65B	826 662	Tidewater Street & 200 Taft Street
2006-02-061	Utility Transmission (other than sewer)	65	645	6 Thornton Street
2006-03-081	Other	65 65B	645,647,659 662,826	
2006-05-040	Commercial Alteration	54B 65B	826 662	200 Taft Street/Tidewater Street
2007-03-014	Filling, Removing, Grading Upland	65B	645	6 Thorton Street
2008-05-107	Utility Transmission (other than sewer)	65	654	6 Thorton Street
2008-07-008	Brown Field site remediation/redevelopme			Thorton, Pleasant, Taft Streets
2008-10-017	Power/Energy Facilities	35 65	355 645	Thorton Street & School Street
2009-11-059	Point Discharges/Drainage	54B 65B	826 662	200 Taft Street
2009-12-015	Filling, Removing, Grading Upland	65B	662	Taft Street
2009-12-034	Filling, Removing, Grading Upland	54 65B	826 645,647,648,649	Taft Street
2010-03-115	Associated Residential Structures	65	645,649	Taft Street
2010-04-009	Brown Field site remediation/redevelopme	65	645	220 Taft Street
2010-10-014	Maintenance (Residential/Commercial)			Taft Street
2010-10-051	Utility Transmission (other than sewer)	54 65B	826 645,646,647,662	Taft Street
2010-10-076	Point Discharges/Drainage	65B	648	
2012-11-018	Utility Transmission (other than sewer)			Merry Street & School Street

APPLICATION FEE

GZA GEOENVIRONMENTAL, INC.

249 VANDERBILT AVENUE
NORWOOD, MA 02062



KeyBank National Association
Salt Lake City, Utah 84115
1-800-KEY2YOU

31-300-1243

243640

May 29, 2013

CHECK DATE

Two Hundred and 00/100 Dollars

PAY

CRMC

TO

AMOUNT 200.00

NOT VALID IN EXCESS OF \$10,000 UNLESS COUNTERSIGNED

David Brew

AUTHORIZED SIGNATURE - NOT VALID AFTER 90 DAYS

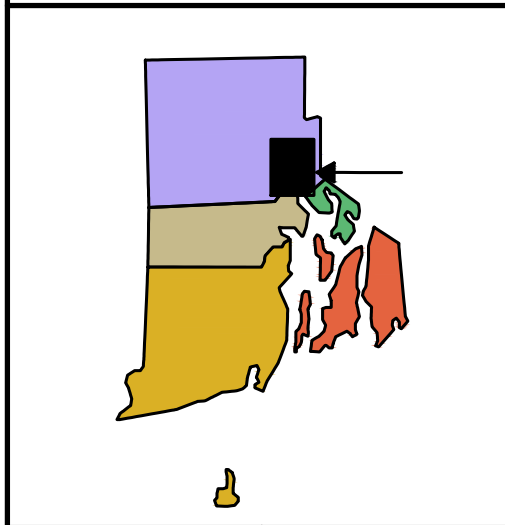
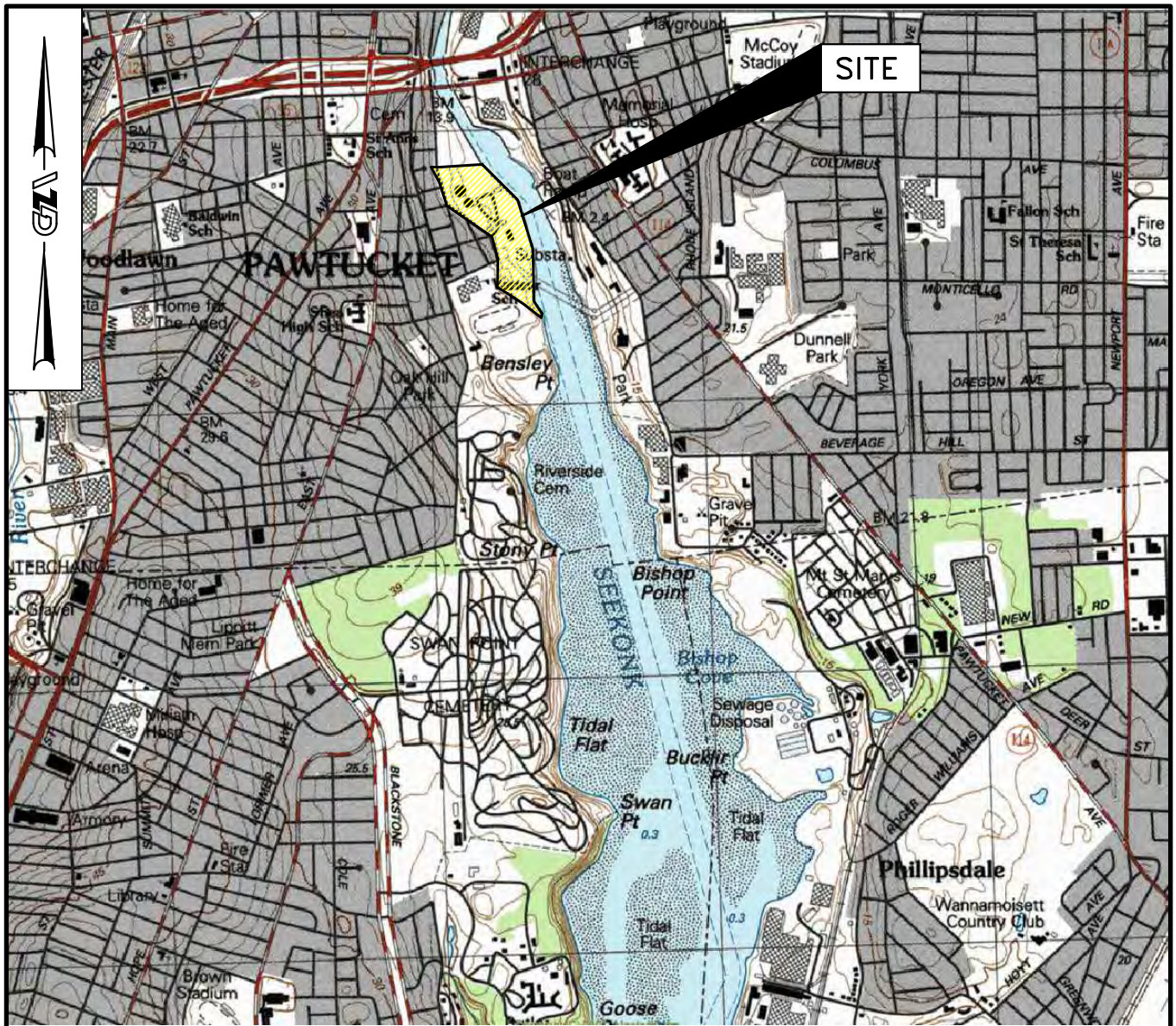
Details on back.



43654

⑈ 243640 ⑈ ⑆ 124303007⑆ 440991900109⑈

FIGURES

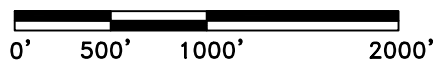


BASE MAP FROM THE FOLLOWING USGS QUADRANGLE MAP:
PROVIDENCE, RI (2001)

DIGITAL TOPOGRAPHIC MAPS PROVIDED BY MAPTECH. INC.

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

APPROXIMATE SCALE IN FEET



TIDEWATER FACILITY

PAWTUCKET, RHODE ISLAND

LOCUS PLAN

APRIL 2013

FIGURE NO. 1

PHOTOGRAPHS

**FORMER TIDEWATER MANUFACTURED GAS PLANT
PAWTUCKET, RHODE ISLAND**

Photo 1: Typical River Bank



Photo 2: Typical River Bank



PROPERTY ABUTTERS LIST

Abutters List-Site Investigation
Former Tidewater MGP Site
Pawtucket, Rhode Island

Plat	Lot	Owner(s)	Property Address	Mailing Address
54B	497	N/F Patterson Reality Corp	334 Pleasant Street	PO Box 1668 Pawtucket, RI 02860
54B	827	N/F City of Pawtucket	Taft Street	137 Roosevelt Avenue Pawtucket, RI 02860
54B	869	N/F Clifford and Candice Cloutier	21 Winter Street	21 Winter Street Pawtucket RI, 02860
65B	63	N/F Linda Laramee	9 Thornton Street	9 Thornton Street Pawtucket, RI 02860
65B	64	N/F Linda Laramee	9 Thornton Street	9 Thornton Street Pawtucket, RI 02860
65B	553	N/F City of Pawtucket	Merry Street	137 Roosevelt Avenue Pawtucket, RI 02860
65B	594	N/F City of Pawtucket	486 Pleasant Street	137 Roosevelt Avenue Pawtucket, RI 02860
65B	613	N/F Claude & Hilarie Carline	24 Thornton Street	24 Thornton Street Pawtucket, RI 02860
65B	614	N/F Jose and Erika Rodriguez	22 Thornton Street	22 Thornton Street Pawtucket, RI 02860
65B	615	N/F Raymond Adam, Jr.	20 Thornton Street	20 Thornton Street Pawtucket, RI 02860
65B	616	N/F Manual Pina	14 Thornton Street	14 Thornton Street Pawtucket, RI 02860
65B	635	N/F Jennifer L. & Scott D. Hyland & Karolye White	11 Thornton Street	250 Adirondack Dr. E. Greenwich, RI 02818
65B	644	N/F City of Pawtucket	486 Pleasant Street	137 Roosevelt Avenue Pawtucket, RI 02860
65B	646	N/F City of Pawtucket	486 Pleasant Street	137 Roosevelt Avenue Pawtucket, RI 02860
65B	650	N/F City of Pawtucket	486 Pleasant Street	137 Roosevelt Avenue Pawtucket, RI 02860
65B	674	N/F Ernest Patricio Jr.	240 Taft Street	240 Taft Street Pawtucket, RI 02860
65B	698	N/F Gregory Smith	220 Taft Street	PO Box 1668 Pawtucket, RI 02862
67B	21	N/F City of Pawtucket	Pleasant Street	137 Roosevelt Avenue Pawtucket, RI 02860
67B	22	N/F Ventas Realty Ltd. Partnership	544 Pleasant Street	C/O Ventas Finance LLC 303 East Wacker Drive Chicago, IL 60601

N/F = Now or formerly of

Abutters' information (names and property addresses) obtained on May 23, 2013 from "Appraisal Vision Assessor's Online Database for Pawtucket, Rhode Island," last updated April 5, 2013.

APPENDIX D
PHOTOGRAPHS

Appendix D – Photos of Installation and Sampling Procedures

Former Tidewater MGP and Electric Generation Site



Photo 1 – Soil Gas Stainless Steel Vapor Sampling Tip



Photo 2 – Geoprobe Rig During Installation



Photo 3 – Soil Gas Probe Prior to Finishing with a Roadbox



Photo 4 – Geoprobe Rig

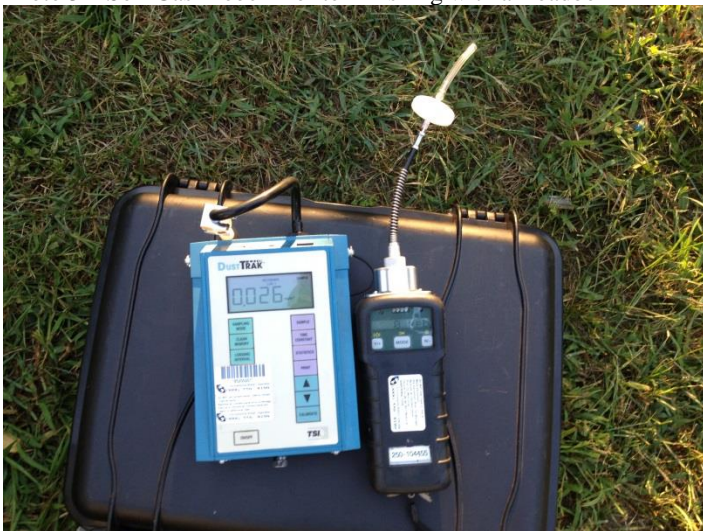


Photo 5 – Air Monitoring During Installation Work

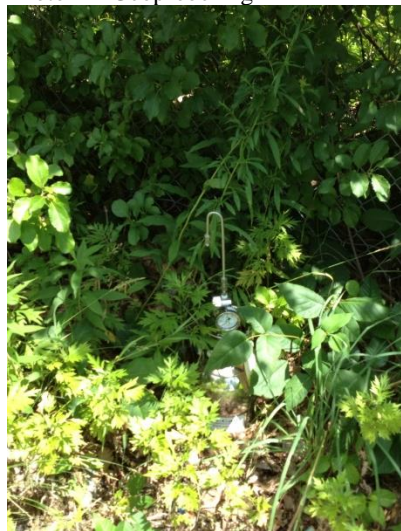


Photo 6 – Ambient Air Sample Collection

Appendix D – Photos of Installation and Sampling Procedures

Former Tidewater MGP and Electric Generation Site

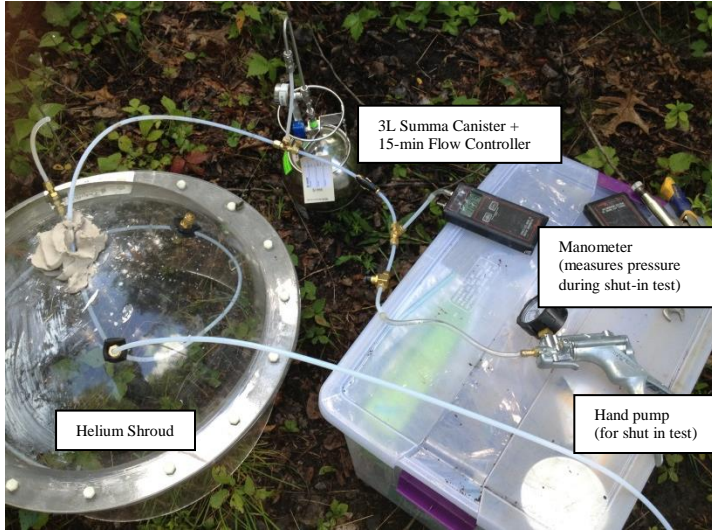


Photo 7 – Shut In Test



Photo 8 – Helium Application

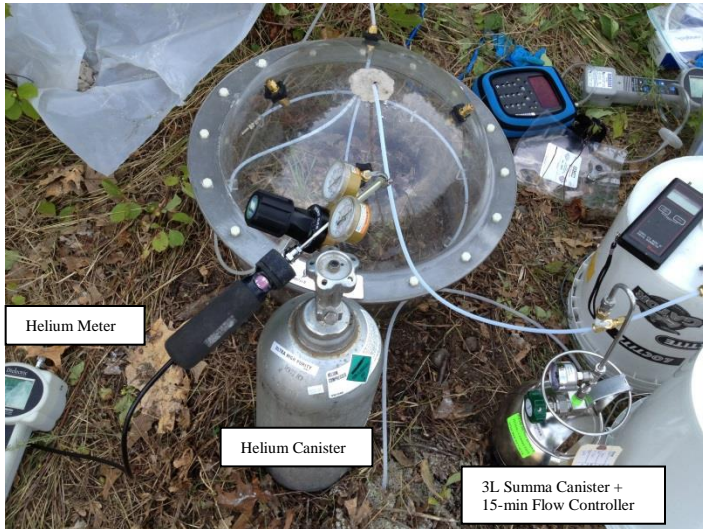


Photo 9 – Measuring Helium in the Shroud



Photo 10 – Radiodetection MGD-2002 Helium Meter

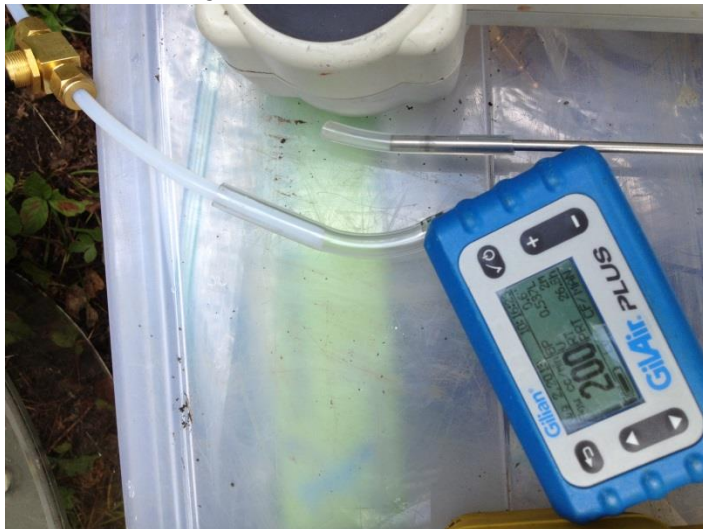


Photo 11 – Gillian GilAir Plus Air Pump



Photo 12 – MiniRAE ppbRAE

Appendix D – Photos of Installation and Sampling Procedures

Former Tidewater MGP and Electric Generation Site

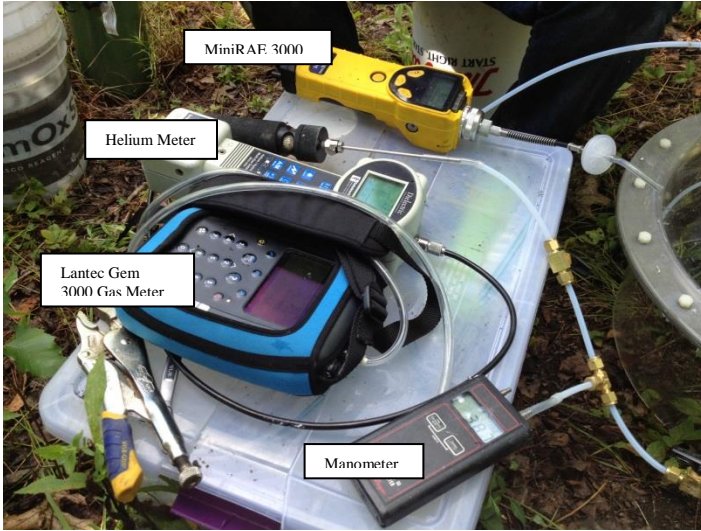


Photo 13 – Equipment for Screening During Purging



Photo 14 – 3-L Summa Canister

APPENDIX E

PROBE INSTALLATION LOGS

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

National Grid
 Former Tidewater Facility
 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-100D
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN
 Drilling Co.: NE Geotech
 Foreman: HR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 20
 Date Start - Finish: 7/9/2013 - 7/9/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Track Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)						
0-20					NM	: Samples not collected	1				
5											
10											← Bentonite Seal
15							2				
20							3				
20							4				← Filter Sand
25						End of exploration at 20 feet.					
30											

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered.
 - 3 - Sampling tip installed at 20ft. bgs.
 - 4 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-100D

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

National Grid
Former Tidewater Facility
Pawtucket
Rhode Island

EXPLORATION NO.: SG-100S
SHEET: 1 of 1
PROJECT NO: 43654.00
REVIEWED BY: MSK

Logged By: SDN
Drilling Co.: NE Geotech
Foreman: HR

Geoprobe Location: See Plan
Ground Surface Elev. (ft.): NM
Final Geoprobe Depth (ft.): 5
Date Start - Finish: 7/9/2013 - 7/9/2013

H. Datum: NM
V. Datum: NM

Type of Rig: Geoprobe
Rig Model: -
Drilling Method: Track Mounted

Sampler Type: NA
Sampler O.D. (in.): NA
Sampler Length (in.): NA
Rock Core Size: NA

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)						
		0-5			NM	: Samples not collected	1				<p style="text-align: right;">Bentonite Seal</p> <p style="text-align: right;">Filter Sand</p>
5							2				
						End of exploration at 5 feet.	3				
							4				
10											
15											
20											
25											
30											

REMARKS

- 1 - Soil samples were not collected.
- 2 - Groundwater not encountered.
- 3 - Sample tip installed at 5ft. bgs.
- 4 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-100S

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

National Grid
 Former Tidewater Facility
 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-101D
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN
 Drilling Co.: NE Geotech
 Foreman: HR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 8
 Date Start - Finish: 7/8/2013 - 7/8/2013

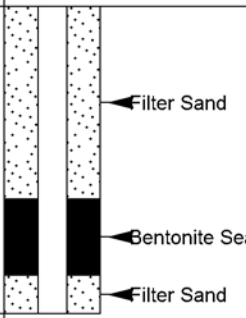
H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Truck Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
5		0-8			NM	: Samples not collected	1			
10						End of exploration at 8 feet.	2 3 4			

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered.
 - 3 - Sample tip installed at 8ft. bgs.
 - 4 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-101D

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

National Grid
 Former Tidewater Facility
 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-101S
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN
 Drilling Co.: NE Geotech
 Foreman: HR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 5
 Date Start - Finish: 7/8/2013 - 7/8/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Truck Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)						
		0-5			NM	: Samples not collected	1 2				
5						End of exploration at 5 feet.	3 4				
10											
15											
20											
25											
30											

REMARKS

- 1 - Soil Samples not collected.
- 2 - Groundwater not encountered.
- 3 - Sample tip installed at 5ft. bgs.
- 4 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-101S

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
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National Grid
 Former Tidewater Facility
 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-102D
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN
 Drilling Co.: NE Geotech
 Foreman: HR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 13
 Date Start - Finish: 7/8/2013 - 7/8/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Truck Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
		0-13			NM	: Samples not collected	1			
5							2			← Filter Sand
10							3			← Bentonite Seal
							4			← Filter Sand
15						End of exploration at 13 feet.				
20										
25										
30										

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered.
 - 3 - Sample tip installed at 13ft. bgs.
 - 4 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-102D

GEOPROBE LOG



GZA
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Engineers and Scientists

National Grid
 Former Tidewater Facility
 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-102S
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN
 Drilling Co.: NE Geotech
 Foreman: HR

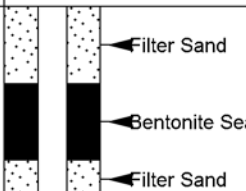
Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 5
 Date Start - Finish: 7/8/2013 - 7/8/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Truck Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
5		0-5			NM	: Samples not collected	1			
						End of exploration at 5 feet.	2 3 4			

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered.
 - 3 - Sample tip installed at 5ft. bgs.
 - 4 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-102S

GEOPROBE LOG



GZA
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National Grid
 Former Tidewater Facility
 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-103D
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN
 Drilling Co.: NE Geotech
 Foreman: HR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 5
 Date Start - Finish: 7/8/2013 - 7/8/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Truck Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)						
5		0-5			NM	: Samples not collected	1				No Equipment Installed
5						End of exploration at 5 feet.	2 3				

REMARKS

1 - Hit refusal multiple times at ± 5' bgs.
 2 - No soil samples were collected.
 3 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-103D

GEOPROBE LOG



GZA
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National Grid
 Former Tidewater Facility
 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-103S
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN
 Drilling Co.: NE Geotech
 Foreman: HR

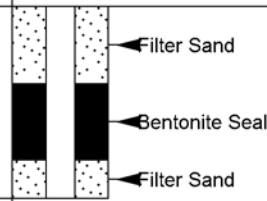
Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 5
 Date Start - Finish: 7/8/2013 - 7/8/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Truck Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
		0-5			NM	: Samples not collected	1			
5						End of exploration at 5 feet.	2 3 4			
10										
15										
20										
25										
30										

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered.
 - 3 - Sample tip installed at 5ft. bgs.
 - 4 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-103S

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

National Grid
 Former Tidewater Facility
 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-104D
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN
 Drilling Co.: NE Geotech
 Foreman: HR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 11
 Date Start - Finish: 7/9/2013 - 7/9/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Track Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)						
		0-11			NM	: Samples not collected	1				
5							2				
10							3				
							4				
						End of exploration at 11 feet.					
15											
20											
25											
30											

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered.
 - 3 - Sample tip installed at 11ft. bgs.
 - 4 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-104D

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

National Grid
 Former Tidewater Facility
 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-104S
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN
 Drilling Co.: NE Geotech
 Foreman: HR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 5
 Date Start - Finish: 7/9/2013 - 7/9/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Track Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
		0-5			NM	: Samples not collected	1			
5							2			
							3			
						End of exploration at 5 feet.	4			
10										
15										
20										
25										
30										

REMARKS

- 1 - Soil samples were not collected.
- 2 - Groundwater not encountered.
- 3 - Sample tip installed at 5ft. bgs.
- 4 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-104S

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

National Grid
 Former Tidewater Facility
 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-105D
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN
 Drilling Co.: NE Geotech
 Foreman: MM

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 11
 Date Start - Finish: 7/11/2013 - 7/11/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Track Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
		0-11			NM	: Samples not collected	1 2			
5										
10							3 4 5			
						End of exploration at 11 feet.				
15										
20										
25										
30										

- REMARKS**
- 1 - 5' hole was previously factored.
 - 2 - Soil samples were not collected.
 - 3 - Groundwater not encountered.
 - 4 - Sampling tip installed at 11ft. bgs.
 - 5 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-105D

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

National Grid
 Former Tidewater Facility
 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-105S
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN
 Drilling Co.: NE Geotech
 Foreman: MM

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 5
 Date Start - Finish: 7/11/2013 - 7/11/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Track Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)						
		0-5			NM	: Samples not collected	1				
							2				Bentonite Seal
5							3			Filter Sand	
						End of exploration at 5 feet.	4				
							5				
10											
15											
20											
25											
30											

- REMARKS**
- 1 - Hole was previously vactored.
 - 2 - Soil samples were not collected.
 - 3 - Groundwater not encountered.
 - 4 - Sampling tip installed at 5ft. bgs.
 - 5 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-105S

GEOPROBE LOG



GZA
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National Grid
 Former Tidewater Facility
 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-106D
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN
 Drilling Co.: NE Geotech
 Foreman: MM

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 25
 Date Start - Finish: 7/11/2013 - 7/11/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Track Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)						
		0-25			NM	: Samples not collected	1				
							2				
							3				
5							4				
							5				
10											← Filter Sand
15											
20											← Bentonite Seal
25											← Filter Sand
						End of exploration at 25 feet.	6				
30											

- REMARKS**
- 1 - Hole collapsed many times.
 - 2 - Used 2" casing to get probe in.
 - 3 - Soil samples were not collected.
 - 4 - Groundwater not encountered.
 - 5 - Sampling tip installed at 25ft. bgs.
 - 6 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-106D

GEOPROBE LOG



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EXPLORATION NO.: SG-106S
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN
 Drilling Co.: NE Geotech
 Foreman: MM

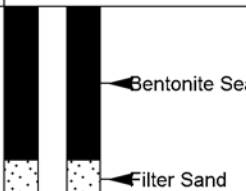
Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 5
 Date Start - Finish: 7/11/2013 - 7/11/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Track Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
		0-5			NM	: Samples not collected	1			
5						End of exploration at 5 feet.	2 3 4			
10										
15										
20										
25										
30										

REMARKS

- 1 - Soil samples were not collected.
- 2 - Groundwater not encountered.
- 3 - Sampling tip installed at 5ft. bgs.
- 4 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-106S

GEOPROBE LOG



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 Rhode Island

EXPLORATION NO.: SG-107D
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN
 Drilling Co.: NE Geotech
 Foreman: HR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 9
 Date Start - Finish: 7/9/2013 - 7/9/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Track Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
0-9					NM	: Samples not collected	1			
5							2			
10						End of exploration at 9 feet.	3			
15							4			
20										
25										
30										

REMARKS

- 1 - Soil samples were not collected.
- 2 - Groundwater not encountered.
- 3 - Sampling tip installed at 9ft. bgs.
- 4 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-107D

GEOPROBE LOG



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National Grid
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 Rhode Island

EXPLORATION NO.: SG-107P
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN
 Drilling Co.: NE Geotech
 Foreman: HR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 22
 Date Start - Finish: 7/8/2013 - 7/8/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Truck Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
7/8/13	14:00	12.5	5 Mins
7/9/13	07:30	12	16 Hrs

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
5		0-22			NM	: Samples not collected	1			
10							2			
15							3			
20							4			
25						End of exploration at 22 feet.				
30										

- REMARKS**
- 1 - Soil cutting are mostly Sand and Gravel. No anthropogenic material noted.
 - 2 - Well screen from 7' to 22' bgs.
 - 3 - Maybe Till (very dense?) at 15' bgs.
 - 4 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-107P

GEOPROBE LOG



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 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-107S
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN
 Drilling Co.: NE Geotech
 Foreman: HR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 5
 Date Start - Finish: 7/9/2013 - 7/9/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Track Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
		0-5			NM	: Samples not collected	1			
5							2			
							3			
							4			
						End of exploration at 5 feet.				
10										
15										
20										
25										
30										

REMARKS

- 1 - Soil samples were not collected.
- 2 - Groundwater not encountered.
- 3 - Sampling tip installed at 5ft. bgs.
- 4 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-107S

GEOPROBE LOG



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 Rhode Island

EXPLORATION NO.: SG-108D
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: EMB/NEF
 Drilling Co.: NE Geotech
 Foreman: HR

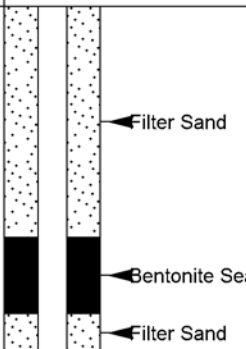
Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 9
 Date Start - Finish: 7/10/2013 - 7/10/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Truck Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
0-9					NM	: Samples not collected	1 2 3			
5										
10						End of exploration at 9 feet.	4 5 6			
15										
20										
25										
30										

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered.
 - 3 - Farther from roadway.
 - 4 - A 5' hole was previously factored.
 - 5 - Sampling tip installed at 9ft. bgs.
 - 6 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-108D

GEOPROBE LOG



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 Rhode Island

EXPLORATION NO.: SG-108S
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: EMB/NEF
 Drilling Co.: NE Geotech
 Foreman: HR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 5
 Date Start - Finish: 7/10/2013 - 7/10/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Truck Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
5		0-5			NM	: Samples not collected	1 2 3 4 5 6			<p style="font-size: small;">Filter Sand Bentonite Seal Filter Sand</p>
5						End of exploration at 5 feet.				
10										
15										
20										
25										
30										

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered.
 - 3 - Closest to roadway.
 - 4 - Hole was previously factored.
 - 5 - Sampling tip installed at 5ft. bgs.
 - 6 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-108S

GEOPROBE LOG



GZA
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National Grid
Former Tidewater Facility
Pawtucket
Rhode Island

EXPLORATION NO.: SG-109D
SHEET: 1 of 1
PROJECT NO: 43654.00
REVIEWED BY: MSK

Logged By: EMB/NEF
Drilling Co.: NE Geotech
Foreman: HR

Geoprobe Location: See Plan
Ground Surface Elev. (ft.): NM
Final Geoprobe Depth (ft.): 30
Date Start - Finish: 7/10/2013 - 7/10/2013

H. Datum: NM
V. Datum: NM

Type of Rig: Geoprobe
Rig Model: -
Drilling Method: Truck Mounted

Sampler Type: NA
Sampler O.D. (in.): NA
Sampler Length (in.): NA
Rock Core Size: NA

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
0-30					NM	: Samples not collected	1 2 3			Road Box
5										
10										
15										Filter Sand
20										
25										
30							4 5			Bentonite Seal Filter Sand

End of exploration at 30 feet.

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered.
 - 3 - Road box installed at existing grade.
 - 4 - Sampling tip installed at 30ft. bgs.
 - 5 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-109D

GEOPROBE LOG



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National Grid
 Former Tidewater Facility
 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-109S
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: EMB/NEF
 Drilling Co.: NE Geotech
 Foreman: HR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 5
 Date Start - Finish: 7/10/2013 - 7/10/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Truck Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
		0-5			NM	: Samples not collected	1			
							2			
5							3			
							4			
						End of exploration at 5 feet.	5			

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered.
 - 3 - Road box installed at existing grade.
 - 4 - Sampling tip installed at 5ft. bgs.
 - 5 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-109S

GEOPROBE LOG



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 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-110D
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: EMB/NEF
 Drilling Co.: NE Geotech
 Foreman: HR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 30
 Date Start - Finish: 7/10/2013 - 7/10/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Truck Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)						
		0-30			NM	: Samples not collected	1				Road Box
5							2				
10							3				
15											Filter Sand
20											
25											Bentonite Seal
30							4				
							5				Filter Sand

End of exploration at 30 feet.

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered
 - 3 - Road box installed at existing grade.
 - 4 - Sampling tip installed at 30ft. bgs.
 - 5 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-110D

GEOPROBE LOG



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National Grid
Former Tidewater Facility
Pawtucket
Rhode Island

EXPLORATION NO.: SG-110P
SHEET: 1 of 2
PROJECT NO: 43654.00
REVIEWED BY: MSK

Logged By: EMB/NEF
Drilling Co.: NE Geotech
Foreman: HR

Geoprobe Location: See Plan
Ground Surface Elev. (ft.): NM
Final Geoprobe Depth (ft.): 35
Date Start - Finish: 7/8/2013 - 7/8/2013

H. Datum: NM
V. Datum: NM

Type of Rig: Geoprobe
Rig Model: -
Drilling Method: Truck Mounted

Sampler Type: NA
Sampler O.D. (in.): NA
Sampler Length (in.): NA
Rock Core Size: NA

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
7/8/13	15:43	34.3	5 Mins
7/8/13	11:25	34.3	40 Mins
7/9/13	07:30	34.3	15 Hrs

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
0-35					NM	: Samples not collected	1 2 3			
5										
10										
15										
20										
25										
30										

REMARKS

- 1 - Soil cuttings are Sand and Gravel. No anthropogenic material noted.
- 2 - Well screened installed from 20' to 35' bgs.
- 3 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-110P

GEOPROBE LOG



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National Grid
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 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-110P
 SHEET: 2 of 2
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: EMB/NEF
 Drilling Co.: NE Geotech
 Foreman: HR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 35
 Date Start - Finish: 7/8/2013 - 7/8/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Truck Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
7/8/13	15:43	34.3	5 Mins
7/8/13	11:25	34.3	40 Mins
7/9/13	07:30	34.3	15 Hrs

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
35										
40						End of exploration at 35 feet.				
45										
50										
55										
60										

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-110P

GEOPROBE LOG



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National Grid
 Former Tidewater Facility
 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-110S
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: EMB/NEF
 Drilling Co.: NE Geotech
 Foreman: HR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 5
 Date Start - Finish: 7/10/2013 - 7/10/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Truck Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
5		0-5			NM	: Samples not collected	1 2 3 4 5			
5						End of exploration at 5 feet.				
10										
15										
20										
25										
30										

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered.
 - 3 - Road box installed at existing grade.
 - 4 - Sampling tip installed at 5ft. bgs.
 - 5 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-110S

GEOPROBE LOG



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National Grid
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 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-111D
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: EMB/NEF
 Drilling Co.: NE Geotech
 Foreman: HR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 30
 Date Start - Finish: 7/10/2013 - 7/10/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Truck Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)						
		0-30			NM	: Samples not collected	1 2 3 4 5				
5											
10											
15											← Filter Sand
20											
25											
30											← Bentonite Seal ← Filter Sand

End of exploration at 30 feet.

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not collected.
 - 3 - Road box installed at existing grade.
 - 4 - Sampling tip installed at 30ft. bgs.
 - 5 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-111D

GEOPROBE LOG



GZA
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National Grid
 Former Tidewater Facility
 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-111S
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: EMB/NEF
 Drilling Co.: NE Geotech
 Foreman: HR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 5
 Date Start - Finish: 7/10/2013 - 7/10/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Truck Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
		0-5			NM	: Samples not collected	1			
							2			
							3			
5							4			
							5			
						End of exploration at 5 feet.				
10										
15										
20										
25										
30										

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered.
 - 3 - Road box installed at ex grade.
 - 4 - Sampling tip installed at 5ft. bgs.
 - 5 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-111S

GEOPROBE LOG



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 Rhode Island

EXPLORATION NO.: SG-112D
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: EMB/NEF
 Drilling Co.: NE Geotech
 Foreman: HR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 25
 Date Start - Finish: 7/10/2013 - 7/10/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Truck Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)						
		0-25			NM	: Samples not collected.	1				Road Box
							2				
							3				
5							4				
							5				
10											Filter Sand
15											
20											
25											Bentonite Seal Filter Sand
						End of exploration at 25 feet.					
30											

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered.
 - 3 - Road box installed at existing grade.
 - 4 - Sampling tip installed at 25ft. bgs.
 - 5 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-112D

GEOPROBE LOG



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 Rhode Island

EXPLORATION NO.: SG-112S
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: EMB/NEF
 Drilling Co.: NE Geotech
 Foreman: HR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 5
 Date Start - Finish: 7/10/2013 - 7/10/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Truck Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
5		0-5			NM	: Samples not collected	1 2 3			
5						End of exploration at 5 feet.	4 5			

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered.
 - 3 - Road box installed at existing grade.
 - 4 - Sampling tip installed at 5ft. bgs.
 - 5 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-112S

GEOPROBE LOG



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 Rhode Island

EXPLORATION NO.: SG-113D
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: EMB/NEF
 Drilling Co.: NE Geotech
 Foreman: HR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 25
 Date Start - Finish: 7/10/2013 - 7/10/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Truck Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)						
		0-25			NM	: Samples not collected	1 2 3				Road Box
5											
10											Filter Sand
15											
20											
25							4				Bentonite Seal Filter Sand
30						End of exploration at 25 feet.	5				

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered.
 - 3 - Road box installed at existing grade.
 - 4 - Sampling tip installed at 25ft. bgs.
 - 5 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-113D

GEOPROBE LOG



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EXPLORATION NO.: SG-113S
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: EMB/NEF
 Drilling Co.: NE Geotech
 Foreman: HR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 5
 Date Start - Finish: 7/10/2013 - 7/10/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Truck Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
5		0-5			NM	: Samples not collected	1 2 3 4 5			
5						End of exploration at 5 feet.				
10										
15										
20										
25										
30										

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered.
 - 3 - Road box installed at existing grade.
 - 4 - Sampling tip installed at 5ft. bgs.
 - 5 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-113S

GEOPROBE LOG



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 Rhode Island

EXPLORATION NO.: SG-114S
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN/BG
 Drilling Co.: By Hand
 Foreman: NA

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 5
 Date Start - Finish: 8/22/2013 - 8/22/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: NA
 Rig Model: NA
 Drilling Method: NA

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
		0-5			NM	: Samples not collected	1			
							2			
							3			
5							4			Filter Sand
						End of exploration at 5 feet.	5			
10										
15										
20										
25										
30										

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered.
 - 3 - Road box installed at existing grade.
 - 4 - Sampling tip installed at 5ft. bgs.
 - 5 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-114S

GEOPROBE LOG



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EXPLORATION NO.: SG-115S
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN/BG
 Drilling Co.: By Hand
 Foreman: NA

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 5
 Date Start - Finish: 8/22/2013 - 8/22/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: NA
 Rig Model: NA
 Drilling Method: NA

Sampler Type: SS
 Sampler O.D. (in.): 2.0
 Sampler Length (in.): 24
 Rock Core Size: NA

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
		0-5			NM	: Samples not collected	1			Road Box
							2			
							3			Bentonite Seal
5							4			Filter Sand
						End of exploration at 5 feet.	5			
10										
15										
20										
25										
30										

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered.
 - 3 - Road box installed at existing grade.
 - 4 - Sampling tip installed at 5ft. bgs.
 - 5 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-115S

GEOPROBE LOG



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EXPLORATION NO.: SG-116S
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN/BG
 Drilling Co.: By Hand
 Foreman: NA

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 5
 Date Start - Finish: 8/22/2013 - 8/22/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: NA
 Rig Model: NA
 Drilling Method: NA

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)						
		0-5			NM	: Samples not collected	1				Road Box
							2				
							3				Bentonite Seal
5							4				Filter Sand
						End of exploration at 5 feet.	5				
10											
15											
20											
25											
30											

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered.
 - 3 - Road box installed at existing grade.
 - 4 - Sampling tip installed at 5ft. bgs.
 - 5 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-116S

GEOPROBE LOG



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 Rhode Island

EXPLORATION NO.: SG-117S
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN/BG
 Drilling Co.: By Hand
 Foreman: NA

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 5
 Date Start - Finish: 8/22/2013 - 8/22/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: NA
 Rig Model: NA
 Drilling Method: NA

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
		0-5			NM	: Samples not collected	1 2 3			
5						End of exploration at 5 feet.	4 5			
10										
15										
20										
25										
30										

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered.
 - 3 - Road box installed at existing grade.
 - 4 - Sampling tip installed at 5ft. bgs.
 - 5 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-117S

GEOPROBE LOG



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EXPLORATION NO.: SG-118S
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN/BG
 Drilling Co.: By Hand
 Foreman: NA

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 5
 Date Start - Finish: 8/22/2013 - 8/22/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: NA
 Rig Model: NA
 Drilling Method: NA

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
		0-5			NM	: Samples not collected	1			Road Box
							2			
							3			Bentonite Seal
5							4			Filter Sand
						End of exploration at 5 feet.	5			
10										
15										
20										
25										
30										

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered.
 - 3 - Road box installed at existing grade.
 - 4 - Sampling tip installed at 5ft. bgs.
 - 5 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-118S

GEOPROBE LOG



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EXPLORATION NO.: SG-119S
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN/BG
 Drilling Co.: By Hand
 Foreman: NA

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 5
 Date Start - Finish: 8/22/2013 - 8/22/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: NA
 Rig Model: NA
 Drilling Method: NA

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
		0-5			NM	: Samples not collected	1			Road Box
							2			
							3			Bentonite Seal
5							4			Filter Sand
						End of exploration at 5 feet.	5			
10										
15										
20										
25										
30										

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered.
 - 3 - Road box installed at existing grade.
 - 4 - Sampling tip installed at 5ft. bgs.
 - 5 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-119S

GEOPROBE LOG



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EXPLORATION NO.: SG-120S
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN/BG
 Drilling Co.: By Hand
 Foreman: NA

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 5
 Date Start - Finish: 8/22/2013 - 8/22/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: NA
 Rig Model: NA
 Drilling Method: NA

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
		0-5			NM	: Samples not collected	1			Road Box
							2			
							3			Bentonite Seal
5							4			Filter Sand
						End of exploration at 5 feet.	5			
10										
15										
20										
25										
30										

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered.
 - 3 - Road box installed at existing grade.
 - 4 - Sampling tip installed at 5ft. bgs.
 - 5 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-120S

GEOPROBE LOG



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 Rhode Island

EXPLORATION NO.: SG-200
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN/BG
 Drilling Co.: NE Geotech
 Foreman: DR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 4
 Date Start - Finish: 7/9/2013 - 7/9/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Track Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)						
		0-4			NM	: Samples not collected	1				
							2				Bentonite Seal
							3				Filter Sand
5						End of exploration at 4 feet.	4				
10											
15											
20											
25											
30											

REMARKS

- 1 - Soil samples were not collected.
- 2 - Groundwater not encountered.
- 3 - Sampling tip installed at 4ft. bgs.
- 4 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-200

GZA TEMPLATE GEOPROBE W/EQUIP: 9/24/2013: 10:17:50 AM

GEOPROBE LOG



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 Rhode Island

EXPLORATION NO.: SG-201
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN
 Drilling Co.: NE Geotech
 Foreman: DR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 3
 Date Start - Finish: 7/9/2013 - 7/9/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Track Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)						
		0-3			NM	: Samples not collected	1				
							2				
							3				
5						End of exploration at 3 feet.	4				
10											
15											
20											
25											
30											

REMARKS

- 1 - Soil samples were not collected.
- 2 - Groundwater not encountered.
- 3 - Sampling tip installed at 3ft. bgs.
- 4 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-201

GZA TEMPLATE GEOPROBE W/EQUIP: 9/24/2013: 10:17:50 AM

GEOPROBE LOG



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National Grid
 Former Tidewater Facility
 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-202
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN
 Drilling Co.: NE Geotech
 Foreman: DR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 5
 Date Start - Finish: 7/9/2013 - 7/9/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Track Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)						
		0-5			NM	: Samples not collected	1				
							2				Bentonite Seal
5							3			Filter Sand	
						End of exploration at 5 feet.	4				
10											
15											
20											
25											
30											

REMARKS

- 1 - Soil samples were not collected.
- 2 - Groundwater not encountered.
- 3 - Sampling tip installed at 5ft. bgs.
- 4 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-202

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

National Grid
 Former Tidewater Facility
 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-203D
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN
 Drilling Co.: NE Geotech
 Foreman: DR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 5
 Date Start - Finish: 7/9/2013 - 7/9/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Track Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
0-5					NM	: Samples not collected	1 2 3			Road Box
5							4 5			Bentonite Seal Filter Sand
10						End of exploration at 5 feet.				
15										
20										
25										
30										

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered.
 - 3 - Road box installed at existing grade.
 - 4 - Sampling tip installed at 5ft. bgs.
 - 5 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-203D

GEOPROBE LOG



GZA
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Engineers and Scientists

National Grid
 Former Tidewater Facility
 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-203M
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN
 Drilling Co.: NE Geotech
 Foreman: DR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 4
 Date Start - Finish: 7/9/2013 - 7/9/2013

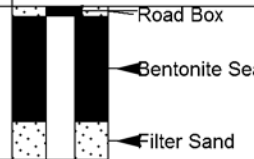
H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Track Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
		0-4			NM	: Samples not collected	1 2 3			
5						End of exploration at 4 feet.	4 5			
10										
15										
20										
25										
30										

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered.
 - 3 - Road box installed at existing grade.
 - 4 - Sampling tip installed at 4ft. bgs.
 - 5 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-203M

GEOPROBE LOG



GZA
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Engineers and Scientists

National Grid
 Former Tidewater Facility
 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-203S
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN
 Drilling Co.: NE Geotech
 Foreman: DR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 3
 Date Start - Finish: 7/9/2013 - 7/9/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Track Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
		0-3			NM	: Samples not collected	1			
							2			
							3			
							4			
5						End of exploration at 3 feet.	5			
10										
15										
20										
25										
30										

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered.
 - 3 - Road box installed at existing grade.
 - 4 - Sampling tip installed at 3ft. bgs.
 - 5 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-203S

GEOPROBE LOG



GZA
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Engineers and Scientists

National Grid
 Former Tidewater Facility
 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-204
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN
 Drilling Co.: NE Geotech
 Foreman: DR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 3
 Date Start - Finish: 7/9/2013 - 7/9/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Track Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)						
		0-3			NM	: Samples not collected	1				
							2				
							3				
5						End of exploration at 3 feet.	4				
10											
15											
20											
25											
30											

- REMARKS**
- 1 - Soil samples were not collected.
 - 2 - Groundwater not encountered.
 - 3 - Sampling tip installed at 3ft. bgs.
 - 4 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-204

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

National Grid
 Former Tidewater Facility
 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-205
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN
 Drilling Co.: NE Geotech
 Foreman: DR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 6
 Date Start - Finish: 7/9/2013 - 7/9/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Truck Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)						
		0-6			NM	: Samples not collected	1				
5							2				Bentonite Seal
							3				Filter Sand
						End of exploration at 6 feet.	4				
10											
15											
20											
25											
30											

REMARKS

- 1 - Soil samples were not collected.
- 2 - Groundwater not encountered.
- 3 - Sampling tip installed at 6ft. bgs.
- 4 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-205

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

National Grid
 Former Tidewater Facility
 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-206
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN
 Drilling Co.: NE Geotech
 Foreman: DR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 7
 Date Start - Finish: 7/9/2013 - 7/9/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Track Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)						
		0-7			NM	: Samples not collected	1 2				
5							3 4				
						End of exploration at 7 feet.					
10											
15											
20											
25											
30											

REMARKS

- 1 - Soil samples were not collected.
- 2 - Groundwater not encountered.
- 3 - Sampling tip installed at 7ft. bgs.
- 4 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-206

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

National Grid
 Former Tidewater Facility
 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-207
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN
 Drilling Co.: NE Geotech
 Foreman: DR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 7
 Date Start - Finish: 7/9/2013 - 7/9/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Track Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)						
		0-7			NM	: Samples not collected	1				
5							2				
							3				Bentonite Seal
							4				Filter Sand
10						End of exploration at 7 feet.					
15											
20											
25											
30											

REMARKS

- 1 - Soil samples were not collected.
- 2 - Groundwater not encountered.
- 3 - Sampling tip installed at 7ft. bgs.
- 4 - NM-Not Measured; NA-Not Applicable

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

SG-207

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

National Grid
 Former Tidewater Facility
 Pawtucket
 Rhode Island

EXPLORATION NO.: SG-208
 SHEET: 1 of 1
 PROJECT NO: 43654.00
 REVIEWED BY: MSK

Logged By: SDN
 Drilling Co.: NE Geotech
 Foreman: DR

Geoprobe Location: See Plan
 Ground Surface Elev. (ft.): NM
 Final Geoprobe Depth (ft.): 3
 Date Start - Finish: 7/9/2013 - 7/9/2013

H. Datum: NM
 V. Datum: NM

Type of Rig: Geoprobe
 Rig Model: -
 Drilling Method: Track Mounted

Sampler Type: NA
 Sampler O.D. (in.): NA
 Sampler Length (in.): NA
 Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
	NM		

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)						
		0-3			NM	: Samples not collected	1 2 3				No Equipment Installed
5						End of exploration at 3 feet.					
10											
15											
20											
25											
30											

REMARKS
 1 - Hit refusal five times at 3' bgs, possible concrete slab.
 2 - No equipment installed.
 3 - NM-Not Measured; NA-Not Applicable

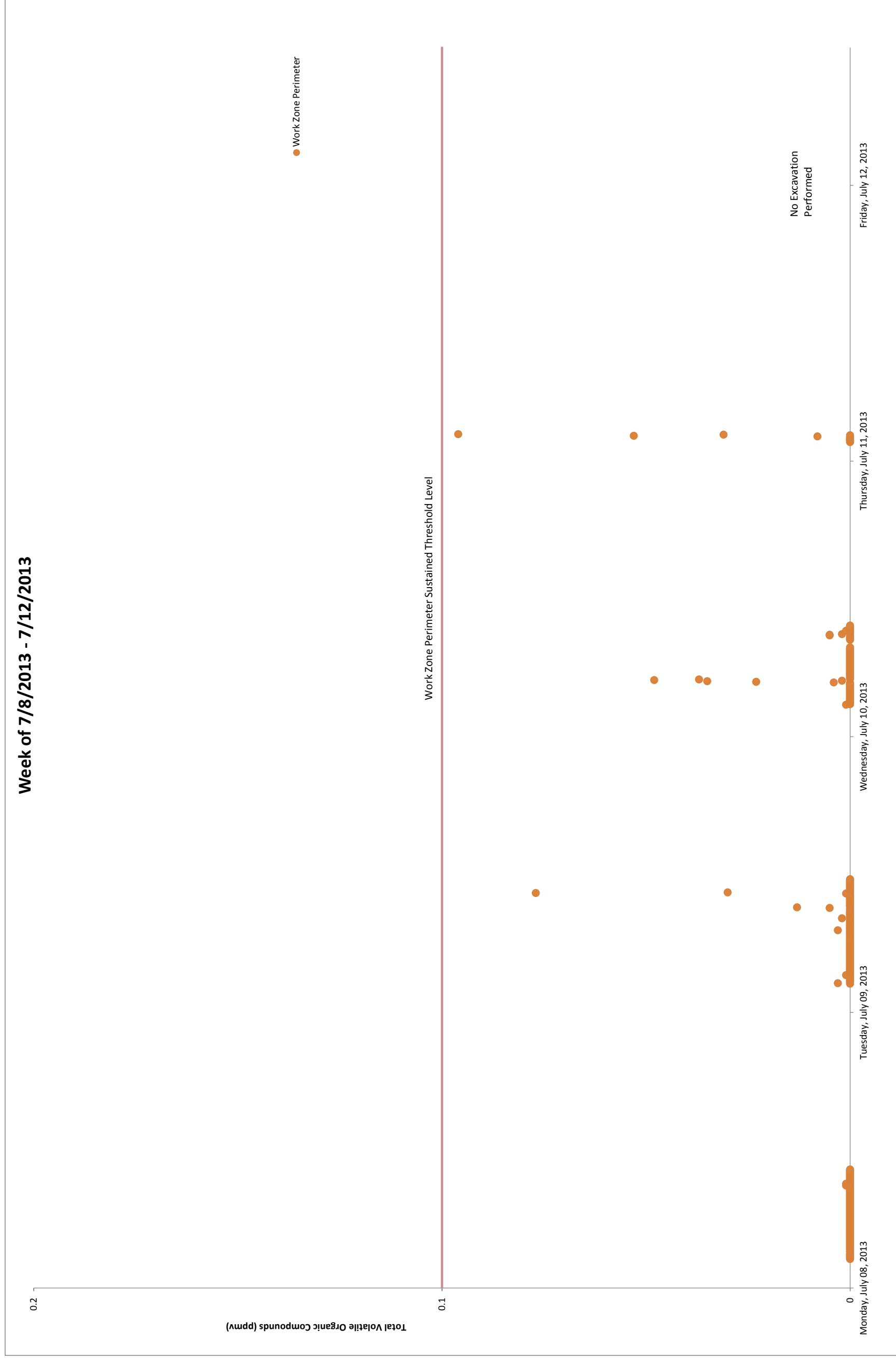
See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

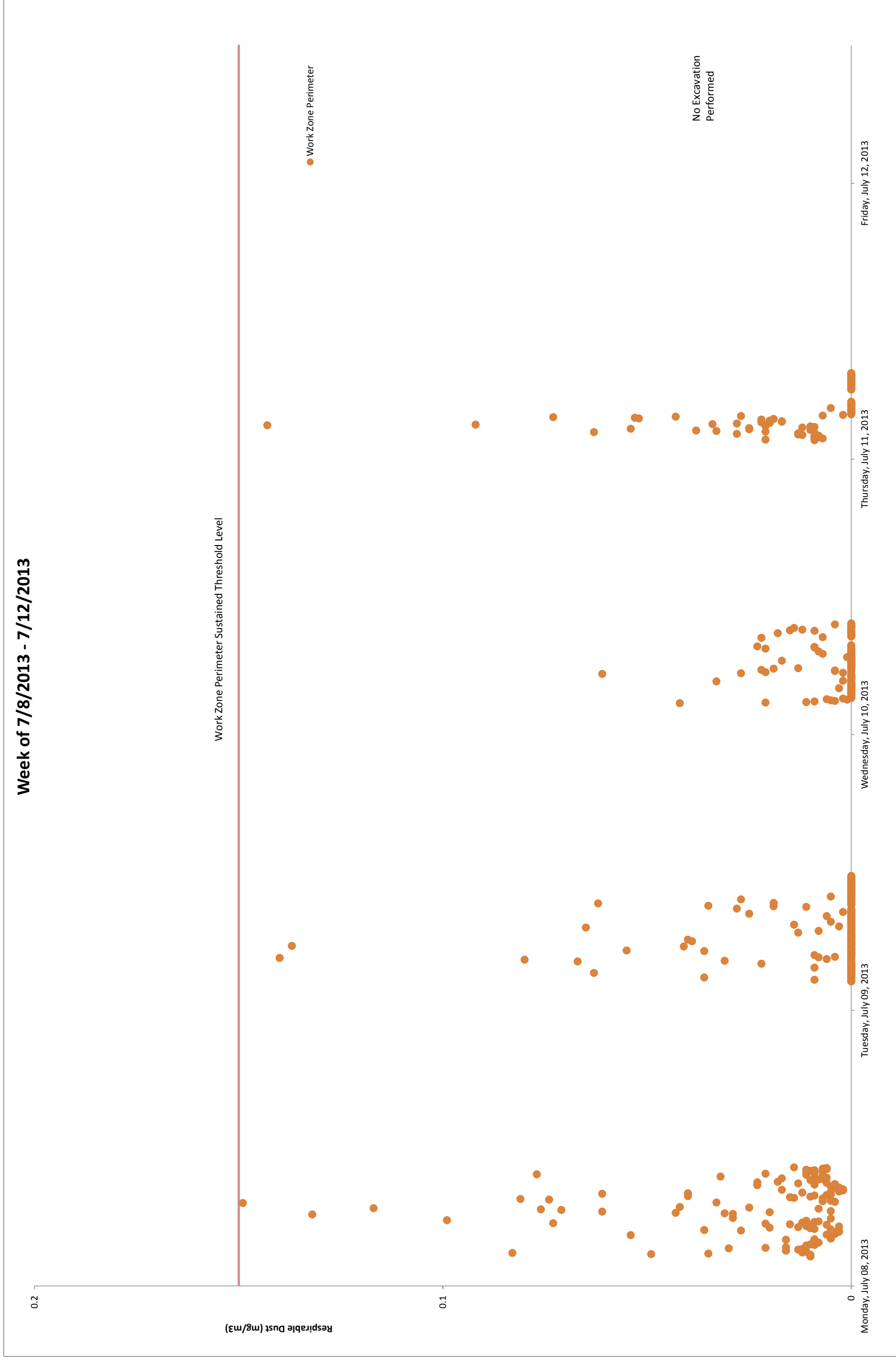
SG-208

GZA TEMPLATE GEOPROBE W/EQUIP: 9/24/2013: 10:17:52 AM

APPENDIX F

AIR MONITORING GRAPHS



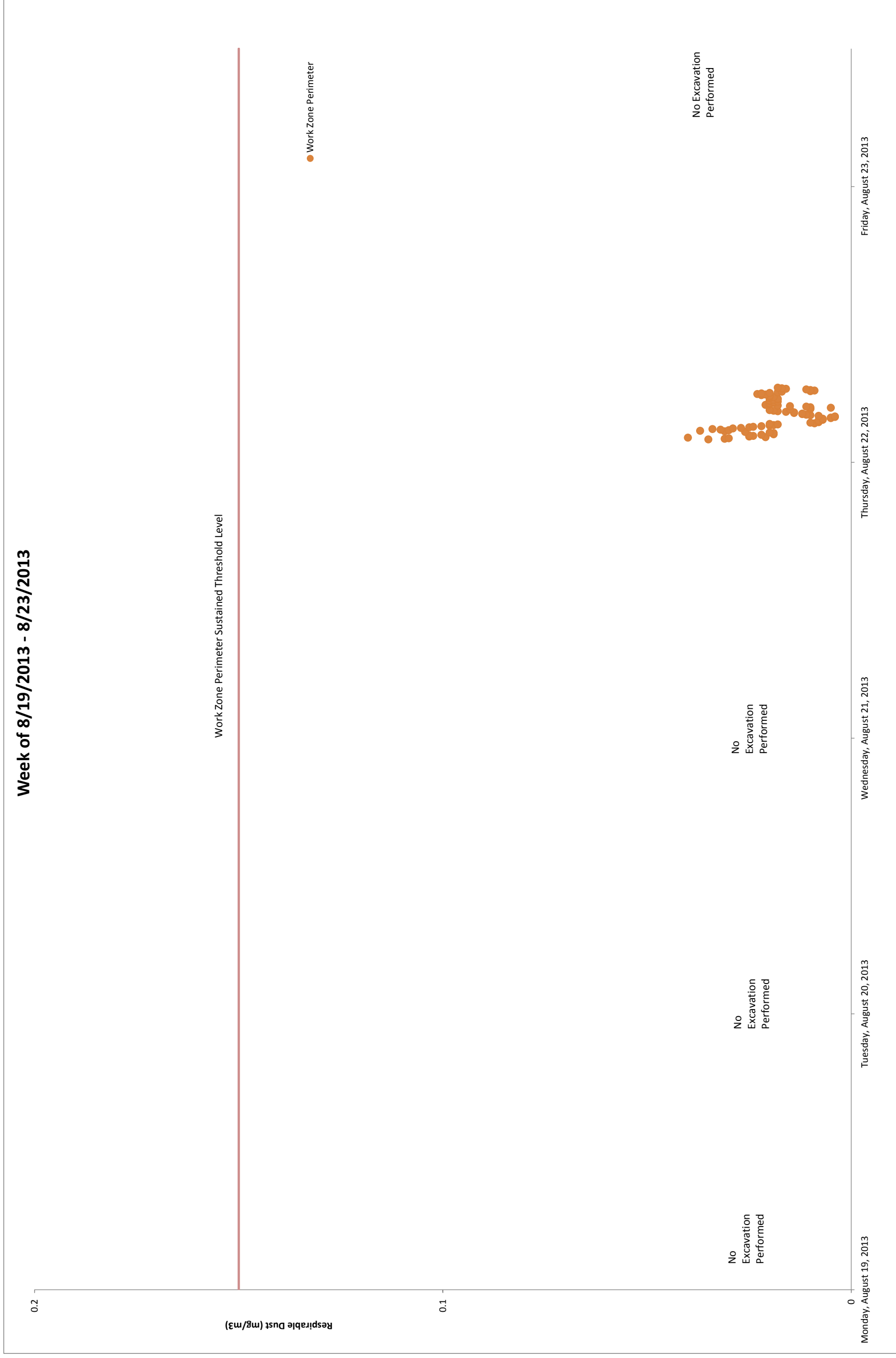


**Prepared by National Grid for the Businesses and Residents
 Located Near the Former Tidewater Facility in Pawtucket, RI
 Air Quality Monitoring - Transient Observations**

Date	Time	Location	Constituent	Observed Range of Elevated Transient Readings	Observed Conditions that may be leading to elevated transient readings
There were no transient elevated readings observed.					

Transient readings were conducted over a three minute time period. A reading is sustained if it is held for over a five minute time period.

Prepared by National Grid for the Businesses and Residents Located Near the Former Tidewater Facility in Pawtucket, RI
Air Quality Monitoring - Respirable Dust



Prepared by National Grid for the Businesses and Residents Located Near the Former Tidewater Facility in Pawtucket, RI
Air Quality Monitoring - Total Volatile Organic Compounds (TVOCs)

GZA File No. 05.00043654.00



**Prepared by National Grid for the Businesses and Residents
 Located Near the Former Tidewater Facility in Pawtucket, RI
 Air Quality Monitoring - Transient Observations**

Date	Time	Location	Constituent	Observed Range of Elevated Transient Readings	Observed Conditions that may be leading to elevated transient readings
There were no transient elevated readings observed.					

Transient readings were conducted over a three minute time period. A reading is sustained if it is held for over a five minute time period.

APPENDIX G

FIELD SAMPLING LOGS

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	5	Date:	7/29/2013			
Probe ID:	SG-1005			Casing Volume (mL):	250	Weather:	Cloudy 70's			
GZA Job No:	43654			Tubing Volume (mL):	50	Field Personnel:	MD/SDN			
Start Location Time:	9:25			Stop Location Time:	10:10	Start Purging Time:	9:35			
Field Calibration										
Photoionization Detector				Lantec Landfill Gas Meter			Helium Detector			
Zero (with filter)	0 ppm	0	O ₂	20.9%	20.9	Detector #1	0%	0	0	
Span Gas	10 ppm	10.01	CO ₂	0%	0	Detector #2	0%	0	0	
			CH ₄	0%	0					
Ambient Air Screening										
	Initial		Final				Casing Volume			
O ₂	20.8	CH ₄	0	O ₂	20.8	CH ₄	0	1" rods - 50 mL/ft		
CO ₂	0.1	PID	0	CO ₂	0.1	PID	0	Tubing Volume		
								1/4" tubing - 10 mL/ft		
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	131.1	2 Min	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
9:36	1	200	0.89	0.2	14.1	16.2	3.9	0	0	0
9:40	5	200	0.90	1	13.9	16.2	3.9	0	0	0
9:42	7	200	0.89	1.4	13.9	16.2	3.9	0	0	0
Analytical Samples										
Can ID + FC ID	2089/4177	Analytical Method	To-15 + Helium	Initial Pressure (in-Hg)						
Sample ID	SG-1005	Time to Fill (min)	14	Final Pressure (in-Hg)						
Helium Percentage in Shroud During Sampling:	11.1	Start Time:	9:43	Stop Time:	9:57					
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
10:00	200	0.9	10.5	16.2	3.9	0	0	0		
Abbreviations:	ppb - parts per billion	mL - milliliters	min - minutes	Other Comments or Notes: Duplicate #1 collected						
	ppm - parts per million	O ₂ - oxygen	PID - Photoionization Detector	Start -30/ Stop-3						
	in-H2O - inches of water column	CO ₂ - carbon dioxide	TVOCs - Total Volatile Organic	Start Time = 9:43 Stop Time = 9:53						
	mL/min - milliliters per minute	CH ₄ - methane	Compounds	CAN# 1794 FC# 4193						

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	20	Date:	7/29/2013			
Probe ID:	SG-100D			Casing Volume (mL):	1000	Weather:	Cloudy 70's			
GZA Job No:	43654			Tubing Volume (mL):	200	Field Personnel:	MD/SDN			
Start Location Time:	8:15			Stop Location Time:	9:20	Start Purging Time:	8:45			
Field Calibration										
Photoionization Detector				Lantec Landfill Gas Meter			Helium Detector			
Zero (with filter)	0 ppm	0	O ₂	20.9%	20.9	Detector #1	0%	0	0	
Span Gas	10 ppm	10.05	CO ₂	0%	0	Detector #2	0%	0	0	
			CH ₄	0%	0					
Ambient Air Screening										
	Initial		Final				Casing Volume			
O ₂	20.8	CH ₄	0	O ₂	20.8	CH ₄	0	1" rods - 50 mL/ft		
CO ₂	0.1	PID	0	CO ₂	0	PID	0	Tubing Volume		
								1/4" tubing - 10 mL/ft		
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	112.1	1 Min	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
8:46	1	200	0.39	0.2	14.7	14.3	6.7	0	0	0
8:55	10	200	0.40	2.2	16.3	14.3	6.7	0	0	0
9:01	16	200	0.40	3.4	11.2	14.3	6.7	0	0	0
Analytical Samples										
Can ID + FC ID	1032/4192	Analytical Method	T0-15 + Helium			Initial Pressure (in-Hg)	-28			
Sample ID	SG--100D	Time to Fill (min)	14			Final Pressure (in-Hg)	-4			
Helium Percentage in Shroud During Sampling:	10.1	Start Time:	9:02			Stop Time:	9:16			
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
9:17	200	0.4	10.7	14.3	6.7	0	0	0		
Abbreviations: ppb - parts per billion mL - milliliters min - minutes Other Comments or Notes:										
ppm - parts per million O ₂ - oxygen PID - Photoionization Detector										
in-H ₂ O - inches of water column CO ₂ - carbon dioxide TVOCs - Total Volatile Organic										
mL/min - milliliters per minute CH ₄ - methane Compounds										

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	5	Date:	7/30/2013			
Probe ID:	SG-1015			Casing Volume (mL):	250	Weather:	Sunny 80			
GZA Job No:	43654			Tubing Volume (mL):	50	Field Personnel:	BG/SN			
Start Location Time:	12:45			Stop Location Time:	13:55	Start Purging Time:	13:25			
Field Calibration										
Photoionization Detector			Lantec Landfill Gas Meter			Helium Detector				
Zero (with filter)	0 ppm	0	O ₂	20.9%	20.9	Detector #1	0%	0	0	
Span Gas	10 ppm	9.97	CO ₂	0%	0	Detector #2	0%	0	0	
			CH ₄	0%	0					
Ambient Air Screening										
	Initial		Final			Casing Volume				
O ₂	20.9	CH ₄	0	O ₂	20.9	CH ₄	0	Tubing Volume		
CO ₂	0	PID	0	CO ₂	0	PID	0	1/4 " tubing - 10 mL/ft		
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	104.1	1 Min	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
12:27	2	200	0.89	0.4	25.9	16.4	4.3	0	0	0
13:38	13	200	0.89	2.6	22.8	16.8	4.2	0	0	0
13:43	18	200	0.89	3.6	16	17.1	4.1	0	0	0
Analytical Samples										
Can ID + FC ID	1480/4181	Analytical Method	T0-15 + Helium			Initial Pressure (in-Hg)	-30			
Sample ID	SG-1015	Time to Fill (min)	17			Final Pressure (in-Hg)	-1			
Helium Percentage in Shroud During Sampling:	14.5	Start Time:	13:46	Stop Time:	14:03					
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
14:17	200	0.89	16.2	17.5	3.9	0	0	0		
Abbreviations:			ppb - parts per billion	mL - milliliters	min - minutes	Other Comments or Notes:				
ppm - parts per million			O ₂ - oxygen	PID - Photoionization Detector						
in-H2O - inches of water column			CO ₂ - carbon dioxide	TVOCs - Total Volatile Organic Compounds						
mL/min - milliliters per minute			CH ₄ - methane							

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	5	Date:	7/30/2013			
Probe ID:	SG-102S			Casing Volume (mL):	250	Weather:	Sunny 80s			
GZA Job No:	43654			Tubing Volume (mL):	50	Field Personnel:	BG/SDN			
Start Location Time:	14:45			Stop Location Time:	15:50	Start Purging Time:	15:03			
Field Calibration										
Photoionization Detector				Lantec Landfill Gas Meter			Helium Detector			
Zero (with filter)	0 ppm	0		O ₂	20.9%	20.9	Detector #1	0%	0	
Span Gas	10 ppm	9.97		CO ₂	0%	0	Detector #2	0%	0	
				CH ₄	0%	0				
Ambient Air Screening										
	Initial			Final					Casing Volume	
O ₂	20.9	CH ₄	0	O ₂	20.9	CH ₄	0		1" rods - 50 mL/ft	
CO ₂	0	PID	0	CO ₂	0	PID	0		Tubing Volume	
									1/4 " tubing - 10 mL/ft	
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	113.1	2 Mins	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
15:09	6	200	0.50	1.2	16.8	15.5	3.0	0	0	0
16:16	13	200	0.49	10.4	10.4	15.5	3.0	0	0	0
15:21	18	200	0.49	13.2	13.2	15.4	3.0	0	0	0
Analytical Samples										
Can ID + FC ID	1517/4183	Analytical Method	T0-15 + Helium			Initial Pressure (in-Hg)	-30			
Sample ID	SG-102S	Time to Fill (min)	15			Final Pressure (in-Hg)	-3			
Helium Percentage in Shroud During Sampling:	14	Start Time:	15:25	Stop Time:	15:40					
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
15:41	200	0.49	11.5	15.2	2.9	0	0	200		
Abbreviations:	ppb - parts per billion	mL - milliliters	min - minutes	Other Comments or Notes:						
	ppm - parts per million	O ₂ - oxygen	PID- Photoionization Detector							
	in-H2O - inches of water column	CO ₂ - carbon dioxide	TVOCs - Total Volatile Organic Compounds							
	mL/min - milliliters per minute	CH ₄ - methane								

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	5	Date:	7/30/2013			
Probe ID:	SG-103S			Casing Volume (mL):	250	Weather:	Sunny 80s			
GZA Job No:	43654			Tubing Volume (mL):	50	Field Personnel:	BG/SDN			
Start Location Time:	15:55			Stop Location Time:	16:55	Start Purging Time:	16:03			
Field Calibration										
Photoionization Detector				Lantec Landfill Gas Meter			Helium Detector			
Zero (with filter)	0 ppm	0		O ₂	20.9%	20.9	Detector #1	0%	0	
Span Gas	10 ppm	9.97		CO ₂	0%	0	Detector #2	0%	0	
				CH ₄	0%	0				
Ambient Air Screening										
	Initial			Final			Casing Volume			
O ₂	20.9	CH ₄	0	O ₂	20.9	CH ₄	0	1" rods - 50 mL/ft		
CO ₂	0	PID	0	CO ₂	0	PID	0	Tubing Volume		
								1/4 " tubing - 10 mL/ft		
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	Did not hold		Okay							
2	104.1	2 Mins	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
16:04	1	200	1.54	0.2	14.6	19.3	0.9	0	0	0
16:07	4	200	1.61	0.8	14.5	19.5	0.9	0	0	0
16:13	10	200	1.64	2	12.5	19.7	0.8	0	0	0
Analytical Samples										
Can ID + FC ID	1516/4182	Analytical Method	TO-15 + Helium	Initial Pressure (in-Hg)						
Sample ID	SG-103 S	Time to Fill (min)	15	Final Pressure (in-Hg)						
Helium Percentage in Shroud During Sampling:	11	Start Time:	16:16	Stop Time:	16:31					
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
10:32	200	1.67	15.6	19.8	0.8	0	0	0		
Abbreviations: ppb - parts per billion mL - milliliters min - minutes Other Comments or Notes:										
ppm - parts per million O ₂ - oxygen PID - Photoionization Detector										
in-H ₂ O - inches of water column CO ₂ - carbon dioxide TVOCs - Total Volatile Organic										
mL/min - milliliters per minute CH ₄ - methane Compounds										

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	5	Date:	7/24/2013			
Probe ID:	SG-1045			Casing Volume (mL):	250	Weather:	Sunny 80s			
GZA Job No:	43654			Tubing Volume (mL):	50	Field Personnel:	SDN/WF			
Start Location Time:	15:05			Stop Location Time:	15:50	Start Purging Time:	15:15			
Field Calibration										
Photoionization Detector				Lantec Landfill Gas Meter			Helium Detector			
Zero (with filter)	0 ppm	0		O ₂	20.9%	20.9	Detector #1	0%	0	
Span Gas	10 ppm	9.99		CO ₂	0%	0	Detector #2	0%	0	
				CH ₄	0%	0				
Ambient Air Screening										
	Initial			Final			Casing Volume			
O ₂	20.9	CH ₄	0	O ₂	20.9	CH ₄	0	1" rods - 50 mL/ft		
CO ₂	0	PID	0	CO ₂	0	PID	0	Tubing Volume		
								1/4" tubing - 10 mL/ft		
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	131	2 Mins	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
15:19	4	200	0.41	0.8	16.8	19.7	1.4	0	0	200
15:23	9	200	0.41	1.6	15	19.8	1.4	0	0	325
15:28	14	200	0.40	2.6	13.6	19.8	1.4	0	0	400
Analytical Samples										
Can ID + FC ID	1798/4206	Analytical Method	TO-15 Helium	Initial Pressure (in-Hg)						-30
Sample ID	SG-1045	Time to Fill (min)	14	Final Pressure (in-Hg)						-5
Helium Percentage in Shroud During Sampling:	12	Start Time:	15:31	Stop Time:						15:45
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
15:46	200	0.4	12	19.8	1.4	0	0	700		
Abbreviations: ppb - parts per billion mL - milliliters min - minutes Other Comments or Notes: Checked concentrations in shroud ppm - parts per million O ₂ - oxygen PID - Photoionization Detector He=0 ppm TVOC=0 ppb in-H2O - inches of water column CO ₂ - carbon dioxide TVOCs - Total Volatile Organic mL/min - milliliters per minute CH ₄ - methane Compounds										

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	11	Date:	7/29/2013			
Probe ID:	SG-104D			Casing Volume (mL):	550	Weather:	Sunny 80s			
GZA Job No:	43654			Tubing Volume (mL):	125	Field Personnel:	WF/SDN			
Start Location Time:	13:57			Stop Location Time:	14:50	Start Purging Time:	14:00			
Field Calibration										
Photoionization Detector					Lantec Landfill Gas Meter					
Zero (with filter)	0 ppm	0	O ₂	20.9%	20.9	Detector #1	0%	0	Helium Detector	
Span Gas	10 ppm	9.99	CO ₂	0%	0	Detector #2	0%	0		
			CH ₄	0%	0					
Ambient Air Screening										
	Initial		Final						Casing Volume	
O ₂	20.9	0	CH ₄	20.9	0				1" rods - 50 mL/ft	
CO ₂	0	0	PID	0	0				Tubing Volume	
									1/4" tubing - 10 mL/ft	
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	Did Not Hold		Summa canister flow controller leaked-replaced can + flow controller							
2	102	2 Mins	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
14:08	9	200	1.1	2.6	26.1	18.7	2	0	0	0
14:18	19	200	1.2	4.5	19.4	18.9	2	0	0	0
14:23	24	200	0.9	5.4	16.8	19	1.9	0	0	0
Analytical Samples										
Can ID + FC ID	2078/4208	Analytical Method	T0-15 + Helium							
Sample ID	SG-104D	Time to Fill (min)	14							
Helium Percentage in Shroud During Sampling:		16	Start Time:	14:30	Stop Time:	14:44	Initial Pressure (in-Hg)	-30	Final Pressure (in-Hg)	-4
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
14:45	200	1.2	15.6	19	1.9	0	0	0		
Abbreviations: ppb - parts per billion mL - milliliters min - minutes Other Comments or Notes:										
ppm - parts per million O ₂ - oxygen PID - Photoionization Detector										
in-H ₂ O - inches of water column CO ₂ - carbon dioxide TVOCs - Total Volatile Organic										
mL/min - milliliters per minute CH ₄ - methane Compounds										

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	5	Date:	7/31/2013			
Probe ID:	SG-1055			Casing Volume (mL):	250	Weather:	Sunny 80s			
GZA Job No:	43654			Tubing Volume (mL):	50	Field Personnel:	BG/SDN			
Start Location Time:	7:25			Stop Location Time:	8:20	Start Purging Time:	7:44			
Field Calibration										
Photoionization Detector					Lantec Landfill Gas Meter					
Zero (with filter)	0 ppm	0	O ₂	20.9%	20.9	Detector #1	0%	0	Helium Detector	
Span Gas	10 ppm	10.0	CO ₂	0%	0	Detector #2	0%	0		
			CH ₄	0%	0					
Ambient Air Screening										
	Initial		Final						Casing Volume	
O ₂	20.8	CH ₄	0	O ₂	20.8	CH ₄	0		1" rods - 50 mL/ft	
CO ₂	0.1	PID	0	CO ₂	0.1	PID	0		Tubing Volume	
									1/4 " tubing - 10 mL/ft	
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	110	2 Mins	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
7:47	3	200	0.52	0.6	19.1	0.1	11.6	69.2	NM	NM
7:50	6	200	0.54	1.2	17.7	0.1	11.6	69.1	NM	NM
7:55	11	200	0.55	2.2	16.5	0	11.6	69.1	NM	NM
Analytical Samples										
Can ID + FC ID	1080/4191	Analytical Method	TO-15 + Helium	Initial Pressure (in-Hg)						-29
Sample ID	SG-1055	Time to Fill (min)	13	Final Pressure (in-Hg)						-3
Helium Percentage in Shroud During Sampling:		Start Time:	7:57	Stop Time:						8:10
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
8:15	200	0.54	11	0	11.4	68.2	NM	NM		
Abbreviations:	ppb - parts per billion	mL - milliliters	min - minutes	Other Comments or Notes: TVOC or Helium concentration in exhaust not measured due to						
	ppm - parts per million	O ₂ - oxygen	PID - Photoionization Detector	CHY concentration						
	in-H ₂ O - inches of water column	CO ₂ - carbon dioxide	TVOCs - Total Volatile Organic Compounds	NM-Not measured						
	mL/min - milliliters per minute	CH ₄ - methane		Very slight sulfur odor						

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	11	Date:	7/25/2013			
Probe ID:	SG-105D			Casing Volume (mL):	550	Weather:	Drizzle-Rain 70			
GZA Job No:	43654			Tubing Volume (mL):	120	Field Personnel:	SDN			
Start Location Time:	13:00			Stop Location Time:	15:10	Start Purging Time:	13:42			
Field Calibration										
Photoionization Detector					Lantec Landfill Gas Meter					
Zero (with filter)	0 ppm	0	O ₂	20.9%	20.9	Detector #1	0%			
Span Gas	10 ppm	10.05	CO ₂	0%	0	Detector #2	0%			
			CH ₄	0%	0					
Ambient Air Screening										
	Initial		Final			Casing Volume				
O ₂	20.9	CH ₄	0	O ₂	20.9	CH ₄	1" rods - 50 mL/ft			
CO ₂	0	PID	0	CO ₂	0	PID	Tubing Volume 1/4" tubing - 10 mL/ft			
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	Did not hold		Okay							
2	102	2 Mins	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
13:45	3	200	0.51	0.3	20	8.6	9.3	0	271	0
13:54	12	200	0.52	2.2	162	8.6	9.3	0	387	0
14:02	20	200	0.50	4	13.9	8.6	9.3	0	474	0
14:12	30	200	0.56	6	10.7	8.6	9.3	0	552	0
14:29	47	200	0.54	9.4	15.3	8.6	9.3	0	702	0
14:45	60	200	0.54	12	18.1	8.6	9.3	0	630	0
Analytical Samples										
Can ID + FC ID	2051/4212	Analytical Method	TO-15 + Helium							
Sample ID	SG-105D	Time to Fill (min)	14							
Helium Percentage in Shroud During Sampling:		13	Start Time:	14:48	Stop Time:	15:02				
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
15:05	200	0.54	13	8.5	9.4	0	537	0		
Abbreviations:	ppb - parts per billion	mL - milliliters	min - minutes	Other Comments or Notes: Heavy rain started at 14:35						
ppm - parts per million	O ₂ - oxygen	PID - Photoionization Detector	-Equipment is being affected							
in-H ₂ O - inches of water column	CO ₂ - carbon dioxide	TVOCs - Total Volatile Organic Compounds	-Did not wait to stabilize-heavy rain							
mL/min - milliliters per minute	CH ₄ - methane									

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	5	Date:	7/25/2013			
Probe ID:	SG-106S			Casing Volume (mL):	250	Weather:	Cloudy 70			
GZA Job No:	43654			Tubing Volume (mL):	60	Field Personnel:	SDN/EMB			
Start Location Time:	12:05			Stop Location Time:	12:45	Start Purging Time:	12:12			
Field Calibration										
Photoionization Detector			Lantec Landfill Gas Meter			Helium Detector				
Zero (with filter)	0 ppm	0	O ₂	20.9%	20.9	Detector #1	0%	0	0	
Span Gas	10 ppm	10.05	CO ₂	0%	0	Detector #2	0%	0	0	
			CH ₄	0%	0					
Ambient Air Screening										
Initial			Final			Casing Volume				
O ₂	20.9	CH ₄	0	O ₂	20.9	CH ₄	0	1" rods - 50 mL/ft		
CO ₂	0	PID	0	CO ₂	0	PID	0	Tubing Volume 1/4" tubing - 10 mL/ft		
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	101.1	1 min	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
12:14	2	200	0.51	0.4	22.7	19.7	1.6	0	0	0
12:18	6	200	0.52	1.2	20.5	19.7	1.6	0	0	0
12:23	11	200	0.51	2.2	17.3	19.7	1.6	0	0	0
Analytical Samples										
Can ID + FC ID	1375/4202	Analytical Method	To-15 + Helium			Initial Pressure (in-Hg)	-30			
Sample ID	SG-106S	Time to Fill (min)	15			Final Pressure (in-Hg)	-4			
Helium Percentage in Shroud During Sampling:		12.2	Start Time:	12:24	Stop Time:	12:39				
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
12:41	200	0.51	11.2	19.7	1.6	0	0	0		
Abbreviations:			ppb - parts per billion	mL - milliliters	min - minutes	Other Comments or Notes:				
ppm - parts per million			O ₂ - oxygen	PID - Photoionization Detector						
in-H ₂ O - inches of water column			CO ₂ - carbon dioxide	TVOCs - Total Volatile Organic Compounds						
mL/min - milliliters per minute			CH ₄ - methane							

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	5	Date:	7/25/2013			
Probe ID:	SG-1075			Casing Volume (mL):	250	Weather:	Cloudy 70			
GZA Job No:	43654			Tubing Volume (mL):	50	Field Personnel:	SDN/EMB			
Start Location Time:	9:10			Stop Location Time:	10:15	Start Purging Time:	9:45			
Field Calibration										
Photoionization Detector				Lantec Landfill Gas Meter			Helium Detector			
Zero (with filter)	0 ppm	0	O ₂	20.9%	20.9	Detector #1	0%	0	0	
Span Gas	10 ppm	10.05	CO ₂	0%	0	Detector #2	0%	0	0	
			CH ₄	0%	0					
Ambient Air Screening										
	Initial		Final						Casing Volume	
O ₂	20.9	CH ₄	0	O ₂	20.9	CH ₄	0		1" rods - 50 mL/ft	
CO ₂	0.1	PID	0	CO ₂	0	PID	0		Tubing Volume	
									1/4 " tubing - 10 mL/ft	
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	102.1	1 Min	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
9:46	1	200	0.46	0.2	14.9	19.7	1.6	0	0	0
9:49	4	200	0.42	0.8	13.6	19.6	1.6	0	0	0
9:54	9	200	0.43	1.8	12.4	19.6	1.6	0	0	0
Analytical Samples										
Can ID + FC ID	2046/4213	Analytical Method	TO-15 + Helium	Initial Pressure (in-Hg)						-30
Sample ID	SG-1075	Time to Fill (min)	14	Final Pressure (in-Hg)						-4
Helium Percentage in Shroud During Sampling:	13	Start Time:	9:57	Stop Time:	10:11					
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
10:12	200	0.43	12.2	19.6	1.6	0	0	0		
Abbreviations: ppb - parts per billion mL - milliliters min - minutes Other Comments or Notes:										
ppm - parts per million O ₂ - oxygen PID - Photoionization Detector										
in-H ₂ O - inches of water column CO ₂ - carbon dioxide TVOCs - Total Volatile Organic										
mL/min - milliliters per minute CH ₄ - methane Compounds										

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	9	Date:	7/25/2013			
Probe ID:	SG-107D			Casing Volume (mL):	450	Weather:	Cloudy 70			
GZA Job No:	43654			Tubing Volume (mL):	110	Field Personnel:	SDN/EMB			
Start Location Time:	7:30			Stop Location Time:	9:05	Start Purging Time:	8:23			
Field Calibration										
Photoionization Detector				Lantec Landfill Gas Meter			Helium Detector			
Zero (with filter)	0 ppm	0	O ₂	20.9%	20.9	Detector #1	0%	0	0	
Span Gas	10 ppm	10.05	CO ₂	0%	0	Detector #2	0%	0	0	
			CH ₄	0%	0					
Ambient Air Screening										
Initial					Final					
O ₂	20.9	CH ₄	0	O ₂	20.9	CH ₄	0	Casing Volume 1" rods - 50 mL/ft		
CO ₂	0	PID	0	CO ₂	0	PID	0	Tubing Volume 1/4" tubing - 10 mL/ft		
Initial Pressure Test										
Test #	Pressure (in-H ² O)	Time Held	Notes:							
1	105.1	1 Min	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
8:30	7	200	0.68	1.4	13.1	19.6	1.7	0	0	0
8:34	11	200	0.65	2.2	12.2	19.6	1.7	0	0	0
8:39	16	200	0.67	3.2	21.6	19.6	1.7	0	0	0
8:45	22	200	0.65	4.4	18.6	19.6	1.7	0	0	0
Analytical Samples										
Can ID + FC ID	1759/4205	Analytical Method	TO-15 + Helium							
Sample ID	SG-107D	Time to Fill (min)	14							
Helium Percentage in Shroud During Sampling:	13	Start Time:	8:47	Stop Time:	9:01	Initial Pressure (in-Hg)	-30			
						Final Pressure (in-Hg)	-4			
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
9:02	200	0.65	11.2	19.7	1.7	0	0	0		
Abbreviations:	ppb - parts per billion	mL - milliliters	min - minutes	Other Comments or Notes:						
	ppm - parts per million	O ₂ - oxygen	PID - Photoionization Detector							
	in-H ₂ O - inches of water column	CO ₂ - carbon dioxide	TVOCs - Total Volatile Organic Compounds							
	mL/min - milliliters per minute	CH ₄ - methane								

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	5	Date:	7/31/2013			
Probe ID:	SG-108S			Casing Volume (mL):	250	Weather:	Sunny 80s			
GZA Job No:	43654			Tubing Volume (mL):	20	Field Personnel:	BG/SDN			
Start Location Time:	8:25			Stop Location Time:	9:45	Start Purging Time:	8:46			
Field Calibration										
Photoionization Detector				Lantec Landfill Gas Meter			Helium Detector			
Zero (with filter)	0 ppm	0		O ₂	20.9%	20.9	Detector #1	0%	0	
Span Gas	10 ppm	10		CO ₂	0%	0	Detector #2	0%	0	
				CH ₄	0%	0				
Ambient Air Screening										
	Initial			Final					Casing Volume	
O ₂	20.8	CH ₄	0	O ₂	20.9	CH ₄	0		1" rods - 50 mL/ft	
CO ₂	0.1	PID	0	CO ₂	0.1	PID	0		Tubing Volume	
									1/4 " tubing - 10 mL/ft	
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	109.1	2 Mins	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
9:02	16	200	0.46	3.2	19.1	18.5	2.1	0	2905	0
9:08	22	200	0.47	4.4	19.5	18.6	2.1	0	3017	0
9:16	30	200	0.47	6	13.3	18.6	2.1	0	3612	0
Analytical Samples										
Can ID + FC ID	2085/4186	Analytical Method	TO-15 + Helium							
Sample ID	SG-108S	Time to Fill (min)	17							
Helium Percentage in Shroud During Sampling:		12	Start Time:	9:18	Stop Time:	9:35				
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
9:40	200	0.47	10	18.6	2.1	0	3465	0		
Abbreviations:			ppb - parts per billion	mL - milliliters	min - minutes	Other Comments or Notes: TVOCs still increasing-did not stabilize.				
ppm - parts per million			O ₂ - oxygen	PID - Photoionization Detector						
in-H ₂ O - inches of water column			CO ₂ - carbon dioxide	TVOCs - Total Volatile Organic						
mL/min - milliliters per minute			CH ₄ - methane	Compounds						

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	8	Date:	7/31/2013			
Probe ID:	SG-108D			Casing Volume (mL):	400	Weather:	Sunny 80			
GZA Job No:	43654			Tubing Volume (mL):	80	Field Personnel:	BG/SDN			
Start Location Time:	9:45			Stop Location Time:	10:50	Start Purging Time:	9:54			
Field Calibration										
Photoionization Detector					Lantec Landfill Gas Meter					
Zero (with filter)	0 ppm	0	O ₂	20.9%	20.9	Detector #1	0%	0	Helium Detector	
Span Gas	10 ppm	10	CO ₂	0%	0	Detector #2	0%	0		
			CH ₄	0%	0					
Ambient Air Screening										
	Initial				20.8				Casing Volume	
O ₂	20.8	0	O ₂	20.8	CH ₄	0			1" rods - 50 mL/ft	
CO ₂	0.1	0	CO ₂	0.1	PID	0			Tubing Volume	
									1/4 " tubing - 10 mL/ft	
Initial Pressure Test										
Test #	Pressure (in-H ² O)	Time Held	Notes:							
1	109.1	2 Mins	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
9:58	4	200	0.61	0.8	18.6	18.5	2	0	661	0
10:05	11	200	0.56	2.2	11.6	18.3	2	0	330	0
10:10	16	200	0.56	3.2	19.9	18.2	2	0	324	0
10:22	28	200	0.59	5.6	12.5	17.9	2	0	301	0
Analytical Samples										
Can ID + FC ID	2088/4187	Analytical Method	TO-15 + Helium							
Sample ID	SG-108D	Time to Fill (min)	18							
Helium Percentage in Shroud During Sampling:	11	Start Time:	10:23	Stop Time:	10:41					
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
10:44	200	0.56	10.8	17.4	1.9	0	88	0		
Abbreviations: ppb - parts per billion mL - milliliters min - minutes Other Comments or Notes: TVOCs did not stabilize										
ppm - parts per million O ₂ - oxygen PID - Photoionization Detector										
in-H ₂ O - inches of water column CO ₂ - carbon dioxide TVOCs - Total Volatile Organic										
mL/min - milliliters per minute CH ₄ - methane Compounds										

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	5	Date:	7/31/2013			
Probe ID:	SG-109S			Casing Volume (mL):	250	Weather:	Sunny 80			
GZA Job No:	43654			Tubing Volume (mL):	50	Field Personnel:	BG/SDN			
Start Location Time:	15:10			Stop Location Time:	16:15	Start Purging Time:	15:20			
Field Calibration										
Photoionization Detector					Lantec Landfill Gas Meter					
Zero (with filter)	0 ppm	0	O ₂	20.9%	20.9	Detector #1	0%			
Span Gas	10 ppm	10	CO ₂	0%	0	Detector #2	0%			
			CH ₄	0%	0					
Ambient Air Screening										
	Initial		Final							
O ₂	20.6	CH ₄	0	O ₂	20.5	CH ₄	0	Casing Volume		
CO ₂	0.1	PID	0	CO ₂	0.1	PID	0	Tubing Volume		
								1/4 " tubing - 10 mL/ft		
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	131.1	2 Mins	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
15:25	5	200	0.45	1	19.7	NM	NM	NM	720	0
15:43	23	200	0.44	4.6	22.3	NM	NM	NM	871	0
15:48	25	200	0.46	5.6	19.6	17	4.2	0	910	0
15:50	30	200	0.45	6	17.6	17	4.2	0	900	0
Analytical Samples										
Can ID + FC ID	1397/4066	Analytical Method	TO-15 + Helium							
Sample ID	SG-109S	Time to Fill (min)	18							
Helium Percentage in Shroud During Sampling:	15	Start Time:	15:50	Stop Time:	16:08					
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
16:10	200	0.45	18.6	16.6	4.3	0	883	0		
Abbreviations: ppb - parts per billion mL - milliliters min - minutes ppm - parts per million O ₂ - oxygen PID - Photoionization Detector in-H ₂ O - inches of water column CO ₂ - carbon dioxide TVOCs - Total Volatile Organic mL/min - milliliters per minute CH ₄ - methane Compounds										
Other Comments or Notes: Lantec ran out of battery during purging-have to charge NM=Not measured TVOCs still increasing-did not stabilize										

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	25	Date:	7/31/2013			
Probe ID:	SG-109D			Casing Volume (mL):	1250	Weather:	Sunny 80s			
GZA Job No:	43654			Tubing Volume (mL):	250	Field Personnel:	BG/SDN			
Start Location Time:	16:16			Stop Location Time:	17:25	Start Purging Time:	16:24			
Field Calibration										
Photoionization Detector					Lantec Landfill Gas Meter					
Zero (with filter)	0 ppm	0	O ₂	20.9%	20.9	Detector #1	0%	0	Helium Detector	
Span Gas	10 ppm	10	CO ₂	0%	0	Detector #2	0%	0		
			CH ₄	0%	0					
Ambient Air Screening										
	Initial		Final						Casing Volume	
O ₂	20.4	CH ₄	0	O ₂	20.6	CH ₄	0		1" rods - 50 mL/ft	
CO ₂	0.1	PID	0	CO ₂	0.1	PID	0		Tubing Volume	
									1/4 " tubing - 10 mL/ft	
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	132	2 Mins	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
16:30	6	200	1.11	1.2	16	19.0	2.5	0	1279	0
16:39	15	200	1.10	3	21	18.9	2.5	0	1291	0
16:47	25	200	1.10	5	16.8	19.0	2.5	0	1363	0
Analytical Samples										
Can ID + FC ID	1395/4067	Analytical Method	TO-15 + Helium							
Sample ID	SG-109D	Time to Fill (min)	19							
Helium Percentage in Shroud During Sampling:		15.1	Start Time:	16:57	Stop Time:	17:16				
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
17:20	200	1.11	13	19.2	2.5	0	1210	0		
Abbreviations:										
ppm - parts per million	ppb - parts per billion	mL - milliliters	min - minutes	Other Comments or Notes: TVOCs still increasing-did not stabilize.						
in-H ₂ O - inches of water column	O ₂ - oxygen	PID - Photoionization Detector								
mL/min - milliliters per minute	CO ₂ - carbon dioxide	TVOCs - Total Volatile Organic Compounds								
	CH ₄ - methane									

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	5	Date:	7/31/2013			
Probe ID:	SG-1105			Casing Volume (mL):	250	Weather:	Sunny 80s			
GZA Job No:	43654			Tubing Volume (mL):	50	Field Personnel:	BG/SDN			
Start Location Time:	12:50			Stop Location Time:	14:00	Start Purging Time:	13:08			
Field Calibration										
Photoionization Detector				Lantec Landfill Gas Meter			Helium Detector			
Zero (with filter)	0 ppm	0		O ₂	20.9%	20.9	Detector #1	0%	0	
Span Gas	10 ppm	10		CO ₂	0%	0	Detector #2	0%	0	
				CH ₄	0%	0				
Ambient Air Screening										
	Initial			Final					Casing Volume	
O ₂	20.6	CH ₄	0.1	O ₂	20.6	CH ₄	0.1		1" rods - 50 mL/ft	
CO ₂	0.1	PID	0	CO ₂	0.1	PID	0		Tubing Volume	
									1/4 " tubing - 10 mL/ft	
Initial Pressure Test										
Test #	Pressure (in-H ² O)	Time Held	Notes:							
1	121	2 Mins	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
13:10	2	200	0.45	0.4	21	18.1	2.2	0.2	0	0
13:17	9	200	0.43	1.8	17.9	18.6	2.3	0.2	84	0
13:26	18	200	0.44	3.6	13.6	18.0	2.3	0.2	167	0
13:32	24	200	0.42	4.8	11.3	18.2	2.3	0.2	196	0
13:38	30	200	0.41	6	21.2	18.3	2.3	0.2	204	0
Analytical Samples										
Can ID + FC ID	2052/1090	Analytical Method	T0-15 + Helium			Initial Pressure (in-Hg)	-30			
Sample ID	SG-1105	Time to Fill (min)	16			Final Pressure (in-Hg)	-3			
Helium Percentage in Shroud During Sampling:	19	Start Time:	13:38	Stop Time:	13:54					
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
13:55	200	0.45	15.9	18.4	2.4	0	0	0		
Abbreviations:	ppb - parts per billion	mL - milliliters	min - minutes	Other Comments or Notes: TVOCs did not stabilize.						
	ppm - parts per million	O ₂ - oxygen	PID- Photoionization Detector							
	in-H2O - inches of water column	CO ₂ - carbon dioxide	TVOCs - Total Volatile Organic Compounds							
	mL/min - milliliters per minute	CH ₄ - methane								

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	5	Date:	8/23/2013			
Probe ID:	SG-1105			Casing Volume (mL):	250	Weather:	Cloudy 80			
GZA Job No:	43654			Tubing Volume (mL):	50	Field Personnel:	BG/SDN			
Start Location Time:	9:20			Stop Location Time:	10:15	Start Purging Time:	9:35			
Field Calibration										
Photoionization Detector					Lantec Landfill Gas Meter					
Zero (with filter)	0 ppm	0	O ₂	20.9%	20.9	Detector #1	0%			
Span Gas	10 ppm	10.07	CO ₂	0%	0	Detector #2	0%			
			CH ₄	0%	0					
Ambient Air Screening										
	Initial		Final							
O ₂	20.9	CH ₄	0	O ₂	20.9	CH ₄	0			
CO ₂	0	PID	0	CO ₂	0	PID	0			
				1/4" tubing - 10 mL/ft						
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	Did not hold		Adjusted Seals							
2	106	2 Mins	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
9:38	3	200	0.43	0.6	20.1	19.0	1.9	0	200	0
9:44	9	200	0.42	1.8	20.1	19.1	1.9	0	200	0
9:55	18	200	0.42	3.6	18.9	19.1	2	0	200	0
Analytical Samples										
Can ID + FC ID	392/4013	Analytical Method	TO-15 + Helium							
Sample ID	SG-1105	Time to Fill (min)	16	Initial Pressure (in-Hg)	-30					
Helium Percentage in Shroud During Sampling:	15	Start Time:	9:56	Final Pressure (in-Hg)	-3					
		Stop Time:	10:12							
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
10:14	200	0.42	18.5	19.2	1.8	0	200	0		
Abbreviations:	ppb - parts per billion	mL - milliliters	min - minutes	Other Comments or Notes: Used MiniRAE 3000 PID						
	ppm - parts per million	O ₂ - oxygen	PID- Photoionization Detector							
	in-H2O - inches of water column	CO ₂ - carbon dioxide	TVOCs - Total Volatile Organic Compounds							
	mL/min - milliliters per minute	CH ₄ - methane								

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	25	Date:	7/31/2013			
Probe ID:	SG-110D			Casing Volume (mL):	1250	Weather:	Sunny 80s			
GZA Job No:	43654			Tubing Volume (mL):	250	Field Personnel:	BG/SDN			
Start Location Time:	14:00			Stop Location Time:	15:00	Start Purging Time:	14:05			
Field Calibration										
Photoionization Detector				Lantec Landfill Gas Meter			Helium Detector			
Zero (with filter)	0 ppm	0		O ₂	20.9%	20.9	Detector #1	0%	0	
Span Gas	10 ppm	10		CO ₂	0%	0	Detector #2	0%	0	
				CH ₄	0%	0				
Ambient Air Screening										
	Initial			Final			Casing Volume			
O ₂	20.6	CH ₄	0	O ₂	20.8	CH ₄	0	1" rods - 50 mL/ft		
CO ₂	0.1	PID	0	CO ₂	0.1	PID	0	Tubing Volume		
								1/4 " tubing - 10 mL/ft		
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	131	2 Mins	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
14:09	4	200	1.48	0.8	21.3	17.9	3.3	0	377	0
14:15	10	200	1.47	2	18.5	18	3.3	0	413	0
14:32	27	200	1.48	5.4	11.4	18.2	3.4	0	483	0
Analytical Samples										
Can ID + FC ID	2080/4091	Analytical Method	TO-15 + Helium	Initial Pressure (in-Hg)						-30
Sample ID	SG-110D	Time to Fill (min)	19	Final Pressure (in-Hg)						-3
Helium Percentage in Shroud During Sampling:	14	Start Time:	14:35	Stop Time:						14:54
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
14:57	200	1.45	16.9	18.1	3.5	0	412	0		
Abbreviations: ppb - parts per billion mL - milliliters min - minutes Other Comments or Notes: TVOCs still increasing-did not stabilize. ppm - parts per million O ₂ - oxygen PID - Photoionization Detector in-H2O - inches of water column CO ₂ - carbon dioxide TVOCs - Total Volatile Organic mL/min - milliliters per minute CH ₄ - methane Compounds										

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	5	Date:	7/31/2013			
Probe ID:	SG-1115			Casing Volume (mL):	250	Weather:	Sunny 80s			
GZA Job No:	43654			Tubing Volume (mL):	50	Field Personnel:	BG/SDN			
Start Location Time:	11:00			Stop Location Time:	11:55	Start Purging Time:	11:17			
Field Calibration										
Photoionization Detector				Lantec Landfill Gas Meter			Helium Detector			
Zero (with filter)	0 ppm	0		O ₂	20.9%	20.9	Detector #1	0%	0	
Span Gas	10 ppm	10		CO ₂	0%	0	Detector #2	0%	0	
				CH ₄	0%	0				
Ambient Air Screening										
	Initial			Final			Casing Volume			
O ₂	20.9	CH ₄	0	O ₂	20.8	CH ₄	0	1" rods - 50 mL/ft		
CO ₂	0	PID	0	CO ₂	0.1	PID	0	Tubing Volume		
								1/4" tubing - 10 mL/ft		
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	101.2	1 Min	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
11:18	1	200	0.37	0.2	16.5	19.6	1	0	0	0
11:25	8	200	0.36	1.6	11.7	19.6	1	0	0	0
11:31	14	200	0.37	2.8	14.1	19.6	1	0	0	0
Analytical Samples										
Can ID + FC ID	1524/4190	Analytical Method	TO-15 + Helium	Initial Pressure (in-Hg)						-30
Sample ID	SG-1115	Time to Fill (min)	14	Final Pressure (in-Hg)						-3
Helium Percentage in Shroud During Sampling:	11	Start Time:	11:33	Stop Time:						11:47
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
11:50	200	0.37	10.5	19.7	0.9	0	0	0		
Abbreviations:	ppb - parts per billion	mL - milliliters	min - minutes	Other Comments or Notes:						
	ppm - parts per million	O ₂ - oxygen	PID- Photoionization Detector							
	in-H2O - inches of water column	CO ₂ - carbon dioxide	TVOCs - Total Volatile Organic Compounds							
	mL/min - milliliters per minute	CH ₄ - methane								

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	30	Date:	7/31/2013			
Probe ID:	SG-111D			Casing Volume (mL):	1500	Weather:	Sunny 80s			
GZA Job No:	43654			Tubing Volume (mL):	300	Field Personnel:	BG/SDN			
Start Location Time:	11:55			Stop Location Time:	12:45	Start Purging Time:	12:03			
Field Calibration										
Photoionization Detector				Lantec Landfill Gas Meter			Helium Detector			
Zero (with filter)	0 ppm	0		O ₂	20.9%	20.9	Detector #1	0%	0	
Span Gas	10 ppm	10		CO ₂	0%	0	Detector #2	0%	0	
				CH ₄	0%	0				
Ambient Air Screening										
	Initial			Final			Casing Volume			
O ₂	20.8	CH ₄	0	O ₂	20.9	CH ₄	0.1	1" rods - 50 mL/ft		
CO ₂	0.1	PID	0	CO ₂	0	PID	0	Tubing Volume		
								1/4 " tubing - 10 mL/ft		
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	112.5	1 Min	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
12:07	4	200	0.92	0.8	16.1	17.2	1.3	0	87	0
12:13	10	200	0.91	2	10.7	17.3	1.3	0	89	0
12:19	16	200	0.92	3.2	16.6	17.4	1.3	0	82	0
Analytical Samples										
Can ID + FC ID	2084/4176	Analytical Method	TO-15 + Helium	Initial Pressure (in-Hg)						-30
Sample ID	SG-111D	Time to Fill (min)	18	Final Pressure (in-Hg)						-3
Helium Percentage in Shroud During Sampling:	11	Start Time:	12:20	Stop Time:						12:38
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
12:40	200	0.91	13.1	17.7	1.3	0	4	0		
Abbreviations:			ppb - parts per billion	mL - milliliters	min - minutes	Other Comments or Notes: TVOCs did not stabilize.				
ppm - parts per million			O ₂ - oxygen	PID - Photoionization Detector						
in-H ₂ O - inches of water column			CO ₂ - carbon dioxide	TVOCs - Total Volatile Organic Compounds						
mL/min - milliliters per minute			CH ₄ - methane							

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	5	Date:	8/1/2013			
Probe ID:	SG-1125			Casing Volume (mL):	250	Weather:	Sunny 70s			
GZA Job No:	43654			Tubing Volume (mL):	50	Field Personnel:	BG/SDN			
Start Location Time:	9:25			Stop Location Time:	10:40	Start Purging Time:	9:45			
Field Calibration										
Photoionization Detector				Lantec Landfill Gas Meter			Helium Detector			
Zero (with filter)	0 ppm	0		O ₂	20.9%	20.9	Detector #1	0%	0	
Span Gas	10 ppm	10.01		CO ₂	0%	0.1	Detector #2	0%	0	
				CH ₄	0%	0				
Ambient Air Screening										
	Initial			Final			Casing Volume			
O ₂	20.9	CH ₄	0	O ₂	20.5	CH ₄	0	1" rods - 50 mL/ft		
CO ₂	0.1	PID	0	CO ₂	0.1	PID	0	Tubing Volume		
								1/4 " tubing - 10 mL/ft		
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	113.1	1 Min	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
9:59	14	200	0.50	2.8	20.5	12.2	5.2	0	4540	0
10:10	25	200	0.50	5	13	12.2	5.2	0	5391	0
10:15	30	200	0.50	6	12	12.3	5.2	0	5321	0
Analytical Samples										
Can ID + FC ID	1377/4172	Analytical Method	TO-15 + Helium	Initial Pressure (in-Hg)						
Sample ID	SG-1125	Time to Fill (min)	17	Final Pressure (in-Hg)						
Helium Percentage in Shroud During Sampling:	12	Start Time:	10:18	Stop Time:	10:35					
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
10:37	200	0.5	10	12.3	5.1	0	4691	0		
Abbreviations: ppb - parts per billion mL - milliliters min - minutes Other Comments or Notes: TVOCs did not stabilize. ppm - parts per million O ₂ - oxygen PID - Photoionization Detector in-H ₂ O - inches of water column CO ₂ - carbon dioxide TVOCs - Total Volatile Organic mL/min - milliliters per minute CH ₄ - methane Compounds										

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	25	Date:	8/1/2013			
Probe ID:	SG-112D			Casing Volume (mL):	1250	Weather:	Sunny 80			
GZA Job No:	43654			Tubing Volume (mL):	250	Field Personnel:	BG/SDN			
Start Location Time:	10:45			Stop Location Time:	12:00	Start Purging Time:	10:50			
Field Calibration										
Photoionization Detector				Lantec Landfill Gas Meter			Helium Detector			
Zero (with filter)	0 ppm	0	O ₂	20.9%	20.8	Detector #1	0%	0	0	
Span Gas	10 ppm	10.01	CO ₂	0%	0.1	Detector #2	0%	0	0	
			CH ₄	0%	0					
Ambient Air Screening										
	Initial		Final				Casing Volume			
O ₂	20.5	CH ₄	0	O ₂	20.6	CH ₄	0	1" rods - 50 mL/ft		
CO ₂	0.1	PID	0	CO ₂	0.1	PID	0	Tubing Volume		
								1/4" tubing - 10 mL/ft		
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	108	2 Mins	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
10:58	8	200	10.14	1.6	15.7	13.5	6.3	0	372	0
11:10	20	200	5.63	4	18.9	13.5	6.4	0	330	0
11:17	27	200	5.56	5.4	12.3	13.4	6.3	0	318	0
Analytical Samples										
Can ID + FC ID	1382/4173	Analytical Method	TO-15 + Helium	Initial Pressure (in-Hg)						-29
Sample ID	SG-112D	Time to Fill (min)	21	Final Pressure (in-Hg)						-2
Helium Percentage in Shroud During Sampling:	11	Start Time:	11:20	Stop Time:						11:41
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
11:42	200	5.56	10	13.4	6.3	0	204	0		
Abbreviations:			ppb - parts per billion	mL - milliliters	min - minutes	Other Comments or Notes: TVOCs did not stabilize.				
ppm - parts per million			O ₂ - oxygen	PID - Photoionization Detector						
in-H ₂ O - inches of water column			CO ₂ - carbon dioxide	TVOCs - Total Volatile Organic Compounds						
mL/min - milliliters per minute			CH ₄ - methane							

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	5	Date:	8/1/2013			
Probe ID:	SG-1135			Casing Volume (mL):	250	Weather:	Sunny 70s			
GZA Job No:	43654			Tubing Volume (mL):	50	Field Personnel:	BG/SDN			
Start Location Time:	7:10			Stop Location Time:	8:25	Start Purging Time:	7:24			
Field Calibration										
Photoionization Detector				Lantec Landfill Gas Meter			Helium Detector			
Zero (with filter)	0 ppm	0	O ₂	20.9%	20.9	Detector #1	0%	0	0	
Span Gas	10 ppm	10.01	CO ₂	0%	0.1	Detector #2	0%	0	0	
			CH ₄	0%	0					
Ambient Air Screening										
	Initial		Final						Casing Volume	
O ₂	20.9	CH ₄	0	O ₂	20.9	CH ₄	0		1" rods - 50 mL/ft	
CO ₂	0.1	PID	0	CO ₂	0.1	PID	0		Tubing Volume	
									1/4" tubing - 10 mL/ft	
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	130	1 Min	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
7:33	9	200	0.56	1.8	18.6	14.6	6.6	0	265	0
7:49	25	200	0.55	5	10	14.6	6.6	0	310	0
7:57	33	200	0.56	6.6	19.2	14.6	6.5	0	316	0
Analytical Samples										
Can ID + FC ID	1350/4074	Analytical Method	TO-15 + Helium	Initial Pressure (in-Hg)						-29
Sample ID	SG-1135	Time to Fill (min)	17	Final Pressure (in-Hg)						-3
Helium Percentage in Shroud During Sampling:	18	Start Time:	7:58	Stop Time:						8:15
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
8:17	200	0.56	18.3	14.7	6.5	0	289	0		
Abbreviations:										
ppm - parts per million	ppb - parts per billion	mL - milliliters	min - minutes	Other Comments or Notes: TVOCs did not stabilize.						
in-H ₂ O - inches of water column	O ₂ - oxygen	PID - Photoionization Detector	TVOCs - Total Volatile Organic Compounds							
mL/min - milliliters per minute	CO ₂ - carbon dioxide	CH ₄ - methane								

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	25	Date:	8/1/2013			
Probe ID:	SG-113D			Casing Volume (mL):	1250	Weather:	Sunny 70s			
GZA Job No:	43654			Tubing Volume (mL):	250	Field Personnel:	BG/SDN/MB			
Start Location Time:	8:25			Stop Location Time:	9:20	Start Purging Time:	8:32			
Field Calibration										
Photoionization Detector				Lantec Landfill Gas Meter			Helium Detector			
Zero (with filter)	0 ppm	0	O ₂	20.9%	20.9	Detector #1	0%	0	0	
Span Gas	10 ppm	10.01	CO ₂	0%	0.1	Detector #2	0%	0	0	
			CH ₄	0%	0					
Ambient Air Screening										
Initial			Final			Casing Volume				
O ₂	20.9	CH ₄	0	O ₂	20.6	CH ₄	0	1" rods - 50 mL/ft		
CO ₂	0.1	PID	0	CO ₂	0.1	PID	0	Tubing Volume 1/4" tubing - 10 mL/ft		
Initial Pressure Test										
Test #	Pressure (in-H ² O)	Time Held	Notes:							
1	107	2 Mins	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
8:39	7	200	0.89	1.4	15.8	9.2	8.7	0	27	0
8:50	18	200	0.90	3.6	16.1	9.6	8.5	0	308	0
8:59	27	200	0.89	5.4	18.8	9.6	8.4	0	324	0
Analytical Samples										
Can ID + FC ID	1392/4174	Analytical Method	TO-15 + Helium		Initial Pressure (in-Hg)	-31				
Sample ID	SG-113D	Time to Fill (min)	17		Final Pressure (in-Hg)	-3				
Helium Percentage in Shroud During Sampling:	11	Start Time:	9:00	Stop Time:	9:17					
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
9:18	200	0.90	10	9.7	8.3	0	237	0		
Abbreviations: ppb - parts per billion mL - milliliters min - minutes Other Comments or Notes: TVOCs did not stabilize. ppm - parts per million O ₂ - oxygen PID - Photoionization Detector Blind Duplicate #2: in-H2O - inches of water column CO ₂ - carbon dioxide TVOCs - Total Volatile Organic CAN ID+ FC ID=1352/4075 Start time=9:00 Initial Pressure= -29 mL/min - milliliters per minute CH ₄ - methane Compounds Analytical Method=TO-15 + Helium Stop time=9:17 Final Pressure= -4										

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	5	Date:	8/23/2013			
Probe ID:	SG-1145			Casing Volume (mL):	250	Weather:	Cloudy 80			
GZA Job No:	43654			Tubing Volume (mL):	50	Field Personnel:	BG/SDN			
Start Location Time:	11:40			Stop Location Time:	12:50	Start Purging Time:	12:00			
Field Calibration										
Photoionization Detector				Lantec Landfill Gas Meter			Helium Detector			
Zero (with filter)	0 ppm	0		O ₂	20.9%	20.9	Detector #1	0%	0	
Span Gas	10 ppm	10.1		CO ₂	0%	0	Detector #2	0%	0	
				CH ₄	0%	0				
Ambient Air Screening										
	Initial			Final			Casing Volume			
O ₂	20.7	CH ₄	0	O ₂	20.7	CH ₄	0	1" rods - 50 mL/ft		
CO ₂	0	PID	0	CO ₂	0	PID	0	Tubing Volume		
								1/4" tubing - 10 mL/ft		
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	99.9	2 Mins	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppm)	Helium (ppm)
12:05	5	200	0.30	1	17	19.1	1.8	0	0	0
12:20	20	200	0.30	4	17.3	19.2	1.8	0	0.1	0
12:24	24	200	0.30	4.8	16.5	19.2	1.9	0	0.1	0
Analytical Samples										
Can ID + FC ID	1363/4067	Analytical Method	TO-15 + Helium	Initial Pressure (in-Hg)						-30
Sample ID	SG-1145	Time to Fill (min)	18	Final Pressure (in-Hg)						-4
Helium Percentage in Shroud During Sampling:	16	Start Time:	12:25	Stop Time:						12:43
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppm)	Helium (ppm)		
12:45	200	0.3	14.8	19.1	1.9	0	0.1	0		
Abbreviations:	ppb - parts per billion	mL - milliliters	min - minutes	Other Comments or Notes: Checked PID prior to starting 0=0, 10=10.2 ppm okay						
	ppm - parts per million	O ₂ - oxygen	PID - Photoionization Detector	-MiniRAE 300 PID was used						
	in-H ₂ O - inches of water column	CO ₂ - carbon dioxide	TVOCs - Total Volatile Organic Compounds							
	mL/min - milliliters per minute	CH ₄ - methane								

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	5	Date:	8/23/2013			
Probe ID:	SG-1155			Casing Volume (mL):	250	Weather:	Partly Cloudy 80			
GZA Job No:	43654			Tubing Volume (mL):	50	Field Personnel:	SDN/BG			
Start Location Time:	7:00			Stop Location Time:	8:00	Start Purging Time:	7:15			
Field Calibration										
Photoionization Detector				Lantec Landfill Gas Meter			Helium Detector			
Zero (with filter)	0 ppm	0		O ₂	20.9%	20.9	Detector #1	0%	0	
Span Gas	10 ppm	10.1		CO ₂	0%	0	Detector #2	0%	0	
				CH ₄	0%	0				
Ambient Air Screening										
	Initial			Final			Casing Volume			
O ₂	20.9	CH ₄	0	O ₂	20.8	CH ₄	0	1" rods - 50 mL/ft		
CO ₂	0	PID	0	CO ₂	0.1	PID	0	Tubing Volume		
								1/4 " tubing - 10 mL/ft		
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	100.3	1 Min	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppm)	Helium (ppm)
7:18	3	200	0.23	0.6	22.2	18.2	3.1	0	0	0
7:25	10	200	0.23	2	19.1	18.2	3.2	0	0.1	0
7:32	17	200	0.23	3.4	15.7	18.2	3.1	0	0.1	0
Analytical Samples										
Can ID + FC ID	1402/4074	Analytical Method	TO-15 + Helium	Initial Pressure (in-Hg)						-29
Sample ID	SG-1155	Time to Fill (min)	17	Final Pressure (in-Hg)						-4
Helium Percentage in Shroud During Sampling:	12	Start Time:	7:53	Stop Time:						7:50
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppm)	Helium (ppm)		
7:52	200	0.23	10.1	18.2	3.1	0	0.1	0		
Abbreviations:	ppb - parts per billion	mL - milliliters	min - minutes	Other Comments or Notes: Checked PID numbers with MiniRAE 3000, varying between 0 and 0.1 ppm.						
	ppm - parts per million	O ₂ - oxygen	PID - Photoionization Detector	-MiniRAE 3000 PID was used						
	in-H ₂ O - inches of water column	CO ₂ - carbon dioxide	TVOCs - Total Volatile Organic Compounds							
	mL/min - milliliters per minute	CH ₄ - methane								

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	5	Date:	8/23/2013			
Probe ID:	SG-116S			Casing Volume (mL):	250	Weather:	Cloudy 80s			
GZA Job No:	43654			Tubing Volume (mL):	50	Field Personnel:	SDN/BG			
Start Location Time:	8:00			Stop Location Time:	9:15	Start Purging Time:	8:30			
Field Calibration										
Photoionization Detector				Lantec Landfill Gas Meter			Helium Detector			
Zero (with filter)	0 ppm	0		O ₂	20.9%	20.9	Detector #1	0%	0	
Span Gas	10 ppm	10.1		CO ₂	0%	0	Detector #2	0%	0	
				CH ₄	0%	0				
Ambient Air Screening										
	Initial			Final			Casing Volume			
O ₂	20.9	CH ₄	0	O ₂	20.9	CH ₄	0	1" rods - 50 mL/ft		
CO ₂	0	PID	0	CO ₂	0	PID	0	Tubing Volume		
								1/4 " tubing - 10 mL/ft		
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	106.6	1 Min	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppm)	Helium (ppm)
8:36	6	200	0.24	1.2	19	18.9	2.3	0	0	0
8:45	15	200	0.23	3	18.9	19	2.3	0	0.1	0
8:48	18	200	0.23	3.6	16.3	19	2.3	0	0.1	0
Analytical Samples										
Can ID + FC ID	1352/4066	Analytical Method	TO-15 + Helium	Initial Pressure (in-Hg)						-26
Sample ID	SG-116S	Time to Fill (min)	15	Final Pressure (in-Hg)						-4
Helium Percentage in Shroud During Sampling:	15	Start Time:	8:50	Stop Time:						9:05
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppm)	Helium (ppm)		
9:06	200	0.23	14	19	2.3	0	0.1	0		
Abbreviations:										
ppm - parts per million	ppb - parts per billion	mL - milliliters	min - minutes	Other Comments or Notes: Checked PID with MiniRAE 3000, 0 ppm						
in-H ₂ O - inches of water column	O ₂ - oxygen	PID - Photoionization Detector	-MiniRAE 3000 was used							
mL/min - milliliters per minute	CO ₂ - carbon dioxide	TVOCs - Total Volatile Organic Compounds								
	CH ₄ - methane									

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	5	Date:	8/22/2013			
Probe ID:	SG-117S			Casing Volume (mL):	250	Weather:	Cloudy, Drizzly 80			
GZA Job No:	43654			Tubing Volume (mL):	50	Field Personnel:	SDN/BG			
Start Location Time:	16:00			Stop Location Time:	17:00	Start Purging Time:	16:10			
Field Calibration										
Photoionization Detector		Lantec Landfill Gas Meter				Helium Detector				
Zero (with filter)	0 ppm	0	O ₂	20.9%	20.9	Detector #1	0%	0	0	
Span Gas	10 ppm	10	CO ₂	0%	0	Detector #2	0%	0	0	
			CH ₄	0%	0					
Ambient Air Screening										
Initial		Final				Casing Volume				
O ₂	20.9	CH ₄	0	O ₂	20.8	CH ₄	0	1" rods - 50 mL/ft		
CO ₂	0	PID	0	CO ₂	0	PID	0	Tubing Volume		
								1/4" tubing - 10 mL/ft		
Initial Pressure Test										
Test #	Pressure (in-H ² O)	Time Held	Notes:							
1	116.1	1 Min	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppm)	Helium (ppm)
16:14	4	200	0.31	0.8	17.4	19.5	1.9	0	0.3	0
16:23	13	200	0.31	2.6	20	19.6	1.9	0	0.2	0
16:25	15	200	0.31	3	20	19.6	1.9	0	0.2	0
Analytical Samples										
Can ID + FC ID	1480/4075	Analytical Method	TO-15 + Helium							
Sample ID	SG-117S	Time to Fill (min)	16							
Helium Percentage in Shroud During Sampling:		11	Start Time:	16:26	Stop Time:	16:42				
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppm)	Helium (ppm)		
16:43	200	0.31	10	19.6	1.9	0	0.2	0		
Abbreviations: ppb - parts per billion mL - milliliters min - minutes Other Comments or Notes: ppbRAE is acting up-have to use MiniRAE 3000 PID.										
ppm - parts per million O ₂ - oxygen PID- Photoionization Detector										
in-H20 - inches of water column CO ₂ - carbon dioxide TVOCs - Total Volatile Organic										
mL/min - milliliters per minute CH ₄ - methane Compounds										

Soil Gas Sampling Log

Site:	Tidewater, Pawtucket, RI	Total Depth (ft):	5	Date:	8/23/2013
Probe ID:	SG-1185	Casing Volume (mL):	250	Weather:	Partly Cloudy 80
GZA Job No:	43654	Tubing Volume (mL):	50	Field Personnel:	SDN/BG
Start Location Time:	10:30	Stop Location Time:	11:20	Start Purging Time:	10:50

Field Calibration

Photoionization Detector		Lantec Landfill Gas Meter		Helium Detector	
Zero (with filter)	0 ppm	O ₂	20.9%	Detector #1	0%
Span Gas	10 ppm	CO ₂	0%	Detector #2	0%
		CH ₄	0%		

Ambient Air Screening

Initial		Final		Casing Volume	
O ₂	20.9	CH ₄	20.9	1" rods - 50 mL/ft	
CO ₂	0	PID	0	Tubing Volume	1/4" tubing - 10 mL/ft

Initial Pressure Test

Test #	Pressure (in-H ² O)	Time Held	Notes:
1	106.8	2 Mins	Okay

Purge Data

Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppm)	Helium (ppm)
10:52	2	200	0.27	0.4	20	18.9	2.4	0	0.3	0
10:57	7	200	0.27	1.4	18.5	18.8	2.4	0	0.3	0
11:07	12	200	0.27	2.4	16.4	18.8	2.4	0	0.3	0

Analytical Samples

Can ID + FC ID	1374/4069	Analytical Method	TO-15 + Helium	Initial Pressure (in-Hg)	-30
Sample ID	SG-1185	Time to Fill (min)	13	Final Pressure (in-Hg)	-4
Helium Percentage in Shroud During Sampling:		12	Start Time:	11:05	Stop Time:
					11:18

Final Purge Data

Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppm)	Helium (ppm)
11:10	200	0.27	11	18.8	2.4	0	0.3	0

Abbreviations: ppb - parts per billion mL - milliliters min - minutes Other Comments or Notes: PID jumped up to 5.4 ppm + then dropped
 ppm - parts per million O₂ - oxygen PID - Photoionization Detector Checked PID with Cal gas-Ok
 in-H₂O - inches of water column CO₂ - carbon dioxide TVOCs - Total Volatile Organic Collected BD#3 CAN-1.1368/FC#4068, Start time=11:05 Stop time=11:18
 mL/min - milliliters per minute CH₄ - methane Compounds Start pressure: -30 Stop pressure: -4

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	5	Date:	8/22/2013			
Probe ID:	SG-119S			Casing Volume (mL):	250	Weather:	Cloudy, Drizzling 80			
GZA Job No:	43654			Tubing Volume (mL):	50	Field Personnel:	SDN/BG			
Start Location Time:	15:15			Stop Location Time:	16:00	Start Purging Time:	15:22			
Field Calibration										
Photoionization Detector					Lantec Landfill Gas Meter					
Zero (with filter)	0 ppm	0	O ₂	20.9%	20.9	Detector #1	0%	0	Helium Detector	
Span Gas	10 ppm	9.99	CO ₂	0%	0	Detector #2	0%	0		
			CH ₄	0%	0					
Ambient Air Screening										
Initial					Final					
O ₂	20.7	CH ₄	0.1	O ₂	20.9	CH ₄	0	0	Casing Volume	
CO ₂	0.1	PID	0	CO ₂	0	PID	0	0	1" rods - 50 mL/ft	
									Tubing Volume	
									1/4" tubing - 10 mL/ft	
Initial Pressure Test										
Test #	Pressure (in-H ² O)	Time Held	Notes:							
1	131.1	1 Min	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
15:24	2	200	0.33	0.4	22.1	18.8	2.2	0	250	0
15:31	9	200	0.32	1.8	17.3	18.9	2.2	0	250	0
15:35	13	200	0.32	2.6	15.1	19	2.2	0	250	0
Analytical Samples										
Can ID + FC ID	1516/4076	Analytical Method	TO-15 + Helium							
Sample ID	SG-119S	Time to Fill (min)	16							
Helium Percentage in Shroud During Sampling:	18	Start Time:	15:37	Stop Time:	15:53	Initial Pressure (in-Hg)				
						Final Pressure (in-Hg)				
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
15:54	200	0.29	21	19.1	2.3	0	250	0		
Abbreviations: ppb - parts per billion mL - milliliters min - minutes Other Comments or Notes: PID may be acting up-jumping around- verify with										
ppm - parts per million O ₂ - oxygen PID- Photoionization Detector MiniRAE 3000.										
in-H2O - inches of water column CO ₂ - carbon dioxide TVOCs - Total Volatile Organic										
mL/min - milliliters per minute CH ₄ - methane Compounds										

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	5	Date:	8/22/2013			
Probe ID:	SG-1205			Casing Volume (mL):	250	Weather:	Cloudy/Drizzling 80			
GZA Job No:	43654			Tubing Volume (mL):	50	Field Personnel:	SDN/BG			
Start Location Time:	14:20			Stop Location Time:	15:10	Start Purging Time:	14:35			
Field Calibration										
Photoionization Detector					Lantec Landfill Gas Meter					
Zero (with filter)	0 ppm	0	O ₂	20.9%	20.8	Detector #1	0%			
Span Gas	10 ppm	9.99	CO ₂	0%	0	Detector #2	0%			
			CH ₄	0%	0					
Ambient Air Screening										
Initial					Final					
O ₂	20.7	CH ₄	0.1	O ₂	20.7	CH ₄	0.1			
CO ₂	0.1	PID	0	CO ₂	0.1	PID	0			
							1/4" tubing - 10 mL/ft			
							Casing Volume 1" rods - 50 mL/ft			
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	116.6	1 Min	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
14:41	6	200	0.33	1.2	25	19.7	1.4	0	990	0
14:43	8	200	0.33	1.6	20	19.7	1.4	0	870	0
14:46	14	200	0.32	2.2	19.5	19.6	1.3	0	910	0
Analytical Samples										
Can ID + FC ID	1517/4077	Analytical Method	TO-15 + Helium							
Sample ID	SG-1205	Time to Fill (min)	16							
Helium Percentage in Shroud During Sampling:	15	Start Time:	14:49	Stop Time:	15:05	Initial Pressure (in-Hg)	-28			
						Final Pressure (in-Hg)	-4			
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
15:06	200	0.33	15	19.6	1.4	0	1010	0		
Abbreviations:	ppb - parts per billion	mL - milliliters	min - minutes	Other Comments or Notes: PID is acting up-have to use MiniRAE 3000.						
	ppm - parts per million	O ₂ - oxygen	PID - Photoionization Detector							
	in-H ₂ O - inches of water column	CO ₂ - carbon dioxide	TVOCs - Total Volatile Organic Compounds							
	mL/min - milliliters per minute	CH ₄ - methane								

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	4	Date:	8/2/2013			
Probe ID:	SG-200			Casing Volume (mL):	200	Weather:	Sunny 70s			
GZA Job No:	43654			Tubing Volume (mL):	40	Field Personnel:	SDN/BG			
Start Location Time:	10:15			Stop Location Time:	11:15	Start Purging Time:	10:22			
Field Calibration										
Photoionization Detector					Lantec Landfill Gas Meter					
Zero (with filter)	0 ppm			O ₂	20.9%	20.9	Detector #1	0%		
Span Gas	100 ppm			CO ₂	0%	0	Detector #2	0%		
				CH ₄	0%	0				
Ambient Air Screening										
	Initial			Final			Casing Volume			
O ₂	20.8	CH ₄	0	O ₂	20.9	CH ₄	0	1" rods - 50 mL/ft		
CO ₂	0.1	PID	0	CO ₂	0.1	PID	0	Tubing Volume 1/4" tubing - 10 mL/ft		
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	100.7	1 Min	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppm)	Helium (ppm)
10:32	10	200	1.85	2	19.2	19.7	1.4	0	2	0
10:39	17	200	1.85	3.4	14	19.7	1.4	0	2.3	0
10:45	23	200	1.84	4.6	10.3	19.8	1.3	0	2.3	150
Analytical Samples										
Can ID + FC ID	1358/4106	Analytical Method	TO-15 + Helium			Initial Pressure (in-Hg)	-29			
Sample ID	SG-200	Time to Fill (min)	16			Final Pressure (in-Hg)	-4			
Helium Percentage in Shroud During Sampling:	12	Start Time:	10:48	Stop Time:	11:04					
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppm)	Helium (ppm)		
11:06	200	1.84	10.1	19.8	1.3	0	1.5	1500		
Abbreviations:	ppb - parts per billion	mL - milliliters	min - minutes	Other Comments or Notes: TVOCs did not stabilize.						
	ppm - parts per million	O ₂ - oxygen	PID - Photoionization Detector	-MiniRAE 3000 PID was used.						
	in-H ₂ O - inches of water column	CO ₂ - carbon dioxide	TVOCs - Total Volatile Organic Compounds							
	mL/min - milliliters per minute	CH ₄ - methane								

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	5	Date:	8/2/2013			
Probe ID:	SG-202			Casing Volume (mL):	250	Weather:	Sunny 80s			
GZA Job No:	43654			Tubing Volume (mL):	50	Field Personnel:	SDN/BG			
Start Location Time:	11:20			Stop Location Time:	12:20	Start Purging Time:	11:32			
Field Calibration										
Photoionization Detector				Lantec Landfill Gas Meter			Helium Detector			
Zero (with filter)	0 ppm			O ₂	20.9%	20.9	Detector #1	0%		
Span Gas	100 ppm			CO ₂	0%	0	Detector #2	0%		
				CH ₄	0%	0				
Ambient Air Screening										
	Initial			Final			Casing Volume			
O ₂	20.8	CH ₄	0	O ₂	20.8	CH ₄	0	1" rods - 50 mL/ft		
CO ₂	0.1	PID	0	CO ₂	0.1	PID	0	Tubing Volume 1/4" tubing - 10 mL/ft		
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	103.3	2 Mins	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppm)	Helium (ppm)
11:40	8	200	0.47	1.6	19.9	12.7	6.5	0	1.8	0
11:46	14	200	0.46	2.8	17.7	12.6	6.4	0	1.8	0
11:52	20	200	0.46	4	14.5	12.5	6.4	0	1.6	0
Analytical Samples										
Can ID + FC ID	1354/4077		Analytical Method	TO-15 + Helium			Initial Pressure (in-Hg)	-28		
Sample ID	SG-202		Time to Fill (min)	16			Final Pressure (in-Hg)	-4		
Helium Percentage in Shroud During Sampling:			17	Start Time:	11:54		Stop Time:	12:10		
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppm)	Helium (ppm)		
12:12	200	0.46	16.8	14.9	4.3	0	1.2	0		
Abbreviations:			ppb - parts per billion	mL - milliliters	min - minutes	Other Comments or Notes: TVOCs did not stabilize.				
ppm - parts per million			O ₂ - oxygen	PID - Photoionization Detector	-MiniRAE 3000 PID was used.					
in-H2O - inches of water column			CO ₂ - carbon dioxide	TVOCs - Total Volatile Organic						
mL/min - milliliters per minute			CH ₄ - methane	Compounds						

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	3	Date:	8/2/2013			
Probe ID:	SG-203S			Casing Volume (mL):	150	Weather:	Sunny 80s			
GZA Job No:	43654			Tubing Volume (mL):	30	Field Personnel:	SDN/BG			
Start Location Time:	12:25			Stop Location Time:	13:25	Start Purging Time:	12:32			
Field Calibration										
Photoionization Detector				Lantec Landfill Gas Meter			Helium Detector			
Zero (with filter)	0 ppm	0	O ₂	20.9%	20.9	Detector #1	0%	0	0	
Span Gas	100 ppm	99.9	CO ₂	0%	0	Detector #2	0%	0	0	
			CH ₄	0%	0					
Ambient Air Screening										
Initial					Final					
O ₂	20.6	CH ₄	0	O ₂	20.7	CH ₄	0	Casing Volume 1" rods - 50 mL/ft		
CO ₂	0.1	PID	0	CO ₂	0.1	PID	0.5	Tubing Volume 1/4" tubing - 10 mL/ft		
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	108.9	1 Min	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppm)	Helium (ppm)
12:47	15	200	0.69	3	19.9	6.6	9.2	0	258.8	0
12:54	22	200	0.54	4.2	20	7.3	9	0	231.7	0
13:00	28	200	0.54	5.6	19.7	7.4	8.8	0	218.2	0
Analytical Samples										
Can ID + FC ID	1353/4076	Analytical Method	TO-15 + Helium			Initial Pressure (in-Hg)	-29			
Sample ID	SG-203S	Time to Fill (min)	14			Final Pressure (in-Hg)	-3			
Helium Percentage in Shroud During Sampling:		12	Start Time:	13:02	Stop Time:	13:16				
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppm)	Helium (ppm)		
13:20	200	0.54	20	9.8	6.9	0	236.6	0		
Abbreviations: ppb - parts per billion mL - milliliters min - minutes Other Comments or Notes: TVOCs did not really stabilize.										
ppm - parts per million O ₂ - oxygen PID - Photoionization Detector -MiniRAE 3000 PID was used.										
in-H2O - inches of water column CO ₂ - carbon dioxide TVOCs - Total Volatile Organic										
mL/min - milliliters per minute CH ₄ - methane Compounds										

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	4	Date:	8/2/2013			
Probe ID:	SG-203M			Casing Volume (mL):	200	Weather:	Sunny 80s			
GZA Job No:	43654			Tubing Volume (mL):	40	Field Personnel:	SDN/BG			
Start Location Time:	13:30			Stop Location Time:	14:30	Start Purging Time:	13:35			
Field Calibration										
Photoionization Detector				Lantec Landfill Gas Meter			Helium Detector			
Zero (with filter)	0 ppm	0		O ₂	20.9%	20.9	Detector #1	0%	0	
Span Gas	100 ppm	99.9		CO ₂	0%	0	Detector #2	0%	0	
				CH ₄	0%	0				
Ambient Air Screening										
Initial				Final			Casing Volume			
O ₂	20.5	CH ₄	0	O ₂	20.6	CH ₄	0	1" rods - 50 mL/ft		
CO ₂	0.2	PID	0.1	CO ₂	0.1	PID	0.1	Tubing Volume 1/4" tubing - 10 mL/ft		
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	100.7	1 Min	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppm)	Helium (ppm)
13:46	11	200	0.51	2.2	20	3.6	8.1	0.1	133.4	0
14:04	29	200	0.51	5.8	19.1	3.6	8.1	0.1	108.1	0
14:08	33	200	0.50	6.6	18.5	3.7	7.9	0.1	104.0	0
Analytical Samples										
Can ID + FC ID	2087/4197	Analytical Method	TO-15 + Helium	Initial Pressure (in-Hg)						-30
Sample ID	SG-203M	Time to Fill (min)	15	Final Pressure (in-Hg)						-4
Helium Percentage in Shroud During Sampling:	17	Start Time:	14:10	Stop Time:						14:25
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppm)	Helium (ppm)		
14:28	200	0.51	12	3.7	8	0.1	110.4	0		
Abbreviations:			ppb - parts per billion	mL - milliliters	min - minutes	Other Comments or Notes: MiniRAE 3000 PID was used.				
ppm - parts per million			O ₂ - oxygen	PID - Photoionization Detector						
in-H ₂ O - inches of water column			CO ₂ - carbon dioxide	TVOCs - Total Volatile Organic						
mL/min - milliliters per minute			CH ₄ - methane	Compounds						

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	5	Date:	8/2/2013			
Probe ID:	SG-203D			Casing Volume (mL):	250	Weather:	Sunny 80s			
GZA Job No:	43654			Tubing Volume (mL):	50	Field Personnel:	SDN/BG			
Start Location Time:	14:30			Stop Location Time:	15:30	Start Purging Time:	14:36			
Field Calibration										
Photoionization Detector		Lantec Landfill Gas Meter				Helium Detector				
Zero (with filter)	0 ppm	O ₂	20.9%	20.9%	20.9	Detector #1	0%	0	0	
Span Gas	100 ppm	CO ₂	0%	0%	0	Detector #2	0%	0	0	
		CH ₄	0%	0%	0					
Ambient Air Screening										
Initial		Final				Casing Volume				
O ₂	20.6	CH ₄	0	O ₂	20.5	CH ₄	0	1" rods - 50 mL/ft		
CO ₂	0	PID	0.1	CO ₂	0	PID	0	Tubing Volume 1/4" tubing - 10 mL/ft		
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	109.1	1 Min	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppm)	Helium (ppm)
14:41	5	200	0.50	1	20	4.6	7.2	0.1	19	0
14:47	11	200	0.50	2.2	18.1	4.7	7.2	0.1	13.7	0
14:53	17	200	0.50	3.4	20.1	4.6	7.3	0.1	13.3	0
15:04	28	200	0.50	5.6	16.1	4.5	7.2	0.1	10.9	0
Analytical Samples										
Can ID + FC ID	2086/4198	Analytical Method	TO-15 + Helium			Initial Pressure (in-Hg)	-31			
Sample ID	SG-203D	Time to Fill (min)	14			Final Pressure (in-Hg)	-4			
Helium Percentage in Shroud During Sampling:	15	Start Time:	15:05	Stop Time:	15:19					
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppm)	Helium (ppm)		
15:25	200	0.51	16.2	4.6	7.2	0.1	9.2	0		
Abbreviations: ppb - parts per billion mL - milliliters min - minutes Other Comments or Notes: MiniRAE 3000 PID was used. ppm - parts per million O ₂ - oxygen PID - Photoionization Detector in-H ₂ O - inches of water column CO ₂ - carbon dioxide TVOCs - Total Volatile Organic mL/min - milliliters per minute CH ₄ - methane Compounds										

Soil Gas Sampling Log											
Site:	Tidewater, Pawtucket, RI		Total Depth (ft):	3	Date:	8/2/2013					
Probe ID:	SG-204		Casing Volume (mL):	150	Weather:	Cloudy 70s					
GZA Job No:	43654		Tubing Volume (mL):	30	Field Personnel:	SDN/BG					
Start Location Time:	8:45		Stop Location Time:	10:00	Start Purging Time:	8:55					
Field Calibration											
Photoionization Detector			Lantec Landfill Gas Meter			Helium Detector					
Zero (with filter)	0 ppm		O ₂	20.9%	20.9	Detector #1	0%			0	
Span Gas	100 ppm		CO ₂	0%	0.1	Detector #2	0%			0	
			CH ₄	0%	0						
Ambient Air Screening											
	Initial		Final			Casing Volume					
O ₂	20.8	CH ₄	0	O ₂	20.6	CH ₄	0			1" rods - 50 mL/ft	
CO ₂	0.1	PID	0	CO ₂	0.1	PID	0			Tubing Volume 1/4" tubing - 10 mL/ft	
Initial Pressure Test											
Test #	Pressure (in-H ₂ O)	Time Held	Notes:								
1	102.5	2 Mins	Okay								
Purge Data											
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppm)	Helium (ppm)	
9:05	10	200	0.34	2	17.2	18	2.5	0	29.6	75	
9:12	17	200	0.34	3.4	14.1	17.9	2.5	0	31	1400	
9:25	30	20	0.34	6	10.1	17.8	2.4	0	36.1	3650	
Analytical Samples											
Can ID + FC ID	1357/4015		Analytical Method	TO-15 + Helium						Initial Pressure (in-Hg)	-30
Sample ID	SG-204		Time to Fill (min)	21						Final Pressure (in-Hg)	-3
Helium Percentage in Shroud During Sampling:			12	Start Time:	9:27		Stop Time:	9:48			
Final Purge Data											
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppm)	Helium (ppm)			
9:50	200	0.34	10.1	17.8	2.4	0	31	5400			
Abbreviations:											
ppm - parts per million	ppb - parts per billion	mL - milliliters	min - minutes	Other Comments or Notes: TVOCs did not stabilize.							
in-H ₂ O - inches of water column	O ₂ - oxygen	PID - Photoionization Detector	-MiniRAE 3000 PID was used.								
mL/min - milliliters per minute	CO ₂ - carbon dioxide	TVOCs - Total Volatile Organic Compounds									

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	6	Date:	8/1/2013			
Probe ID:	SG-205			Casing Volume (mL):	300	Weather:	Cloudy 80s			
GZA Job No:	43654			Tubing Volume (mL):	60	Field Personnel:	SDN/BG			
Start Location Time:	14:50			Stop Location Time:	16:00	Start Purging Time:	15:00			
Field Calibration										
Photoionization Detector				Lantec Landfill Gas Meter			Helium Detector			
Zero (with filter)	0 ppm			O ₂	20.9%	20.9	Detector #1	0%		
Span Gas	10 ppm			CO ₂	0%	0.1	Detector #2	0%		
				CH ₄	0%	0				
Ambient Air Screening										
Initial				Final			Casing Volume			
O ₂	20.6	CH ₄	0	O ₂	20.5	CH ₄	0.1	1" rods - 50 mL/ft		
CO ₂	0.2	PID	0	CO ₂	0.2	PID	0	Tubing Volume 1/4" tubing - 10 mL/ft		
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	106	1 Min	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
15:04	4	200	0.31	0.8	15.8	6.2	10.5	0	631	0
15:18	18	200	0.31	3.6	19.1	6.2	10.7	0.1	743	0
15:30	30	200	0.31	6	11.3	6.2	10.8	0	595	0
Analytical Samples										
Can ID + FC ID	1363/3170		Analytical Method	TO-15 + Helium			Initial Pressure (in-Hg)	-30		
Sample ID	SG-205		Time to Fill (min)	16			Final Pressure (in-Hg)	-2.5		
Helium Percentage in Shroud During Sampling:			11	Start Time:	15:32		Stop Time:	15:48		
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
15:50	200	31	10.5	6.2	10.9	0.1	566	0		
Abbreviations:										
ppm - parts per million	ppb - parts per billion	mL - milliliters	min - minutes	Other Comments or Notes: TVOCs did not stabilize.						
in-H ₂ O - inches of water column	O ₂ - oxygen	PID - Photoionization Detector	TVOCs - Total Volatile Organic Compounds							
mL/min - milliliters per minute	CO ₂ - carbon dioxide	CH ₄ - methane								

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	7	Date:	8/1/2013			
Probe ID:	SG-206			Casing Volume (mL):	350	Weather:	Sunny 80			
GZA Job No:	43654			Tubing Volume (mL):	70	Field Personnel:	SDN/BG			
Start Location Time:	13:30			Stop Location Time:	14:40	Start Purging Time:	13:45			
Field Calibration										
Photoionization Detector				Lantec Landfill Gas Meter			Helium Detector			
Zero (with filter)	0 ppm	0	O ₂	20.9%	20.9	Detector #1	0%	0	0	
Span Gas	10 ppm	10.01	CO ₂	0%	0.1	Detector #2	0%	0	0	
			CH ₄	0%	0					
Ambient Air Screening										
	Initial		Final						Casing Volume	
O ₂	20.9	CH ₄	0	O ₂	20.8	CH ₄	0		1" rods - 50 mL/ft	
CO ₂	0	PID	2	CO ₂	0.1	PID	0		Tubing Volume	
									1/4" tubing - 10 mL/ft	
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	107.9	1 Min	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppm)	Helium (ppm)
13:58	13	200	0.39	2.6	13.6	12	6.7	0	13.8	0
14:16	31	200	0.39	6.2	19	11.7	6.6	0	11.02	0
Analytical Samples										
Can ID + FC ID	1370/4171	Analytical Method	TO-15 + Helium	Initial Pressure (in-Hg)						
Sample ID	SG-206	Time to Fill (min)	15	Final Pressure (in-Hg)						
Helium Percentage in Shroud During Sampling:	12	Start Time:	14:18	Stop Time:	14:33					
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppm)	Helium (ppm)		
14:35	200	0.41	12.1	11.7	6.5	0	14.24	0		
Abbreviations: ppb - parts per billion mL - milliliters min - minutes Other Comments or Notes: Spiked to 28.9 ppm + then drop within 1 minute.										
ppm - parts per million O ₂ - oxygen PID - Photoionization Detector TVOCs did not stabilize.										
in-H ₂ O - inches of water column CO ₂ - carbon dioxide TVOCs - Total Volatile Organic										
mL/min - milliliters per minute CH ₄ - methane Compounds										

Soil Gas Sampling Log										
Site:	Tidewater, Pawtucket, RI			Total Depth (ft):	7	Date:	8/1/2013			
Probe ID:	SG-207			Casing Volume (mL):	350	Weather:	Partly Cloudy 70s			
GZA Job No:	43654			Tubing Volume (mL):	70	Field Personnel:	SDN/BG			
Start Location Time:	12:05			Stop Location Time:	13:15	Start Purging Time:	12:20			
Field Calibration										
Photoionization Detector			Lantec Landfill Gas Meter			Helium Detector				
Zero (with filter)	0 ppm	0	O ₂	20.9%	20.9	Detector #1	0%	0	0	
Span Gas	10 ppm	10.01	CO ₂	0%	0.1	Detector #2	0%	0	0	
			CH ₄	0%	0					
Ambient Air Screening										
Initial			Final			Casing Volume				
O ₂	20.8	CH ₄	0	O ₂	20.6	CH ₄	0	1" rods - 50 mL/ft		
CO ₂	0.1	PID	0	CO ₂	0.1	PID	0	Tubing Volume 1/4" tubing - 10 mL/ft		
Initial Pressure Test										
Test #	Pressure (in-H ₂ O)	Time Held	Notes:							
1	102.1	1 Min	Okay							
Purge Data										
Time	Elapsed Time (min)	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Total Volume Purged	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)
12:27	7	200	0.39	1.4	14.4	12.3	5.8	0	1227	0
12:38	18	200	0.39	4.6	16.3	12.3	5.8	0	1706	0
12:49	29	200	0.40	5.8	19.7	12.3	5.8	0	1923	0
Analytical Samples										
Can ID + FC ID	1402/4175	Analytical Method	TO-15 + Helium			Initial Pressure (in-Hg)	-30			
Sample ID	SG-207	Time to Fill (min)	15			Final Pressure (in-Hg)	-3			
Helium Percentage in Shroud During Sampling:		17	Start Time:	12:52	Stop Time:	13:07				
Final Purge Data										
Time	Pump Flow Rate (mL/min)	Vacuum (in-H ₂ O)	Helium (%) in Shroud	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	TVOCs (ppb)	Helium (ppm)		
13:10	200	0.38	16	12.1	5.7	0	1571	0		
Abbreviations:			ppb - parts per billion	mL - milliliters	min - minutes	Other Comments or Notes: TVOCs did not stabilize.				
ppm - parts per million			O ₂ - oxygen	PID - Photoionization Detector						
in-H ₂ O - inches of water column			CO ₂ - carbon dioxide	TVOCs - Total Volatile Organic Compounds						
mL/min - milliliters per minute			CH ₄ - methane							

APPENDIX H

LABORATORY CERTIFICATES

August 2, 2013

Sophia Narkiewicz
GZA GeoEnvironmental-RI
530 Broadway Street
Providence, RI 02909

Project Location: Tide Water, Pawtucket, RI
Client Job Number:
Project Number: 43654 T25
Laboratory Work Order Number: 13G1044

Enclosed are results of analyses for samples received by the laboratory on July 25, 2013. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Lisa A. Worthington
Project Manager

GZA GeoEnvironmental-RI
530 Broadway Street
Providence, RI 02909
ATTN: Sophia Narkiewicz

REPORT DATE: 8/2/2013

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 43654 T25

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 13G1044

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Tide Water, Pawtucket, RI

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
2	13G1044-02	Ambient Air	Varieur 72413	EPA TO-15	
4	13G1044-04	Soil Gas	SG-104D	EPA 3C EPA TO-15	
5	13G1044-05	Soil Gas	SG-104S	EPA 3C EPA TO-15	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

EPA TO-15

Qualifications:

Laboratory fortified blank /laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.

Analyte & Samples(s) Qualified:

1,2,4-Trichlorobenzene

B077682-BS1

Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

2-Hexanone (MBK), Heptane, Indene

13G1044-02[2], 13G1044-04[4], 13G1044-05[5], B077682-BLK1, B077682-BS1, 13G1044-02RE1[2], B077685-BLK1, B077685-BS1

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

2-Hexanone (MBK)

13G1044-02[2], 13G1044-04[4], 13G1044-05[5], B077682-BLK1, B077682-BS1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Michael A. Erickson
Laboratory Director

ANALYTICAL RESULTS

Project Location: Tide Water, Pawtucket, RI
 Date Received: 7/25/2013
Field Sample #: 2
Sample ID: 13G1044-02
 Sample Matrix: Ambient Air
 Sampled: 7/24/2013 16:37

Sample Description/Location: Varieur 72413
 Sub Description/Location:
 Canister ID: 1364
 Canister Size: 3 liter
 Flow Controller ID: 3253
 Sample Type: 8 hr

Work Order: 13G1044
 Initial Vacuum(in Hg): -31
 Final Vacuum(in Hg): -4.5
 Receipt Vacuum(in Hg): -8.8
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Acetone	13	1.4		31	3.3	0.702	7/27/13 22:57	TPH	
Benzene	0.068	0.035		0.22	0.11	0.702	7/27/13 22:57	TPH	
Benzyl chloride	ND	0.035		ND	0.18	0.702	7/27/13 22:57	TPH	
Bromodichloromethane	ND	0.035		ND	0.24	0.702	7/27/13 22:57	TPH	
Bromoform	ND	0.035		ND	0.36	0.702	7/27/13 22:57	TPH	
Bromomethane	ND	0.035		ND	0.14	0.702	7/27/13 22:57	TPH	
1,3-Butadiene	ND	0.035		ND	0.078	0.702	7/27/13 22:57	TPH	
2-Butanone (MEK)	1.9	1.4		5.7	4.1	0.702	7/27/13 22:57	TPH	
Carbon Disulfide	ND	0.35		ND	1.1	0.702	7/27/13 22:57	TPH	
Carbon Tetrachloride	0.072	0.035		0.45	0.22	0.702	7/27/13 22:57	TPH	
Chlorobenzene	ND	0.035		ND	0.16	0.702	7/27/13 22:57	TPH	
Chloroethane	ND	0.035		ND	0.093	0.702	7/27/13 22:57	TPH	
Chloroform	0.057	0.035		0.28	0.17	0.702	7/27/13 22:57	TPH	
Chloromethane	0.63	0.070		1.3	0.14	0.702	7/27/13 22:57	TPH	
Cyclohexane	ND	0.035		ND	0.12	0.702	7/27/13 22:57	TPH	
Dibromochloromethane	ND	0.035		ND	0.30	0.702	7/27/13 22:57	TPH	
1,2-Dibromoethane (EDB)	ND	0.035		ND	0.27	0.702	7/27/13 22:57	TPH	
1,2-Dichlorobenzene	ND	0.035		ND	0.21	0.702	7/27/13 22:57	TPH	
1,3-Dichlorobenzene	ND	0.035		ND	0.21	0.702	7/27/13 22:57	TPH	
1,4-Dichlorobenzene	ND	0.035		ND	0.21	0.702	7/27/13 22:57	TPH	
Dichlorodifluoromethane (Freon 12)	0.40	0.035		2.0	0.17	0.702	7/27/13 22:57	TPH	
1,1-Dichloroethane	ND	0.035		ND	0.14	0.702	7/27/13 22:57	TPH	
1,2-Dichloroethane	ND	0.035		ND	0.14	0.702	7/27/13 22:57	TPH	
1,1-Dichloroethylene	ND	0.035		ND	0.14	0.702	7/27/13 22:57	TPH	
cis-1,2-Dichloroethylene	ND	0.035		ND	0.14	0.702	7/27/13 22:57	TPH	
trans-1,2-Dichloroethylene	ND	0.035		ND	0.14	0.702	7/27/13 22:57	TPH	
1,2-Dichloropropane	ND	0.035		ND	0.16	0.702	7/27/13 22:57	TPH	
cis-1,3-Dichloropropene	ND	0.035		ND	0.16	0.702	7/27/13 22:57	TPH	
trans-1,3-Dichloropropene	ND	0.035		ND	0.16	0.702	7/27/13 22:57	TPH	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.035		ND	0.25	0.702	7/27/13 22:57	TPH	
1,4-Dioxane	ND	0.35		ND	1.3	0.702	7/27/13 22:57	TPH	
Ethanol	4.7	1.4		8.8	2.6	0.702	7/27/13 22:57	TPH	
Ethyl Acetate	0.40	0.035		1.4	0.13	0.702	7/27/13 22:57	TPH	
Ethylbenzene	ND	0.035		ND	0.15	0.702	7/27/13 22:57	TPH	
4-Ethyltoluene	ND	0.035		ND	0.17	0.702	7/27/13 22:57	TPH	
Heptane	0.074	0.035	L-03	0.30	0.14	0.702	7/27/13 22:57	TPH	
Hexachlorobutadiene	ND	0.035		ND	0.37	0.702	7/27/13 22:57	TPH	

ANALYTICAL RESULTS

Project Location: Tide Water, Pawtucket, RI
 Date Received: 7/25/2013
Field Sample #: 2
Sample ID: 13G1044-02
 Sample Matrix: Ambient Air
 Sampled: 7/24/2013 16:37

Sample Description/Location: Varieur 72413
 Sub Description/Location:
 Canister ID: 1364
 Canister Size: 3 liter
 Flow Controller ID: 3253
 Sample Type: 8 hr

Work Order: 13G1044
 Initial Vacuum(in Hg): -31
 Final Vacuum(in Hg): -4.5
 Receipt Vacuum(in Hg): -8.8
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Hexane	ND	1.4		ND	4.9	0.702	7/27/13 22:57	TPH	
2-Hexanone (MBK)	0.19	0.035	L-03, V-05	0.77	0.14	0.702	7/27/13 22:57	TPH	
Indane	ND	0.090		ND	0.44	0.7	7/29/13 12:20	TPH	
Indene	ND	0.092	L-03	ND	0.44	0.7	7/29/13 12:20	TPH	
Isopropanol	ND	1.4		ND	3.4	0.702	7/27/13 22:57	TPH	
Isopropylbenzene (Cumene)	ND	0.089		ND	0.44	0.7	7/29/13 12:20	TPH	
Methyl tert-Butyl Ether (MTBE)	ND	0.035		ND	0.13	0.702	7/27/13 22:57	TPH	
Methylene Chloride	0.64	0.35		2.2	1.2	0.702	7/27/13 22:57	TPH	
4-Methyl-2-pentanone (MIBK)	ND	0.035		ND	0.14	0.702	7/27/13 22:57	TPH	
Naphthalene	0.071	0.035		0.37	0.18	0.702	7/27/13 22:57	TPH	
Propene	ND	1.4		ND	2.4	0.702	7/27/13 22:57	TPH	
Styrene	ND	0.035		ND	0.15	0.702	7/27/13 22:57	TPH	
1,1,2,2-Tetrachloroethane	ND	0.035		ND	0.24	0.702	7/27/13 22:57	TPH	
Tetrachloroethylene	ND	0.035		ND	0.24	0.702	7/27/13 22:57	TPH	
Tetrahydrofuran	ND	0.035		ND	0.10	0.702	7/27/13 22:57	TPH	
Toluene	0.19	0.035		0.71	0.13	0.702	7/27/13 22:57	TPH	
1,2,4-Trichlorobenzene	ND	0.035		ND	0.26	0.702	7/27/13 22:57	TPH	
1,1,1-Trichloroethane	ND	0.035		ND	0.19	0.702	7/27/13 22:57	TPH	
1,1,2-Trichloroethane	ND	0.035		ND	0.19	0.702	7/27/13 22:57	TPH	
Trichloroethylene	0.052	0.035		0.28	0.19	0.702	7/27/13 22:57	TPH	
Trichlorofluoromethane (Freon 11)	0.32	0.035		1.8	0.20	0.702	7/27/13 22:57	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.18	0.035		1.4	0.27	0.702	7/27/13 22:57	TPH	
1,2,4-Trimethylbenzene	ND	0.035		ND	0.17	0.702	7/27/13 22:57	TPH	
1,3,5-Trimethylbenzene	ND	0.035		ND	0.17	0.702	7/27/13 22:57	TPH	
Vinyl Acetate	ND	0.70		ND	2.5	0.702	7/27/13 22:57	TPH	
Vinyl Chloride	ND	0.035		ND	0.090	0.702	7/27/13 22:57	TPH	
m&p-Xylene	ND	0.070		ND	0.30	0.702	7/27/13 22:57	TPH	
o-Xylene	ND	0.035		ND	0.15	0.702	7/27/13 22:57	TPH	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	110	70-130	7/27/13 22:57
4-Bromofluorobenzene (2)	88.1	70-130	7/29/13 12:20

ANALYTICAL RESULTS

Project Location: Tide Water, Pawtucket, RI
 Date Received: 7/25/2013
Field Sample #: 4
Sample ID: 13G1044-04
 Sample Matrix: Soil Gas
 Sampled: 7/24/2013 14:44

Sample Description/Location: SG-104D
 Sub Description/Location:
 Canister ID: 2078
 Canister Size: 3 liter
 Flow Controller ID: 4208
 Sample Type: 15 min

Work Order: 13G1044
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -5.4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analyzed		
Helium	ND	0.40		1	7/26/13 13:32		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Acetone	15	2.0		36	4.8	1	7/28/13 10:34		TPH
Benzene	ND	0.050		ND	0.16	1	7/28/13 10:34		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	7/28/13 10:34		TPH
Bromodichloromethane	ND	0.050		ND	0.34	1	7/28/13 10:34		TPH
Bromoform	ND	0.050		ND	0.52	1	7/28/13 10:34		TPH
Bromomethane	ND	0.050		ND	0.19	1	7/28/13 10:34		TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	7/28/13 10:34		TPH
2-Butanone (MEK)	2.4	2.0		7.1	5.9	1	7/28/13 10:34		TPH
Carbon Disulfide	0.71	0.50		2.2	1.6	1	7/28/13 10:34		TPH
Carbon Tetrachloride	ND	0.050		ND	0.31	1	7/28/13 10:34		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	7/28/13 10:34		TPH
Chloroethane	ND	0.050		ND	0.13	1	7/28/13 10:34		TPH
Chloroform	0.090	0.050		0.44	0.24	1	7/28/13 10:34		TPH
Chloromethane	ND	0.10		ND	0.21	1	7/28/13 10:34		TPH
Cyclohexane	ND	0.050		ND	0.17	1	7/28/13 10:34		TPH
Dibromochloromethane	ND	0.050		ND	0.43	1	7/28/13 10:34		TPH
1,2-Dibromoethane (EDB)	ND	0.050		ND	0.38	1	7/28/13 10:34		TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	7/28/13 10:34		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	7/28/13 10:34		TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	7/28/13 10:34		TPH
Dichlorodifluoromethane (Freon 12)	0.73	0.050		3.6	0.25	1	7/28/13 10:34		TPH
1,1-Dichloroethane	ND	0.050		ND	0.20	1	7/28/13 10:34		TPH
1,2-Dichloroethane	ND	0.050		ND	0.20	1	7/28/13 10:34		TPH
1,1-Dichloroethylene	ND	0.050		ND	0.20	1	7/28/13 10:34		TPH
cis-1,2-Dichloroethylene	ND	0.050		ND	0.20	1	7/28/13 10:34		TPH
trans-1,2-Dichloroethylene	ND	0.050		ND	0.20	1	7/28/13 10:34		TPH
1,2-Dichloropropane	ND	0.050		ND	0.23	1	7/28/13 10:34		TPH
cis-1,3-Dichloropropene	ND	0.050		ND	0.23	1	7/28/13 10:34		TPH
trans-1,3-Dichloropropene	ND	0.050		ND	0.23	1	7/28/13 10:34		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	7/28/13 10:34		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	7/28/13 10:34		TPH

ANALYTICAL RESULTS

Project Location: Tide Water, Pawtucket, RI
 Date Received: 7/25/2013
Field Sample #: 4
Sample ID: 13G1044-04
 Sample Matrix: Soil Gas
 Sampled: 7/24/2013 14:44

Sample Description/Location: SG-104D
 Sub Description/Location:
 Canister ID: 2078
 Canister Size: 3 liter
 Flow Controller ID: 4208
 Sample Type: 15 min

Work Order: 13G1044
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -5.4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Ethanol	2.5	2.0		4.7	3.8	1	7/28/13 10:34	TPH	
Ethyl Acetate	0.14	0.050		0.50	0.18	1	7/28/13 10:34	TPH	
Ethylbenzene	ND	0.050		ND	0.22	1	7/28/13 10:34	TPH	
4-Ethyltoluene	ND	0.050		ND	0.25	1	7/28/13 10:34	TPH	
Heptane	ND	0.050	L-03	ND	0.20	1	7/28/13 10:34	TPH	
Hexachlorobutadiene	ND	0.050		ND	0.53	1	7/28/13 10:34	TPH	
Hexane	ND	2.0		ND	7.0	1	7/28/13 10:34	TPH	
2-Hexanone (MBK)	0.37	0.050	L-03, V-05	1.5	0.20	1	7/28/13 10:34	TPH	
Indane	ND	0.13		ND	0.62	1	7/29/13 13:55	TPH	
Indene	ND	0.13		ND	0.63	1	7/29/13 13:55	TPH	
Isopropanol	ND	2.0		ND	4.9	1	7/28/13 10:34	TPH	
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	7/29/13 13:55	TPH	
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	7/28/13 10:34	TPH	
Methylene Chloride	ND	0.50		ND	1.7	1	7/28/13 10:34	TPH	
4-Methyl-2-pentanone (MIBK)	ND	0.050		ND	0.20	1	7/28/13 10:34	TPH	
Naphthalene	0.096	0.050		0.50	0.26	1	7/28/13 10:34	TPH	
Propene	2.1	2.0		3.6	3.4	1	7/28/13 10:34	TPH	
Styrene	ND	0.050		ND	0.21	1	7/28/13 10:34	TPH	
1,1,2,2-Tetrachloroethane	ND	0.050		ND	0.34	1	7/28/13 10:34	TPH	
Tetrachloroethylene	1.2	0.050		7.9	0.34	1	7/28/13 10:34	TPH	
Tetrahydrofuran	0.14	0.050		0.42	0.15	1	7/28/13 10:34	TPH	
Toluene	ND	0.050		ND	0.19	1	7/28/13 10:34	TPH	
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	7/28/13 10:34	TPH	
1,1,1-Trichloroethane	0.11	0.050		0.61	0.27	1	7/28/13 10:34	TPH	
1,1,2-Trichloroethane	ND	0.050		ND	0.27	1	7/28/13 10:34	TPH	
Trichloroethylene	ND	0.050		ND	0.27	1	7/28/13 10:34	TPH	
Trichlorofluoromethane (Freon 11)	0.76	0.050		4.3	0.28	1	7/28/13 10:34	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.80	0.050		6.2	0.38	1	7/28/13 10:34	TPH	
1,2,4-Trimethylbenzene	ND	0.050		ND	0.25	1	7/28/13 10:34	TPH	
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	7/28/13 10:34	TPH	
Vinyl Acetate	ND	1.0		ND	3.5	1	7/28/13 10:34	TPH	
Vinyl Chloride	ND	0.050		ND	0.13	1	7/28/13 10:34	TPH	
m&p-Xylene	ND	0.10		ND	0.43	1	7/28/13 10:34	TPH	
o-Xylene	ND	0.050		ND	0.22	1	7/28/13 10:34	TPH	

Surrogates	% Recovery	% REC Limits
4-Bromofluorobenzene (1)	108	70-130

ANALYTICAL RESULTS

Project Location: Tide Water, Pawtucket, RI
 Date Received: 7/25/2013
Field Sample #: 4
Sample ID: 13G1044-04
 Sample Matrix: Soil Gas
 Sampled: 7/24/2013 14:44

Sample Description/Location: SG-104D
 Sub Description/Location:
 Canister ID: 2078
 Canister Size: 3 liter
 Flow Controller ID: 4208
 Sample Type: 15 min

Work Order: 13G1044
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -5.4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Date/Time		
	Results	RL	Flag	Results	RL	Dilution	Analyzed	Analyst
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		92.1			70-130		7/29/13 13:55	

ANALYTICAL RESULTS

Project Location: Tide Water, Pawtucket, RI
 Date Received: 7/25/2013
Field Sample #: 5
Sample ID: 13G1044-05
 Sample Matrix: Soil Gas
 Sampled: 7/24/2013 15:45

Sample Description/Location: SG-104S
 Sub Description/Location:
 Canister ID: 1798
 Canister Size: 3 liter
 Flow Controller ID: 4206
 Sample Type: 15 min

Work Order: 13G1044
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -5
 Receipt Vacuum(in Hg): -5.9
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analyzed		
Helium	ND	0.40		1	7/26/13 13:57		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Acetone	5.3	2.0		13	4.8	1	7/28/13 11:15		TPH
Benzene	ND	0.050		ND	0.16	1	7/28/13 11:15		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	7/28/13 11:15		TPH
Bromodichloromethane	ND	0.050		ND	0.34	1	7/28/13 11:15		TPH
Bromoform	ND	0.050		ND	0.52	1	7/28/13 11:15		TPH
Bromomethane	0.053	0.050		0.21	0.19	1	7/28/13 11:15		TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	7/28/13 11:15		TPH
2-Butanone (MEK)	ND	2.0		ND	5.9	1	7/28/13 11:15		TPH
Carbon Disulfide	ND	0.50		ND	1.6	1	7/28/13 11:15		TPH
Carbon Tetrachloride	ND	0.050		ND	0.31	1	7/28/13 11:15		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	7/28/13 11:15		TPH
Chloroethane	ND	0.050		ND	0.13	1	7/28/13 11:15		TPH
Chloroform	0.055	0.050		0.27	0.24	1	7/28/13 11:15		TPH
Chloromethane	0.23	0.10		0.47	0.21	1	7/28/13 11:15		TPH
Cyclohexane	ND	0.050		ND	0.17	1	7/28/13 11:15		TPH
Dibromochloromethane	ND	0.050		ND	0.43	1	7/28/13 11:15		TPH
1,2-Dibromoethane (EDB)	ND	0.050		ND	0.38	1	7/28/13 11:15		TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	7/28/13 11:15		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	7/28/13 11:15		TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	7/28/13 11:15		TPH
Dichlorodifluoromethane (Freon 12)	0.57	0.050		2.8	0.25	1	7/28/13 11:15		TPH
1,1-Dichloroethane	ND	0.050		ND	0.20	1	7/28/13 11:15		TPH
1,2-Dichloroethane	ND	0.050		ND	0.20	1	7/28/13 11:15		TPH
1,1-Dichloroethylene	ND	0.050		ND	0.20	1	7/28/13 11:15		TPH
cis-1,2-Dichloroethylene	ND	0.050		ND	0.20	1	7/28/13 11:15		TPH
trans-1,2-Dichloroethylene	ND	0.050		ND	0.20	1	7/28/13 11:15		TPH
1,2-Dichloropropane	ND	0.050		ND	0.23	1	7/28/13 11:15		TPH
cis-1,3-Dichloropropene	ND	0.050		ND	0.23	1	7/28/13 11:15		TPH
trans-1,3-Dichloropropene	ND	0.050		ND	0.23	1	7/28/13 11:15		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	7/28/13 11:15		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	7/28/13 11:15		TPH

ANALYTICAL RESULTS

Project Location: Tide Water, Pawtucket, RI
 Date Received: 7/25/2013
Field Sample #: 5
Sample ID: 13G1044-05
 Sample Matrix: Soil Gas
 Sampled: 7/24/2013 15:45

Sample Description/Location: SG-104S
 Sub Description/Location:
 Canister ID: 1798
 Canister Size: 3 liter
 Flow Controller ID: 4206
 Sample Type: 15 min

Work Order: 13G1044
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -5
 Receipt Vacuum(in Hg): -5.9
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Ethanol	ND	2.0		ND	3.8	1	7/28/13 11:15	TPH
Ethyl Acetate	0.13	0.050		0.48	0.18	1	7/28/13 11:15	TPH
Ethylbenzene	ND	0.050		ND	0.22	1	7/28/13 11:15	TPH
4-Ethyltoluene	ND	0.050		ND	0.25	1	7/28/13 11:15	TPH
Heptane	ND	0.050	L-03	ND	0.20	1	7/28/13 11:15	TPH
Hexachlorobutadiene	ND	0.050		ND	0.53	1	7/28/13 11:15	TPH
Hexane	ND	2.0		ND	7.0	1	7/28/13 11:15	TPH
2-Hexanone (MBK)	0.14	0.050	L-03, V-05	0.58	0.20	1	7/28/13 11:15	TPH
Indane	ND	0.13		ND	0.62	1	7/29/13 20:54	TPH
Indene	ND	0.13		ND	0.63	1	7/29/13 20:54	TPH
Isopropanol	ND	2.0		ND	4.9	1	7/28/13 11:15	TPH
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	7/29/13 20:54	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	7/28/13 11:15	TPH
Methylene Chloride	ND	0.50		ND	1.7	1	7/28/13 11:15	TPH
4-Methyl-2-pentanone (MIBK)	0.33	0.050		1.4	0.20	1	7/28/13 11:15	TPH
Naphthalene	0.12	0.050		0.63	0.26	1	7/28/13 11:15	TPH
Propene	ND	2.0		ND	3.4	1	7/28/13 11:15	TPH
Styrene	ND	0.050		ND	0.21	1	7/28/13 11:15	TPH
1,1,2,2-Tetrachloroethane	ND	0.050		ND	0.34	1	7/28/13 11:15	TPH
Tetrachloroethylene	0.95	0.050		6.5	0.34	1	7/28/13 11:15	TPH
Tetrahydrofuran	ND	0.050		ND	0.15	1	7/28/13 11:15	TPH
Toluene	0.056	0.050		0.21	0.19	1	7/28/13 11:15	TPH
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	7/28/13 11:15	TPH
1,1,1-Trichloroethane	0.14	0.050		0.75	0.27	1	7/28/13 11:15	TPH
1,1,2-Trichloroethane	ND	0.050		ND	0.27	1	7/28/13 11:15	TPH
Trichloroethylene	ND	0.050		ND	0.27	1	7/28/13 11:15	TPH
Trichlorofluoromethane (Freon 11)	0.42	0.050		2.4	0.28	1	7/28/13 11:15	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.15	0.050		1.2	0.38	1	7/28/13 11:15	TPH
1,2,4-Trimethylbenzene	ND	0.050		ND	0.25	1	7/28/13 11:15	TPH
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	7/28/13 11:15	TPH
Vinyl Acetate	ND	1.0		ND	3.5	1	7/28/13 11:15	TPH
Vinyl Chloride	ND	0.050		ND	0.13	1	7/28/13 11:15	TPH
m&p-Xylene	ND	0.10		ND	0.43	1	7/28/13 11:15	TPH
o-Xylene	ND	0.050		ND	0.22	1	7/28/13 11:15	TPH

Surrogates	% Recovery	% REC Limits
4-Bromofluorobenzene (1)	109	70-130

ANALYTICAL RESULTS

Project Location: Tide Water, Pawtucket, RI
 Date Received: 7/25/2013
Field Sample #: 5
Sample ID: 13G1044-05
 Sample Matrix: Soil Gas
 Sampled: 7/24/2013 15:45

Sample Description/Location: SG-104S
 Sub Description/Location:
 Canister ID: 1798
 Canister Size: 3 liter
 Flow Controller ID: 4206
 Sample Type: 15 min

Work Order: 13G1044
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -5
 Receipt Vacuum(in Hg): -5.9
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Date/Time		
	Results	RL	Flag	Results	RL	Dilution	Analyzed	Analyst
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		93.3			70-130		7/29/13 20:54	

Sample Extraction Data

Prep Method: TO-15 Prep-EPA 3C

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
13G1044-04 [4]	B077538	1.5	1	N/A	1000	0.5	0.75	07/26/13
13G1044-05 [5]	B077538	1.5	1	N/A	1000	0.5	0.75	07/26/13

Prep Method: TO-15 Prep-EPA TO-15

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
13G1044-02 [2]	B077682	1.5	1	N/A	1000	400	855	07/27/13
13G1044-04 [4]	B077682	1.5	1	N/A	1000	400	600	07/27/13
13G1044-05 [5]	B077682	1.5	1	N/A	1000	400	600	07/27/13

Prep Method: TO-15 Prep-EPA TO-15

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
13G1044-02RE1 [2]	B077685	1.75	1	N/A	1000	400	1000	07/29/13
13G1044-04RE1 [4]	B077685	1.5	1	N/A	1000	400	600	07/29/13
13G1044-05RE1 [5]	B077685	1.5	1	N/A	1000	400	600	07/29/13

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	%REC	Limits	RPD	

Batch B077682 - TO-15 Prep

Blank (B077682-BLK1)

Prepared & Analyzed: 07/27/13

Acetone	ND	1.0								
Benzene	ND	0.025								
Benzyl chloride	ND	0.025								
Bromodichloromethane	ND	0.025								
Bromoform	ND	0.025								
Bromomethane	ND	0.025								
1,3-Butadiene	ND	0.025								
2-Butanone (MEK)	ND	1.0								
Carbon Disulfide	ND	0.25								
Carbon Tetrachloride	ND	0.025								
Chlorobenzene	ND	0.025								
Chloroethane	ND	0.025								
Chloroform	ND	0.025								
Chloromethane	ND	0.050								
Cyclohexane	ND	0.025								
Dibromochloromethane	ND	0.025								
1,2-Dibromoethane (EDB)	ND	0.025								
1,2-Dichlorobenzene	ND	0.025								
1,3-Dichlorobenzene	ND	0.025								
1,4-Dichlorobenzene	ND	0.025								
Dichlorodifluoromethane (Freon 12)	ND	0.025								
1,1-Dichloroethane	ND	0.025								
1,2-Dichloroethane	ND	0.025								
1,1-Dichloroethylene	ND	0.025								
cis-1,2-Dichloroethylene	ND	0.025								
trans-1,2-Dichloroethylene	ND	0.025								
1,2-Dichloropropane	ND	0.025								
cis-1,3-Dichloropropene	ND	0.025								
trans-1,3-Dichloropropene	ND	0.025								
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.025								
1,4-Dioxane	ND	0.25								
Ethanol	ND	1.0								
Ethyl Acetate	ND	0.025								
Ethylbenzene	ND	0.025								
4-Ethyltoluene	ND	0.025								
Heptane	ND	0.025								L-03
Hexachlorobutadiene	ND	0.025								
Hexane	ND	1.0								
2-Hexanone (MBK)	ND	0.025								L-03, V-05
Isopropanol	ND	1.0								
Methyl tert-Butyl Ether (MTBE)	ND	0.025								
Methylene Chloride	ND	0.25								
4-Methyl-2-pentanone (MIBK)	ND	0.025								
Naphthalene	ND	0.025								
Propene	ND	1.0								
Styrene	ND	0.025								

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		

Batch B077682 - TO-15 Prep

Blank (B077682-BLK1)

Prepared & Analyzed: 07/27/13

1,1,2,2-Tetrachloroethane	ND	0.025
Tetrachloroethylene	ND	0.025
Tetrahydrofuran	ND	0.025
Toluene	ND	0.025
1,2,4-Trichlorobenzene	ND	0.025
1,1,1-Trichloroethane	ND	0.025
1,1,2-Trichloroethane	ND	0.025
Trichloroethylene	ND	0.025
Trichlorofluoromethane (Freon 11)	ND	0.025
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.025
1,2,4-Trimethylbenzene	ND	0.025
1,3,5-Trimethylbenzene	ND	0.025
Vinyl Acetate	ND	0.50
Vinyl Chloride	ND	0.025
m&p-Xylene	ND	0.050
o-Xylene	ND	0.025

Surrogate: 4-Bromofluorobenzene (1) 8.72 8.00 109 70-130

LCS (B077682-BS1)

Prepared & Analyzed: 07/27/13

Acetone	5.64	5.00	113	70-130
Benzene	3.96	5.00	79.3	70-130
Benzyl chloride	4.68	5.00	93.5	70-130
Bromodichloromethane	4.30	5.00	86.0	70-130
Bromoform	5.61	5.00	112	70-130
Bromomethane	6.28	5.00	126	70-130
1,3-Butadiene	5.07	5.00	101	70-130
2-Butanone (MEK)	4.58	5.00	91.5	70-130
Carbon Disulfide	5.84	5.00	117	70-130
Carbon Tetrachloride	4.33	5.00	86.5	70-130
Chlorobenzene	4.88	5.00	97.7	70-130
Chloroethane	5.33	5.00	107	70-130
Chloroform	5.87	5.00	117	70-130
Chloromethane	4.68	5.00	93.5	70-130
Cyclohexane	3.88	5.00	77.7	70-130
Dibromochloromethane	4.91	5.00	98.1	70-130
1,2-Dibromoethane (EDB)	4.82	5.00	96.4	70-130
1,2-Dichlorobenzene	5.44	5.00	109	70-130
1,3-Dichlorobenzene	5.50	5.00	110	70-130
1,4-Dichlorobenzene	5.41	5.00	108	70-130
Dichlorodifluoromethane (Freon 12)	5.77	5.00	115	70-130
1,1-Dichloroethane	5.24	5.00	105	70-130
1,2-Dichloroethane	5.31	5.00	106	70-130
1,1-Dichloroethylene	4.96	5.00	99.3	70-130
cis-1,2-Dichloroethylene	5.46	5.00	109	70-130
trans-1,2-Dichloroethylene	5.16	5.00	103	70-130
1,2-Dichloropropane	3.72	5.00	74.4	70-130

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		
Batch B077682 - TO-15 Prep											
LCS (B077682-BS1)											
						Prepared & Analyzed: 07/27/13					
cis-1,3-Dichloropropene	4.02				5.00		80.4	70-130			
trans-1,3-Dichloropropene	4.14				5.00		82.8	70-130			
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	6.07				5.00		121	70-130			
1,4-Dioxane	4.80				5.00		96.0	70-130			
Ethanol	3.80				5.00		76.1	70-130			
Ethyl Acetate	5.09				5.00		102	70-130			
Ethylbenzene	4.53				5.00		90.6	70-130			
4-Ethyltoluene	4.61				5.00		92.2	70-130			
Heptane	3.47				5.00		69.4 *	70-130			L-03
Hexachlorobutadiene	5.87				5.00		117	70-130			
Hexane	4.39				5.00		87.8	70-130			
2-Hexanone (MBK)	3.18				5.00		63.6 *	70-130			L-03, V-05
Isopropanol	4.50				5.00		90.1	70-130			
Methyl tert-Butyl Ether (MTBE)	5.62				5.00		112	70-130			
Methylene Chloride	4.52				5.00		90.5	70-130			
4-Methyl-2-pentanone (MIBK)	3.61				5.00		72.2	70-130			
Naphthalene	5.95				5.00		119	70-130			
Propene	5.00				5.00		99.9	70-130			
Styrene	4.95				5.00		99.1	70-130			
1,1,2,2-Tetrachloroethane	4.63				5.00		92.7	70-130			
Tetrachloroethylene	5.33				5.00		107	70-130			
Tetrahydrofuran	4.59				5.00		91.8	70-130			
Toluene	4.47				5.00		89.4	70-130			
1,2,4-Trichlorobenzene	7.30				5.00		146 *	70-130			L-01
1,1,1-Trichloroethane	4.08				5.00		81.6	70-130			
1,1,2-Trichloroethane	4.69				5.00		93.8	70-130			
Trichloroethylene	4.35				5.00		87.0	70-130			
Trichlorofluoromethane (Freon 11)	6.09				5.00		122	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	5.87				5.00		117	70-130			
1,2,4-Trimethylbenzene	4.85				5.00		97.1	70-130			
1,3,5-Trimethylbenzene	4.81				5.00		96.2	70-130			
Vinyl Acetate	3.52				5.00		70.4	70-130			
Vinyl Chloride	5.36				5.00		107	70-130			
m&p-Xylene	9.22				10.0		92.2	70-130			
o-Xylene	4.67				5.00		93.3	70-130			
Surrogate: 4-Bromofluorobenzene (1)	8.85				8.00		111	70-130			

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	RPD	RPD Limit	Flag
	Results	RL	Results	RL	ppbv	Result	%REC	RPD		
Batch B077685 - TO-15 Prep										
Blank (B077685-BLK1)					Prepared & Analyzed: 07/29/13					
Indane	ND	0.064								
Indene	ND	0.066								L-03
Isopropylbenzene (Cumene)	ND	0.064								
<i>Surrogate: 4-Bromofluorobenzene (2)</i>	<i>6.80</i>				<i>8.00</i>		<i>85.0</i>		<i>70-130</i>	
LCS (B077685-BS1)					Prepared & Analyzed: 07/29/13					
Indane	1.13				1.29		87.5		70-130	
Indene	0.668				1.32		50.6 *		70-130	L-03
Isopropylbenzene (Cumene)	1.08				1.27		85.3		70-130	
<i>Surrogate: 4-Bromofluorobenzene (2)</i>	<i>7.29</i>				<i>8.00</i>		<i>91.1</i>		<i>70-130</i>	

FLAG/QUALIFIER SUMMARY

- * QC result is outside of established limits.
 - † Wide recovery limits established for difficult compound.
 - ‡ Wide RPD limits established for difficult compound.
 - # Data exceeded client recommended or regulatory level
- Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
- L-01 Laboratory fortified blank /laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.
 - L-03 Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.
 - V-05 Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA TO-15 in Air</i>	
Acetone	AIHA
Benzene	AIHA,FL,NJ,NY,VA
Benzyl chloride	AIHA,FL,NJ,NY,VA
Bromodichloromethane	AIHA,NJ,VA
Bromoform	AIHA,NJ,VA
Bromomethane	AIHA,FL,NJ,NY
1,3-Butadiene	AIHA,NJ,VA
2-Butanone (MEK)	AIHA,FL,NJ,NY,VA
Carbon Disulfide	AIHA,NJ,VA
Carbon Tetrachloride	AIHA,FL,NJ,NY,VA
Chlorobenzene	AIHA,FL,NJ,NY,VA
Chloroethane	AIHA,FL,NJ,NY,VA
Chloroform	AIHA,FL,NJ,NY,VA
Chloromethane	AIHA,FL,NJ,NY,VA
Cyclohexane	AIHA,NJ,VA
Dibromochloromethane	AIHA,NY
1,2-Dibromoethane (EDB)	AIHA,NJ,NY
1,2-Dichlorobenzene	AIHA,FL,NJ,NY,VA
1,3-Dichlorobenzene	AIHA,NJ,NY
1,4-Dichlorobenzene	AIHA,FL,NJ,NY,VA
Dichlorodifluoromethane (Freon 12)	AIHA,NY
1,1-Dichloroethane	AIHA,FL,NJ,NY,VA
1,2-Dichloroethane	AIHA,FL,NJ,NY,VA
1,1-Dichloroethylene	AIHA,FL,NJ,NY,VA
cis-1,2-Dichloroethylene	AIHA,FL,NY,VA
trans-1,2-Dichloroethylene	AIHA,NJ,NY,VA
1,2-Dichloropropane	AIHA,FL,NJ,NY,VA
cis-1,3-Dichloropropene	AIHA,FL,NJ,NY,VA
trans-1,3-Dichloropropene	AIHA,NY
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	AIHA,NJ,VA
1,4-Dioxane	AIHA,NJ,VA
Ethanol	AIHA
Ethyl Acetate	AIHA
Ethylbenzene	AIHA,FL,NJ,NY,VA
4-Ethyltoluene	AIHA,NJ
Heptane	AIHA,NJ,NY,VA
Hexachlorobutadiene	AIHA,NJ,NY,VA
Hexane	AIHA,FL,NJ,NY,VA
2-Hexanone (MBK)	AIHA
Isopropanol	AIHA,NY
Isopropylbenzene (Cumene)	AIHA,NJ,NY
Methyl tert-Butyl Ether (MTBE)	AIHA,FL,NJ,NY,VA
Methylene Chloride	AIHA,FL,NJ,NY,VA
4-Methyl-2-pentanone (MIBK)	AIHA,FL,NJ,NY
Naphthalene	NY
Propene	AIHA
Styrene	AIHA,FL,NJ,NY,VA

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA TO-15 in Air</i>	
1,1,2,2-Tetrachloroethane	AIHA,FL,NJ,NY,VA
Tetrachloroethylene	AIHA,FL,NJ,NY,VA
Tetrahydrofuran	AIHA
Toluene	AIHA,FL,NJ,NY,VA
1,2,4-Trichlorobenzene	AIHA,NJ,NY,VA
1,1,1-Trichloroethane	AIHA,FL,NJ,NY,VA
1,1,2-Trichloroethane	AIHA,FL,NJ,NY,VA
Trichloroethylene	AIHA,FL,NJ,NY,VA
Trichlorofluoromethane (Freon 11)	AIHA,NY
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	AIHA,NJ,NY,VA
1,2,4-Trimethylbenzene	AIHA,NJ,NY
1,3,5-Trimethylbenzene	AIHA,NJ,NY
Vinyl Acetate	AIHA,FL,NJ,NY,VA
Vinyl Chloride	AIHA,FL,NJ,NY,VA
m&p-Xylene	AIHA,FL,NJ,NY,VA
o-Xylene	AIHA,FL,NJ,NY,VA

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2014
MA	Massachusetts DEP	M-MA100	06/30/2014
CT	Connecticut Department of Public Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2014
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2014
RI	Rhode Island Department of Health	LAO00112	12/30/2013
NC	North Carolina Div. of Water Quality	652	12/31/2013
NJ	New Jersey DEP	MA007 NELAP	06/30/2014
FL	Florida Department of Health	E871027 NELAP	06/30/2014
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2014
WA	State of Washington Department of Ecology	C2065	02/23/2014
ME	State of Maine	2011028	06/9/2015
VA	Commonwealth of Virginia	460217	12/14/2013
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2012



Phone: 413-525-2332
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 www.contestlabs.com

AIR SAMPLE CHAIN OF CUSTODY RECORD

39 SPRUCE ST
 EAST LONGMEADOW, MA 01028

Page 1 of 1

Company Name: 62A
 Address: 530 BROOKWAY
PROVIDENCE, RI
 Attention: SOPHIA NIKIEWICZ/MANAGER
PLANT TRACK
 Project Location: TOWNVILLE, PROTRACKET, RI
 Sampled By: SOPHIA NIKIEWICZ

Telephone: (401) 447-8161
 Project # 43054 725
 Client PO # 1361044

Proposal Provided? (For Billing purposes)
 yes proposal date

DATA DELIVERY (check one):
 FAX EMAIL WEBSITE CLIENT

Fax #: _____
 Email: Sophia.nikiewicz@contest.com
 Format: EXCEL PDF GIS KEY OTHER

Field ID	Sample Description	Media Lab #	Date Sampled		Total Minutes Sampled	Flow Rate M ³ /Min. or L/Min.	Volume Liters or M ³	Matrix Code*	ANALYSIS REQUESTED	"Hg	Please fill out completely, sign, date and retain the yellow copy for your record		
			Start Date/Time	Stop Date/Time									
1	TOWNVILLE-TRUCKS	S	7/24/13 11:46	7/24/13 16:30	-	-	-	AMB	X	30	28.5	1645	3252
2	VALEUR-TRUCKS	S	7/24/13 15:06	7/24/13 18:29	-	-	-	AMB	X	31	4.5	1364	3253
3	FAUCOLET TEST	S	7/24/13	7/24/13	-	-	-	SG	-	30	30	2079	4207
4	SG-104D	S	7/24/13 14:20	7/24/13 14:44	-	-	-	SG	X	30	4	2078	4208
5	SG-109S	S	7/24/13 15:31	7/24/13 15:45	-	-	-	SG	X	30-5	5.9	1798	4206

CLIENT COMMENTS: SAWYERS DID NOT PASS LEFT TEST
 SAMPLE #1 - HAVE ANALYST CHECK, SOMETHING MAY BE WRONG WITH CAN - See USA W. - POSSIBLE GRUDGE

Relinquished by: (signature) [Signature] Date/Time: 7/24/13 17:55

Received by: (signature) [Signature] Date/Time: 7/25/13 3:20

Relinquished by: (signature) [Signature] Date/Time: 7/24/13 6:10

Received by: (signature) [Signature] Date/Time: 7/25/13 18:10

Turnaround **
 7-Day
 10-Day
 Other _____
RUSH *
 *24-Hr *48-Hr
 *72-Hr *4-Day

Special Requirements
 Regulations: NJ
 Data Enhancement/RCP? Y N
 Enhanced Data Package Y N
 (Surcharge Applies)
 Required Detection Limits: NJ/CIAP
 Other: _____

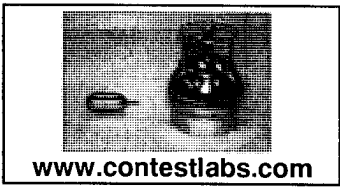
Matrix Code:
 SG= SOIL GAS
 IA= INDOOR AIR
 AMB= AMBIENT
 SS= SUB SLAB
 D= DUP
 BL= BLANK
 O= other

Media Codes:
 S= summa can
 TB= tedar bag
 P= PUF
 T= tube
 F= filter
 C= cassette
 O= Other

Approval Required
 *72-Hr *4-Day

**TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

AIHA, NELAP & WED/BE Certified



39 Spruce St.
 East Longmeadow, MA.
 01028
 P: 413-525-2332
 F: 413-525-6405

AIR Only Receipt Checklist

CLIENT NAME: GZA RECEIVED BY: SD DATE: 7/25/13

- 1) Was the chain(s) of custody relinquished and signed? Yes No
 - 2) Does the chain agree with the samples? Yes No
 If not, explain:
 - 3) Are all the samples in good condition? Yes No
 If not, explain:
 - 4) Are there any samples "On Hold"? Yes No Stored where:
 - 5) Are there any RUSH or SHORT HOLDING TIME samples? Yes No
- Who was notified _____ Date _____ Time _____

6) Location where samples are stored: Permission to subcontract samples? Yes No
 (Walk-in clients only) if not already approved
 Client Signature: _____

Containers received at Con-Test		
	# of Containers	Types (Size, Duration)
Summa Cans	5	3 Liter
Tedlar Bags		
Tubes		
Regulators	5	2(1hour) 3(15min)
Restrictors		
Tubing		
Other		

Unused Summas:

Unused Regulators:

- 1) Was all media (used & unused checked into the WASP? YES NO
- 2) Were all returned summa cans, Restrictors, & Regulators documented as returned in the Air Lab Inbound/Outbound Excel Spreadsheet? YES NO

Laboratory Comments:

1645 2078	3252 4208
1364 1798	3253 4206
2079	4207

August 7, 2013

Sophia Narkiewicz
GZA GeoEnvironmental-RI
530 Broadway Street
Providence, RI 02909

Project Location: Pawtucket, RI
Client Job Number:
Project Number: 2013074_Pawtucket
Laboratory Work Order Number: 13G1148

Enclosed are results of analyses for samples received by the laboratory on July 29, 2013. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Lisa A. Worthington
Project Manager

GZA GeoEnvironmental-RI
530 Broadway Street
Providence, RI 02909
ATTN: Sophia Narkiewicz

REPORT DATE: 8/7/2013

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 2013074_Pawtucket

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 13G1148

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Pawtucket, RI

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
1- Tidewater-72513	13G1148-01	Ambient Air		EPA TO-15	
2- Varievr-72513	13G1148-02	Ambient Air		EPA TO-15	
3- SG-107D	13G1148-03	Soil Gas		EPA 3C EPA TO-15	
4- SG-107S	13G1148-04	Soil Gas		EPA 3C EPA TO-15	
5- SG-106D	13G1148-05	Soil Gas		EPA 3C EPA TO-15	
6- SG-106S	13G1148-06	Soil Gas		EPA 3C EPA TO-15	
7- SG-105D	13G1148-07	Soil Gas		EPA 3C EPA TO-15	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

EPA TO-15

Qualifications:

Laboratory fortified blank /laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.

Analyte & Samples(s) Qualified:

1,2,4-Trichlorobenzene, Hexachlorobutadiene, Isopropanol
B077852-BS1, B077947-BS1

Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the high side.

Analyte & Samples(s) Qualified:

Isopropanol
13G1148-05[5- SG-106D], B077947-BS1

Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.

Analyte & Samples(s) Qualified:

Acetone, Hexachlorobutadiene, Isopropanol
13G1148-03[3- SG-107D], 13G1148-04[4- SG-107S], 13G1148-05[5- SG-106D], 13G1148-06[6- SG-106S], 13G1148-07[7- SG-105D], B077947-BS1, B077852-BS1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing. I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Michael A. Erickson
Laboratory Director

ANALYTICAL RESULTS

Project Location: Pawtucket, RI
 Date Received: 7/29/2013
Field Sample #: 1- Tidewater-72513
Sample ID: 13G1148-01
 Sample Matrix: Ambient Air
 Sampled: 7/25/2013 13:57

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1368
 Canister Size: 3 liter
 Flow Controller ID: 3122
 Sample Type: 8 hr

Work Order: 13G1148
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -5
 Receipt Vacuum(in Hg): -5
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Acetone	5.0	1.4		12	3.3	0.702	7/30/13 19:31	TPH	
Benzene	0.073	0.035		0.23	0.11	0.702	7/30/13 19:31	TPH	
Benzyl chloride	ND	0.035		ND	0.18	0.702	7/30/13 19:31	TPH	
Bromodichloromethane	ND	0.018		ND	0.12	0.702	7/30/13 19:31	TPH	
Bromoform	ND	0.035		ND	0.36	0.702	7/30/13 19:31	TPH	
Bromomethane	ND	0.035		ND	0.14	0.702	7/30/13 19:31	TPH	
1,3-Butadiene	ND	0.035		ND	0.078	0.702	7/30/13 19:31	TPH	
2-Butanone (MEK)	ND	1.4		ND	4.1	0.702	7/30/13 19:31	TPH	
Carbon Disulfide	ND	0.35		ND	1.1	0.702	7/30/13 19:31	TPH	
Carbon Tetrachloride	0.071	0.018		0.45	0.11	0.702	7/30/13 19:31	TPH	
Chlorobenzene	ND	0.035		ND	0.16	0.702	7/30/13 19:31	TPH	
Chloroethane	ND	0.035		ND	0.093	0.702	7/30/13 19:31	TPH	
Chloroform	0.022	0.018		0.11	0.086	0.702	7/30/13 19:31	TPH	
Chloromethane	0.46	0.070		0.95	0.14	0.702	7/30/13 19:31	TPH	
Cyclohexane	ND	0.035		ND	0.12	0.702	7/30/13 19:31	TPH	
Dibromochloromethane	ND	0.018		ND	0.15	0.702	7/30/13 19:31	TPH	
1,2-Dibromoethane (EDB)	ND	0.018		ND	0.13	0.702	7/30/13 19:31	TPH	
1,2-Dichlorobenzene	ND	0.035		ND	0.21	0.702	7/30/13 19:31	TPH	
1,3-Dichlorobenzene	ND	0.035		ND	0.21	0.702	7/30/13 19:31	TPH	
1,4-Dichlorobenzene	ND	0.035		ND	0.21	0.702	7/30/13 19:31	TPH	
Dichlorodifluoromethane (Freon 12)	0.24	0.035		1.2	0.17	0.702	7/30/13 19:31	TPH	
1,1-Dichloroethane	ND	0.018		ND	0.071	0.702	7/30/13 19:31	TPH	
1,2-Dichloroethane	ND	0.035		ND	0.14	0.702	7/30/13 19:31	TPH	
1,1-Dichloroethylene	ND	0.018		ND	0.070	0.702	7/30/13 19:31	TPH	
cis-1,2-Dichloroethylene	ND	0.018		ND	0.070	0.702	7/30/13 19:31	TPH	
trans-1,2-Dichloroethylene	ND	0.018		ND	0.070	0.702	7/30/13 19:31	TPH	
1,2-Dichloropropane	ND	0.018		ND	0.081	0.702	7/30/13 19:31	TPH	
cis-1,3-Dichloropropene	ND	0.018		ND	0.080	0.702	7/30/13 19:31	TPH	
trans-1,3-Dichloropropene	ND	0.018		ND	0.080	0.702	7/30/13 19:31	TPH	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.035		ND	0.25	0.702	7/30/13 19:31	TPH	
1,4-Dioxane	ND	0.35		ND	1.3	0.702	7/30/13 19:31	TPH	
Ethanol	2.2	1.4		4.1	2.6	0.702	7/30/13 19:31	TPH	
Ethyl Acetate	0.081	0.035		0.29	0.13	0.702	7/30/13 19:31	TPH	
Ethylbenzene	ND	0.035		ND	0.15	0.702	7/30/13 19:31	TPH	
4-Ethyltoluene	ND	0.035		ND	0.17	0.702	7/30/13 19:31	TPH	
Heptane	0.039	0.035		0.16	0.14	0.702	7/30/13 19:31	TPH	
Hexachlorobutadiene	ND	0.035		ND	0.37	0.702	7/30/13 19:31	TPH	

ANALYTICAL RESULTS

Project Location: Pawtucket, RI
 Date Received: 7/29/2013
Field Sample #: 1- Tidewater-72513
Sample ID: 13G1148-01
 Sample Matrix: Ambient Air
 Sampled: 7/25/2013 13:57

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1368
 Canister Size: 3 liter
 Flow Controller ID: 3122
 Sample Type: 8 hr

Work Order: 13G1148
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -5
 Receipt Vacuum(in Hg): -5
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Hexane	ND	1.4		ND	4.9	0.702	7/30/13 19:31	TPH	
2-Hexanone (MBK)	0.15	0.035		0.60	0.14	0.702	7/30/13 19:31	TPH	
Indane	ND	0.091		ND	0.44	0.702	7/30/13 19:31	TPH	
Indene	ND	0.093		ND	0.44	0.702	7/30/13 19:31	TPH	
Isopropanol	ND	1.4		ND	3.4	0.702	7/30/13 19:31	TPH	
Isopropylbenzene (Cumene)	ND	0.089		ND	0.44	0.702	7/30/13 19:31	TPH	
Methyl tert-Butyl Ether (MTBE)	ND	0.035		ND	0.13	0.702	7/30/13 19:31	TPH	
Methylene Chloride	ND	0.35		ND	1.2	0.702	7/30/13 19:31	TPH	
4-Methyl-2-pentanone (MIBK)	0.053	0.035		0.22	0.14	0.702	7/30/13 19:31	TPH	
Naphthalene	0.051	0.035		0.27	0.18	0.702	7/30/13 19:31	TPH	
Propene	ND	1.4		ND	2.4	0.702	7/30/13 19:31	TPH	
Styrene	ND	0.035		ND	0.15	0.702	7/30/13 19:31	TPH	
1,1,2,2-Tetrachloroethane	ND	0.018		ND	0.12	0.702	7/30/13 19:31	TPH	
Tetrachloroethylene	ND	0.018		ND	0.12	0.702	7/30/13 19:31	TPH	
Tetrahydrofuran	ND	0.035		ND	0.10	0.702	7/30/13 19:31	TPH	
Toluene	0.23	0.035		0.85	0.13	0.702	7/30/13 19:31	TPH	
1,2,4-Trichlorobenzene	ND	0.035		ND	0.26	0.702	7/30/13 19:31	TPH	
1,1,1-Trichloroethane	ND	0.018		ND	0.096	0.702	7/30/13 19:31	TPH	
1,1,2-Trichloroethane	ND	0.018		ND	0.096	0.702	7/30/13 19:31	TPH	
Trichloroethylene	ND	0.018		ND	0.094	0.702	7/30/13 19:31	TPH	
Trichlorofluoromethane (Freon 11)	0.20	0.035		1.1	0.20	0.702	7/30/13 19:31	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.075	0.035		0.58	0.27	0.702	7/30/13 19:31	TPH	
1,2,4-Trimethylbenzene	ND	0.035		ND	0.17	0.702	7/30/13 19:31	TPH	
1,3,5-Trimethylbenzene	ND	0.035		ND	0.17	0.702	7/30/13 19:31	TPH	
Vinyl Acetate	ND	0.70		ND	2.5	0.702	7/30/13 19:31	TPH	
Vinyl Chloride	ND	0.018		ND	0.045	0.702	7/30/13 19:31	TPH	
m&p-Xylene	0.075	0.070		0.33	0.30	0.702	7/30/13 19:31	TPH	
o-Xylene	ND	0.035		ND	0.15	0.702	7/30/13 19:31	TPH	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	103	70-130	7/30/13 19:31
4-Bromofluorobenzene (2)	91.1	70-130	7/30/13 19:31

ANALYTICAL RESULTS

Project Location: Pawtucket, RI
 Date Received: 7/29/2013
Field Sample #: 2- Varievr-72513
Sample ID: 13G1148-02
 Sample Matrix: Ambient Air
 Sampled: 7/25/2013 13:54

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1374
 Canister Size: 3 liter
 Flow Controller ID: 3236
 Sample Type: 8 hr

Work Order: 13G1148
 Initial Vacuum(in Hg): -26.5
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -6
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Acetone	7.0	1.4		17	3.3	0.702	7/30/13 20:56		TPH
Benzene	0.071	0.035		0.23	0.11	0.702	7/30/13 20:56		TPH
Benzyl chloride	ND	0.035		ND	0.18	0.702	7/30/13 20:56		TPH
Bromodichloromethane	ND	0.018		ND	0.12	0.702	7/30/13 20:56		TPH
Bromoform	ND	0.035		ND	0.36	0.702	7/30/13 20:56		TPH
Bromomethane	ND	0.035		ND	0.14	0.702	7/30/13 20:56		TPH
1,3-Butadiene	ND	0.035		ND	0.078	0.702	7/30/13 20:56		TPH
2-Butanone (MEK)	ND	1.4		ND	4.1	0.702	7/30/13 20:56		TPH
Carbon Disulfide	ND	0.35		ND	1.1	0.702	7/30/13 20:56		TPH
Carbon Tetrachloride	0.072	0.018		0.45	0.11	0.702	7/30/13 20:56		TPH
Chlorobenzene	ND	0.035		ND	0.16	0.702	7/30/13 20:56		TPH
Chloroethane	ND	0.035		ND	0.093	0.702	7/30/13 20:56		TPH
Chloroform	0.022	0.018		0.11	0.086	0.702	7/30/13 20:56		TPH
Chloromethane	0.50	0.070		1.0	0.14	0.702	7/30/13 20:56		TPH
Cyclohexane	ND	0.035		ND	0.12	0.702	7/30/13 20:56		TPH
Dibromochloromethane	ND	0.018		ND	0.15	0.702	7/30/13 20:56		TPH
1,2-Dibromoethane (EDB)	ND	0.018		ND	0.13	0.702	7/30/13 20:56		TPH
1,2-Dichlorobenzene	ND	0.035		ND	0.21	0.702	7/30/13 20:56		TPH
1,3-Dichlorobenzene	ND	0.035		ND	0.21	0.702	7/30/13 20:56		TPH
1,4-Dichlorobenzene	ND	0.035		ND	0.21	0.702	7/30/13 20:56		TPH
Dichlorodifluoromethane (Freon 12)	0.24	0.035		1.2	0.17	0.702	7/30/13 20:56		TPH
1,1-Dichloroethane	ND	0.018		ND	0.071	0.702	7/30/13 20:56		TPH
1,2-Dichloroethane	ND	0.035		ND	0.14	0.702	7/30/13 20:56		TPH
1,1-Dichloroethylene	ND	0.018		ND	0.070	0.702	7/30/13 20:56		TPH
cis-1,2-Dichloroethylene	ND	0.018		ND	0.070	0.702	7/30/13 20:56		TPH
trans-1,2-Dichloroethylene	ND	0.018		ND	0.070	0.702	7/30/13 20:56		TPH
1,2-Dichloropropane	ND	0.018		ND	0.081	0.702	7/30/13 20:56		TPH
cis-1,3-Dichloropropene	ND	0.018		ND	0.080	0.702	7/30/13 20:56		TPH
trans-1,3-Dichloropropene	ND	0.018		ND	0.080	0.702	7/30/13 20:56		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.035		ND	0.25	0.702	7/30/13 20:56		TPH
1,4-Dioxane	ND	0.35		ND	1.3	0.702	7/30/13 20:56		TPH
Ethanol	2.4	1.4		4.5	2.6	0.702	7/30/13 20:56		TPH
Ethyl Acetate	0.18	0.035		0.67	0.13	0.702	7/30/13 20:56		TPH
Ethylbenzene	ND	0.035		ND	0.15	0.702	7/30/13 20:56		TPH
4-Ethyltoluene	ND	0.035		ND	0.17	0.702	7/30/13 20:56		TPH
Heptane	ND	0.035		ND	0.14	0.702	7/30/13 20:56		TPH
Hexachlorobutadiene	ND	0.035		ND	0.37	0.702	7/30/13 20:56		TPH

ANALYTICAL RESULTS

Project Location: Pawtucket, RI
 Date Received: 7/29/2013
Field Sample #: 2- Varievr-72513
Sample ID: 13G1148-02
 Sample Matrix: Ambient Air
 Sampled: 7/25/2013 13:54

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1374
 Canister Size: 3 liter
 Flow Controller ID: 3236
 Sample Type: 8 hr

Work Order: 13G1148
 Initial Vacuum(in Hg): -26.5
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -6
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Hexane	ND	1.4		ND	4.9	0.702	7/30/13 20:56	TPH	
2-Hexanone (MBK)	0.12	0.035		0.48	0.14	0.702	7/30/13 20:56	TPH	
Indane	ND	0.091		ND	0.44	0.702	7/30/13 20:56	TPH	
Indene	ND	0.093		ND	0.44	0.702	7/30/13 20:56	TPH	
Isopropanol	ND	1.4		ND	3.4	0.702	7/30/13 20:56	TPH	
Isopropylbenzene (Cumene)	ND	0.089		ND	0.44	0.702	7/30/13 20:56	TPH	
Methyl tert-Butyl Ether (MTBE)	ND	0.035		ND	0.13	0.702	7/30/13 20:56	TPH	
Methylene Chloride	0.82	0.35		2.8	1.2	0.702	7/30/13 20:56	TPH	
4-Methyl-2-pentanone (MIBK)	0.045	0.035		0.18	0.14	0.702	7/30/13 20:56	TPH	
Naphthalene	0.042	0.035		0.22	0.18	0.702	7/30/13 20:56	TPH	
Propene	ND	1.4		ND	2.4	0.702	7/30/13 20:56	TPH	
Styrene	ND	0.035		ND	0.15	0.702	7/30/13 20:56	TPH	
1,1,2,2-Tetrachloroethane	ND	0.018		ND	0.12	0.702	7/30/13 20:56	TPH	
Tetrachloroethylene	ND	0.018		ND	0.12	0.702	7/30/13 20:56	TPH	
Tetrahydrofuran	ND	0.035		ND	0.10	0.702	7/30/13 20:56	TPH	
Toluene	0.21	0.035		0.80	0.13	0.702	7/30/13 20:56	TPH	
1,2,4-Trichlorobenzene	ND	0.035		ND	0.26	0.702	7/30/13 20:56	TPH	
1,1,1-Trichloroethane	ND	0.018		ND	0.096	0.702	7/30/13 20:56	TPH	
1,1,2-Trichloroethane	ND	0.018		ND	0.096	0.702	7/30/13 20:56	TPH	
Trichloroethylene	ND	0.018		ND	0.094	0.702	7/30/13 20:56	TPH	
Trichlorofluoromethane (Freon 11)	0.21	0.035		1.2	0.20	0.702	7/30/13 20:56	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.078	0.035		0.60	0.27	0.702	7/30/13 20:56	TPH	
1,2,4-Trimethylbenzene	ND	0.035		ND	0.17	0.702	7/30/13 20:56	TPH	
1,3,5-Trimethylbenzene	ND	0.035		ND	0.17	0.702	7/30/13 20:56	TPH	
Vinyl Acetate	ND	0.70		ND	2.5	0.702	7/30/13 20:56	TPH	
Vinyl Chloride	ND	0.018		ND	0.045	0.702	7/30/13 20:56	TPH	
m&p-Xylene	ND	0.070		ND	0.30	0.702	7/30/13 20:56	TPH	
o-Xylene	ND	0.035		ND	0.15	0.702	7/30/13 20:56	TPH	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	103	70-130	7/30/13 20:56
4-Bromofluorobenzene (2)	90.4	70-130	7/30/13 20:56

ANALYTICAL RESULTS

Project Location: Pawtucket, RI
 Date Received: 7/29/2013
Field Sample #: 3- SG-107D
Sample ID: 13G1148-03
 Sample Matrix: Soil Gas
 Sampled: 7/25/2013 09:01

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1759
 Canister Size: 3 liter
 Flow Controller ID: 1205
 Sample Type: 15 hr

Work Order: 13G1148
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -3.5
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analized		
Helium	ND	0.40		1	7/31/13 14:54		TPH

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time		Analyst
	Results	RL	Flag	Results	RL		Analized		
Acetone	5.4	2.0	V-06	13	4.8	1	8/1/13 8:00		TPH
Benzene	ND	0.050		ND	0.16	1	8/1/13 8:00		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/1/13 8:00		TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/1/13 8:00		TPH
Bromoform	ND	0.050		ND	0.52	1	8/1/13 8:00		TPH
Bromomethane	ND	0.050		ND	0.19	1	8/1/13 8:00		TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/1/13 8:00		TPH
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/1/13 8:00		TPH
Carbon Disulfide	ND	0.50		ND	1.6	1	8/1/13 8:00		TPH
Carbon Tetrachloride	0.049	0.025		0.31	0.16	1	8/1/13 8:00		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/1/13 8:00		TPH
Chloroethane	ND	0.050		ND	0.13	1	8/1/13 8:00		TPH
Chloroform	0.064	0.025		0.31	0.12	1	8/1/13 8:00		TPH
Chloromethane	ND	0.10		ND	0.21	1	8/1/13 8:00		TPH
Cyclohexane	ND	0.050		ND	0.17	1	8/1/13 8:00		TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/1/13 8:00		TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/1/13 8:00		TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/1/13 8:00		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/1/13 8:00		TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/1/13 8:00		TPH
Dichlorodifluoromethane (Freon 12)	0.42	0.050		2.1	0.25	1	8/1/13 8:00		TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/1/13 8:00		TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/1/13 8:00		TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/1/13 8:00		TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/1/13 8:00		TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/1/13 8:00		TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/1/13 8:00		TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/1/13 8:00		TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/1/13 8:00		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/1/13 8:00		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/1/13 8:00		TPH

ANALYTICAL RESULTS

Project Location: Pawtucket, RI
 Date Received: 7/29/2013
Field Sample #: 3- SG-107D
Sample ID: 13G1148-03
 Sample Matrix: Soil Gas
 Sampled: 7/25/2013 09:01

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1759
 Canister Size: 3 liter
 Flow Controller ID: 1205
 Sample Type: 15 hr

Work Order: 13G1148
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -3.5
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Ethanol	ND	2.0		ND	3.8	1	8/1/13	8:00	TPH
Ethyl Acetate	ND	0.050		ND	0.18	1	8/1/13	8:00	TPH
Ethylbenzene	ND	0.050		ND	0.22	1	8/1/13	8:00	TPH
4-Ethyltoluene	ND	0.050		ND	0.25	1	8/1/13	8:00	TPH
Heptane	ND	0.050		ND	0.20	1	8/1/13	8:00	TPH
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/1/13	8:00	TPH
Hexane	ND	2.0		ND	7.0	1	8/1/13	8:00	TPH
2-Hexanone (MBK)	0.16	0.050		0.68	0.20	1	8/1/13	8:00	TPH
Indane	ND	0.13		ND	0.62	1	8/1/13	8:00	TPH
Indene	ND	0.13		ND	0.63	1	8/1/13	8:00	TPH
Isopropanol	ND	2.0		ND	4.9	1	8/1/13	8:00	TPH
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/1/13	8:00	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/1/13	8:00	TPH
Methylene Chloride	ND	0.50		ND	1.7	1	8/1/13	8:00	TPH
4-Methyl-2-pentanone (MIBK)	0.087	0.050		0.36	0.20	1	8/1/13	8:00	TPH
Naphthalene	ND	0.050		ND	0.26	1	8/1/13	8:00	TPH
Propene	ND	2.0		ND	3.4	1	8/1/13	8:00	TPH
Styrene	ND	0.050		ND	0.21	1	8/1/13	8:00	TPH
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/1/13	8:00	TPH
Tetrachloroethylene	5.5	0.025		37	0.17	1	8/1/13	8:00	TPH
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/1/13	8:00	TPH
Toluene	ND	0.050		ND	0.19	1	8/1/13	8:00	TPH
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/1/13	8:00	TPH
1,1,1-Trichloroethane	0.062	0.025		0.34	0.14	1	8/1/13	8:00	TPH
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/1/13	8:00	TPH
Trichloroethylene	0.031	0.025		0.17	0.13	1	8/1/13	8:00	TPH
Trichlorofluoromethane (Freon 11)	0.35	0.050		2.0	0.28	1	8/1/13	8:00	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.12	0.050		0.93	0.38	1	8/1/13	8:00	TPH
1,2,4-Trimethylbenzene	ND	0.050		ND	0.25	1	8/1/13	8:00	TPH
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	8/1/13	8:00	TPH
Vinyl Acetate	ND	1.0		ND	3.5	1	8/1/13	8:00	TPH
Vinyl Chloride	ND	0.025		ND	0.064	1	8/1/13	8:00	TPH
m&p-Xylene	ND	0.10		ND	0.43	1	8/1/13	8:00	TPH
o-Xylene	ND	0.050		ND	0.22	1	8/1/13	8:00	TPH

Surrogates

% Recovery

% REC Limits

4-Bromofluorobenzene (1)

105

70-130

8/1/13 8:00

ANALYTICAL RESULTS

Project Location: Pawtucket, RI
 Date Received: 7/29/2013
Field Sample #: 3-SG-107D
Sample ID: 13G1148-03
 Sample Matrix: Soil Gas
 Sampled: 7/25/2013 09:01

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1759
 Canister Size: 3 liter
 Flow Controller ID: 1205
 Sample Type: 15 hr

Work Order: 13G1148
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -3.5
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Date/Time		
	Results	RL	Flag	Results	RL	Dilution	Analyzed	Analyst
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		93.1			70-130		8/1/13 8:00	

ANALYTICAL RESULTS

Project Location: Pawtucket, RI
 Date Received: 7/29/2013
Field Sample #: 4- SG-107S
Sample ID: 13G1148-04
 Sample Matrix: Soil Gas
 Sampled: 7/25/2013 10:11

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 2046
 Canister Size: 3 liter
 Flow Controller ID: 4213
 Sample Type: 15 hr

Work Order: 13G1148
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analized		
Helium	ND	0.40		1	7/31/13 15:20		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Acetone	15	2.0	V-06	37	4.8	1	8/1/13 8:41		TPH
Benzene	ND	0.050		ND	0.16	1	8/1/13 8:41		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/1/13 8:41		TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/1/13 8:41		TPH
Bromoform	ND	0.050		ND	0.52	1	8/1/13 8:41		TPH
Bromomethane	ND	0.050		ND	0.19	1	8/1/13 8:41		TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/1/13 8:41		TPH
2-Butanone (MEK)	2.7	2.0		7.9	5.9	1	8/1/13 8:41		TPH
Carbon Disulfide	1.3	0.50		4.0	1.6	1	8/1/13 8:41		TPH
Carbon Tetrachloride	0.058	0.025		0.36	0.16	1	8/1/13 8:41		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/1/13 8:41		TPH
Chloroethane	ND	0.050		ND	0.13	1	8/1/13 8:41		TPH
Chloroform	0.057	0.025		0.28	0.12	1	8/1/13 8:41		TPH
Chloromethane	ND	0.10		ND	0.21	1	8/1/13 8:41		TPH
Cyclohexane	ND	0.050		ND	0.17	1	8/1/13 8:41		TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/1/13 8:41		TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/1/13 8:41		TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/1/13 8:41		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/1/13 8:41		TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/1/13 8:41		TPH
Dichlorodifluoromethane (Freon 12)	0.41	0.050		2.0	0.25	1	8/1/13 8:41		TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/1/13 8:41		TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/1/13 8:41		TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/1/13 8:41		TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/1/13 8:41		TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/1/13 8:41		TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/1/13 8:41		TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/1/13 8:41		TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/1/13 8:41		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/1/13 8:41		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/1/13 8:41		TPH

ANALYTICAL RESULTS

Project Location: Pawtucket, RI
 Date Received: 7/29/2013
Field Sample #: 4- SG-107S
Sample ID: 13G1148-04
 Sample Matrix: Soil Gas
 Sampled: 7/25/2013 10:11

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 2046
 Canister Size: 3 liter
 Flow Controller ID: 4213
 Sample Type: 15 hr

Work Order: 13G1148
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Ethanol	2.3	2.0		4.4	3.8	1	8/1/13	8:41	TPH
Ethyl Acetate	0.082	0.050		0.30	0.18	1	8/1/13	8:41	TPH
Ethylbenzene	ND	0.050		ND	0.22	1	8/1/13	8:41	TPH
4-Ethyltoluene	ND	0.050		ND	0.25	1	8/1/13	8:41	TPH
Heptane	ND	0.050		ND	0.20	1	8/1/13	8:41	TPH
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/1/13	8:41	TPH
Hexane	ND	2.0		ND	7.0	1	8/1/13	8:41	TPH
2-Hexanone (MBK)	0.70	0.050		2.9	0.20	1	8/1/13	8:41	TPH
Indane	ND	0.13		ND	0.62	1	8/1/13	8:41	TPH
Indene	ND	0.13		ND	0.63	1	8/1/13	8:41	TPH
Isopropanol	ND	2.0		ND	4.9	1	8/1/13	8:41	TPH
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/1/13	8:41	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/1/13	8:41	TPH
Methylene Chloride	ND	0.50		ND	1.7	1	8/1/13	8:41	TPH
4-Methyl-2-pentanone (MIBK)	0.25	0.050		1.0	0.20	1	8/1/13	8:41	TPH
Naphthalene	0.087	0.050		0.46	0.26	1	8/1/13	8:41	TPH
Propene	2.2	2.0		3.9	3.4	1	8/1/13	8:41	TPH
Styrene	ND	0.050		ND	0.21	1	8/1/13	8:41	TPH
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/1/13	8:41	TPH
Tetrachloroethylene	7.0	0.025		47	0.17	1	8/1/13	8:41	TPH
Tetrahydrofuran	0.050	0.050		0.15	0.15	1	8/1/13	8:41	TPH
Toluene	ND	0.050		ND	0.19	1	8/1/13	8:41	TPH
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/1/13	8:41	TPH
1,1,1-Trichloroethane	0.050	0.025		0.27	0.14	1	8/1/13	8:41	TPH
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/1/13	8:41	TPH
Trichloroethylene	ND	0.025		ND	0.13	1	8/1/13	8:41	TPH
Trichlorofluoromethane (Freon 11)	0.51	0.050		2.8	0.28	1	8/1/13	8:41	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.39	0.050		3.0	0.38	1	8/1/13	8:41	TPH
1,2,4-Trimethylbenzene	ND	0.050		ND	0.25	1	8/1/13	8:41	TPH
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	8/1/13	8:41	TPH
Vinyl Acetate	ND	1.0		ND	3.5	1	8/1/13	8:41	TPH
Vinyl Chloride	ND	0.025		ND	0.064	1	8/1/13	8:41	TPH
m&p-Xylene	ND	0.10		ND	0.43	1	8/1/13	8:41	TPH
o-Xylene	ND	0.050		ND	0.22	1	8/1/13	8:41	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	107	70-130	8/1/13 8:41

ANALYTICAL RESULTS

Project Location: Pawtucket, RI
 Date Received: 7/29/2013
Field Sample #: 4- SG-107S
Sample ID: 13G1148-04
 Sample Matrix: Soil Gas
 Sampled: 7/25/2013 10:11

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 2046
 Canister Size: 3 liter
 Flow Controller ID: 4213
 Sample Type: 15 hr

Work Order: 13G1148
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		93.8			70-130		8/1/13 8:41	

ANALYTICAL RESULTS

Project Location: Pawtucket, RI
 Date Received: 7/29/2013
Field Sample #: 5- SG-106D
Sample ID: 13G1148-05
 Sample Matrix: Soil Gas
 Sampled: 7/25/2013 11:43

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 2047
 Canister Size: 3 liter
 Flow Controller ID: 4201
 Sample Type: 15 hr

Work Order: 13G1148
 Initial Vacuum(in Hg): -31
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analized		
Helium	ND	0.40		1	7/31/13 15:48		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Acetone	25	2.0	V-06	59	4.8	1	8/1/13 9:24		TPH
Benzene	0.075	0.050		0.24	0.16	1	8/1/13 9:24		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/1/13 9:24		TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/1/13 9:24		TPH
Bromoform	ND	0.050		ND	0.52	1	8/1/13 9:24		TPH
Bromomethane	ND	0.050		ND	0.19	1	8/1/13 9:24		TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/1/13 9:24		TPH
2-Butanone (MEK)	4.7	2.0		14	5.9	1	8/1/13 9:24		TPH
Carbon Disulfide	0.69	0.50		2.1	1.6	1	8/1/13 9:24		TPH
Carbon Tetrachloride	0.038	0.025		0.24	0.16	1	8/1/13 9:24		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/1/13 9:24		TPH
Chloroethane	ND	0.050		ND	0.13	1	8/1/13 9:24		TPH
Chloroform	0.57	0.025		2.8	0.12	1	8/1/13 9:24		TPH
Chloromethane	0.19	0.10		0.39	0.21	1	8/1/13 9:24		TPH
Cyclohexane	ND	0.050		ND	0.17	1	8/1/13 9:24		TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/1/13 9:24		TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/1/13 9:24		TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/1/13 9:24		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/1/13 9:24		TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/1/13 9:24		TPH
Dichlorodifluoromethane (Freon 12)	0.41	0.050		2.0	0.25	1	8/1/13 9:24		TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/1/13 9:24		TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/1/13 9:24		TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/1/13 9:24		TPH
cis-1,2-Dichloroethylene	0.22	0.025		0.89	0.099	1	8/1/13 9:24		TPH
trans-1,2-Dichloroethylene	0.046	0.025		0.18	0.099	1	8/1/13 9:24		TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/1/13 9:24		TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/1/13 9:24		TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/1/13 9:24		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/1/13 9:24		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/1/13 9:24		TPH

ANALYTICAL RESULTS

Project Location: Pawtucket, RI
 Date Received: 7/29/2013
Field Sample #: 5- SG-106D
Sample ID: 13G1148-05
 Sample Matrix: Soil Gas
 Sampled: 7/25/2013 11:43

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 2047
 Canister Size: 3 liter
 Flow Controller ID: 4201
 Sample Type: 15 hr

Work Order: 13G1148
 Initial Vacuum(in Hg): -31
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Ethanol	6.1	2.0		11	3.8	1	8/1/13	9:24	TPH
Ethyl Acetate	0.19	0.050		0.69	0.18	1	8/1/13	9:24	TPH
Ethylbenzene	ND	0.050		ND	0.22	1	8/1/13	9:24	TPH
4-Ethyltoluene	ND	0.050		ND	0.25	1	8/1/13	9:24	TPH
Heptane	0.12	0.050		0.48	0.20	1	8/1/13	9:24	TPH
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/1/13	9:24	TPH
Hexane	ND	2.0		ND	7.0	1	8/1/13	9:24	TPH
2-Hexanone (MBK)	1.0	0.050		4.3	0.20	1	8/1/13	9:24	TPH
Indane	ND	0.13		ND	0.62	1	8/1/13	9:24	TPH
Indene	ND	0.13		ND	0.63	1	8/1/13	9:24	TPH
Isopropanol	2.3	2.0	L-05, V-06	5.7	4.9	1	8/1/13	9:24	TPH
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/1/13	9:24	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/1/13	9:24	TPH
Methylene Chloride	ND	0.50		ND	1.7	1	8/1/13	9:24	TPH
4-Methyl-2-pentanone (MIBK)	0.36	0.050		1.5	0.20	1	8/1/13	9:24	TPH
Naphthalene	0.075	0.050		0.39	0.26	1	8/1/13	9:24	TPH
Propene	4.3	2.0		7.5	3.4	1	8/1/13	9:24	TPH
Styrene	ND	0.050		ND	0.21	1	8/1/13	9:24	TPH
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/1/13	9:24	TPH
Tetrachloroethylene	48	0.025		320	0.17	1	8/1/13	9:24	TPH
Tetrahydrofuran	0.079	0.050		0.23	0.15	1	8/1/13	9:24	TPH
Toluene	0.074	0.050		0.28	0.19	1	8/1/13	9:24	TPH
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/1/13	9:24	TPH
1,1,1-Trichloroethane	0.28	0.025		1.5	0.14	1	8/1/13	9:24	TPH
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/1/13	9:24	TPH
Trichloroethylene	4.7	0.025		25	0.13	1	8/1/13	9:24	TPH
Trichlorofluoromethane (Freon 11)	0.54	0.050		3.0	0.28	1	8/1/13	9:24	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.45	0.050		3.5	0.38	1	8/1/13	9:24	TPH
1,2,4-Trimethylbenzene	ND	0.050		ND	0.25	1	8/1/13	9:24	TPH
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	8/1/13	9:24	TPH
Vinyl Acetate	ND	1.0		ND	3.5	1	8/1/13	9:24	TPH
Vinyl Chloride	ND	0.025		ND	0.064	1	8/1/13	9:24	TPH
m&p-Xylene	ND	0.10		ND	0.43	1	8/1/13	9:24	TPH
o-Xylene	ND	0.050		ND	0.22	1	8/1/13	9:24	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	106	70-130	8/1/13 9:24

ANALYTICAL RESULTS

Project Location: Pawtucket, RI
 Date Received: 7/29/2013
Field Sample #: 5- SG-106D
Sample ID: 13G1148-05
 Sample Matrix: Soil Gas
 Sampled: 7/25/2013 11:43

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 2047
 Canister Size: 3 liter
 Flow Controller ID: 4201
 Sample Type: 15 hr

Work Order: 13G1148
 Initial Vacuum(in Hg): -31
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		96.0			70-130		8/1/13 9:24	

ANALYTICAL RESULTS

Project Location: Pawtucket, RI
 Date Received: 7/29/2013
Field Sample #: 6- SG-106S
Sample ID: 13G1148-06
 Sample Matrix: Soil Gas
 Sampled: 7/25/2013 12:39

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1375
 Canister Size: 3 liter
 Flow Controller ID: 4202
 Sample Type: 15 hr

Work Order: 13G1148
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analyzed		
Helium	ND	0.40		1	7/31/13 16:14		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Acetone	6.8	2.0	V-06	16	4.8	1	8/1/13 10:06		TPH
Benzene	ND	0.050		ND	0.16	1	8/1/13 10:06		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/1/13 10:06		TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/1/13 10:06		TPH
Bromoform	ND	0.050		ND	0.52	1	8/1/13 10:06		TPH
Bromomethane	ND	0.050		ND	0.19	1	8/1/13 10:06		TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/1/13 10:06		TPH
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/1/13 10:06		TPH
Carbon Disulfide	ND	0.50		ND	1.6	1	8/1/13 10:06		TPH
Carbon Tetrachloride	0.039	0.025		0.25	0.16	1	8/1/13 10:06		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/1/13 10:06		TPH
Chloroethane	ND	0.050		ND	0.13	1	8/1/13 10:06		TPH
Chloroform	0.036	0.025		0.18	0.12	1	8/1/13 10:06		TPH
Chloromethane	ND	0.10		ND	0.21	1	8/1/13 10:06		TPH
Cyclohexane	ND	0.050		ND	0.17	1	8/1/13 10:06		TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/1/13 10:06		TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/1/13 10:06		TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/1/13 10:06		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/1/13 10:06		TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/1/13 10:06		TPH
Dichlorodifluoromethane (Freon 12)	0.28	0.050		1.4	0.25	1	8/1/13 10:06		TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/1/13 10:06		TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/1/13 10:06		TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/1/13 10:06		TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/1/13 10:06		TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/1/13 10:06		TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/1/13 10:06		TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/1/13 10:06		TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/1/13 10:06		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/1/13 10:06		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/1/13 10:06		TPH

ANALYTICAL RESULTS

Project Location: Pawtucket, RI
 Date Received: 7/29/2013
Field Sample #: 6- SG-106S
Sample ID: 13G1148-06
 Sample Matrix: Soil Gas
 Sampled: 7/25/2013 12:39

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1375
 Canister Size: 3 liter
 Flow Controller ID: 4202
 Sample Type: 15 hr

Work Order: 13G1148
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Ethanol	ND	2.0		ND	3.8	1	8/1/13 10:06	TPH	
Ethyl Acetate	ND	0.050		ND	0.18	1	8/1/13 10:06	TPH	
Ethylbenzene	ND	0.050		ND	0.22	1	8/1/13 10:06	TPH	
4-Ethyltoluene	ND	0.050		ND	0.25	1	8/1/13 10:06	TPH	
Heptane	ND	0.050		ND	0.20	1	8/1/13 10:06	TPH	
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/1/13 10:06	TPH	
Hexane	ND	2.0		ND	7.0	1	8/1/13 10:06	TPH	
2-Hexanone (MBK)	0.16	0.050		0.65	0.20	1	8/1/13 10:06	TPH	
Indane	ND	0.13		ND	0.62	1	8/1/13 10:06	TPH	
Indene	ND	0.13		ND	0.63	1	8/1/13 10:06	TPH	
Isopropanol	ND	2.0		ND	4.9	1	8/1/13 10:06	TPH	
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/1/13 10:06	TPH	
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/1/13 10:06	TPH	
Methylene Chloride	ND	0.50		ND	1.7	1	8/1/13 10:06	TPH	
4-Methyl-2-pentanone (MIBK)	0.10	0.050		0.43	0.20	1	8/1/13 10:06	TPH	
Naphthalene	0.054	0.050		0.28	0.26	1	8/1/13 10:06	TPH	
Propene	ND	2.0		ND	3.4	1	8/1/13 10:06	TPH	
Styrene	ND	0.050		ND	0.21	1	8/1/13 10:06	TPH	
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/1/13 10:06	TPH	
Tetrachloroethylene	3.9	0.025		27	0.17	1	8/1/13 10:06	TPH	
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/1/13 10:06	TPH	
Toluene	ND	0.050		ND	0.19	1	8/1/13 10:06	TPH	
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/1/13 10:06	TPH	
1,1,1-Trichloroethane	ND	0.025		ND	0.14	1	8/1/13 10:06	TPH	
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/1/13 10:06	TPH	
Trichloroethylene	ND	0.025		ND	0.13	1	8/1/13 10:06	TPH	
Trichlorofluoromethane (Freon 11)	0.27	0.050		1.5	0.28	1	8/1/13 10:06	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.13	0.050		0.98	0.38	1	8/1/13 10:06	TPH	
1,2,4-Trimethylbenzene	ND	0.050		ND	0.25	1	8/1/13 10:06	TPH	
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	8/1/13 10:06	TPH	
Vinyl Acetate	ND	1.0		ND	3.5	1	8/1/13 10:06	TPH	
Vinyl Chloride	ND	0.025		ND	0.064	1	8/1/13 10:06	TPH	
m&p-Xylene	ND	0.10		ND	0.43	1	8/1/13 10:06	TPH	
o-Xylene	ND	0.050		ND	0.22	1	8/1/13 10:06	TPH	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	106	70-130	8/1/13 10:06

ANALYTICAL RESULTS

Project Location: Pawtucket, RI
 Date Received: 7/29/2013
Field Sample #: 6- SG-106S
Sample ID: 13G1148-06
 Sample Matrix: Soil Gas
 Sampled: 7/25/2013 12:39

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1375
 Canister Size: 3 liter
 Flow Controller ID: 4202
 Sample Type: 15 hr

Work Order: 13G1148
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		97.3			70-130		8/1/13 10:06	

ANALYTICAL RESULTS

Project Location: Pawtucket, RI
 Date Received: 7/29/2013
Field Sample #: 7- SG-105D
Sample ID: 13G1148-07
 Sample Matrix: Soil Gas
 Sampled: 7/25/2013 15:02

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 2051
 Canister Size: 3 liter
 Flow Controller ID: 4212
 Sample Type: 15 hr

Work Order: 13G1148
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analyzed		
Helium	ND	0.40		1	7/31/13 16:42		TPH

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time		Analyst
	Results	RL	Flag	Results	RL		Analyzed		
Acetone	14	2.0	V-06	34	4.8	1	8/1/13 10:49		TPH
Benzene	0.064	0.050		0.20	0.16	1	8/1/13 10:49		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/1/13 10:49		TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/1/13 10:49		TPH
Bromoform	ND	0.050		ND	0.52	1	8/1/13 10:49		TPH
Bromomethane	ND	0.050		ND	0.19	1	8/1/13 10:49		TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/1/13 10:49		TPH
2-Butanone (MEK)	2.2	2.0		6.5	5.9	1	8/1/13 10:49		TPH
Carbon Disulfide	ND	0.50		ND	1.6	1	8/1/13 10:49		TPH
Carbon Tetrachloride	ND	0.025		ND	0.16	1	8/1/13 10:49		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/1/13 10:49		TPH
Chloroethane	ND	0.050		ND	0.13	1	8/1/13 10:49		TPH
Chloroform	0.076	0.025		0.37	0.12	1	8/1/13 10:49		TPH
Chloromethane	0.12	0.10		0.24	0.21	1	8/1/13 10:49		TPH
Cyclohexane	0.14	0.050		0.47	0.17	1	8/1/13 10:49		TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/1/13 10:49		TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/1/13 10:49		TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/1/13 10:49		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/1/13 10:49		TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/1/13 10:49		TPH
Dichlorodifluoromethane (Freon 12)	0.24	0.050		1.2	0.25	1	8/1/13 10:49		TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/1/13 10:49		TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/1/13 10:49		TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/1/13 10:49		TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/1/13 10:49		TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/1/13 10:49		TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/1/13 10:49		TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/1/13 10:49		TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/1/13 10:49		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/1/13 10:49		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/1/13 10:49		TPH

ANALYTICAL RESULTS

Project Location: Pawtucket, RI
 Date Received: 7/29/2013
Field Sample #: 7- SG-105D
Sample ID: 13G1148-07
 Sample Matrix: Soil Gas
 Sampled: 7/25/2013 15:02

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 2051
 Canister Size: 3 liter
 Flow Controller ID: 4212
 Sample Type: 15 hr

Work Order: 13G1148
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Ethanol	3.2	2.0		5.9	3.8	1	8/1/13 10:49	TPH	
Ethyl Acetate	0.17	0.050		0.61	0.18	1	8/1/13 10:49	TPH	
Ethylbenzene	ND	0.050		ND	0.22	1	8/1/13 10:49	TPH	
4-Ethyltoluene	ND	0.050		ND	0.25	1	8/1/13 10:49	TPH	
Heptane	ND	0.050		ND	0.20	1	8/1/13 10:49	TPH	
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/1/13 10:49	TPH	
Hexane	ND	2.0		ND	7.0	1	8/1/13 10:49	TPH	
2-Hexanone (MBK)	0.55	0.050		2.3	0.20	1	8/1/13 10:49	TPH	
Indane	ND	0.13		ND	0.62	1	8/1/13 10:49	TPH	
Indene	ND	0.13		ND	0.63	1	8/1/13 10:49	TPH	
Isopropanol	ND	2.0		ND	4.9	1	8/1/13 10:49	TPH	
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/1/13 10:49	TPH	
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/1/13 10:49	TPH	
Methylene Chloride	1.6	0.50		5.5	1.7	1	8/1/13 10:49	TPH	
4-Methyl-2-pentanone (MIBK)	0.20	0.050		0.80	0.20	1	8/1/13 10:49	TPH	
Naphthalene	0.075	0.050		0.39	0.26	1	8/1/13 10:49	TPH	
Propene	ND	2.0		ND	3.4	1	8/1/13 10:49	TPH	
Styrene	ND	0.050		ND	0.21	1	8/1/13 10:49	TPH	
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/1/13 10:49	TPH	
Tetrachloroethylene	18	0.025		120	0.17	1	8/1/13 10:49	TPH	
Tetrahydrofuran	0.052	0.050		0.15	0.15	1	8/1/13 10:49	TPH	
Toluene	ND	0.050		ND	0.19	1	8/1/13 10:49	TPH	
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/1/13 10:49	TPH	
1,1,1-Trichloroethane	0.039	0.025		0.21	0.14	1	8/1/13 10:49	TPH	
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/1/13 10:49	TPH	
Trichloroethylene	0.046	0.025		0.25	0.13	1	8/1/13 10:49	TPH	
Trichlorofluoromethane (Freon 11)	0.43	0.050		2.4	0.28	1	8/1/13 10:49	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.43	0.050		3.3	0.38	1	8/1/13 10:49	TPH	
1,2,4-Trimethylbenzene	ND	0.050		ND	0.25	1	8/1/13 10:49	TPH	
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	8/1/13 10:49	TPH	
Vinyl Acetate	ND	1.0		ND	3.5	1	8/1/13 10:49	TPH	
Vinyl Chloride	ND	0.025		ND	0.064	1	8/1/13 10:49	TPH	
m&p-Xylene	ND	0.10		ND	0.43	1	8/1/13 10:49	TPH	
o-Xylene	ND	0.050		ND	0.22	1	8/1/13 10:49	TPH	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	107	70-130	8/1/13 10:49

ANALYTICAL RESULTS

Project Location: Pawtucket, RI
 Date Received: 7/29/2013
Field Sample #: 7- SG-105D
Sample ID: 13G1148-07
 Sample Matrix: Soil Gas
 Sampled: 7/25/2013 15:02

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 2051
 Canister Size: 3 liter
 Flow Controller ID: 4212
 Sample Type: 15 hr

Work Order: 13G1148
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		98.6			70-130		8/1/13 10:49	

Sample Extraction Data

Prep Method: TO-15 Prep-EPA 3C

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
13G1148-03 [3- SG-107D]	B077854	1.5	1	N/A	1000	0.5	0.75	07/31/13
13G1148-04 [4- SG-107S]	B077854	1.5	1	N/A	1000	0.5	0.75	07/31/13
13G1148-05 [5- SG-106D]	B077854	1.5	1	N/A	1000	0.5	0.75	07/31/13
13G1148-06 [6- SG-106S]	B077854	1.5	1	N/A	1000	0.5	0.75	07/31/13
13G1148-07 [7- SG-105D]	B077854	1.5	1	N/A	1000	0.5	0.75	07/31/13

Prep Method: TO-15 Prep-EPA TO-15

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
13G1148-01 [1- Tidewater-72513]	B077852	1.5	1	N/A	1000	400	855	07/30/13
13G1148-02 [2- Varievr-72513]	B077852	1.5	1	N/A	1000	400	855	07/30/13

Prep Method: TO-15 Prep-EPA TO-15

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
13G1148-03 [3- SG-107D]	B077947	1.5	1	N/A	1000	400	600	07/31/13
13G1148-04 [4- SG-107S]	B077947	1.5	1	N/A	1000	400	600	07/31/13
13G1148-05 [5- SG-106D]	B077947	1.5	1	N/A	1000	400	600	07/31/13
13G1148-06 [6- SG-106S]	B077947	1.5	1	N/A	1000	400	600	07/31/13
13G1148-07 [7- SG-105D]	B077947	1.5	1	N/A	1000	400	600	07/31/13

QUALITY CONTROL

Miscellaneous Air Analyses - Quality Control

Analyte	%		ug/m3		Spike Level	Source	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	%	Result	%REC	Limits	Limit	

Batch B077854 - TO-15 Prep

Duplicate (B077854-DUP1)

Source: 13G1148-07

Prepared & Analyzed: 07/31/13

Helium	ND	0.40				0.0			200	
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QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	RPD	RPD Limit	Flag
	Results	RL	Results	RL	ppbv	Result	%REC Limits	RPD		

Batch B077852 - TO-15 Prep

Blank (B077852-BLK1)

Prepared & Analyzed: 07/30/13

Acetone	ND	1.0
Benzene	ND	0.025
Benzyl chloride	ND	0.025
Bromodichloromethane	ND	0.012
Bromoform	ND	0.025
Bromomethane	ND	0.025
1,3-Butadiene	ND	0.025
2-Butanone (MEK)	ND	1.0
Carbon Disulfide	ND	0.25
Carbon Tetrachloride	ND	0.012
Chlorobenzene	ND	0.025
Chloroethane	ND	0.025
Chloroform	ND	0.012
Chloromethane	ND	0.050
Cyclohexane	ND	0.025
Dibromochloromethane	ND	0.012
1,2-Dibromoethane (EDB)	ND	0.012
1,2-Dichlorobenzene	ND	0.025
1,3-Dichlorobenzene	ND	0.025
1,4-Dichlorobenzene	ND	0.025
Dichlorodifluoromethane (Freon 12)	ND	0.025
1,1-Dichloroethane	ND	0.012
1,2-Dichloroethane	ND	0.012
1,1-Dichloroethylene	ND	0.012
cis-1,2-Dichloroethylene	ND	0.012
trans-1,2-Dichloroethylene	ND	0.012
1,2-Dichloropropane	ND	0.012
cis-1,3-Dichloropropene	ND	0.012
trans-1,3-Dichloropropene	ND	0.012
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.025
1,4-Dioxane	ND	0.25
Ethanol	ND	1.0
Ethyl Acetate	ND	0.025
Ethylbenzene	ND	0.025
4-Ethyltoluene	ND	0.025
Heptane	ND	0.025
Hexachlorobutadiene	ND	0.025
Hexane	ND	1.0
2-Hexanone (MBK)	ND	0.025
Indane	ND	0.064
Indene	ND	0.066
Isopropanol	ND	1.0
Isopropylbenzene (Cumene)	ND	0.064
Methyl tert-Butyl Ether (MTBE)	ND	0.025
Methylene Chloride	ND	0.25
4-Methyl-2-pentanone (MIBK)	ND	0.025

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		

Batch B077852 - TO-15 Prep

Blank (B077852-BLK1)

Prepared & Analyzed: 07/30/13

Naphthalene	ND	0.025									
Propene	ND	1.0									
Styrene	ND	0.025									
1,1,2,2-Tetrachloroethane	ND	0.012									
Tetrachloroethylene	ND	0.012									
Tetrahydrofuran	ND	0.025									
Toluene	ND	0.025									
1,2,4-Trichlorobenzene	ND	0.025									
1,1,1-Trichloroethane	ND	0.012									
1,1,2-Trichloroethane	ND	0.012									
Trichloroethylene	ND	0.012									
Trichlorofluoromethane (Freon 11)	ND	0.025									
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.025									
1,2,4-Trimethylbenzene	ND	0.025									
1,3,5-Trimethylbenzene	ND	0.025									
Vinyl Acetate	ND	0.50									
Vinyl Chloride	ND	0.012									
m&p-Xylene	ND	0.050									
o-Xylene	ND	0.025									
<i>Surrogate: 4-Bromofluorobenzene (1)</i>	<i>8.18</i>				<i>8.00</i>		<i>102</i>		<i>70-130</i>		
<i>Surrogate: 4-Bromofluorobenzene (2)</i>	<i>7.26</i>				<i>8.00</i>		<i>90.7</i>		<i>70-130</i>		

LCS (B077852-BS1)

Prepared & Analyzed: 07/30/13

Acetone	5.99				5.00		120		70-130		
Benzene	4.57				5.00		91.4		70-130		
Benzyl chloride	5.55				5.00		111		70-130		
Bromodichloromethane	5.41				5.00		108		70-130		
Bromoform	5.44				5.00		109		70-130		
Bromomethane	4.20				5.00		84.0		70-130		
1,3-Butadiene	4.71				5.00		94.3		70-130		
2-Butanone (MEK)	4.40				5.00		88.1		70-130		
Carbon Disulfide	5.02				5.00		100		70-130		
Carbon Tetrachloride	4.92				5.00		98.4		70-130		
Chlorobenzene	5.01				5.00		100		70-130		
Chloroethane	4.90				5.00		98.1		70-130		
Chloroform	4.85				5.00		97.1		70-130		
Chloromethane	4.57				5.00		91.4		70-130		
Cyclohexane	4.84				5.00		96.9		70-130		
Dibromochloromethane	4.92				5.00		98.4		70-130		
1,2-Dibromoethane (EDB)	5.02				5.00		100		70-130		
1,2-Dichlorobenzene	5.92				5.00		118		70-130		
1,3-Dichlorobenzene	5.82				5.00		116		70-130		
1,4-Dichlorobenzene	5.70				5.00		114		70-130		
Dichlorodifluoromethane (Freon 12)	4.58				5.00		91.6		70-130		
1,1-Dichloroethane	4.77				5.00		95.3		70-130		
1,2-Dichloroethane	4.74				5.00		94.7		70-130		

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		
Batch B077852 - TO-15 Prep											
LCS (B077852-BS1)											
Prepared & Analyzed: 07/30/13											
1,1-Dichloroethylene	4.41				5.00		88.1	70-130			
cis-1,2-Dichloroethylene	4.96				5.00		99.1	70-130			
trans-1,2-Dichloroethylene	4.80				5.00		96.1	70-130			
1,2-Dichloropropane	5.07				5.00		101	70-130			
cis-1,3-Dichloropropene	5.24				5.00		105	70-130			
trans-1,3-Dichloropropene	5.48				5.00		110	70-130			
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	4.46				5.00		89.2	70-130			
1,4-Dioxane	4.97				5.00		99.4	70-130			
Ethanol	4.49				5.00		89.8	70-130			
Ethyl Acetate	5.60				5.00		112	70-130			
Ethylbenzene	5.03				5.00		101	70-130			
4-Ethyltoluene	5.07				5.00		101	70-130			
Heptane	4.69				5.00		93.8	70-130			
Hexachlorobutadiene	6.48				5.00		130	70-130			V-06
Hexane	4.74				5.00		94.8	70-130			
2-Hexanone (MBK)	4.65				5.00		93.1	70-130			
Indane	1.21				1.29		94.1	70-130			
Indene	1.01				1.32		76.8	70-130			
Isopropanol	6.71				5.00		134 *	70-130			L-01, V-06
Isopropylbenzene (Cumene)	1.14				1.27		89.9	70-130			
Methyl tert-Butyl Ether (MTBE)	4.61				5.00		92.2	70-130			
Methylene Chloride	4.42				5.00		88.4	70-130			
4-Methyl-2-pentanone (MIBK)	4.76				5.00		95.3	70-130			
Naphthalene	5.22				5.00		104	70-130			
Propene	5.15				5.00		103	70-130			
Styrene	5.39				5.00		108	70-130			
1,1,1,2-Tetrachloroethane	5.72				5.00		114	70-130			
Tetrachloroethylene	5.51				5.00		110	70-130			
Tetrahydrofuran	4.93				5.00		98.7	70-130			
Toluene	4.98				5.00		99.6	70-130			
1,2,4-Trichlorobenzene	6.63				5.00		133 *	70-130			L-01
1,1,1-Trichloroethane	4.92				5.00		98.3	70-130			
1,1,2-Trichloroethane	5.28				5.00		106	70-130			
Trichloroethylene	5.10				5.00		102	70-130			
Trichlorofluoromethane (Freon 11)	4.63				5.00		92.5	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	4.40				5.00		87.9	70-130			
1,2,4-Trimethylbenzene	5.52				5.00		110	70-130			
1,3,5-Trimethylbenzene	5.34				5.00		107	70-130			
Vinyl Acetate	3.67				5.00		73.4	70-130			
Vinyl Chloride	4.59				5.00		91.8	70-130			
m&p-Xylene	10.4				10.0		104	70-130			
o-Xylene	5.30				5.00		106	70-130			
Surrogate: 4-Bromofluorobenzene (1)	8.60				8.00		107	70-130			
Surrogate: 4-Bromofluorobenzene (2)	7.78				8.00		97.2	70-130			

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	RPD	RPD Limit	Flag
	Results	RL	Results	RL	ppbv	Result	%REC Limits	RPD		

Batch B077947 - TO-15 Prep

Blank (B077947-BLK1)

Prepared & Analyzed: 07/31/13

Acetone	ND	1.0
Benzene	ND	0.025
Benzyl chloride	ND	0.025
Bromodichloromethane	ND	0.012
Bromoform	ND	0.025
Bromomethane	ND	0.025
1,3-Butadiene	ND	0.025
2-Butanone (MEK)	ND	1.0
Carbon Disulfide	ND	0.25
Carbon Tetrachloride	ND	0.012
Chlorobenzene	ND	0.025
Chloroethane	ND	0.025
Chloroform	ND	0.012
Chloromethane	ND	0.050
Cyclohexane	ND	0.025
Dibromochloromethane	ND	0.012
1,2-Dibromoethane (EDB)	ND	0.012
1,2-Dichlorobenzene	ND	0.025
1,3-Dichlorobenzene	ND	0.025
1,4-Dichlorobenzene	ND	0.025
Dichlorodifluoromethane (Freon 12)	ND	0.025
1,1-Dichloroethane	ND	0.012
1,2-Dichloroethane	ND	0.012
1,1-Dichloroethylene	ND	0.012
cis-1,2-Dichloroethylene	ND	0.012
trans-1,2-Dichloroethylene	ND	0.012
1,2-Dichloropropane	ND	0.012
cis-1,3-Dichloropropene	ND	0.012
trans-1,3-Dichloropropene	ND	0.012
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.025
1,4-Dioxane	ND	0.25
Ethanol	ND	1.0
Ethyl Acetate	ND	0.025
Ethylbenzene	ND	0.025
4-Ethyltoluene	ND	0.025
Heptane	ND	0.025
Hexachlorobutadiene	ND	0.025
Hexane	ND	1.0
2-Hexanone (MBK)	ND	0.025
Indane	ND	0.064
Indene	ND	0.066
Isopropanol	ND	1.0
Isopropylbenzene (Cumene)	ND	0.064
Methyl tert-Butyl Ether (MTBE)	ND	0.025
Methylene Chloride	ND	0.25
4-Methyl-2-pentanone (MIBK)	ND	0.025

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		

Batch B077947 - TO-15 Prep

Blank (B077947-BLK1)

Prepared & Analyzed: 07/31/13

Naphthalene	ND	0.025									
Propene	ND	1.0									
Styrene	ND	0.025									
1,1,2,2-Tetrachloroethane	ND	0.012									
Tetrachloroethylene	ND	0.012									
Tetrahydrofuran	ND	0.025									
Toluene	ND	0.025									
1,2,4-Trichlorobenzene	ND	0.025									
1,1,1-Trichloroethane	ND	0.012									
1,1,2-Trichloroethane	ND	0.012									
Trichloroethylene	ND	0.012									
Trichlorofluoromethane (Freon 11)	ND	0.025									
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.025									
1,2,4-Trimethylbenzene	ND	0.025									
1,3,5-Trimethylbenzene	ND	0.025									
Vinyl Acetate	ND	0.50									
Vinyl Chloride	ND	0.012									
m&p-Xylene	ND	0.050									
o-Xylene	ND	0.025									
<i>Surrogate: 4-Bromofluorobenzene (1)</i>	8.32				8.00		104		70-130		
<i>Surrogate: 4-Bromofluorobenzene (2)</i>	7.34				8.00		91.7		70-130		

LCS (B077947-BS1)

Prepared & Analyzed: 07/31/13

Acetone	6.16				5.00		123		70-130		V-06
Benzene	4.66				5.00		93.3		70-130		
Benzyl chloride	5.82				5.00		116		70-130		
Bromodichloromethane	5.54				5.00		111		70-130		
Bromoform	5.75				5.00		115		70-130		
Bromomethane	4.46				5.00		89.2		70-130		
1,3-Butadiene	4.94				5.00		98.9		70-130		
2-Butanone (MEK)	4.50				5.00		90.0		70-130		
Carbon Disulfide	5.16				5.00		103		70-130		
Carbon Tetrachloride	5.09				5.00		102		70-130		
Chlorobenzene	5.18				5.00		104		70-130		
Chloroethane	5.13				5.00		103		70-130		
Chloroform	5.06				5.00		101		70-130		
Chloromethane	4.72				5.00		94.4		70-130		
Cyclohexane	4.97				5.00		99.5		70-130		
Dibromochloromethane	5.20				5.00		104		70-130		
1,2-Dibromoethane (EDB)	5.22				5.00		104		70-130		
1,2-Dichlorobenzene	6.28				5.00		126		70-130		
1,3-Dichlorobenzene	6.09				5.00		122		70-130		
1,4-Dichlorobenzene	5.97				5.00		119		70-130		
Dichlorodifluoromethane (Freon 12)	4.75				5.00		95.0		70-130		
1,1-Dichloroethane	4.82				5.00		96.3		70-130		
1,2-Dichloroethane	4.88				5.00		97.6		70-130		

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		
Batch B077947 - TO-15 Prep											
LCS (B077947-BS1)											
Prepared & Analyzed: 07/31/13											
1,1-Dichloroethylene	4.51				5.00		90.1	70-130			
cis-1,2-Dichloroethylene	5.09				5.00		102	70-130			
trans-1,2-Dichloroethylene	4.93				5.00		98.7	70-130			
1,2-Dichloropropane	5.30				5.00		106	70-130			
cis-1,3-Dichloropropene	5.41				5.00		108	70-130			
trans-1,3-Dichloropropene	5.69				5.00		114	70-130			
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	4.69				5.00		93.8	70-130			
1,4-Dioxane	5.22				5.00		104	70-130			
Ethanol	4.78				5.00		95.5	70-130			
Ethyl Acetate	5.86				5.00		117	70-130			
Ethylbenzene	5.37				5.00		107	70-130			
4-Ethyltoluene	5.30				5.00		106	70-130			
Heptane	4.97				5.00		99.4	70-130			
Hexachlorobutadiene	6.94				5.00		139 *	70-130			L-01, V-06
Hexane	4.85				5.00		97.0	70-130			
2-Hexanone (MBK)	4.85				5.00		97.0	70-130			
Indane	1.20				1.29		92.8	70-130			
Indene	0.999				1.32		75.7	70-130			
Isopropanol	6.93				5.00		139 *	70-130			L-05, V-06
Isopropylbenzene (Cumene)	1.11				1.27		87.2	70-130			
Methyl tert-Butyl Ether (MTBE)	4.83				5.00		96.5	70-130			
Methylene Chloride	4.48				5.00		89.5	70-130			
4-Methyl-2-pentanone (MIBK)	4.88				5.00		97.7	70-130			
Naphthalene	5.49				5.00		110	70-130			
Propene	5.43				5.00		109	70-130			
Styrene	5.67				5.00		113	70-130			
1,1,2,2-Tetrachloroethane	5.93				5.00		119	70-130			
Tetrachloroethylene	5.78				5.00		116	70-130			
Tetrahydrofuran	4.77				5.00		95.4	70-130			
Toluene	5.25				5.00		105	70-130			
1,2,4-Trichlorobenzene	7.11				5.00		142 *	70-130			L-01
1,1,1-Trichloroethane	5.06				5.00		101	70-130			
1,1,2-Trichloroethane	5.58				5.00		112	70-130			
Trichloroethylene	5.21				5.00		104	70-130			
Trichlorofluoromethane (Freon 11)	4.83				5.00		96.6	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	4.62				5.00		92.5	70-130			
1,2,4-Trimethylbenzene	5.81				5.00		116	70-130			
1,3,5-Trimethylbenzene	5.54				5.00		111	70-130			
Vinyl Acetate	3.80				5.00		76.0	70-130			
Vinyl Chloride	4.78				5.00		95.6	70-130			
m&p-Xylene	11.0				10.0		110	70-130			
o-Xylene	5.42				5.00		108	70-130			
Surrogate: 4-Bromofluorobenzene (1)	8.58				8.00		107	70-130			
Surrogate: 4-Bromofluorobenzene (2)	7.62				8.00		95.2	70-130			

FLAG/QUALIFIER SUMMARY

- * QC result is outside of established limits.
 - † Wide recovery limits established for difficult compound.
 - ‡ Wide RPD limits established for difficult compound.
 - # Data exceeded client recommended or regulatory level
- Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
- L-01 Laboratory fortified blank /laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.
 - L-05 Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the high side.
 - V-06 Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA TO-15 in Air</i>	
Acetone	AIHA
Benzene	AIHA,FL,NJ,NY,VA
Benzyl chloride	AIHA,FL,NJ,NY,VA
Bromodichloromethane	AIHA,NJ,VA
Bromoform	AIHA,NJ,VA
Bromomethane	AIHA,FL,NJ,NY
1,3-Butadiene	AIHA,NJ,VA
2-Butanone (MEK)	AIHA,FL,NJ,NY,VA
Carbon Disulfide	AIHA,NJ,VA
Carbon Tetrachloride	AIHA,FL,NJ,NY,VA
Chlorobenzene	AIHA,FL,NJ,NY,VA
Chloroethane	AIHA,FL,NJ,NY,VA
Chloroform	AIHA,FL,NJ,NY,VA
Chloromethane	AIHA,FL,NJ,NY,VA
Cyclohexane	AIHA,NJ,VA
Dibromochloromethane	AIHA,NY
1,2-Dibromoethane (EDB)	AIHA,NJ,NY
1,2-Dichlorobenzene	AIHA,FL,NJ,NY,VA
1,3-Dichlorobenzene	AIHA,NJ,NY
1,4-Dichlorobenzene	AIHA,FL,NJ,NY,VA
Dichlorodifluoromethane (Freon 12)	AIHA,NY
1,1-Dichloroethane	AIHA,FL,NJ,NY,VA
1,2-Dichloroethane	AIHA,FL,NJ,NY,VA
1,1-Dichloroethylene	AIHA,FL,NJ,NY,VA
cis-1,2-Dichloroethylene	AIHA,FL,NY,VA
trans-1,2-Dichloroethylene	AIHA,NJ,NY,VA
1,2-Dichloropropane	AIHA,FL,NJ,NY,VA
cis-1,3-Dichloropropene	AIHA,FL,NJ,NY,VA
trans-1,3-Dichloropropene	AIHA,NY
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	AIHA,NJ,VA
1,4-Dioxane	AIHA,NJ,VA
Ethanol	AIHA
Ethyl Acetate	AIHA
Ethylbenzene	AIHA,FL,NJ,NY,VA
4-Ethyltoluene	AIHA,NJ
Heptane	AIHA,NJ,NY,VA
Hexachlorobutadiene	AIHA,NJ,NY,VA
Hexane	AIHA,FL,NJ,NY,VA
2-Hexanone (MBK)	AIHA
Isopropanol	AIHA,NY
Isopropylbenzene (Cumene)	AIHA,NJ,NY
Methyl tert-Butyl Ether (MTBE)	AIHA,FL,NJ,NY,VA
Methylene Chloride	AIHA,FL,NJ,NY,VA
4-Methyl-2-pentanone (MIBK)	AIHA,FL,NJ,NY
Naphthalene	NY
Propene	AIHA
Styrene	AIHA,FL,NJ,NY,VA

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA TO-15 in Air</i>	
1,1,2,2-Tetrachloroethane	AIHA,FL,NJ,NY,VA
Tetrachloroethylene	AIHA,FL,NJ,NY,VA
Tetrahydrofuran	AIHA
Toluene	AIHA,FL,NJ,NY,VA
1,2,4-Trichlorobenzene	AIHA,NJ,NY,VA
1,1,1-Trichloroethane	AIHA,FL,NJ,NY,VA
1,1,2-Trichloroethane	AIHA,FL,NJ,NY,VA
Trichloroethylene	AIHA,FL,NJ,NY,VA
Trichlorofluoromethane (Freon 11)	AIHA,NY
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	AIHA,NJ,NY,VA
1,2,4-Trimethylbenzene	AIHA,NJ,NY
1,3,5-Trimethylbenzene	AIHA,NJ,NY
Vinyl Acetate	AIHA,FL,NJ,NY,VA
Vinyl Chloride	AIHA,FL,NJ,NY,VA
m&p-Xylene	AIHA,FL,NJ,NY,VA
o-Xylene	AIHA,FL,NJ,NY,VA

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2014
MA	Massachusetts DEP	M-MA100	06/30/2014
CT	Connecticut Department of Public Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2014
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2014
RI	Rhode Island Department of Health	LAO00112	12/30/2013
NC	North Carolina Div. of Water Quality	652	12/31/2013
NJ	New Jersey DEP	MA007 NELAP	06/30/2014
FL	Florida Department of Health	E871027 NELAP	06/30/2014
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2014
WA	State of Washington Department of Ecology	C2065	02/23/2014
ME	State of Maine	2011028	06/9/2015
VA	Commonwealth of Virginia	460217	12/14/2013
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2012



Phone: 413-525-2332
 Fax: 413-525-6405
 Email: info@contestlabs.com
 www.contestlabs.com

AIR SAMPLE CHAIN OF CUSTODY RECORD

39 SPRUCE ST
 EAST LONGMEADOW, MA 01028

Company Name: G2A
 Address: 530 BROOKWAY
PROVIDENCE, RI

Attention: SOPHIA NEKLEWICZ / MEGUELLA HICK

Project Location: PAWUCKET, RI

Sampled By: SON

Proposal Provided? (For Billing purposes)
 yes proposal date

1361148

Telephone: (401) 447-8161
 Project # 43654
 Client PO # _____

DATA DELIVERY (check one):
 FAX EMAIL WEBSITE CLIENT

Fax #: _____
 Email: Sophia.Neklewicz@g2a.com
 Format: EXCEL PDF GIS KEY OTHER _____

Field ID	Sample Description	Media	Lab #	Date Time	Start Date	Stop Date	Total Minutes Sampled	Flow Rate M ³ /Min. or L/Min.	Volume Liters or M ³	Matrix Code*	ANALYSIS REQUESTED		Please fill out completely, sign, date and retain the yellow copy for your records
											Flow Rate	Volume	
1	TIDWATER-72513	S	01	7/25/13 6:50	7/25/13 13:57					AMB	X		Summa canisters were retained for a minimum of 14 days after sampling date prior to cleaning.
2	WATER-72513	1	08	7/25/13 6:56	7/25/13 13:54					AMB	X		
3	S6-107D		03	7/25/13 8:47	7/25/13 9:01					S6	X		
4	S6-107S		04	7/25/13 8:52	7/25/13 10:11					S6	X		
5	S6-106D		05	7/25/13 11:29	7/25/13 11:43					S6	X		
6	S6-106S		06	7/25/13 12:41	7/25/13 12:39					S6	X		
7	S6-105D		01	7/25/13 14:48	7/25/13 15:02					S6	X		

Laboratory Comments:

CLIENT COMMENTS:
 EMAIL MTH@HICK.KILPATRICK@G2A.COM KUSO.
 - CHECK FC# 4212 - CAN NOT PROVIDE LOWER BOLT.

Turnaround **

7-Day
 10-Day
 Other _____

*24-Hr *48-Hr
 *72-Hr *4-Day

Special Requirements
 Regulations: _____
 Data Enhancement/RCP? Y N
 Enhanced Data Package Y N
 (Surcharge Applies)
 Required Detection Limits: NALC 0.02
 Other: _____

Matrix Codes:
 SG= SOIL GAS
 IA= INDOOR AIR
 AMB= AMBIENT
 SS= SUB SLAB
 D= DUP
 BL= BLANK
 O= other

****Media Codes:**
 S= summa can
 TB= tedar bag
 P= PUF
 T= tube
 F= filter
 C= cassette
 O= other

Relinquished by (signature) _____ Date/Time: 7/25/13 14:45

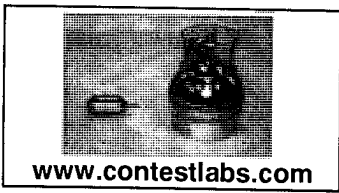
Received by (signature) _____ Date/Time: 7/25/13 8:35

Self-administered (signature) _____ Date/Time: 7/29/13 19:50

Received by (signature) _____ Date/Time: 7/29/13 17:50

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

AIHA, NELAP & WBEDE Certified



39 Spruce St.
 East Longmeadow, MA.
 01028
 P: 413-525-2332
 F: 413-525-6405

AIR Only Receipt Checklist

CLIENT NAME: GZA RECEIVED BY: JMH DATE: 7/29/13

- 1) Was the chain(s) of custody relinquished and signed? Yes No
- 2) Does the chain agree with the samples?
 If not, explain: Yes No
- 3) Are all the samples in good condition?
 If not, explain: Yes No
- 4) Are there any samples "On Hold"? Yes No Stored where:
- 5) Are there any RUSH or SHORT HOLDING TIME samples? Yes No No
 Who was notified _____ Date _____ Time _____

6) Location where samples are stored: Permission to subcontract samples? Yes No
 (Walk-in clients only) if not already approved
 Client Signature: _____

Containers received at Con-Test		
	# of Containers	Types (Size, Duration)
Summa Cans	7	3L
Tedlar Bags		
Tubes		
Regulators	7	5-15 min 2-8 hr
Restrictors		
Tubing		
Other		

Unused Summas:

Unused Regulators:

- 1) Was all media (used & unused checked into the WASP?
- 2) Were all returned summa cans, Restrictors, & Regulators documented as returned in the Air Lab Inbound/Outbound Excel Spreadsheet?

Laboratory Comments: <table style="margin-left: 20px;"> <tr><td>1368</td><td>2047</td></tr> <tr><td>1374</td><td>1375</td></tr> <tr><td>1759</td><td>2051</td></tr> <tr><td>2046</td><td></td></tr> </table>	1368	2047	1374	1375	1759	2051	2046		<table style="margin-left: 20px;"> <tr><td>3122</td><td>4201</td></tr> <tr><td>3236</td><td>4202</td></tr> <tr><td>4205</td><td>4212</td></tr> <tr><td>4213</td><td></td></tr> </table>	3122	4201	3236	4202	4205	4212	4213	
1368	2047																
1374	1375																
1759	2051																
2046																	
3122	4201																
3236	4202																
4205	4212																
4213																	

August 12, 2013

Sophia Narkiewicz
GZA GeoEnvironmental-RI
530 Broadway Street
Providence, RI 02909

Project Location: Tidewater, PA
Client Job Number:
Project Number: 2013074_Pawtucket
Laboratory Work Order Number: 13H0055

Enclosed are results of analyses for samples received by the laboratory on August 1, 2013. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Lisa A. Worthington
Project Manager

GZA GeoEnvironmental-RI
 530 Broadway Street
 Providence, RI 02909
 ATTN: Sophia Narkiewicz

REPORT DATE: 8/12/2013

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 2013074_Pawtucket

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 13H0055

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Tidewater, PA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
1	13H0055-01	Ambient Air	Tidewater-72913	EPA TO-15	
2	13H0055-02	Ambient Air	Varievr-72913	EPA TO-15	
3	13H0055-03	Soil Gas	SG-100D	EPA 3C	
				EPA TO-15	
4	13H0055-04	Soil Gas	SG-100S	EPA 3C	
				EPA TO-15	
5	13H0055-05	Soil Gas	Duplicate#1	EPA 3C	
				EPA TO-15	
6	13H0055-06	Ambient Air	Tidewater-72913	EPA TO-15	
7	13H0055-07	Ambient Air	Varievr-72913	EPA TO-15	
8	13H0055-08	Soil Gas	SG-101S	EPA 3C	
				EPA TO-15	
10	13H0055-09	Soil Gas	SG-102S	EPA 3C	
				EPA TO-15	
11	13H0055-10	Soil Gas	SG-103S	EPA 3C	
				EPA TO-15	
12	13H0055-11	Ambient Air	Tidewater-72913	EPA TO-15	
13	13H0055-12	Ambient Air	Varievr-72913	EPA TO-15	
14	13H0055-13	Soil Gas	SG-105S	EPA 3C	
				EPA TO-15	
15	13H0055-14	Soil Gas	SG-108S	EPA 3C	
				EPA TO-15	
16	13H0055-15	Soil Gas	SG-108D	EPA 3C	
				EPA TO-15	
17	13H0055-16	Soil Gas	SG-109S	EPA 3C	
				EPA TO-15	
18	13H0055-17	Soil Gas	SG-109D	EPA 3C	
				EPA TO-15	
19	13H0055-18	Soil Gas	SG-110S	EPA 3C	
				EPA TO-15	
20	13H0055-19	Soil Gas	SG-110D	EPA 3C	
				EPA TO-15	
21	13H0055-20	Soil Gas	SG-111S	EPA 3C	
				EPA TO-15	
22	13H0055-21	Soil Gas	SG-111D	EPA 3C	
				EPA TO-15	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

EPA TO-15

Qualifications:

Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

Indene

13H0055-01[1], 13H0055-02[2], 13H0055-03[3], 13H0055-04[4], 13H0055-05[5], 13H0055-06[6], 13H0055-07[7], 13H0055-08[8], 13H0055-09[10], 13H0055-10[11], 13H0055-11[12], 13H0055-12[13], 13H0055-13[14], 13H0055-14[15], 13H0055-15[16], 13H0055-16[17], 13H0055-17[18], 13H0055-18[19], 13H0055-19[20], 13H0055-20[21], 13H0055-21[22], B078183-BLK1, B078183-BS1, B078183-DUP1, B078183-DUP2

Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the high side.

Analyte & Samples(s) Qualified:

Isopropanol

13H0055-02[2], B078183-BS1

Duplicate RPD is outside of control limits. Reduced precision is anticipated for reported result.

Analyte & Samples(s) Qualified:

1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, 4-Ethyltoluene, Benzene, Heptane, Naphthalene, Propene, Tetrahydrofuran, Toluene
B078183-DUP1

Surrogate recovery outside of control limits due to suspected sample matrix interference.

Analyte & Samples(s) Qualified:

4-Bromofluorobenzene (2)

13H0055-13[14]

Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.

Analyte & Samples(s) Qualified:

Acetone, Isopropanol

13H0055-01[1], 13H0055-02[2], 13H0055-03[3], 13H0055-04[4], 13H0055-05[5], 13H0055-06[6], 13H0055-07[7], 13H0055-08[8], 13H0055-09[10], 13H0055-10[11], 13H0055-11[12], 13H0055-12[13], 13H0055-14[15], 13H0055-15[16], 13H0055-16[17], 13H0055-17[18], 13H0055-18[19], 13H0055-19[20], 13H0055-20[21], 13H0055-21[22], B078183-BS1, B078183-DUP1, B078183-DUP2

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

A handwritten signature in black ink, appearing to read "Daren J. Damboragian", is written over a light gray rectangular background.

Daren J. Damboragian
Laboratory Manager

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 1
Sample ID: 13H0055-01
 Sample Matrix: Ambient Air
 Sampled: 7/29/2013 11:15

Sample Description/Location: Tidewater-72913
 Sub Description/Location:
 Canister ID: 1406
 Canister Size: 3 liter
 Flow Controller ID: 3012
 Sample Type: 8 hr

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -16
 Receipt Vacuum(in Hg): -16
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Acetone	7.6	2.0	V-06	18	4.8	1	8/5/13	0:42	TPH
Benzene	0.074	0.050		0.24	0.16	1	8/5/13	0:42	TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/5/13	0:42	TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/5/13	0:42	TPH
Bromoform	ND	0.050		ND	0.52	1	8/5/13	0:42	TPH
Bromomethane	ND	0.050		ND	0.19	1	8/5/13	0:42	TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/5/13	0:42	TPH
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/5/13	0:42	TPH
Carbon Disulfide	ND	0.50		ND	1.6	1	8/5/13	0:42	TPH
Carbon Tetrachloride	0.042	0.025		0.26	0.16	1	8/5/13	0:42	TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/5/13	0:42	TPH
Chloroethane	ND	0.050		ND	0.13	1	8/5/13	0:42	TPH
Chloroform	ND	0.025		ND	0.12	1	8/5/13	0:42	TPH
Chloromethane	0.42	0.10		0.88	0.21	1	8/5/13	0:42	TPH
Cyclohexane	ND	0.050		ND	0.17	1	8/5/13	0:42	TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/5/13	0:42	TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/5/13	0:42	TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13	0:42	TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13	0:42	TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13	0:42	TPH
Dichlorodifluoromethane (Freon 12)	0.23	0.050		1.1	0.25	1	8/5/13	0:42	TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13	0:42	TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13	0:42	TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13	0:42	TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13	0:42	TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13	0:42	TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/5/13	0:42	TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13	0:42	TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13	0:42	TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/5/13	0:42	TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/5/13	0:42	TPH
Ethanol	3.4	2.0		6.5	3.8	1	8/5/13	0:42	TPH
Ethyl Acetate	0.14	0.050		0.52	0.18	1	8/5/13	0:42	TPH
Ethylbenzene	ND	0.050		ND	0.22	1	8/5/13	0:42	TPH
4-Ethyltoluene	ND	0.050		ND	0.25	1	8/5/13	0:42	TPH
Heptane	ND	0.050		ND	0.20	1	8/5/13	0:42	TPH
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/5/13	0:42	TPH

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 1
Sample ID: 13H0055-01
 Sample Matrix: Ambient Air
 Sampled: 7/29/2013 11:15

Sample Description/Location: Tidewater-72913
 Sub Description/Location:
 Canister ID: 1406
 Canister Size: 3 liter
 Flow Controller ID: 3012
 Sample Type: 8 hr

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -16
 Receipt Vacuum(in Hg): -16
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Hexane	ND	2.0		ND	7.0	1	8/5/13 0:42	TPH	
2-Hexanone (MBK)	0.22	0.050		0.88	0.20	1	8/5/13 0:42	TPH	
Indane	ND	0.13		ND	0.62	1	8/5/13 0:42	TPH	
Indene	ND	0.13	L-03	ND	0.63	1	8/5/13 0:42	TPH	
Isopropanol	ND	2.0		ND	4.9	1	8/5/13 0:42	TPH	
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/5/13 0:42	TPH	
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/5/13 0:42	TPH	
Methylene Chloride	1.3	0.50		4.4	1.7	1	8/5/13 0:42	TPH	
4-Methyl-2-pentanone (MIBK)	0.068	0.050		0.28	0.20	1	8/5/13 0:42	TPH	
Naphthalene	0.055	0.050		0.29	0.26	1	8/5/13 0:42	TPH	
Propene	ND	2.0		ND	3.4	1	8/5/13 0:42	TPH	
Styrene	ND	0.050		ND	0.21	1	8/5/13 0:42	TPH	
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/5/13 0:42	TPH	
Tetrachloroethylene	ND	0.025		ND	0.17	1	8/5/13 0:42	TPH	
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/5/13 0:42	TPH	
Toluene	0.16	0.050		0.58	0.19	1	8/5/13 0:42	TPH	
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/5/13 0:42	TPH	
1,1,1-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13 0:42	TPH	
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13 0:42	TPH	
Trichloroethylene	ND	0.025		ND	0.13	1	8/5/13 0:42	TPH	
Trichlorofluoromethane (Freon 11)	0.18	0.050		0.99	0.28	1	8/5/13 0:42	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.060	0.050		0.46	0.38	1	8/5/13 0:42	TPH	
1,2,4-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13 0:42	TPH	
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13 0:42	TPH	
Vinyl Acetate	ND	1.0		ND	3.5	1	8/5/13 0:42	TPH	
Vinyl Chloride	ND	0.025		ND	0.064	1	8/5/13 0:42	TPH	
m&p-Xylene	ND	0.10		ND	0.43	1	8/5/13 0:42	TPH	
o-Xylene	ND	0.050		ND	0.22	1	8/5/13 0:42	TPH	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	102	70-130	8/5/13 0:42
4-Bromofluorobenzene (2)	86.0	70-130	8/5/13 0:42

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 2
Sample ID: 13H0055-02
 Sample Matrix: Ambient Air
 Sampled: 7/29/2013 11:05

Sample Description/Location: Varievr-72913
 Sub Description/Location:
 Canister ID: 1511
 Canister Size: 3 liter
 Flow Controller ID: 3062
 Sample Type: 8 hr

Work Order: 13H0055
 Initial Vacuum(in Hg): -28
 Final Vacuum(in Hg): -15.5
 Receipt Vacuum(in Hg): -4.5
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time		Analyst
	Results	RL	Flag	Results	RL		Analized		
Acetone	18	2.0	V-06	42	4.8	1	8/5/13	3:00	TPH
Benzene	0.11	0.050		0.36	0.16	1	8/5/13	3:00	TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/5/13	3:00	TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/5/13	3:00	TPH
Bromoform	ND	0.050		ND	0.52	1	8/5/13	3:00	TPH
Bromomethane	ND	0.050		ND	0.19	1	8/5/13	3:00	TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/5/13	3:00	TPH
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/5/13	3:00	TPH
Carbon Disulfide	ND	0.50		ND	1.6	1	8/5/13	3:00	TPH
Carbon Tetrachloride	0.069	0.025		0.43	0.16	1	8/5/13	3:00	TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/5/13	3:00	TPH
Chloroethane	ND	0.050		ND	0.13	1	8/5/13	3:00	TPH
Chloroform	0.032	0.025		0.16	0.12	1	8/5/13	3:00	TPH
Chloromethane	0.50	0.10		1.0	0.21	1	8/5/13	3:00	TPH
Cyclohexane	0.10	0.050		0.34	0.17	1	8/5/13	3:00	TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/5/13	3:00	TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/5/13	3:00	TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13	3:00	TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13	3:00	TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13	3:00	TPH
Dichlorodifluoromethane (Freon 12)	0.35	0.050		1.7	0.25	1	8/5/13	3:00	TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13	3:00	TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13	3:00	TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13	3:00	TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13	3:00	TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13	3:00	TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/5/13	3:00	TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13	3:00	TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13	3:00	TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/5/13	3:00	TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/5/13	3:00	TPH
Ethanol	13	2.0		25	3.8	1	8/5/13	3:00	TPH
Ethyl Acetate	1.8	0.050		6.4	0.18	1	8/5/13	3:00	TPH
Ethylbenzene	ND	0.050		ND	0.22	1	8/5/13	3:00	TPH
4-Ethyltoluene	ND	0.050		ND	0.25	1	8/5/13	3:00	TPH
Heptane	0.15	0.050		0.61	0.20	1	8/5/13	3:00	TPH
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/5/13	3:00	TPH

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 2
Sample ID: 13H0055-02
 Sample Matrix: Ambient Air
 Sampled: 7/29/2013 11:05

Sample Description/Location: Varievr-72913
 Sub Description/Location:
 Canister ID: 1511
 Canister Size: 3 liter
 Flow Controller ID: 3062
 Sample Type: 8 hr

Work Order: 13H0055
 Initial Vacuum(in Hg): -28
 Final Vacuum(in Hg): -15.5
 Receipt Vacuum(in Hg): -4.5
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Hexane	3.3	2.0		12	7.0	1	8/5/13	3:00	TPH
2-Hexanone (MBK)	0.21	0.050		0.88	0.20	1	8/5/13	3:00	TPH
Indane	ND	0.13		ND	0.62	1	8/5/13	3:00	TPH
Indene	ND	0.13	L-03	ND	0.63	1	8/5/13	3:00	TPH
Isopropanol	3.5	2.0	L-05, V-06	8.5	4.9	1	8/5/13	3:00	TPH
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/5/13	3:00	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/5/13	3:00	TPH
Methylene Chloride	1.9	0.50		6.7	1.7	1	8/5/13	3:00	TPH
4-Methyl-2-pentanone (MIBK)	0.10	0.050		0.42	0.20	1	8/5/13	3:00	TPH
Naphthalene	0.092	0.050		0.48	0.26	1	8/5/13	3:00	TPH
Propene	ND	2.0		ND	3.4	1	8/5/13	3:00	TPH
Styrene	ND	0.050		ND	0.21	1	8/5/13	3:00	TPH
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/5/13	3:00	TPH
Tetrachloroethylene	ND	0.025		ND	0.17	1	8/5/13	3:00	TPH
Tetrahydrofuran	0.069	0.050		0.20	0.15	1	8/5/13	3:00	TPH
Toluene	0.34	0.050		1.3	0.19	1	8/5/13	3:00	TPH
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/5/13	3:00	TPH
1,1,1-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13	3:00	TPH
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13	3:00	TPH
Trichloroethylene	ND	0.025		ND	0.13	1	8/5/13	3:00	TPH
Trichlorofluoromethane (Freon 11)	0.28	0.050		1.6	0.28	1	8/5/13	3:00	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.12	0.050		0.90	0.38	1	8/5/13	3:00	TPH
1,2,4-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13	3:00	TPH
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13	3:00	TPH
Vinyl Acetate	ND	1.0		ND	3.5	1	8/5/13	3:00	TPH
Vinyl Chloride	ND	0.025		ND	0.064	1	8/5/13	3:00	TPH
m&p-Xylene	0.11	0.10		0.48	0.43	1	8/5/13	3:00	TPH
o-Xylene	ND	0.050		ND	0.22	1	8/5/13	3:00	TPH

Surrogates	% Recovery	% REC Limits		
4-Bromofluorobenzene (1)	105	70-130	8/5/13	3:00
4-Bromofluorobenzene (2)	90.2	70-130	8/5/13	3:00

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 3
Sample ID: 13H0055-03
 Sample Matrix: Soil Gas
 Sampled: 7/29/2013 09:16

Sample Description/Location: SG-100D
 Sub Description/Location:
 Canister ID: 1632
 Canister Size: 3 liter
 Flow Controller ID: 4192
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -28
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analized		
Helium	ND	0.40		1	8/6/13 14:32		TPH

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time		Analyst
	Results	RL	Flag	Results	RL		Analized		
Acetone	7.5	2.0	V-06	18	4.8	1	8/5/13 5:08		TPH
Benzene	ND	0.050		ND	0.16	1	8/5/13 5:08		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/5/13 5:08		TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/5/13 5:08		TPH
Bromoform	ND	0.050		ND	0.52	1	8/5/13 5:08		TPH
Bromomethane	ND	0.050		ND	0.19	1	8/5/13 5:08		TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/5/13 5:08		TPH
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/5/13 5:08		TPH
Carbon Disulfide	5.8	0.50		18	1.6	1	8/5/13 5:08		TPH
Carbon Tetrachloride	ND	0.025		ND	0.16	1	8/5/13 5:08		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/5/13 5:08		TPH
Chloroethane	ND	0.050		ND	0.13	1	8/5/13 5:08		TPH
Chloroform	0.071	0.025		0.35	0.12	1	8/5/13 5:08		TPH
Chloromethane	0.21	0.10		0.43	0.21	1	8/5/13 5:08		TPH
Cyclohexane	0.097	0.050		0.33	0.17	1	8/5/13 5:08		TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/5/13 5:08		TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/5/13 5:08		TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 5:08		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 5:08		TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 5:08		TPH
Dichlorodifluoromethane (Freon 12)	0.32	0.050		1.6	0.25	1	8/5/13 5:08		TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13 5:08		TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13 5:08		TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 5:08		TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 5:08		TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 5:08		TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/5/13 5:08		TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13 5:08		TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13 5:08		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/5/13 5:08		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/5/13 5:08		TPH

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 3
Sample ID: 13H0055-03
 Sample Matrix: Soil Gas
 Sampled: 7/29/2013 09:16

Sample Description/Location: SG-100D
 Sub Description/Location:
 Canister ID: 1632
 Canister Size: 3 liter
 Flow Controller ID: 4192
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -28
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Ethanol	3.7	2.0		6.9	3.8	1	8/5/13	5:08	TPH
Ethyl Acetate	ND	0.050		ND	0.18	1	8/5/13	5:08	TPH
Ethylbenzene	ND	0.050		ND	0.22	1	8/5/13	5:08	TPH
4-Ethyltoluene	ND	0.050		ND	0.25	1	8/5/13	5:08	TPH
Heptane	ND	0.050		ND	0.20	1	8/5/13	5:08	TPH
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/5/13	5:08	TPH
Hexane	ND	2.0		ND	7.0	1	8/5/13	5:08	TPH
2-Hexanone (MBK)	0.33	0.050		1.3	0.20	1	8/5/13	5:08	TPH
Indane	ND	0.13		ND	0.62	1	8/5/13	5:08	TPH
Indene	ND	0.13	L-03	ND	0.63	1	8/5/13	5:08	TPH
Isopropanol	ND	2.0		ND	4.9	1	8/5/13	5:08	TPH
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/5/13	5:08	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/5/13	5:08	TPH
Methylene Chloride	ND	0.50		ND	1.7	1	8/5/13	5:08	TPH
4-Methyl-2-pentanone (MIBK)	0.13	0.050		0.52	0.20	1	8/5/13	5:08	TPH
Naphthalene	0.13	0.050		0.67	0.26	1	8/5/13	5:08	TPH
Propene	ND	2.0		ND	3.4	1	8/5/13	5:08	TPH
Styrene	ND	0.050		ND	0.21	1	8/5/13	5:08	TPH
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/5/13	5:08	TPH
Tetrachloroethylene	ND	0.025		ND	0.17	1	8/5/13	5:08	TPH
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/5/13	5:08	TPH
Toluene	ND	0.050		ND	0.19	1	8/5/13	5:08	TPH
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/5/13	5:08	TPH
1,1,1-Trichloroethane	0.061	0.025		0.33	0.14	1	8/5/13	5:08	TPH
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13	5:08	TPH
Trichloroethylene	ND	0.025		ND	0.13	1	8/5/13	5:08	TPH
Trichlorofluoromethane (Freon 11)	0.30	0.050		1.7	0.28	1	8/5/13	5:08	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.090	0.050		0.69	0.38	1	8/5/13	5:08	TPH
1,2,4-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13	5:08	TPH
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13	5:08	TPH
Vinyl Acetate	ND	1.0		ND	3.5	1	8/5/13	5:08	TPH
Vinyl Chloride	ND	0.025		ND	0.064	1	8/5/13	5:08	TPH
m&p-Xylene	ND	0.10		ND	0.43	1	8/5/13	5:08	TPH
o-Xylene	ND	0.050		ND	0.22	1	8/5/13	5:08	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	104	70-130	8/5/13 5:08

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 3
Sample ID: 13H0055-03
 Sample Matrix: Soil Gas
 Sampled: 7/29/2013 09:16

Sample Description/Location: SG-100D
 Sub Description/Location:
 Canister ID: 1632
 Canister Size: 3 liter
 Flow Controller ID: 4192
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -28
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		91.2			70-130		8/5/13 5:08	

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 4
Sample ID: 13H0055-04
 Sample Matrix: Soil Gas
 Sampled: 7/29/2013 09:57

Sample Description/Location: SG-100S
 Sub Description/Location:
 Canister ID: 2089
 Canister Size: 3 liter
 Flow Controller ID: 4177
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -5
 Receipt Vacuum(in Hg): -3.5
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analized		
Helium	ND	0.40		1	8/6/13 14:56		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Acetone	18	2.0	V-06	42	4.8	1	8/5/13 5:50		TPH
Benzene	ND	0.050		ND	0.16	1	8/5/13 5:50		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/5/13 5:50		TPH
Bromodichloromethane	0.055	0.025		0.37	0.17	1	8/5/13 5:50		TPH
Bromoform	ND	0.050		ND	0.52	1	8/5/13 5:50		TPH
Bromomethane	ND	0.050		ND	0.19	1	8/5/13 5:50		TPH
1,3-Butadiene	0.051	0.050		0.11	0.11	1	8/5/13 5:50		TPH
2-Butanone (MEK)	2.3	2.0		6.7	5.9	1	8/5/13 5:50		TPH
Carbon Disulfide	ND	0.50		ND	1.6	1	8/5/13 5:50		TPH
Carbon Tetrachloride	0.086	0.025		0.54	0.16	1	8/5/13 5:50		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/5/13 5:50		TPH
Chloroethane	ND	0.050		ND	0.13	1	8/5/13 5:50		TPH
Chloroform	13	0.025		63	0.12	1	8/5/13 5:50		TPH
Chloromethane	0.16	0.10		0.33	0.21	1	8/5/13 5:50		TPH
Cyclohexane	ND	0.050		ND	0.17	1	8/5/13 5:50		TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/5/13 5:50		TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/5/13 5:50		TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 5:50		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 5:50		TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 5:50		TPH
Dichlorodifluoromethane (Freon 12)	0.39	0.050		1.9	0.25	1	8/5/13 5:50		TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13 5:50		TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13 5:50		TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 5:50		TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 5:50		TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 5:50		TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/5/13 5:50		TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13 5:50		TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13 5:50		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/5/13 5:50		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/5/13 5:50		TPH

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 4
Sample ID: 13H0055-04
 Sample Matrix: Soil Gas
 Sampled: 7/29/2013 09:57

Sample Description/Location: SG-100S
 Sub Description/Location:
 Canister ID: 2089
 Canister Size: 3 liter
 Flow Controller ID: 4177
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -5
 Receipt Vacuum(in Hg): -3.5
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Ethanol	2.9	2.0		5.5	3.8	1	8/5/13	5:50	TPH
Ethyl Acetate	0.31	0.050		1.1	0.18	1	8/5/13	5:50	TPH
Ethylbenzene	ND	0.050		ND	0.22	1	8/5/13	5:50	TPH
4-Ethyltoluene	ND	0.050		ND	0.25	1	8/5/13	5:50	TPH
Heptane	0.063	0.050		0.26	0.20	1	8/5/13	5:50	TPH
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/5/13	5:50	TPH
Hexane	ND	2.0		ND	7.0	1	8/5/13	5:50	TPH
2-Hexanone (MBK)	0.55	0.050		2.3	0.20	1	8/5/13	5:50	TPH
Indane	ND	0.13		ND	0.62	1	8/5/13	5:50	TPH
Indene	ND	0.13	L-03	ND	0.63	1	8/5/13	5:50	TPH
Isopropanol	ND	2.0		ND	4.9	1	8/5/13	5:50	TPH
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/5/13	5:50	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/5/13	5:50	TPH
Methylene Chloride	ND	0.50		ND	1.7	1	8/5/13	5:50	TPH
4-Methyl-2-pentanone (MIBK)	0.24	0.050		1.00	0.20	1	8/5/13	5:50	TPH
Naphthalene	0.062	0.050		0.32	0.26	1	8/5/13	5:50	TPH
Propene	2.4	2.0		4.1	3.4	1	8/5/13	5:50	TPH
Styrene	ND	0.050		ND	0.21	1	8/5/13	5:50	TPH
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/5/13	5:50	TPH
Tetrachloroethylene	9.5	0.025		64	0.17	1	8/5/13	5:50	TPH
Tetrahydrofuran	0.085	0.050		0.25	0.15	1	8/5/13	5:50	TPH
Toluene	ND	0.050		ND	0.19	1	8/5/13	5:50	TPH
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/5/13	5:50	TPH
1,1,1-Trichloroethane	0.63	0.025		3.4	0.14	1	8/5/13	5:50	TPH
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13	5:50	TPH
Trichloroethylene	4.6	0.025		25	0.13	1	8/5/13	5:50	TPH
Trichlorofluoromethane (Freon 11)	0.57	0.050		3.2	0.28	1	8/5/13	5:50	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.65	0.050		5.0	0.38	1	8/5/13	5:50	TPH
1,2,4-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13	5:50	TPH
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13	5:50	TPH
Vinyl Acetate	ND	1.0		ND	3.5	1	8/5/13	5:50	TPH
Vinyl Chloride	ND	0.025		ND	0.064	1	8/5/13	5:50	TPH
m&p-Xylene	ND	0.10		ND	0.43	1	8/5/13	5:50	TPH
o-Xylene	ND	0.050		ND	0.22	1	8/5/13	5:50	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	108	70-130	8/5/13 5:50

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 4
Sample ID: 13H0055-04
 Sample Matrix: Soil Gas
 Sampled: 7/29/2013 09:57

Sample Description/Location: SG-100S
 Sub Description/Location:
 Canister ID: 2089
 Canister Size: 3 liter
 Flow Controller ID: 4177
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -5
 Receipt Vacuum(in Hg): -3.5
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		94.0			70-130		8/5/13 5:50	

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 5
Sample ID: 13H0055-05
 Sample Matrix: Soil Gas
 Sampled: 7/29/2013 09:57

Sample Description/Location: Duplicate#1
 Sub Description/Location:
 Canister ID: 1794
 Canister Size: 3 liter
 Flow Controller ID: 4193
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -2
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analized		
Helium	ND	0.40		1	8/6/13	15:21	TPH

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time		Analyst
	Results	RL	Flag	Results	RL		Analized		
Acetone	3.3	2.0	V-06	7.8	4.8	1	8/5/13	6:33	TPH
Benzene	ND	0.050		ND	0.16	1	8/5/13	6:33	TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/5/13	6:33	TPH
Bromodichloromethane	0.054	0.025		0.36	0.17	1	8/5/13	6:33	TPH
Bromoform	ND	0.050		ND	0.52	1	8/5/13	6:33	TPH
Bromomethane	ND	0.050		ND	0.19	1	8/5/13	6:33	TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/5/13	6:33	TPH
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/5/13	6:33	TPH
Carbon Disulfide	ND	0.50		ND	1.6	1	8/5/13	6:33	TPH
Carbon Tetrachloride	0.082	0.025		0.52	0.16	1	8/5/13	6:33	TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/5/13	6:33	TPH
Chloroethane	ND	0.050		ND	0.13	1	8/5/13	6:33	TPH
Chloroform	13	0.025		63	0.12	1	8/5/13	6:33	TPH
Chloromethane	0.10	0.10		0.21	0.21	1	8/5/13	6:33	TPH
Cyclohexane	ND	0.050		ND	0.17	1	8/5/13	6:33	TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/5/13	6:33	TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/5/13	6:33	TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13	6:33	TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13	6:33	TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13	6:33	TPH
Dichlorodifluoromethane (Freon 12)	0.33	0.050		1.7	0.25	1	8/5/13	6:33	TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13	6:33	TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13	6:33	TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13	6:33	TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13	6:33	TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13	6:33	TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/5/13	6:33	TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13	6:33	TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13	6:33	TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/5/13	6:33	TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/5/13	6:33	TPH

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 5
Sample ID: 13H0055-05
 Sample Matrix: Soil Gas
 Sampled: 7/29/2013 09:57

Sample Description/Location: Duplicate#1
 Sub Description/Location:
 Canister ID: 1794
 Canister Size: 3 liter
 Flow Controller ID: 4193
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -2
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Ethanol	ND	2.0		ND	3.8	1	8/5/13 6:33	TPH	
Ethyl Acetate	0.32	0.050		1.2	0.18	1	8/5/13 6:33	TPH	
Ethylbenzene	ND	0.050		ND	0.22	1	8/5/13 6:33	TPH	
4-Ethyltoluene	ND	0.050		ND	0.25	1	8/5/13 6:33	TPH	
Heptane	ND	0.050		ND	0.20	1	8/5/13 6:33	TPH	
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/5/13 6:33	TPH	
Hexane	ND	2.0		ND	7.0	1	8/5/13 6:33	TPH	
2-Hexanone (MBK)	ND	0.050		ND	0.20	1	8/5/13 6:33	TPH	
Indane	ND	0.13		ND	0.62	1	8/5/13 6:33	TPH	
Indene	ND	0.13	L-03	ND	0.63	1	8/5/13 6:33	TPH	
Isopropanol	ND	2.0		ND	4.9	1	8/5/13 6:33	TPH	
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/5/13 6:33	TPH	
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/5/13 6:33	TPH	
Methylene Chloride	ND	0.50		ND	1.7	1	8/5/13 6:33	TPH	
4-Methyl-2-pentanone (MIBK)	ND	0.050		ND	0.20	1	8/5/13 6:33	TPH	
Naphthalene	ND	0.050		ND	0.26	1	8/5/13 6:33	TPH	
Propene	ND	2.0		ND	3.4	1	8/5/13 6:33	TPH	
Styrene	ND	0.050		ND	0.21	1	8/5/13 6:33	TPH	
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/5/13 6:33	TPH	
Tetrachloroethylene	9.2	0.025		62	0.17	1	8/5/13 6:33	TPH	
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/5/13 6:33	TPH	
Toluene	ND	0.050		ND	0.19	1	8/5/13 6:33	TPH	
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/5/13 6:33	TPH	
1,1,1-Trichloroethane	0.62	0.025		3.4	0.14	1	8/5/13 6:33	TPH	
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13 6:33	TPH	
Trichloroethylene	4.5	0.025		24	0.13	1	8/5/13 6:33	TPH	
Trichlorofluoromethane (Freon 11)	0.28	0.050		1.6	0.28	1	8/5/13 6:33	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.10	0.050		0.77	0.38	1	8/5/13 6:33	TPH	
1,2,4-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13 6:33	TPH	
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13 6:33	TPH	
Vinyl Acetate	ND	1.0		ND	3.5	1	8/5/13 6:33	TPH	
Vinyl Chloride	ND	0.025		ND	0.064	1	8/5/13 6:33	TPH	
m&p-Xylene	ND	0.10		ND	0.43	1	8/5/13 6:33	TPH	
o-Xylene	ND	0.050		ND	0.22	1	8/5/13 6:33	TPH	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	103	70-130	8/5/13 6:33

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 5
Sample ID: 13H0055-05
 Sample Matrix: Soil Gas
 Sampled: 7/29/2013 09:57

Sample Description/Location: Duplicate#1
 Sub Description/Location:
 Canister ID: 1794
 Canister Size: 3 liter
 Flow Controller ID: 4193
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -2
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		93.2			70-130		8/5/13 6:33	

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 6
Sample ID: 13H0055-06
 Sample Matrix: Ambient Air
 Sampled: 7/30/2013 17:54

Sample Description/Location: Tidewater-72913
 Sub Description/Location:
 Canister ID: 1790
 Canister Size: 3 liter
 Flow Controller ID: 3312
 Sample Type: 8 hr

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -17
 Receipt Vacuum(in Hg): -16
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time		Analyst
	Results	RL	Flag	Results	RL		Analized		
Acetone	14	2.0	V-06	33	4.8	1	8/5/13	1:30	TPH
Benzene	0.082	0.050		0.26	0.16	1	8/5/13	1:30	TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/5/13	1:30	TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/5/13	1:30	TPH
Bromoform	ND	0.050		ND	0.52	1	8/5/13	1:30	TPH
Bromomethane	ND	0.050		ND	0.19	1	8/5/13	1:30	TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/5/13	1:30	TPH
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/5/13	1:30	TPH
Carbon Disulfide	ND	0.50		ND	1.6	1	8/5/13	1:30	TPH
Carbon Tetrachloride	0.073	0.025		0.46	0.16	1	8/5/13	1:30	TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/5/13	1:30	TPH
Chloroethane	ND	0.050		ND	0.13	1	8/5/13	1:30	TPH
Chloroform	ND	0.025		ND	0.12	1	8/5/13	1:30	TPH
Chloromethane	0.50	0.10		1.0	0.21	1	8/5/13	1:30	TPH
Cyclohexane	ND	0.050		ND	0.17	1	8/5/13	1:30	TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/5/13	1:30	TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/5/13	1:30	TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13	1:30	TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13	1:30	TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13	1:30	TPH
Dichlorodifluoromethane (Freon 12)	0.29	0.050		1.4	0.25	1	8/5/13	1:30	TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13	1:30	TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13	1:30	TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13	1:30	TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13	1:30	TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13	1:30	TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/5/13	1:30	TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13	1:30	TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13	1:30	TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/5/13	1:30	TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/5/13	1:30	TPH
Ethanol	6.3	2.0		12	3.8	1	8/5/13	1:30	TPH
Ethyl Acetate	0.20	0.050		0.72	0.18	1	8/5/13	1:30	TPH
Ethylbenzene	ND	0.050		ND	0.22	1	8/5/13	1:30	TPH
4-Ethyltoluene	ND	0.050		ND	0.25	1	8/5/13	1:30	TPH
Heptane	ND	0.050		ND	0.20	1	8/5/13	1:30	TPH
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/5/13	1:30	TPH

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 6
Sample ID: 13H0055-06
 Sample Matrix: Ambient Air
 Sampled: 7/30/2013 17:54

Sample Description/Location: Tidewater-72913
 Sub Description/Location:
 Canister ID: 1790
 Canister Size: 3 liter
 Flow Controller ID: 3312
 Sample Type: 8 hr

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -17
 Receipt Vacuum(in Hg): -16
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Hexane	ND	2.0		ND	7.0	1	8/5/13	1:30	TPH
2-Hexanone (MBK)	0.32	0.050		1.3	0.20	1	8/5/13	1:30	TPH
Indane	ND	0.13		ND	0.62	1	8/5/13	1:30	TPH
Indene	ND	0.13	L-03	ND	0.63	1	8/5/13	1:30	TPH
Isopropanol	ND	2.0		ND	4.9	1	8/5/13	1:30	TPH
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/5/13	1:30	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/5/13	1:30	TPH
Methylene Chloride	1.5	0.50		5.2	1.7	1	8/5/13	1:30	TPH
4-Methyl-2-pentanone (MIBK)	0.13	0.050		0.52	0.20	1	8/5/13	1:30	TPH
Naphthalene	0.075	0.050		0.39	0.26	1	8/5/13	1:30	TPH
Propene	ND	2.0		ND	3.4	1	8/5/13	1:30	TPH
Styrene	ND	0.050		ND	0.21	1	8/5/13	1:30	TPH
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/5/13	1:30	TPH
Tetrachloroethylene	ND	0.025		ND	0.17	1	8/5/13	1:30	TPH
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/5/13	1:30	TPH
Toluene	0.19	0.050		0.72	0.19	1	8/5/13	1:30	TPH
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/5/13	1:30	TPH
1,1,1-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13	1:30	TPH
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13	1:30	TPH
Trichloroethylene	ND	0.025		ND	0.13	1	8/5/13	1:30	TPH
Trichlorofluoromethane (Freon 11)	0.28	0.050		1.6	0.28	1	8/5/13	1:30	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.19	0.050		1.5	0.38	1	8/5/13	1:30	TPH
1,2,4-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13	1:30	TPH
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13	1:30	TPH
Vinyl Acetate	ND	1.0		ND	3.5	1	8/5/13	1:30	TPH
Vinyl Chloride	ND	0.025		ND	0.064	1	8/5/13	1:30	TPH
m&p-Xylene	ND	0.10		ND	0.43	1	8/5/13	1:30	TPH
o-Xylene	ND	0.050		ND	0.22	1	8/5/13	1:30	TPH

Surrogates	% Recovery	% REC Limits		
4-Bromofluorobenzene (1)	104	70-130	8/5/13	1:30
4-Bromofluorobenzene (2)	87.8	70-130	8/5/13	1:30

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 7
Sample ID: 13H0055-07
 Sample Matrix: Ambient Air
 Sampled: 7/30/2013 17:51

Sample Description/Location: Variev-72913
 Sub Description/Location:
 Canister ID: 1797
 Canister Size: 3 liter
 Flow Controller ID: 3434
 Sample Type: 8 hr

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -14
 Receipt Vacuum(in Hg): -14
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time		Analyst
	Results	RL	Flag	Results	RL		Analized		
Acetone	14	2.0	V-06	34	4.8	1	8/5/13	2:17	TPH
Benzene	0.14	0.050		0.43	0.16	1	8/5/13	2:17	TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/5/13	2:17	TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/5/13	2:17	TPH
Bromoform	ND	0.050		ND	0.52	1	8/5/13	2:17	TPH
Bromomethane	ND	0.050		ND	0.19	1	8/5/13	2:17	TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/5/13	2:17	TPH
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/5/13	2:17	TPH
Carbon Disulfide	ND	0.50		ND	1.6	1	8/5/13	2:17	TPH
Carbon Tetrachloride	0.073	0.025		0.46	0.16	1	8/5/13	2:17	TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/5/13	2:17	TPH
Chloroethane	0.084	0.050		0.22	0.13	1	8/5/13	2:17	TPH
Chloroform	0.062	0.025		0.30	0.12	1	8/5/13	2:17	TPH
Chloromethane	0.71	0.10		1.5	0.21	1	8/5/13	2:17	TPH
Cyclohexane	0.083	0.050		0.29	0.17	1	8/5/13	2:17	TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/5/13	2:17	TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/5/13	2:17	TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13	2:17	TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13	2:17	TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13	2:17	TPH
Dichlorodifluoromethane (Freon 12)	0.28	0.050		1.4	0.25	1	8/5/13	2:17	TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13	2:17	TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13	2:17	TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13	2:17	TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13	2:17	TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13	2:17	TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/5/13	2:17	TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13	2:17	TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13	2:17	TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/5/13	2:17	TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/5/13	2:17	TPH
Ethanol	5.0	2.0		9.5	3.8	1	8/5/13	2:17	TPH
Ethyl Acetate	ND	0.050		ND	0.18	1	8/5/13	2:17	TPH
Ethylbenzene	0.14	0.050		0.61	0.22	1	8/5/13	2:17	TPH
4-Ethyltoluene	ND	0.050		ND	0.25	1	8/5/13	2:17	TPH
Heptane	0.21	0.050		0.86	0.20	1	8/5/13	2:17	TPH
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/5/13	2:17	TPH

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 7
Sample ID: 13H0055-07
 Sample Matrix: Ambient Air
 Sampled: 7/30/2013 17:51

Sample Description/Location: Varievr-72913
 Sub Description/Location:
 Canister ID: 1797
 Canister Size: 3 liter
 Flow Controller ID: 3434
 Sample Type: 8 hr

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -14
 Receipt Vacuum(in Hg): -14
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Hexane	ND	2.0		ND	7.0	1	8/5/13 2:17	TPH	
2-Hexanone (MBK)	0.14	0.050		0.58	0.20	1	8/5/13 2:17	TPH	
Indane	ND	0.13		ND	0.62	1	8/5/13 2:17	TPH	
Indene	ND	0.13	L-03	ND	0.63	1	8/5/13 2:17	TPH	
Isopropanol	ND	2.0		ND	4.9	1	8/5/13 2:17	TPH	
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/5/13 2:17	TPH	
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/5/13 2:17	TPH	
Methylene Chloride	0.91	0.50		3.2	1.7	1	8/5/13 2:17	TPH	
4-Methyl-2-pentanone (MIBK)	ND	0.050		ND	0.20	1	8/5/13 2:17	TPH	
Naphthalene	0.060	0.050		0.31	0.26	1	8/5/13 2:17	TPH	
Propene	ND	2.0		ND	3.4	1	8/5/13 2:17	TPH	
Styrene	ND	0.050		ND	0.21	1	8/5/13 2:17	TPH	
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/5/13 2:17	TPH	
Tetrachloroethylene	ND	0.025		ND	0.17	1	8/5/13 2:17	TPH	
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/5/13 2:17	TPH	
Toluene	0.74	0.050		2.8	0.19	1	8/5/13 2:17	TPH	
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/5/13 2:17	TPH	
1,1,1-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13 2:17	TPH	
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13 2:17	TPH	
Trichloroethylene	ND	0.025		ND	0.13	1	8/5/13 2:17	TPH	
Trichlorofluoromethane (Freon 11)	0.27	0.050		1.5	0.28	1	8/5/13 2:17	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.18	0.050		1.4	0.38	1	8/5/13 2:17	TPH	
1,2,4-Trimethylbenzene	0.15	0.050		0.75	0.25	1	8/5/13 2:17	TPH	
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13 2:17	TPH	
Vinyl Acetate	ND	1.0		ND	3.5	1	8/5/13 2:17	TPH	
Vinyl Chloride	ND	0.025		ND	0.064	1	8/5/13 2:17	TPH	
m&p-Xylene	0.42	0.10		1.8	0.43	1	8/5/13 2:17	TPH	
o-Xylene	0.17	0.050		0.74	0.22	1	8/5/13 2:17	TPH	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	103	70-130	8/5/13 2:17
4-Bromofluorobenzene (2)	86.9	70-130	8/5/13 2:17

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 8
Sample ID: 13H0055-08
 Sample Matrix: Soil Gas
 Sampled: 7/30/2013 14:06

Sample Description/Location: SG-101S
 Sub Description/Location:
 Canister ID: 1480
 Canister Size: 3 liter
 Flow Controller ID: 4181
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -1
 Receipt Vacuum(in Hg): -2.5
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analized		
Helium	ND	0.40		1	8/6/13	15:46	TPH

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time		Analyst
	Results	RL	Flag	Results	RL		Analized		
Acetone	2.5	2.0	V-06	6.0	4.8	1	8/5/13	7:15	TPH
Benzene	ND	0.050		ND	0.16	1	8/5/13	7:15	TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/5/13	7:15	TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/5/13	7:15	TPH
Bromoform	ND	0.050		ND	0.52	1	8/5/13	7:15	TPH
Bromomethane	ND	0.050		ND	0.19	1	8/5/13	7:15	TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/5/13	7:15	TPH
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/5/13	7:15	TPH
Carbon Disulfide	3.5	0.50		11	1.6	1	8/5/13	7:15	TPH
Carbon Tetrachloride	ND	0.025		ND	0.16	1	8/5/13	7:15	TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/5/13	7:15	TPH
Chloroethane	ND	0.050		ND	0.13	1	8/5/13	7:15	TPH
Chloroform	0.53	0.025		2.6	0.12	1	8/5/13	7:15	TPH
Chloromethane	ND	0.10		ND	0.21	1	8/5/13	7:15	TPH
Cyclohexane	ND	0.050		ND	0.17	1	8/5/13	7:15	TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/5/13	7:15	TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/5/13	7:15	TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13	7:15	TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13	7:15	TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13	7:15	TPH
Dichlorodifluoromethane (Freon 12)	0.36	0.050		1.8	0.25	1	8/5/13	7:15	TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13	7:15	TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13	7:15	TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13	7:15	TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13	7:15	TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13	7:15	TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/5/13	7:15	TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13	7:15	TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13	7:15	TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/5/13	7:15	TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/5/13	7:15	TPH

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 8
Sample ID: 13H0055-08
 Sample Matrix: Soil Gas
 Sampled: 7/30/2013 14:06

Sample Description/Location: SG-101S
 Sub Description/Location:
 Canister ID: 1480
 Canister Size: 3 liter
 Flow Controller ID: 4181
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -1
 Receipt Vacuum(in Hg): -2.5
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Ethanol	ND	2.0		ND	3.8	1	8/5/13 7:15	TPH	
Ethyl Acetate	0.63	0.050		2.3	0.18	1	8/5/13 7:15	TPH	
Ethylbenzene	ND	0.050		ND	0.22	1	8/5/13 7:15	TPH	
4-Ethyltoluene	ND	0.050		ND	0.25	1	8/5/13 7:15	TPH	
Heptane	ND	0.050		ND	0.20	1	8/5/13 7:15	TPH	
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/5/13 7:15	TPH	
Hexane	ND	2.0		ND	7.0	1	8/5/13 7:15	TPH	
2-Hexanone (MBK)	ND	0.050		ND	0.20	1	8/5/13 7:15	TPH	
Indane	ND	0.13		ND	0.62	1	8/5/13 7:15	TPH	
Indene	ND	0.13	L-03	ND	0.63	1	8/5/13 7:15	TPH	
Isopropanol	ND	2.0		ND	4.9	1	8/5/13 7:15	TPH	
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/5/13 7:15	TPH	
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/5/13 7:15	TPH	
Methylene Chloride	ND	0.50		ND	1.7	1	8/5/13 7:15	TPH	
4-Methyl-2-pentanone (MIBK)	ND	0.050		ND	0.20	1	8/5/13 7:15	TPH	
Naphthalene	ND	0.050		ND	0.26	1	8/5/13 7:15	TPH	
Propene	ND	2.0		ND	3.4	1	8/5/13 7:15	TPH	
Styrene	0.33	0.050		1.4	0.21	1	8/5/13 7:15	TPH	
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/5/13 7:15	TPH	
Tetrachloroethylene	0.030	0.025		0.20	0.17	1	8/5/13 7:15	TPH	
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/5/13 7:15	TPH	
Toluene	0.075	0.050		0.28	0.19	1	8/5/13 7:15	TPH	
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/5/13 7:15	TPH	
1,1,1-Trichloroethane	0.032	0.025		0.17	0.14	1	8/5/13 7:15	TPH	
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13 7:15	TPH	
Trichloroethylene	ND	0.025		ND	0.13	1	8/5/13 7:15	TPH	
Trichlorofluoromethane (Freon 11)	0.29	0.050		1.6	0.28	1	8/5/13 7:15	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.088	0.050		0.67	0.38	1	8/5/13 7:15	TPH	
1,2,4-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13 7:15	TPH	
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13 7:15	TPH	
Vinyl Acetate	ND	1.0		ND	3.5	1	8/5/13 7:15	TPH	
Vinyl Chloride	ND	0.025		ND	0.064	1	8/5/13 7:15	TPH	
m&p-Xylene	ND	0.10		ND	0.43	1	8/5/13 7:15	TPH	
o-Xylene	ND	0.050		ND	0.22	1	8/5/13 7:15	TPH	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	104	70-130	8/5/13 7:15

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 8
Sample ID: 13H0055-08
 Sample Matrix: Soil Gas
 Sampled: 7/30/2013 14:06

Sample Description/Location: SG-101S
 Sub Description/Location:
 Canister ID: 1480
 Canister Size: 3 liter
 Flow Controller ID: 4181
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -1
 Receipt Vacuum(in Hg): -2.5
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		92.5			70-130		8/5/13 7:15	

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 10
Sample ID: 13H0055-09
 Sample Matrix: Soil Gas
 Sampled: 7/30/2013 15:40

Sample Description/Location: SG-102S
 Sub Description/Location:
 Canister ID: 1517
 Canister Size: 3 liter
 Flow Controller ID: 4183
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -28
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analyzed		
Helium	ND	0.40		1	8/6/13 16:11		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Acetone	7.0	2.0	V-06	17	4.8	1	8/5/13 7:58		TPH
Benzene	0.072	0.050		0.23	0.16	1	8/5/13 7:58		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/5/13 7:58		TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/5/13 7:58		TPH
Bromoform	ND	0.050		ND	0.52	1	8/5/13 7:58		TPH
Bromomethane	ND	0.050		ND	0.19	1	8/5/13 7:58		TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/5/13 7:58		TPH
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/5/13 7:58		TPH
Carbon Disulfide	ND	0.50		ND	1.6	1	8/5/13 7:58		TPH
Carbon Tetrachloride	ND	0.025		ND	0.16	1	8/5/13 7:58		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/5/13 7:58		TPH
Chloroethane	ND	0.050		ND	0.13	1	8/5/13 7:58		TPH
Chloroform	0.12	0.025		0.60	0.12	1	8/5/13 7:58		TPH
Chloromethane	ND	0.10		ND	0.21	1	8/5/13 7:58		TPH
Cyclohexane	ND	0.050		ND	0.17	1	8/5/13 7:58		TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/5/13 7:58		TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/5/13 7:58		TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 7:58		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 7:58		TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 7:58		TPH
Dichlorodifluoromethane (Freon 12)	0.38	0.050		1.9	0.25	1	8/5/13 7:58		TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13 7:58		TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13 7:58		TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 7:58		TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 7:58		TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 7:58		TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/5/13 7:58		TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13 7:58		TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13 7:58		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/5/13 7:58		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/5/13 7:58		TPH

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 10
Sample ID: 13H0055-09
 Sample Matrix: Soil Gas
 Sampled: 7/30/2013 15:40

Sample Description/Location: SG-102S
 Sub Description/Location:
 Canister ID: 1517
 Canister Size: 3 liter
 Flow Controller ID: 4183
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -28
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Ethanol	2.1	2.0		4.0	3.8	1	8/5/13	7:58	TPH
Ethyl Acetate	6.1	0.050		22	0.18	1	8/5/13	7:58	TPH
Ethylbenzene	ND	0.050		ND	0.22	1	8/5/13	7:58	TPH
4-Ethyltoluene	ND	0.050		ND	0.25	1	8/5/13	7:58	TPH
Heptane	ND	0.050		ND	0.20	1	8/5/13	7:58	TPH
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/5/13	7:58	TPH
Hexane	ND	2.0		ND	7.0	1	8/5/13	7:58	TPH
2-Hexanone (MBK)	0.081	0.050		0.33	0.20	1	8/5/13	7:58	TPH
Indane	ND	0.13		ND	0.62	1	8/5/13	7:58	TPH
Indene	ND	0.13	L-03	ND	0.63	1	8/5/13	7:58	TPH
Isopropanol	ND	2.0		ND	4.9	1	8/5/13	7:58	TPH
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/5/13	7:58	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/5/13	7:58	TPH
Methylene Chloride	6.6	0.50		23	1.7	1	8/5/13	7:58	TPH
4-Methyl-2-pentanone (MIBK)	ND	0.050		ND	0.20	1	8/5/13	7:58	TPH
Naphthalene	0.089	0.050		0.47	0.26	1	8/5/13	7:58	TPH
Propene	ND	2.0		ND	3.4	1	8/5/13	7:58	TPH
Styrene	ND	0.050		ND	0.21	1	8/5/13	7:58	TPH
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/5/13	7:58	TPH
Tetrachloroethylene	1.2	0.025		8.2	0.17	1	8/5/13	7:58	TPH
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/5/13	7:58	TPH
Toluene	0.33	0.050		1.2	0.19	1	8/5/13	7:58	TPH
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/5/13	7:58	TPH
1,1,1-Trichloroethane	0.17	0.025		0.94	0.14	1	8/5/13	7:58	TPH
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13	7:58	TPH
Trichloroethylene	ND	0.025		ND	0.13	1	8/5/13	7:58	TPH
Trichlorofluoromethane (Freon 11)	0.48	0.050		2.7	0.28	1	8/5/13	7:58	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.073	0.050		0.56	0.38	1	8/5/13	7:58	TPH
1,2,4-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13	7:58	TPH
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13	7:58	TPH
Vinyl Acetate	ND	1.0		ND	3.5	1	8/5/13	7:58	TPH
Vinyl Chloride	ND	0.025		ND	0.064	1	8/5/13	7:58	TPH
m&p-Xylene	ND	0.10		ND	0.43	1	8/5/13	7:58	TPH
o-Xylene	ND	0.050		ND	0.22	1	8/5/13	7:58	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	103	70-130	8/5/13 7:58

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 10
Sample ID: 13H0055-09
 Sample Matrix: Soil Gas
 Sampled: 7/30/2013 15:40

Sample Description/Location: SG-102S
 Sub Description/Location:
 Canister ID: 1517
 Canister Size: 3 liter
 Flow Controller ID: 4183
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -28
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Date/Time		Analyst
	Results	RL	Flag	Results	RL	Dilution	Analyzed	
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		89.7			70-130		8/5/13 7:58	

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 11
Sample ID: 13H0055-10
 Sample Matrix: Soil Gas
 Sampled: 7/30/2013 16:16

Sample Description/Location: SG-103S
 Sub Description/Location:
 Canister ID: 1516
 Canister Size: 3 liter
 Flow Controller ID: 4182
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analized		
Helium	ND	0.40		1	8/6/13 16:39		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Acetone	6.7	2.0	V-06	16	4.8	1	8/5/13 8:41		TPH
Benzene	0.076	0.050		0.24	0.16	1	8/5/13 8:41		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/5/13 8:41		TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/5/13 8:41		TPH
Bromoform	ND	0.050		ND	0.52	1	8/5/13 8:41		TPH
Bromomethane	ND	0.050		ND	0.19	1	8/5/13 8:41		TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/5/13 8:41		TPH
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/5/13 8:41		TPH
Carbon Disulfide	ND	0.50		ND	1.6	1	8/5/13 8:41		TPH
Carbon Tetrachloride	0.029	0.025		0.18	0.16	1	8/5/13 8:41		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/5/13 8:41		TPH
Chloroethane	ND	0.050		ND	0.13	1	8/5/13 8:41		TPH
Chloroform	0.092	0.025		0.45	0.12	1	8/5/13 8:41		TPH
Chloromethane	0.11	0.10		0.23	0.21	1	8/5/13 8:41		TPH
Cyclohexane	ND	0.050		ND	0.17	1	8/5/13 8:41		TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/5/13 8:41		TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/5/13 8:41		TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 8:41		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 8:41		TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 8:41		TPH
Dichlorodifluoromethane (Freon 12)	4.5	0.050		22	0.25	1	8/5/13 8:41		TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13 8:41		TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13 8:41		TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 8:41		TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 8:41		TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 8:41		TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/5/13 8:41		TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13 8:41		TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13 8:41		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/5/13 8:41		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/5/13 8:41		TPH

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 11
Sample ID: 13H0055-10
 Sample Matrix: Soil Gas
 Sampled: 7/30/2013 16:16

Sample Description/Location: SG-103S
 Sub Description/Location:
 Canister ID: 1516
 Canister Size: 3 liter
 Flow Controller ID: 4182
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Ethanol	ND	2.0		ND	3.8	1	8/5/13	8:41	TPH
Ethyl Acetate	0.52	0.050		1.9	0.18	1	8/5/13	8:41	TPH
Ethylbenzene	ND	0.050		ND	0.22	1	8/5/13	8:41	TPH
4-Ethyltoluene	ND	0.050		ND	0.25	1	8/5/13	8:41	TPH
Heptane	ND	0.050		ND	0.20	1	8/5/13	8:41	TPH
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/5/13	8:41	TPH
Hexane	ND	2.0		ND	7.0	1	8/5/13	8:41	TPH
2-Hexanone (MBK)	0.083	0.050		0.34	0.20	1	8/5/13	8:41	TPH
Indane	ND	0.13		ND	0.62	1	8/5/13	8:41	TPH
Indene	ND	0.13	L-03	ND	0.63	1	8/5/13	8:41	TPH
Isopropanol	ND	2.0		ND	4.9	1	8/5/13	8:41	TPH
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/5/13	8:41	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/5/13	8:41	TPH
Methylene Chloride	0.67	0.50		2.3	1.7	1	8/5/13	8:41	TPH
4-Methyl-2-pentanone (MIBK)	ND	0.050		ND	0.20	1	8/5/13	8:41	TPH
Naphthalene	0.067	0.050		0.35	0.26	1	8/5/13	8:41	TPH
Propene	ND	2.0		ND	3.4	1	8/5/13	8:41	TPH
Styrene	ND	0.050		ND	0.21	1	8/5/13	8:41	TPH
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/5/13	8:41	TPH
Tetrachloroethylene	0.097	0.025		0.66	0.17	1	8/5/13	8:41	TPH
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/5/13	8:41	TPH
Toluene	0.11	0.050		0.42	0.19	1	8/5/13	8:41	TPH
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/5/13	8:41	TPH
1,1,1-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13	8:41	TPH
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13	8:41	TPH
Trichloroethylene	ND	0.025		ND	0.13	1	8/5/13	8:41	TPH
Trichlorofluoromethane (Freon 11)	1.2	0.050		6.9	0.28	1	8/5/13	8:41	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.066	0.050		0.51	0.38	1	8/5/13	8:41	TPH
1,2,4-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13	8:41	TPH
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13	8:41	TPH
Vinyl Acetate	ND	1.0		ND	3.5	1	8/5/13	8:41	TPH
Vinyl Chloride	ND	0.025		ND	0.064	1	8/5/13	8:41	TPH
m&p-Xylene	ND	0.10		ND	0.43	1	8/5/13	8:41	TPH
o-Xylene	ND	0.050		ND	0.22	1	8/5/13	8:41	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	104	70-130	8/5/13 8:41

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 11
Sample ID: 13H0055-10
 Sample Matrix: Soil Gas
 Sampled: 7/30/2013 16:16

Sample Description/Location: SG-103S
 Sub Description/Location:
 Canister ID: 1516
 Canister Size: 3 liter
 Flow Controller ID: 4182
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		91.5			70-130		8/5/13 8:41	

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 12
Sample ID: 13H0055-11
 Sample Matrix: Ambient Air
 Sampled: 7/31/2013 14:40

Sample Description/Location: Tidewater-72913
 Sub Description/Location:
 Canister ID: 2050
 Canister Size: 3 liter
 Flow Controller ID: 3070
 Sample Type: 8 hr

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -7
 Receipt Vacuum(in Hg): -5
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time		Analyst
	Results	RL	Flag	Results	RL		Analized		
Acetone	13	2.0	V-06	31	4.8	1	8/5/13	3:42	TPH
Benzene	0.071	0.050		0.23	0.16	1	8/5/13	3:42	TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/5/13	3:42	TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/5/13	3:42	TPH
Bromoform	ND	0.050		ND	0.52	1	8/5/13	3:42	TPH
Bromomethane	ND	0.050		ND	0.19	1	8/5/13	3:42	TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/5/13	3:42	TPH
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/5/13	3:42	TPH
Carbon Disulfide	ND	0.50		ND	1.6	1	8/5/13	3:42	TPH
Carbon Tetrachloride	0.073	0.025		0.46	0.16	1	8/5/13	3:42	TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/5/13	3:42	TPH
Chloroethane	ND	0.050		ND	0.13	1	8/5/13	3:42	TPH
Chloroform	ND	0.025		ND	0.12	1	8/5/13	3:42	TPH
Chloromethane	0.48	0.10		0.99	0.21	1	8/5/13	3:42	TPH
Cyclohexane	ND	0.050		ND	0.17	1	8/5/13	3:42	TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/5/13	3:42	TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/5/13	3:42	TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13	3:42	TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13	3:42	TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13	3:42	TPH
Dichlorodifluoromethane (Freon 12)	0.36	0.050		1.8	0.25	1	8/5/13	3:42	TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13	3:42	TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13	3:42	TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13	3:42	TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13	3:42	TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13	3:42	TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/5/13	3:42	TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13	3:42	TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13	3:42	TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/5/13	3:42	TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/5/13	3:42	TPH
Ethanol	5.7	2.0		11	3.8	1	8/5/13	3:42	TPH
Ethyl Acetate	0.14	0.050		0.50	0.18	1	8/5/13	3:42	TPH
Ethylbenzene	ND	0.050		ND	0.22	1	8/5/13	3:42	TPH
4-Ethyltoluene	ND	0.050		ND	0.25	1	8/5/13	3:42	TPH
Heptane	ND	0.050		ND	0.20	1	8/5/13	3:42	TPH
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/5/13	3:42	TPH

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 12
Sample ID: 13H0055-11
 Sample Matrix: Ambient Air
 Sampled: 7/31/2013 14:40

Sample Description/Location: Tidewater-72913
 Sub Description/Location:
 Canister ID: 2050
 Canister Size: 3 liter
 Flow Controller ID: 3070
 Sample Type: 8 hr

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -7
 Receipt Vacuum(in Hg): -5
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Hexane	ND	2.0		ND	7.0	1	8/5/13	3:42	TPH
2-Hexanone (MBK)	0.45	0.050		1.8	0.20	1	8/5/13	3:42	TPH
Indane	ND	0.13		ND	0.62	1	8/5/13	3:42	TPH
Indene	ND	0.13	L-03	ND	0.63	1	8/5/13	3:42	TPH
Isopropanol	ND	2.0		ND	4.9	1	8/5/13	3:42	TPH
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/5/13	3:42	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/5/13	3:42	TPH
Methylene Chloride	0.56	0.50		1.9	1.7	1	8/5/13	3:42	TPH
4-Methyl-2-pentanone (MIBK)	0.16	0.050		0.67	0.20	1	8/5/13	3:42	TPH
Naphthalene	ND	0.050		ND	0.26	1	8/5/13	3:42	TPH
Propene	ND	2.0		ND	3.4	1	8/5/13	3:42	TPH
Styrene	ND	0.050		ND	0.21	1	8/5/13	3:42	TPH
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/5/13	3:42	TPH
Tetrachloroethylene	0.031	0.025		0.21	0.17	1	8/5/13	3:42	TPH
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/5/13	3:42	TPH
Toluene	0.20	0.050		0.77	0.19	1	8/5/13	3:42	TPH
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/5/13	3:42	TPH
1,1,1-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13	3:42	TPH
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13	3:42	TPH
Trichloroethylene	ND	0.025		ND	0.13	1	8/5/13	3:42	TPH
Trichlorofluoromethane (Freon 11)	0.28	0.050		1.6	0.28	1	8/5/13	3:42	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.24	0.050		1.9	0.38	1	8/5/13	3:42	TPH
1,2,4-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13	3:42	TPH
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13	3:42	TPH
Vinyl Acetate	ND	1.0		ND	3.5	1	8/5/13	3:42	TPH
Vinyl Chloride	ND	0.025		ND	0.064	1	8/5/13	3:42	TPH
m&p-Xylene	ND	0.10		ND	0.43	1	8/5/13	3:42	TPH
o-Xylene	ND	0.050		ND	0.22	1	8/5/13	3:42	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	104	70-130	8/5/13 3:42
4-Bromofluorobenzene (2)	88.6	70-130	8/5/13 3:42

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 13
Sample ID: 13H0055-12
 Sample Matrix: Ambient Air
 Sampled: 7/31/2013 14:35

Sample Description/Location: Variev-72913
 Sub Description/Location:
 Canister ID: 2049
 Canister Size: 3 liter
 Flow Controller ID: 3068
 Sample Type: 8 hr

Work Order: 13H0055
 Initial Vacuum(in Hg): -29.5
 Final Vacuum(in Hg): -5
 Receipt Vacuum(in Hg): -4.5
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Acetone	15	2.0	V-06	35	4.8	1	8/5/13	4:25	TPH
Benzene	0.085	0.050		0.27	0.16	1	8/5/13	4:25	TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/5/13	4:25	TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/5/13	4:25	TPH
Bromoform	ND	0.050		ND	0.52	1	8/5/13	4:25	TPH
Bromomethane	ND	0.050		ND	0.19	1	8/5/13	4:25	TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/5/13	4:25	TPH
2-Butanone (MEK)	2.2	2.0		6.6	5.9	1	8/5/13	4:25	TPH
Carbon Disulfide	ND	0.50		ND	1.6	1	8/5/13	4:25	TPH
Carbon Tetrachloride	0.068	0.025		0.43	0.16	1	8/5/13	4:25	TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/5/13	4:25	TPH
Chloroethane	ND	0.050		ND	0.13	1	8/5/13	4:25	TPH
Chloroform	ND	0.025		ND	0.12	1	8/5/13	4:25	TPH
Chloromethane	0.44	0.10		0.90	0.21	1	8/5/13	4:25	TPH
Cyclohexane	ND	0.050		ND	0.17	1	8/5/13	4:25	TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/5/13	4:25	TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/5/13	4:25	TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13	4:25	TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13	4:25	TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13	4:25	TPH
Dichlorodifluoromethane (Freon 12)	0.36	0.050		1.8	0.25	1	8/5/13	4:25	TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13	4:25	TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13	4:25	TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13	4:25	TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13	4:25	TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13	4:25	TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/5/13	4:25	TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13	4:25	TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13	4:25	TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/5/13	4:25	TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/5/13	4:25	TPH
Ethanol	5.6	2.0		10	3.8	1	8/5/13	4:25	TPH
Ethyl Acetate	ND	0.050		ND	0.18	1	8/5/13	4:25	TPH
Ethylbenzene	ND	0.050		ND	0.22	1	8/5/13	4:25	TPH
4-Ethyltoluene	ND	0.050		ND	0.25	1	8/5/13	4:25	TPH
Heptane	ND	0.050		ND	0.20	1	8/5/13	4:25	TPH
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/5/13	4:25	TPH

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 13
Sample ID: 13H0055-12
 Sample Matrix: Ambient Air
 Sampled: 7/31/2013 14:35

Sample Description/Location: Varievr-72913
 Sub Description/Location:
 Canister ID: 2049
 Canister Size: 3 liter
 Flow Controller ID: 3068
 Sample Type: 8 hr

Work Order: 13H0055
 Initial Vacuum(in Hg): -29.5
 Final Vacuum(in Hg): -5
 Receipt Vacuum(in Hg): -4.5
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Hexane	ND	2.0		ND	7.0	1	8/5/13 4:25	TPH	
2-Hexanone (MBK)	0.43	0.050		1.8	0.20	1	8/5/13 4:25	TPH	
Indane	ND	0.13		ND	0.62	1	8/5/13 4:25	TPH	
Indene	ND	0.13	L-03	ND	0.63	1	8/5/13 4:25	TPH	
Isopropanol	ND	2.0		ND	4.9	1	8/5/13 4:25	TPH	
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/5/13 4:25	TPH	
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/5/13 4:25	TPH	
Methylene Chloride	ND	0.50		ND	1.7	1	8/5/13 4:25	TPH	
4-Methyl-2-pentanone (MIBK)	0.16	0.050		0.68	0.20	1	8/5/13 4:25	TPH	
Naphthalene	ND	0.050		ND	0.26	1	8/5/13 4:25	TPH	
Propene	ND	2.0		ND	3.4	1	8/5/13 4:25	TPH	
Styrene	ND	0.050		ND	0.21	1	8/5/13 4:25	TPH	
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/5/13 4:25	TPH	
Tetrachloroethylene	ND	0.025		ND	0.17	1	8/5/13 4:25	TPH	
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/5/13 4:25	TPH	
Toluene	0.28	0.050		1.1	0.19	1	8/5/13 4:25	TPH	
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/5/13 4:25	TPH	
1,1,1-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13 4:25	TPH	
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13 4:25	TPH	
Trichloroethylene	ND	0.025		ND	0.13	1	8/5/13 4:25	TPH	
Trichlorofluoromethane (Freon 11)	0.25	0.050		1.4	0.28	1	8/5/13 4:25	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.13	0.050		0.99	0.38	1	8/5/13 4:25	TPH	
1,2,4-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13 4:25	TPH	
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13 4:25	TPH	
Vinyl Acetate	ND	1.0		ND	3.5	1	8/5/13 4:25	TPH	
Vinyl Chloride	ND	0.025		ND	0.064	1	8/5/13 4:25	TPH	
m&p-Xylene	ND	0.10		ND	0.43	1	8/5/13 4:25	TPH	
o-Xylene	ND	0.050		ND	0.22	1	8/5/13 4:25	TPH	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	104	70-130	8/5/13 4:25
4-Bromofluorobenzene (2)	91.1	70-130	8/5/13 4:25

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 14
Sample ID: 13H0055-13
 Sample Matrix: Soil Gas
 Sampled: 7/31/2013 08:10

Sample Description/Location: SG-105S
 Sub Description/Location:
 Canister ID: 1680
 Canister Size: 3 liter
 Flow Controller ID: 4191
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -2
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analyzed		
Helium	ND	0.40		1	8/6/13 17:02		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Acetone	ND	2.0		ND	4.8	1	8/5/13 9:23		TPH
Benzene	530	1.0		1700	3.2	20	8/5/13 11:26		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/5/13 9:23		TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/5/13 9:23		TPH
Bromoform	ND	0.050		ND	0.52	1	8/5/13 9:23		TPH
Bromomethane	ND	0.050		ND	0.19	1	8/5/13 9:23		TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/5/13 9:23		TPH
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/5/13 9:23		TPH
Carbon Disulfide	ND	0.50		ND	1.6	1	8/5/13 9:23		TPH
Carbon Tetrachloride	ND	0.025		ND	0.16	1	8/5/13 9:23		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/5/13 9:23		TPH
Chloroethane	ND	0.050		ND	0.13	1	8/5/13 9:23		TPH
Chloroform	ND	0.025		ND	0.12	1	8/5/13 9:23		TPH
Chloromethane	ND	0.10		ND	0.21	1	8/5/13 9:23		TPH
Cyclohexane	250	1.0		860	3.4	20	8/5/13 11:26		TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/5/13 9:23		TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/5/13 9:23		TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 9:23		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 9:23		TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 9:23		TPH
Dichlorodifluoromethane (Freon 12)	ND	0.050		ND	0.25	1	8/5/13 9:23		TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13 9:23		TPH
1,2-Dichloroethane	0.20	0.025		0.80	0.10	1	8/5/13 9:23		TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 9:23		TPH
cis-1,2-Dichloroethylene	0.072	0.025		0.29	0.099	1	8/5/13 9:23		TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 9:23		TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/5/13 9:23		TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13 9:23		TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13 9:23		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/5/13 9:23		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/5/13 9:23		TPH

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 14
Sample ID: 13H0055-13
 Sample Matrix: Soil Gas
 Sampled: 7/31/2013 08:10

Sample Description/Location: SG-105S
 Sub Description/Location:
 Canister ID: 1680
 Canister Size: 3 liter
 Flow Controller ID: 4191
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -2
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Ethanol	ND	2.0		ND	3.8	1	8/5/13 9:23	TPH	
Ethyl Acetate	ND	0.050		ND	0.18	1	8/5/13 9:23	TPH	
Ethylbenzene	9.1	0.050		40	0.22	1	8/5/13 9:23	TPH	
4-Ethyltoluene	7.1	0.050		35	0.25	1	8/5/13 9:23	TPH	
Heptane	260	1.0		1100	4.1	20	8/5/13 11:26	TPH	
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/5/13 9:23	TPH	
Hexane	610	40		2100	140	20	8/5/13 11:26	TPH	
2-Hexanone (MBK)	ND	0.050		ND	0.20	1	8/5/13 9:23	TPH	
Indane	2.2	0.13		10	0.62	1	8/5/13 9:23	TPH	
Indene	0.20	0.13	L-03	0.96	0.63	1	8/5/13 9:23	TPH	
Isopropanol	ND	2.0		ND	4.9	1	8/5/13 9:23	TPH	
Isopropylbenzene (Cumene)	6.2	0.13		30	0.62	1	8/5/13 9:23	TPH	
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/5/13 9:23	TPH	
Methylene Chloride	ND	0.50		ND	1.7	1	8/5/13 9:23	TPH	
4-Methyl-2-pentanone (MIBK)	ND	0.050		ND	0.20	1	8/5/13 9:23	TPH	
Naphthalene	0.20	0.050		1.1	0.26	1	8/5/13 9:23	TPH	
Propene	ND	2.0		ND	3.4	1	8/5/13 9:23	TPH	
Styrene	1.3	0.050		5.5	0.21	1	8/5/13 9:23	TPH	
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/5/13 9:23	TPH	
Tetrachloroethylene	0.15	0.025		1.0	0.17	1	8/5/13 9:23	TPH	
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/5/13 9:23	TPH	
Toluene	47	0.050		180	0.19	1	8/5/13 9:23	TPH	
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/5/13 9:23	TPH	
1,1,1-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13 9:23	TPH	
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13 9:23	TPH	
Trichloroethylene	0.056	0.025		0.30	0.13	1	8/5/13 9:23	TPH	
Trichlorofluoromethane (Freon 11)	ND	0.050		ND	0.28	1	8/5/13 9:23	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.050		ND	0.38	1	8/5/13 9:23	TPH	
1,2,4-Trimethylbenzene	26	0.050		130	0.25	1	8/5/13 9:23	TPH	
1,3,5-Trimethylbenzene	16	0.050		77	0.25	1	8/5/13 9:23	TPH	
Vinyl Acetate	ND	1.0		ND	3.5	1	8/5/13 9:23	TPH	
Vinyl Chloride	ND	0.025		ND	0.064	1	8/5/13 9:23	TPH	
m&p-Xylene	65	0.10		280	0.43	1	8/5/13 9:23	TPH	
o-Xylene	22	0.050		94	0.22	1	8/5/13 9:23	TPH	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	106	70-130	8/5/13 11:26

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 14
Sample ID: 13H0055-13
 Sample Matrix: Soil Gas
 Sampled: 7/31/2013 08:10

Sample Description/Location: SG-105S
 Sub Description/Location:
 Canister ID: 1680
 Canister Size: 3 liter
 Flow Controller ID: 4191
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -2
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Surrogates	% Recovery			% REC Limits					
4-Bromofluorobenzene (1)		110		70-130			8/5/13	9:23	
4-Bromofluorobenzene (2)		205*	S-03	70-130			8/5/13	9:23	

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 15
Sample ID: 13H0055-14
 Sample Matrix: Soil Gas
 Sampled: 7/31/2013 09:35

Sample Description/Location: SG-108S
 Sub Description/Location:
 Canister ID: 2085
 Canister Size: 3 liter
 Flow Controller ID: 4186
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analyzed		
Helium	ND	0.40		1	8/6/13 17:23		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Acetone	18	2.0	V-06	42	4.8	1	8/5/13 10:05		TPH
Benzene	0.22	0.050		0.69	0.16	1	8/5/13 10:05		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/5/13 10:05		TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/5/13 10:05		TPH
Bromoform	ND	0.050		ND	0.52	1	8/5/13 10:05		TPH
Bromomethane	ND	0.050		ND	0.19	1	8/5/13 10:05		TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/5/13 10:05		TPH
2-Butanone (MEK)	2.8	2.0		8.3	5.9	1	8/5/13 10:05		TPH
Carbon Disulfide	0.94	0.50		2.9	1.6	1	8/5/13 10:05		TPH
Carbon Tetrachloride	0.093	0.025		0.59	0.16	1	8/5/13 10:05		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/5/13 10:05		TPH
Chloroethane	ND	0.050		ND	0.13	1	8/5/13 10:05		TPH
Chloroform	0.52	0.025		2.5	0.12	1	8/5/13 10:05		TPH
Chloromethane	0.13	0.10		0.27	0.21	1	8/5/13 10:05		TPH
Cyclohexane	ND	0.050		ND	0.17	1	8/5/13 10:05		TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/5/13 10:05		TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/5/13 10:05		TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 10:05		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 10:05		TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 10:05		TPH
Dichlorodifluoromethane (Freon 12)	0.67	0.050		3.3	0.25	1	8/5/13 10:05		TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13 10:05		TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13 10:05		TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 10:05		TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 10:05		TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 10:05		TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/5/13 10:05		TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13 10:05		TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13 10:05		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/5/13 10:05		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/5/13 10:05		TPH

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 15
Sample ID: 13H0055-14
 Sample Matrix: Soil Gas
 Sampled: 7/31/2013 09:35

Sample Description/Location: SG-108S
 Sub Description/Location:
 Canister ID: 2085
 Canister Size: 3 liter
 Flow Controller ID: 4186
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Ethanol	3.7	2.0		6.9	3.8	1	8/5/13 10:05	TPH	
Ethyl Acetate	ND	0.050		ND	0.18	1	8/5/13 10:05	TPH	
Ethylbenzene	ND	0.050		ND	0.22	1	8/5/13 10:05	TPH	
4-Ethyltoluene	0.057	0.050		0.28	0.25	1	8/5/13 10:05	TPH	
Heptane	0.16	0.050		0.65	0.20	1	8/5/13 10:05	TPH	
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/5/13 10:05	TPH	
Hexane	ND	2.0		ND	7.0	1	8/5/13 10:05	TPH	
2-Hexanone (MBK)	0.70	0.050		2.9	0.20	1	8/5/13 10:05	TPH	
Indane	ND	0.13		ND	0.62	1	8/5/13 10:05	TPH	
Indene	ND	0.13	L-03	ND	0.63	1	8/5/13 10:05	TPH	
Isopropanol	ND	2.0		ND	4.9	1	8/5/13 10:05	TPH	
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/5/13 10:05	TPH	
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/5/13 10:05	TPH	
Methylene Chloride	ND	0.50		ND	1.7	1	8/5/13 10:05	TPH	
4-Methyl-2-pentanone (MIBK)	0.27	0.050		1.1	0.20	1	8/5/13 10:05	TPH	
Naphthalene	0.078	0.050		0.41	0.26	1	8/5/13 10:05	TPH	
Propene	7.9	2.0		14	3.4	1	8/5/13 10:05	TPH	
Styrene	ND	0.050		ND	0.21	1	8/5/13 10:05	TPH	
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/5/13 10:05	TPH	
Tetrachloroethylene	2.7	0.025		18	0.17	1	8/5/13 10:05	TPH	
Tetrahydrofuran	0.28	0.050		0.84	0.15	1	8/5/13 10:05	TPH	
Toluene	0.097	0.050		0.37	0.19	1	8/5/13 10:05	TPH	
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/5/13 10:05	TPH	
1,1,1-Trichloroethane	0.096	0.025		0.52	0.14	1	8/5/13 10:05	TPH	
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13 10:05	TPH	
Trichloroethylene	0.041	0.025		0.22	0.13	1	8/5/13 10:05	TPH	
Trichlorofluoromethane (Freon 11)	0.86	0.050		4.8	0.28	1	8/5/13 10:05	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.57	0.050		4.3	0.38	1	8/5/13 10:05	TPH	
1,2,4-Trimethylbenzene	0.19	0.050		0.93	0.25	1	8/5/13 10:05	TPH	
1,3,5-Trimethylbenzene	0.070	0.050		0.34	0.25	1	8/5/13 10:05	TPH	
Vinyl Acetate	ND	1.0		ND	3.5	1	8/5/13 10:05	TPH	
Vinyl Chloride	ND	0.025		ND	0.064	1	8/5/13 10:05	TPH	
m&p-Xylene	ND	0.10		ND	0.43	1	8/5/13 10:05	TPH	
o-Xylene	ND	0.050		ND	0.22	1	8/5/13 10:05	TPH	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	108	70-130	8/5/13 10:05

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 15
Sample ID: 13H0055-14
 Sample Matrix: Soil Gas
 Sampled: 7/31/2013 09:35

Sample Description/Location: SG-108S
 Sub Description/Location:
 Canister ID: 2085
 Canister Size: 3 liter
 Flow Controller ID: 4186
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		103			70-130		8/5/13 10:05	

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 16
Sample ID: 13H0055-15
 Sample Matrix: Soil Gas
 Sampled: 7/31/2013 10:41

Sample Description/Location: SG-108D
 Sub Description/Location:
 Canister ID: 2088
 Canister Size: 3 liter
 Flow Controller ID: 4187
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analyzed		
Helium	ND	0.40		1	8/6/13 17:47		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Acetone	22	2.0	V-06	51	4.8	1	8/5/13 12:46		TPH
Benzene	0.55	0.050		1.8	0.16	1	8/5/13 12:46		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/5/13 12:46		TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/5/13 12:46		TPH
Bromoform	ND	0.050		ND	0.52	1	8/5/13 12:46		TPH
Bromomethane	ND	0.050		ND	0.19	1	8/5/13 12:46		TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/5/13 12:46		TPH
2-Butanone (MEK)	2.1	2.0		6.2	5.9	1	8/5/13 12:46		TPH
Carbon Disulfide	0.84	0.50		2.6	1.6	1	8/5/13 12:46		TPH
Carbon Tetrachloride	0.13	0.025		0.84	0.16	1	8/5/13 12:46		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/5/13 12:46		TPH
Chloroethane	ND	0.050		ND	0.13	1	8/5/13 12:46		TPH
Chloroform	0.61	0.025		3.0	0.12	1	8/5/13 12:46		TPH
Chloromethane	ND	0.10		ND	0.21	1	8/5/13 12:46		TPH
Cyclohexane	0.24	0.050		0.83	0.17	1	8/5/13 12:46		TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/5/13 12:46		TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/5/13 12:46		TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 12:46		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 12:46		TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 12:46		TPH
Dichlorodifluoromethane (Freon 12)	0.74	0.050		3.7	0.25	1	8/5/13 12:46		TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13 12:46		TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13 12:46		TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 12:46		TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 12:46		TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 12:46		TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/5/13 12:46		TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13 12:46		TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13 12:46		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/5/13 12:46		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/5/13 12:46		TPH

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 16
Sample ID: 13H0055-15
 Sample Matrix: Soil Gas
 Sampled: 7/31/2013 10:41

Sample Description/Location: SG-108D
 Sub Description/Location:
 Canister ID: 2088
 Canister Size: 3 liter
 Flow Controller ID: 4187
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Ethanol	2.1	2.0		3.9	3.8	1	8/5/13 12:46	TPH	
Ethyl Acetate	0.45	0.050		1.6	0.18	1	8/5/13 12:46	TPH	
Ethylbenzene	ND	0.050		ND	0.22	1	8/5/13 12:46	TPH	
4-Ethyltoluene	ND	0.050		ND	0.25	1	8/5/13 12:46	TPH	
Heptane	0.33	0.050		1.4	0.20	1	8/5/13 12:46	TPH	
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/5/13 12:46	TPH	
Hexane	ND	2.0		ND	7.0	1	8/5/13 12:46	TPH	
2-Hexanone (MBK)	0.50	0.050		2.0	0.20	1	8/5/13 12:46	TPH	
Indane	ND	0.13		ND	0.62	1	8/5/13 12:46	TPH	
Indene	ND	0.13	L-03	ND	0.63	1	8/5/13 12:46	TPH	
Isopropanol	ND	2.0		ND	4.9	1	8/5/13 12:46	TPH	
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/5/13 12:46	TPH	
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/5/13 12:46	TPH	
Methylene Chloride	ND	0.50		ND	1.7	1	8/5/13 12:46	TPH	
4-Methyl-2-pentanone (MIBK)	ND	0.050		ND	0.20	1	8/5/13 12:46	TPH	
Naphthalene	0.067	0.050		0.35	0.26	1	8/5/13 12:46	TPH	
Propene	ND	2.0		ND	3.4	1	8/5/13 12:46	TPH	
Styrene	ND	0.050		ND	0.21	1	8/5/13 12:46	TPH	
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/5/13 12:46	TPH	
Tetrachloroethylene	3.5	0.025		24	0.17	1	8/5/13 12:46	TPH	
Tetrahydrofuran	0.078	0.050		0.23	0.15	1	8/5/13 12:46	TPH	
Toluene	0.15	0.050		0.55	0.19	1	8/5/13 12:46	TPH	
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/5/13 12:46	TPH	
1,1,1-Trichloroethane	0.12	0.025		0.67	0.14	1	8/5/13 12:46	TPH	
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13 12:46	TPH	
Trichloroethylene	0.27	0.025		1.5	0.13	1	8/5/13 12:46	TPH	
Trichlorofluoromethane (Freon 11)	0.91	0.050		5.1	0.28	1	8/5/13 12:46	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.59	0.050		4.6	0.38	1	8/5/13 12:46	TPH	
1,2,4-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13 12:46	TPH	
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13 12:46	TPH	
Vinyl Acetate	ND	1.0		ND	3.5	1	8/5/13 12:46	TPH	
Vinyl Chloride	ND	0.025		ND	0.064	1	8/5/13 12:46	TPH	
m&p-Xylene	0.10	0.10		0.44	0.43	1	8/5/13 12:46	TPH	
o-Xylene	ND	0.050		ND	0.22	1	8/5/13 12:46	TPH	

Surrogates

% Recovery

% REC Limits

4-Bromofluorobenzene (1)

109

70-130

8/5/13 12:46

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 16
Sample ID: 13H0055-15
 Sample Matrix: Soil Gas
 Sampled: 7/31/2013 10:41

Sample Description/Location: SG-108D
 Sub Description/Location:
 Canister ID: 2088
 Canister Size: 3 liter
 Flow Controller ID: 4187
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		104			70-130		8/5/13 12:46	

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
 Field Sample #: 17
 Sample ID: 13H0055-16
 Sample Matrix: Soil Gas
 Sampled: 7/31/2013 00:00

Sample Description/Location: SG-109S
 Sub Description/Location:
 Canister ID: 1397
 Canister Size: 3 liter
 Flow Controller ID: 4066
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -26
 Final Vacuum(in Hg): -2.5
 Receipt Vacuum(in Hg): -3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analyzed		
Helium	ND	0.40		1	8/6/13 18:06		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Acetone	6.9	2.0	V-06	16	4.8	1	8/5/13 13:27		TPH
Benzene	0.15	0.050		0.48	0.16	1	8/5/13 13:27		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/5/13 13:27		TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/5/13 13:27		TPH
Bromoform	ND	0.050		ND	0.52	1	8/5/13 13:27		TPH
Bromomethane	ND	0.050		ND	0.19	1	8/5/13 13:27		TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/5/13 13:27		TPH
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/5/13 13:27		TPH
Carbon Disulfide	ND	0.50		ND	1.6	1	8/5/13 13:27		TPH
Carbon Tetrachloride	0.043	0.025		0.27	0.16	1	8/5/13 13:27		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/5/13 13:27		TPH
Chloroethane	ND	0.050		ND	0.13	1	8/5/13 13:27		TPH
Chloroform	0.56	0.025		2.7	0.12	1	8/5/13 13:27		TPH
Chloromethane	0.24	0.10		0.50	0.21	1	8/5/13 13:27		TPH
Cyclohexane	ND	0.050		ND	0.17	1	8/5/13 13:27		TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/5/13 13:27		TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/5/13 13:27		TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 13:27		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 13:27		TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 13:27		TPH
Dichlorodifluoromethane (Freon 12)	0.33	0.050		1.6	0.25	1	8/5/13 13:27		TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13 13:27		TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13 13:27		TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 13:27		TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 13:27		TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 13:27		TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/5/13 13:27		TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13 13:27		TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13 13:27		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/5/13 13:27		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/5/13 13:27		TPH

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 17
Sample ID: 13H0055-16
 Sample Matrix: Soil Gas
 Sampled: 7/31/2013 00:00

Sample Description/Location: SG-109S
 Sub Description/Location:
 Canister ID: 1397
 Canister Size: 3 liter
 Flow Controller ID: 4066
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -26
 Final Vacuum(in Hg): -2.5
 Receipt Vacuum(in Hg): -3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Ethanol	ND	2.0		ND	3.8	1	8/5/13 13:27	TPH	
Ethyl Acetate	0.29	0.050		1.0	0.18	1	8/5/13 13:27	TPH	
Ethylbenzene	ND	0.050		ND	0.22	1	8/5/13 13:27	TPH	
4-Ethyltoluene	ND	0.050		ND	0.25	1	8/5/13 13:27	TPH	
Heptane	ND	0.050		ND	0.20	1	8/5/13 13:27	TPH	
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/5/13 13:27	TPH	
Hexane	ND	2.0		ND	7.0	1	8/5/13 13:27	TPH	
2-Hexanone (MBK)	0.18	0.050		0.73	0.20	1	8/5/13 13:27	TPH	
Indane	ND	0.13		ND	0.62	1	8/5/13 13:27	TPH	
Indene	ND	0.13	L-03	ND	0.63	1	8/5/13 13:27	TPH	
Isopropanol	ND	2.0		ND	4.9	1	8/5/13 13:27	TPH	
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/5/13 13:27	TPH	
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/5/13 13:27	TPH	
Methylene Chloride	ND	0.50		ND	1.7	1	8/5/13 13:27	TPH	
4-Methyl-2-pentanone (MIBK)	0.11	0.050		0.45	0.20	1	8/5/13 13:27	TPH	
Naphthalene	0.056	0.050		0.29	0.26	1	8/5/13 13:27	TPH	
Propene	ND	2.0		ND	3.4	1	8/5/13 13:27	TPH	
Styrene	ND	0.050		ND	0.21	1	8/5/13 13:27	TPH	
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/5/13 13:27	TPH	
Tetrachloroethylene	170	0.25		1100	1.7	10	8/6/13 4:57	TPH	
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/5/13 13:27	TPH	
Toluene	0.071	0.050		0.27	0.19	1	8/5/13 13:27	TPH	
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/5/13 13:27	TPH	
1,1,1-Trichloroethane	1.6	0.025		9.0	0.14	1	8/5/13 13:27	TPH	
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13 13:27	TPH	
Trichloroethylene	49	0.025		260	0.13	1	8/5/13 13:27	TPH	
Trichlorofluoromethane (Freon 11)	0.70	0.050		3.9	0.28	1	8/5/13 13:27	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.10	0.050		0.80	0.38	1	8/5/13 13:27	TPH	
1,2,4-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13 13:27	TPH	
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13 13:27	TPH	
Vinyl Acetate	ND	1.0		ND	3.5	1	8/5/13 13:27	TPH	
Vinyl Chloride	ND	0.025		ND	0.064	1	8/5/13 13:27	TPH	
m&p-Xylene	ND	0.10		ND	0.43	1	8/5/13 13:27	TPH	
o-Xylene	ND	0.050		ND	0.22	1	8/5/13 13:27	TPH	

Surrogates	% Recovery	% REC Limits
4-Bromofluorobenzene (1)	106	70-130

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 17
Sample ID: 13H0055-16
 Sample Matrix: Soil Gas
 Sampled: 7/31/2013 00:00

Sample Description/Location: SG-109S
 Sub Description/Location:
 Canister ID: 1397
 Canister Size: 3 liter
 Flow Controller ID: 4066
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -26
 Final Vacuum(in Hg): -2.5
 Receipt Vacuum(in Hg): -3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL		Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (1)		108		70-130			8/5/13 13:27	
4-Bromofluorobenzene (2)		102		70-130			8/5/13 13:27	

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 18
Sample ID: 13H0055-17
 Sample Matrix: Soil Gas
 Sampled: 7/31/2013 17:16

Sample Description/Location: SG-109D
 Sub Description/Location:
 Canister ID: 1395
 Canister Size: 3 liter
 Flow Controller ID: 4067
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -2
 Receipt Vacuum(in Hg): -1.5
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analyzed		
Helium	ND	0.40		1	8/6/13 18:24		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Acetone	5.1	2.0	V-06	12	4.8	1	8/5/13 14:09		TPH
Benzene	0.060	0.050		0.19	0.16	1	8/5/13 14:09		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/5/13 14:09		TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/5/13 14:09		TPH
Bromoform	ND	0.050		ND	0.52	1	8/5/13 14:09		TPH
Bromomethane	ND	0.050		ND	0.19	1	8/5/13 14:09		TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/5/13 14:09		TPH
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/5/13 14:09		TPH
Carbon Disulfide	ND	0.50		ND	1.6	1	8/5/13 14:09		TPH
Carbon Tetrachloride	0.057	0.025		0.36	0.16	1	8/5/13 14:09		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/5/13 14:09		TPH
Chloroethane	ND	0.050		ND	0.13	1	8/5/13 14:09		TPH
Chloroform	4.7	0.025		23	0.12	1	8/5/13 14:09		TPH
Chloromethane	ND	0.10		ND	0.21	1	8/5/13 14:09		TPH
Cyclohexane	ND	0.050		ND	0.17	1	8/5/13 14:09		TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/5/13 14:09		TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/5/13 14:09		TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 14:09		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 14:09		TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 14:09		TPH
Dichlorodifluoromethane (Freon 12)	0.40	0.050		2.0	0.25	1	8/5/13 14:09		TPH
1,1-Dichloroethane	0.11	0.025		0.43	0.10	1	8/5/13 14:09		TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13 14:09		TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 14:09		TPH
cis-1,2-Dichloroethylene	1.6	0.025		6.5	0.099	1	8/5/13 14:09		TPH
trans-1,2-Dichloroethylene	0.21	0.025		0.83	0.099	1	8/5/13 14:09		TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/5/13 14:09		TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13 14:09		TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13 14:09		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/5/13 14:09		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/5/13 14:09		TPH

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 18
Sample ID: 13H0055-17
 Sample Matrix: Soil Gas
 Sampled: 7/31/2013 17:16

Sample Description/Location: SG-109D
 Sub Description/Location:
 Canister ID: 1395
 Canister Size: 3 liter
 Flow Controller ID: 4067
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -2
 Receipt Vacuum(in Hg): -1.5
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL		Results	RL			
Ethanol	ND	2.0		ND	3.8	1	8/5/13 14:09	TPH
Ethyl Acetate	0.45	0.050		1.6	0.18	1	8/5/13 14:09	TPH
Ethylbenzene	ND	0.050		ND	0.22	1	8/5/13 14:09	TPH
4-Ethyltoluene	ND	0.050		ND	0.25	1	8/5/13 14:09	TPH
Heptane	ND	0.050		ND	0.20	1	8/5/13 14:09	TPH
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/5/13 14:09	TPH
Hexane	ND	2.0		ND	7.0	1	8/5/13 14:09	TPH
2-Hexanone (MBK)	0.13	0.050		0.52	0.20	1	8/5/13 14:09	TPH
Indane	ND	0.13		ND	0.62	1	8/5/13 14:09	TPH
Indene	ND	0.13	L-03	ND	0.63	1	8/5/13 14:09	TPH
Isopropanol	ND	2.0		ND	4.9	1	8/5/13 14:09	TPH
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/5/13 14:09	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/5/13 14:09	TPH
Methylene Chloride	ND	0.50		ND	1.7	1	8/5/13 14:09	TPH
4-Methyl-2-pentanone (MIBK)	0.051	0.050		0.21	0.20	1	8/5/13 14:09	TPH
Naphthalene	0.060	0.050		0.31	0.26	1	8/5/13 14:09	TPH
Propene	ND	2.0		ND	3.4	1	8/5/13 14:09	TPH
Styrene	ND	0.050		ND	0.21	1	8/5/13 14:09	TPH
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/5/13 14:09	TPH
Tetrachloroethylene	160	0.25		1100	1.7	10	8/6/13 5:35	TPH
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/5/13 14:09	TPH
Toluene	0.068	0.050		0.26	0.19	1	8/5/13 14:09	TPH
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/5/13 14:09	TPH
1,1,1-Trichloroethane	1.8	0.025		9.9	0.14	1	8/5/13 14:09	TPH
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13 14:09	TPH
Trichloroethylene	130	0.25		690	1.3	10	8/6/13 5:35	TPH
Trichlorofluoromethane (Freon 11)	1.2	0.050		6.9	0.28	1	8/5/13 14:09	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.16	0.050		1.2	0.38	1	8/5/13 14:09	TPH
1,2,4-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13 14:09	TPH
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13 14:09	TPH
Vinyl Acetate	ND	1.0		ND	3.5	1	8/5/13 14:09	TPH
Vinyl Chloride	ND	0.025		ND	0.064	1	8/5/13 14:09	TPH
m&p-Xylene	ND	0.10		ND	0.43	1	8/5/13 14:09	TPH
o-Xylene	ND	0.050		ND	0.22	1	8/5/13 14:09	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	106	70-130	8/5/13 14:09

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 18
Sample ID: 13H0055-17
 Sample Matrix: Soil Gas
 Sampled: 7/31/2013 17:16

Sample Description/Location: SG-109D
 Sub Description/Location:
 Canister ID: 1395
 Canister Size: 3 liter
 Flow Controller ID: 4067
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -2
 Receipt Vacuum(in Hg): -1.5
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Surrogates	% Recovery			% REC Limits					
4-Bromofluorobenzene (1)		105		70-130			8/6/13	5:35	
4-Bromofluorobenzene (2)		100		70-130			8/5/13	14:09	

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 19
Sample ID: 13H0055-18
 Sample Matrix: Soil Gas
 Sampled: 7/31/2013 13:54

Sample Description/Location: SG-110S
 Sub Description/Location:
 Canister ID: 2052
 Canister Size: 3 liter
 Flow Controller ID: 4090
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analized		
Helium	ND	0.40		1	8/6/13 18:43		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Acetone	20	2.0	V-06	47	4.8	1	8/5/13 14:50		TPH
Benzene	0.86	0.050		2.7	0.16	1	8/5/13 14:50		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/5/13 14:50		TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/5/13 14:50		TPH
Bromoform	ND	0.050		ND	0.52	1	8/5/13 14:50		TPH
Bromomethane	ND	0.050		ND	0.19	1	8/5/13 14:50		TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/5/13 14:50		TPH
2-Butanone (MEK)	3.1	2.0		9.2	5.9	1	8/5/13 14:50		TPH
Carbon Disulfide	1.2	0.50		3.6	1.6	1	8/5/13 14:50		TPH
Carbon Tetrachloride	0.070	0.025		0.44	0.16	1	8/5/13 14:50		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/5/13 14:50		TPH
Chloroethane	ND	0.050		ND	0.13	1	8/5/13 14:50		TPH
Chloroform	0.14	0.025		0.69	0.12	1	8/5/13 14:50		TPH
Chloromethane	0.57	0.10		1.2	0.21	1	8/5/13 14:50		TPH
Cyclohexane	0.083	0.050		0.29	0.17	1	8/5/13 14:50		TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/5/13 14:50		TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/5/13 14:50		TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 14:50		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 14:50		TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 14:50		TPH
Dichlorodifluoromethane (Freon 12)	0.38	0.050		1.9	0.25	1	8/5/13 14:50		TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13 14:50		TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13 14:50		TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 14:50		TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 14:50		TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 14:50		TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/5/13 14:50		TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13 14:50		TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13 14:50		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/5/13 14:50		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/5/13 14:50		TPH

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 19
Sample ID: 13H0055-18
 Sample Matrix: Soil Gas
 Sampled: 7/31/2013 13:54

Sample Description/Location: SG-110S
 Sub Description/Location:
 Canister ID: 2052
 Canister Size: 3 liter
 Flow Controller ID: 4090
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL		Results	RL			
Ethanol	2.8	2.0		5.3	3.8	1	8/5/13 14:50	TPH
Ethyl Acetate	0.34	0.050		1.2	0.18	1	8/5/13 14:50	TPH
Ethylbenzene	0.097	0.050		0.42	0.22	1	8/5/13 14:50	TPH
4-Ethyltoluene	0.10	0.050		0.50	0.25	1	8/5/13 14:50	TPH
Heptane	0.061	0.050		0.25	0.20	1	8/5/13 14:50	TPH
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/5/13 14:50	TPH
Hexane	ND	2.0		ND	7.0	1	8/5/13 14:50	TPH
2-Hexanone (MBK)	0.67	0.050		2.7	0.20	1	8/5/13 14:50	TPH
Indane	0.47	0.13		2.3	0.62	1	8/5/13 14:50	TPH
Indene	3.5	0.13	L-03	16	0.63	1	8/5/13 14:50	TPH
Isopropanol	ND	2.0		ND	4.9	1	8/5/13 14:50	TPH
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/5/13 14:50	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/5/13 14:50	TPH
Methylene Chloride	ND	0.50		ND	1.7	1	8/5/13 14:50	TPH
4-Methyl-2-pentanone (MIBK)	0.28	0.050		1.2	0.20	1	8/5/13 14:50	TPH
Naphthalene	100	0.50		550	2.6	10	8/6/13 6:13	TPH
Propene	3.4	2.0		5.8	3.4	1	8/5/13 14:50	TPH
Styrene	0.30	0.050		1.3	0.21	1	8/5/13 14:50	TPH
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/5/13 14:50	TPH
Tetrachloroethylene	1.9	0.025		13	0.17	1	8/5/13 14:50	TPH
Tetrahydrofuran	0.063	0.050		0.19	0.15	1	8/5/13 14:50	TPH
Toluene	0.62	0.050		2.3	0.19	1	8/5/13 14:50	TPH
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/5/13 14:50	TPH
1,1,1-Trichloroethane	0.025	0.025		0.14	0.14	1	8/5/13 14:50	TPH
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13 14:50	TPH
Trichloroethylene	0.050	0.025		0.27	0.13	1	8/5/13 14:50	TPH
Trichlorofluoromethane (Freon 11)	0.98	0.050		5.5	0.28	1	8/5/13 14:50	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.49	0.050		3.7	0.38	1	8/5/13 14:50	TPH
1,2,4-Trimethylbenzene	1.1	0.050		5.6	0.25	1	8/5/13 14:50	TPH
1,3,5-Trimethylbenzene	0.37	0.050		1.8	0.25	1	8/5/13 14:50	TPH
Vinyl Acetate	ND	1.0		ND	3.5	1	8/5/13 14:50	TPH
Vinyl Chloride	ND	0.025		ND	0.064	1	8/5/13 14:50	TPH
m&p-Xylene	0.63	0.10		2.7	0.43	1	8/5/13 14:50	TPH
o-Xylene	0.33	0.050		1.4	0.22	1	8/5/13 14:50	TPH

Surrogates	% Recovery	% REC Limits
4-Bromofluorobenzene (1)	105	70-130

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 19
Sample ID: 13H0055-18
 Sample Matrix: Soil Gas
 Sampled: 7/31/2013 13:54

Sample Description/Location: SG-110S
 Sub Description/Location:
 Canister ID: 2052
 Canister Size: 3 liter
 Flow Controller ID: 4090
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Surrogates	% Recovery			% REC Limits					
4-Bromofluorobenzene (1)		106			70-130		8/5/13	14:50	
4-Bromofluorobenzene (2)		101			70-130		8/5/13	14:50	

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 20
Sample ID: 13H0055-19
 Sample Matrix: Soil Gas
 Sampled: 7/31/2013 14:54

Sample Description/Location: SG-110D
 Sub Description/Location:
 Canister ID: 1435
 Canister Size: 3 liter
 Flow Controller ID: 4091
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analyzed		
Helium	ND	0.40		1	8/6/13 19:01		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Acetone	26	2.0	V-06	61	4.8	1	8/5/13 15:32		TPH
Benzene	0.12	0.050		0.38	0.16	1	8/5/13 15:32		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/5/13 15:32		TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/5/13 15:32		TPH
Bromoform	ND	0.050		ND	0.52	1	8/5/13 15:32		TPH
Bromomethane	ND	0.050		ND	0.19	1	8/5/13 15:32		TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/5/13 15:32		TPH
2-Butanone (MEK)	4.5	2.0		13	5.9	1	8/5/13 15:32		TPH
Carbon Disulfide	0.88	0.50		2.7	1.6	1	8/5/13 15:32		TPH
Carbon Tetrachloride	0.029	0.025		0.18	0.16	1	8/5/13 15:32		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/5/13 15:32		TPH
Chloroethane	ND	0.050		ND	0.13	1	8/5/13 15:32		TPH
Chloroform	0.081	0.025		0.40	0.12	1	8/5/13 15:32		TPH
Chloromethane	ND	0.10		ND	0.21	1	8/5/13 15:32		TPH
Cyclohexane	ND	0.050		ND	0.17	1	8/5/13 15:32		TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/5/13 15:32		TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/5/13 15:32		TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 15:32		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 15:32		TPH
1,4-Dichlorobenzene	0.29	0.050		1.7	0.30	1	8/5/13 15:32		TPH
Dichlorodifluoromethane (Freon 12)	0.40	0.050		2.0	0.25	1	8/5/13 15:32		TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13 15:32		TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13 15:32		TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 15:32		TPH
cis-1,2-Dichloroethylene	6.7	0.025		27	0.099	1	8/5/13 15:32		TPH
trans-1,2-Dichloroethylene	0.25	0.025		1.00	0.099	1	8/5/13 15:32		TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/5/13 15:32		TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13 15:32		TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13 15:32		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/5/13 15:32		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/5/13 15:32		TPH

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 20
Sample ID: 13H0055-19
 Sample Matrix: Soil Gas
 Sampled: 7/31/2013 14:54

Sample Description/Location: SG-110D
 Sub Description/Location:
 Canister ID: 1435
 Canister Size: 3 liter
 Flow Controller ID: 4091
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Ethanol	6.2	2.0		12	3.8	1	8/5/13 15:32	TPH	
Ethyl Acetate	0.38	0.050		1.4	0.18	1	8/5/13 15:32	TPH	
Ethylbenzene	0.17	0.050		0.75	0.22	1	8/5/13 15:32	TPH	
4-Ethyltoluene	0.12	0.050		0.58	0.25	1	8/5/13 15:32	TPH	
Heptane	0.14	0.050		0.57	0.20	1	8/5/13 15:32	TPH	
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/5/13 15:32	TPH	
Hexane	ND	2.0		ND	7.0	1	8/5/13 15:32	TPH	
2-Hexanone (MBK)	0.89	0.050		3.7	0.20	1	8/5/13 15:32	TPH	
Indane	0.16	0.13		0.76	0.62	1	8/5/13 15:32	TPH	
Indene	ND	0.13	L-03	ND	0.63	1	8/5/13 15:32	TPH	
Isopropanol	ND	2.0		ND	4.9	1	8/5/13 15:32	TPH	
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/5/13 15:32	TPH	
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/5/13 15:32	TPH	
Methylene Chloride	ND	0.50		ND	1.7	1	8/5/13 15:32	TPH	
4-Methyl-2-pentanone (MIBK)	0.32	0.050		1.3	0.20	1	8/5/13 15:32	TPH	
Naphthalene	2.5	0.050		13	0.26	1	8/5/13 15:32	TPH	
Propene	5.1	2.0		8.8	3.4	1	8/5/13 15:32	TPH	
Styrene	0.38	0.050		1.6	0.21	1	8/5/13 15:32	TPH	
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/5/13 15:32	TPH	
Tetrachloroethylene	5.8	0.025		40	0.17	1	8/5/13 15:32	TPH	
Tetrahydrofuran	0.14	0.050		0.42	0.15	1	8/5/13 15:32	TPH	
Toluene	0.20	0.050		0.73	0.19	1	8/5/13 15:32	TPH	
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/5/13 15:32	TPH	
1,1,1-Trichloroethane	0.041	0.025		0.22	0.14	1	8/5/13 15:32	TPH	
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13 15:32	TPH	
Trichloroethylene	3.9	0.025		21	0.13	1	8/5/13 15:32	TPH	
Trichlorofluoromethane (Freon 11)	13	0.050		71	0.28	1	8/5/13 15:32	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.72	0.050		5.5	0.38	1	8/5/13 15:32	TPH	
1,2,4-Trimethylbenzene	0.96	0.050		4.7	0.25	1	8/5/13 15:32	TPH	
1,3,5-Trimethylbenzene	0.36	0.050		1.8	0.25	1	8/5/13 15:32	TPH	
Vinyl Acetate	ND	1.0		ND	3.5	1	8/5/13 15:32	TPH	
Vinyl Chloride	0.052	0.025		0.13	0.064	1	8/5/13 15:32	TPH	
m&p-Xylene	0.25	0.10		1.1	0.43	1	8/5/13 15:32	TPH	
o-Xylene	0.14	0.050		0.62	0.22	1	8/5/13 15:32	TPH	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	107	70-130	8/5/13 15:32

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 20
Sample ID: 13H0055-19
 Sample Matrix: Soil Gas
 Sampled: 7/31/2013 14:54

Sample Description/Location: SG-110D
 Sub Description/Location:
 Canister ID: 1435
 Canister Size: 3 liter
 Flow Controller ID: 4091
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		102			70-130		8/5/13 15:32	

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 21
Sample ID: 13H0055-20
 Sample Matrix: Soil Gas
 Sampled: 7/31/2013 11:47

Sample Description/Location: SG-111S
 Sub Description/Location:
 Canister ID: 1524
 Canister Size: 3 liter
 Flow Controller ID: 4190
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analized		
Helium	ND	0.40		1	8/6/13 19:14		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Acetone	10	2.0	V-06	24	4.8	1	8/5/13 16:13		TPH
Benzene	ND	0.050		ND	0.16	1	8/5/13 16:13		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/5/13 16:13		TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/5/13 16:13		TPH
Bromoform	ND	0.050		ND	0.52	1	8/5/13 16:13		TPH
Bromomethane	ND	0.050		ND	0.19	1	8/5/13 16:13		TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/5/13 16:13		TPH
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/5/13 16:13		TPH
Carbon Disulfide	4.3	0.50		14	1.6	1	8/5/13 16:13		TPH
Carbon Tetrachloride	0.057	0.025		0.36	0.16	1	8/5/13 16:13		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/5/13 16:13		TPH
Chloroethane	ND	0.050		ND	0.13	1	8/5/13 16:13		TPH
Chloroform	0.17	0.025		0.83	0.12	1	8/5/13 16:13		TPH
Chloromethane	0.10	0.10		0.22	0.21	1	8/5/13 16:13		TPH
Cyclohexane	ND	0.050		ND	0.17	1	8/5/13 16:13		TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/5/13 16:13		TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/5/13 16:13		TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 16:13		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 16:13		TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13 16:13		TPH
Dichlorodifluoromethane (Freon 12)	0.33	0.050		1.6	0.25	1	8/5/13 16:13		TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13 16:13		TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13 16:13		TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 16:13		TPH
cis-1,2-Dichloroethylene	0.071	0.025		0.28	0.099	1	8/5/13 16:13		TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13 16:13		TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/5/13 16:13		TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13 16:13		TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13 16:13		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/5/13 16:13		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/5/13 16:13		TPH

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 21
Sample ID: 13H0055-20
 Sample Matrix: Soil Gas
 Sampled: 7/31/2013 11:47

Sample Description/Location: SG-111S
 Sub Description/Location:
 Canister ID: 1524
 Canister Size: 3 liter
 Flow Controller ID: 4190
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Ethanol	3.6	2.0		6.9	3.8	1	8/5/13 16:13	TPH	
Ethyl Acetate	ND	0.050		ND	0.18	1	8/5/13 16:13	TPH	
Ethylbenzene	ND	0.050		ND	0.22	1	8/5/13 16:13	TPH	
4-Ethyltoluene	ND	0.050		ND	0.25	1	8/5/13 16:13	TPH	
Heptane	ND	0.050		ND	0.20	1	8/5/13 16:13	TPH	
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/5/13 16:13	TPH	
Hexane	ND	2.0		ND	7.0	1	8/5/13 16:13	TPH	
2-Hexanone (MBK)	0.23	0.050		0.94	0.20	1	8/5/13 16:13	TPH	
Indane	ND	0.13		ND	0.62	1	8/5/13 16:13	TPH	
Indene	ND	0.13	L-03	ND	0.63	1	8/5/13 16:13	TPH	
Isopropanol	ND	2.0		ND	4.9	1	8/5/13 16:13	TPH	
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/5/13 16:13	TPH	
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/5/13 16:13	TPH	
Methylene Chloride	2.2	0.50		7.5	1.7	1	8/5/13 16:13	TPH	
4-Methyl-2-pentanone (MIBK)	0.089	0.050		0.36	0.20	1	8/5/13 16:13	TPH	
Naphthalene	0.36	0.050		1.9	0.26	1	8/5/13 16:13	TPH	
Propene	ND	2.0		ND	3.4	1	8/5/13 16:13	TPH	
Styrene	ND	0.050		ND	0.21	1	8/5/13 16:13	TPH	
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/5/13 16:13	TPH	
Tetrachloroethylene	48	0.025		330	0.17	1	8/5/13 16:13	TPH	
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/5/13 16:13	TPH	
Toluene	0.077	0.050		0.29	0.19	1	8/5/13 16:13	TPH	
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/5/13 16:13	TPH	
1,1,1-Trichloroethane	0.16	0.025		0.86	0.14	1	8/5/13 16:13	TPH	
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13 16:13	TPH	
Trichloroethylene	2.2	0.025		12	0.13	1	8/5/13 16:13	TPH	
Trichlorofluoromethane (Freon 11)	0.26	0.050		1.5	0.28	1	8/5/13 16:13	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.086	0.050		0.66	0.38	1	8/5/13 16:13	TPH	
1,2,4-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13 16:13	TPH	
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13 16:13	TPH	
Vinyl Acetate	ND	1.0		ND	3.5	1	8/5/13 16:13	TPH	
Vinyl Chloride	ND	0.025		ND	0.064	1	8/5/13 16:13	TPH	
m&p-Xylene	ND	0.10		ND	0.43	1	8/5/13 16:13	TPH	
o-Xylene	ND	0.050		ND	0.22	1	8/5/13 16:13	TPH	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	106	70-130	8/5/13 16:13

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 21
Sample ID: 13H0055-20
 Sample Matrix: Soil Gas
 Sampled: 7/31/2013 11:47

Sample Description/Location: SG-111S
 Sub Description/Location:
 Canister ID: 1524
 Canister Size: 3 liter
 Flow Controller ID: 4190
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		102			70-130		8/5/13 16:13	

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 22
Sample ID: 13H0055-21
 Sample Matrix: Soil Gas
 Sampled: 7/31/2013 12:38

Sample Description/Location: SG-111D
 Sub Description/Location:
 Canister ID: 2084
 Canister Size: 3 liter
 Flow Controller ID: 4176
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analized		
Helium	ND	0.40		1	8/6/13	19:38	TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Acetone	18	2.0	V-06	42	4.8	1	8/5/13	16:55	TPH
Benzene	0.073	0.050		0.23	0.16	1	8/5/13	16:55	TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/5/13	16:55	TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/5/13	16:55	TPH
Bromoform	ND	0.050		ND	0.52	1	8/5/13	16:55	TPH
Bromomethane	ND	0.050		ND	0.19	1	8/5/13	16:55	TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/5/13	16:55	TPH
2-Butanone (MEK)	2.4	2.0		6.9	5.9	1	8/5/13	16:55	TPH
Carbon Disulfide	1.1	0.50		3.4	1.6	1	8/5/13	16:55	TPH
Carbon Tetrachloride	0.070	0.025		0.44	0.16	1	8/5/13	16:55	TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/5/13	16:55	TPH
Chloroethane	ND	0.050		ND	0.13	1	8/5/13	16:55	TPH
Chloroform	1.4	0.025		6.8	0.12	1	8/5/13	16:55	TPH
Chloromethane	ND	0.10		ND	0.21	1	8/5/13	16:55	TPH
Cyclohexane	ND	0.050		ND	0.17	1	8/5/13	16:55	TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/5/13	16:55	TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/5/13	16:55	TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13	16:55	TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13	16:55	TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/5/13	16:55	TPH
Dichlorodifluoromethane (Freon 12)	0.44	0.050		2.2	0.25	1	8/5/13	16:55	TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13	16:55	TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/5/13	16:55	TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/5/13	16:55	TPH
cis-1,2-Dichloroethylene	8.7	0.025		34	0.099	1	8/5/13	16:55	TPH
trans-1,2-Dichloroethylene	0.24	0.025		0.96	0.099	1	8/5/13	16:55	TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/5/13	16:55	TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13	16:55	TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/5/13	16:55	TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/5/13	16:55	TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/5/13	16:55	TPH

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 22
Sample ID: 13H0055-21
 Sample Matrix: Soil Gas
 Sampled: 7/31/2013 12:38

Sample Description/Location: SG-111D
 Sub Description/Location:
 Canister ID: 2084
 Canister Size: 3 liter
 Flow Controller ID: 4176
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Ethanol	2.4	2.0		4.6	3.8	1	8/5/13 16:55	TPH	
Ethyl Acetate	0.72	0.050		2.6	0.18	1	8/5/13 16:55	TPH	
Ethylbenzene	ND	0.050		ND	0.22	1	8/5/13 16:55	TPH	
4-Ethyltoluene	ND	0.050		ND	0.25	1	8/5/13 16:55	TPH	
Heptane	0.080	0.050		0.33	0.20	1	8/5/13 16:55	TPH	
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/5/13 16:55	TPH	
Hexane	ND	2.0		ND	7.0	1	8/5/13 16:55	TPH	
2-Hexanone (MBK)	0.56	0.050		2.3	0.20	1	8/5/13 16:55	TPH	
Indane	ND	0.13		ND	0.62	1	8/5/13 16:55	TPH	
Indene	ND	0.13	L-03	ND	0.63	1	8/5/13 16:55	TPH	
Isopropanol	ND	2.0		ND	4.9	1	8/5/13 16:55	TPH	
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/5/13 16:55	TPH	
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/5/13 16:55	TPH	
Methylene Chloride	ND	0.50		ND	1.7	1	8/5/13 16:55	TPH	
4-Methyl-2-pentanone (MIBK)	0.25	0.050		1.0	0.20	1	8/5/13 16:55	TPH	
Naphthalene	0.20	0.050		1.0	0.26	1	8/5/13 16:55	TPH	
Propene	2.7	2.0		4.7	3.4	1	8/5/13 16:55	TPH	
Styrene	ND	0.050		ND	0.21	1	8/5/13 16:55	TPH	
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/5/13 16:55	TPH	
Tetrachloroethylene	96	0.25		650	1.7	10	8/6/13 6:51	TPH	
Tetrahydrofuran	0.097	0.050		0.29	0.15	1	8/5/13 16:55	TPH	
Toluene	0.15	0.050		0.55	0.19	1	8/5/13 16:55	TPH	
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/5/13 16:55	TPH	
1,1,1-Trichloroethane	0.58	0.025		3.1	0.14	1	8/5/13 16:55	TPH	
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/5/13 16:55	TPH	
Trichloroethylene	29	0.025		160	0.13	1	8/5/13 16:55	TPH	
Trichlorofluoromethane (Freon 11)	0.86	0.050		4.8	0.28	1	8/5/13 16:55	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.79	0.050		6.1	0.38	1	8/5/13 16:55	TPH	
1,2,4-Trimethylbenzene	0.062	0.050		0.30	0.25	1	8/5/13 16:55	TPH	
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	8/5/13 16:55	TPH	
Vinyl Acetate	ND	1.0		ND	3.5	1	8/5/13 16:55	TPH	
Vinyl Chloride	ND	0.025		ND	0.064	1	8/5/13 16:55	TPH	
m&p-Xylene	ND	0.10		ND	0.43	1	8/5/13 16:55	TPH	
o-Xylene	ND	0.050		ND	0.22	1	8/5/13 16:55	TPH	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	107	70-130	8/5/13 16:55

ANALYTICAL RESULTS

Project Location: Tidewater, PA
 Date Received: 8/1/2013
Field Sample #: 22
Sample ID: 13H0055-21
 Sample Matrix: Soil Gas
 Sampled: 7/31/2013 12:38

Sample Description/Location: SG-111D
 Sub Description/Location:
 Canister ID: 2084
 Canister Size: 3 liter
 Flow Controller ID: 4176
 Sample Type: 15 min

Work Order: 13H0055
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Surrogates	% Recovery			% REC Limits					
4-Bromofluorobenzene (1)		106			70-130		8/6/13	6:51	
4-Bromofluorobenzene (2)		103			70-130		8/5/13	16:55	

Sample Extraction Data

Prep Method: TO-15 Prep-EPA 3C

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
13H0055-03 [3]	B078272	1.5	1	N/A	1000	0.5	0.75	08/06/13
13H0055-04 [4]	B078272	1.5	1	N/A	1000	0.5	0.75	08/06/13
13H0055-05 [5]	B078272	1.5	1	N/A	1000	0.5	0.75	08/06/13
13H0055-08 [8]	B078272	1.5	1	N/A	1000	0.5	0.75	08/06/13
13H0055-09 [10]	B078272	1.5	1	N/A	1000	0.5	0.75	08/06/13
13H0055-10 [11]	B078272	1.5	1	N/A	1000	0.5	0.75	08/06/13
13H0055-13 [14]	B078272	1.5	1	N/A	1000	0.5	0.75	08/06/13
13H0055-14 [15]	B078272	1.5	1	N/A	1000	0.5	0.75	08/06/13
13H0055-15 [16]	B078272	1.5	1	N/A	1000	0.5	0.75	08/06/13
13H0055-16 [17]	B078272	1.5	1	N/A	1000	0.5	0.75	08/06/13
13H0055-17 [18]	B078272	1.5	1	N/A	1000	0.5	0.75	08/06/13
13H0055-18 [19]	B078272	1.5	1	N/A	1000	0.5	0.75	08/06/13
13H0055-19 [20]	B078272	1.5	1	N/A	1000	0.5	0.75	08/06/13
13H0055-20 [21]	B078272	1.5	1	N/A	1000	0.5	0.75	08/06/13
13H0055-21 [22]	B078272	1.5	1	N/A	1000	0.5	0.75	08/06/13

Prep Method: TO-15 Prep-EPA TO-15

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
13H0055-01 [1]	B078183	2	1	N/A	1000	400	800	08/04/13
13H0055-02 [2]	B078183	1.5	1	N/A	1000	400	600	08/04/13
13H0055-03 [3]	B078183	1.5	1	N/A	1000	400	600	08/04/13
13H0055-04 [4]	B078183	1.5	1	N/A	1000	400	600	08/04/13
13H0055-05 [5]	B078183	1.5	1	N/A	1000	400	600	08/04/13
13H0055-06 [6]	B078183	2	1	N/A	1000	400	800	08/04/13
13H0055-07 [7]	B078183	2	1	N/A	1000	400	800	08/04/13
13H0055-08 [8]	B078183	1.5	1	N/A	1000	400	600	08/04/13
13H0055-09 [10]	B078183	1.5	1	N/A	1000	400	600	08/04/13
13H0055-10 [11]	B078183	1.5	1	N/A	1000	400	600	08/04/13
13H0055-11 [12]	B078183	1.5	1	N/A	1000	400	600	08/04/13
13H0055-12 [13]	B078183	1.5	1	N/A	1000	400	600	08/04/13
13H0055-13 [14]	B078183	1.5	1	N/A	1000	400	600	08/04/13
13H0055-13RE1 [14]	B078183	1.5	1	N/A	1000	400	30	08/04/13
13H0055-14 [15]	B078183	1.5	1	N/A	1000	400	600	08/04/13
13H0055-15 [16]	B078183	1.5	1	N/A	1000	400	600	08/04/13
13H0055-16 [17]	B078183	1.5	1	N/A	1000	400	600	08/04/13
13H0055-17 [18]	B078183	1.5	1	N/A	1000	400	600	08/04/13
13H0055-18 [19]	B078183	1.5	1	N/A	1000	400	600	08/04/13
13H0055-19 [20]	B078183	1.5	1	N/A	1000	400	600	08/04/13
13H0055-20 [21]	B078183	1.5	1	N/A	1000	400	600	08/04/13
13H0055-21 [22]	B078183	1.5	1	N/A	1000	400	600	08/04/13

Prep Method: TO-15 Prep-EPA TO-15

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
13H0055-16RE1 [17]	B078184	1.5	1	N/A	1000	400	60	08/05/13

Sample Extraction Data

Prep Method: TO-15 Prep-EPA TO-15

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
13H0055-17RE1 [18]	B078184	1.5	1	N/A	1000	400	60	08/05/13
13H0055-18RE1 [19]	B078184	1.5	1	N/A	1000	400	60	08/05/13
13H0055-21RE1 [22]	B078184	1.5	1	N/A	1000	400	60	08/05/13

QUALITY CONTROL

Miscellaneous Air Analyses - Quality Control

Analyte	%		ug/m3		Spike Level	Source	%REC	RPD	RPD Limit	Flag
	Results	RL	Results	RL	%	Result	%REC	RPD		

Batch B078272 - TO-15 Prep

Duplicate (B078272-DUP1)

Source: 13H0055-20

Prepared & Analyzed: 08/06/13

Helium	ND	0.40				0.0			200	
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QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	RPD	RPD Limit	Flag
	Results	RL	Results	RL	ppbv	Result	%REC Limits	RPD		

Batch B078183 - TO-15 Prep

Blank (B078183-BLK1)

Prepared & Analyzed: 08/04/13

Acetone	ND	1.0
Benzene	ND	0.025
Benzyl chloride	ND	0.025
Bromodichloromethane	ND	0.012
Bromoform	ND	0.025
Bromomethane	ND	0.025
1,3-Butadiene	ND	0.025
2-Butanone (MEK)	ND	1.0
Carbon Disulfide	ND	0.25
Carbon Tetrachloride	ND	0.012
Chlorobenzene	ND	0.025
Chloroethane	ND	0.025
Chloroform	ND	0.012
Chloromethane	ND	0.050
Cyclohexane	ND	0.025
Dibromochloromethane	ND	0.012
1,2-Dibromoethane (EDB)	ND	0.012
1,2-Dichlorobenzene	ND	0.025
1,3-Dichlorobenzene	ND	0.025
1,4-Dichlorobenzene	ND	0.025
Dichlorodifluoromethane (Freon 12)	ND	0.025
1,1-Dichloroethane	ND	0.012
1,2-Dichloroethane	ND	0.012
1,1-Dichloroethylene	ND	0.012
cis-1,2-Dichloroethylene	ND	0.012
trans-1,2-Dichloroethylene	ND	0.012
1,2-Dichloropropane	ND	0.012
cis-1,3-Dichloropropene	ND	0.012
trans-1,3-Dichloropropene	ND	0.012
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.025
1,4-Dioxane	ND	0.25
Ethanol	ND	1.0
Ethyl Acetate	ND	0.025
Ethylbenzene	ND	0.025
4-Ethyltoluene	ND	0.025
Heptane	ND	0.025
Hexachlorobutadiene	ND	0.025
Hexane	ND	1.0
2-Hexanone (MBK)	ND	0.025
Indane	ND	0.064
Indene	ND	0.066
Isopropanol	ND	1.0
Isopropylbenzene (Cumene)	ND	0.064
Methyl tert-Butyl Ether (MTBE)	ND	0.025
Methylene Chloride	ND	0.25
4-Methyl-2-pentanone (MIBK)	ND	0.025

L-03

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		

Batch B078183 - TO-15 Prep

Blank (B078183-BLK1)

Prepared & Analyzed: 08/04/13

Naphthalene	ND	0.025									
Propene	ND	1.0									
Styrene	ND	0.025									
1,1,2,2-Tetrachloroethane	ND	0.012									
Tetrachloroethylene	ND	0.012									
Tetrahydrofuran	ND	0.025									
Toluene	ND	0.025									
1,2,4-Trichlorobenzene	ND	0.025									
1,1,1-Trichloroethane	ND	0.012									
1,1,2-Trichloroethane	ND	0.012									
Trichloroethylene	ND	0.012									
Trichlorofluoromethane (Freon 11)	ND	0.025									
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.025									
1,2,4-Trimethylbenzene	ND	0.025									
1,3,5-Trimethylbenzene	ND	0.025									
Vinyl Acetate	ND	0.50									
Vinyl Chloride	ND	0.012									
m&p-Xylene	ND	0.050									
o-Xylene	ND	0.025									
<i>Surrogate: 4-Bromofluorobenzene (1)</i>	<i>8.34</i>				<i>8.00</i>		<i>104</i>	<i>70-130</i>			
<i>Surrogate: 4-Bromofluorobenzene (2)</i>	<i>7.14</i>				<i>8.00</i>		<i>89.3</i>	<i>70-130</i>			

LCS (B078183-BS1)

Prepared & Analyzed: 08/04/13

Acetone	6.28				5.00		126	70-130			V-06
Benzene	4.72				5.00		94.5	70-130			
Benzyl chloride	5.70				5.00		114	70-130			
Bromodichloromethane	5.61				5.00		112	70-130			
Bromoform	5.32				5.00		106	70-130			
Bromomethane	4.19				5.00		83.7	70-130			
1,3-Butadiene	4.72				5.00		94.5	70-130			
2-Butanone (MEK)	4.44				5.00		88.8	70-130			
Carbon Disulfide	5.02				5.00		100	70-130			
Carbon Tetrachloride	5.02				5.00		100	70-130			
Chlorobenzene	5.07				5.00		101	70-130			
Chloroethane	4.77				5.00		95.4	70-130			
Chloroform	4.93				5.00		98.6	70-130			
Chloromethane	4.50				5.00		90.0	70-130			
Cyclohexane	5.00				5.00		100	70-130			
Dibromochloromethane	4.94				5.00		98.9	70-130			
1,2-Dibromoethane (EDB)	5.05				5.00		101	70-130			
1,2-Dichlorobenzene	5.70				5.00		114	70-130			
1,3-Dichlorobenzene	5.62				5.00		112	70-130			
1,4-Dichlorobenzene	5.50				5.00		110	70-130			
Dichlorodifluoromethane (Freon 12)	4.71				5.00		94.2	70-130			
1,1-Dichloroethane	4.73				5.00		94.6	70-130			
1,2-Dichloroethane	4.89				5.00		97.7	70-130			

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		
Batch B078183 - TO-15 Prep											
LCS (B078183-BS1)											
Prepared & Analyzed: 08/04/13											
1,1-Dichloroethylene	4.46				5.00		89.2	70-130			
cis-1,2-Dichloroethylene	5.01				5.00		100	70-130			
trans-1,2-Dichloroethylene	4.80				5.00		96.0	70-130			
1,2-Dichloropropane	5.20				5.00		104	70-130			
cis-1,3-Dichloropropene	5.38				5.00		108	70-130			
trans-1,3-Dichloropropene	5.77				5.00		115	70-130			
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	4.53				5.00		90.7	70-130			
1,4-Dioxane	4.86				5.00		97.2	70-130			
Ethanol	4.08				5.00		81.6	70-130			
Ethyl Acetate	5.74				5.00		115	70-130			
Ethylbenzene	5.20				5.00		104	70-130			
4-Ethyltoluene	5.17				5.00		103	70-130			
Heptane	4.97				5.00		99.4	70-130			
Hexachlorobutadiene	6.19				5.00		124	70-130			
Hexane	4.85				5.00		97.1	70-130			
2-Hexanone (MBK)	4.80				5.00		96.0	70-130			
Indane	1.05				1.29		81.6	70-130			
Indene	0.761				1.32		57.7 *	70-130			L-03
Isopropanol	6.62				5.00		132 *	70-130			L-05, V-06
Isopropylbenzene (Cumene)	1.01				1.27		79.6	70-130			
Methyl tert-Butyl Ether (MTBE)	4.72				5.00		94.4	70-130			
Methylene Chloride	4.41				5.00		88.1	70-130			
4-Methyl-2-pentanone (MIBK)	4.88				5.00		97.6	70-130			
Naphthalene	4.86				5.00		97.2	70-130			
Propene	5.35				5.00		107	70-130			
Styrene	5.34				5.00		107	70-130			
1,1,2,2-Tetrachloroethane	5.72				5.00		114	70-130			
Tetrachloroethylene	5.44				5.00		109	70-130			
Tetrahydrofuran	5.01				5.00		100	70-130			
Toluene	5.09				5.00		102	70-130			
1,2,4-Trichlorobenzene	6.33				5.00		127	70-130			
1,1,1-Trichloroethane	5.12				5.00		102	70-130			
1,1,2-Trichloroethane	5.41				5.00		108	70-130			
Trichloroethylene	5.17				5.00		103	70-130			
Trichlorofluoromethane (Freon 11)	4.79				5.00		95.8	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	4.44				5.00		88.9	70-130			
1,2,4-Trimethylbenzene	5.48				5.00		110	70-130			
1,3,5-Trimethylbenzene	5.30				5.00		106	70-130			
Vinyl Acetate	3.70				5.00		74.1	70-130			
Vinyl Chloride	4.51				5.00		90.2	70-130			
m&p-Xylene	10.6				10.0		106	70-130			
o-Xylene	5.37				5.00		107	70-130			
Surrogate: 4-Bromofluorobenzene (1)	8.58				8.00		107	70-130			
Surrogate: 4-Bromofluorobenzene (2)	7.38				8.00		92.3	70-130			

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level ppbv	Source Result	%REC Limits	RPD	RPD Limit	Flag
	Results	RL	Results	RL						
Batch B078183 - TO-15 Prep										
Duplicate (B078183-DUP1)										
Source: 13H0055-14										
Prepared: 08/04/13 Analyzed: 08/05/13										
Acetone	17	2.0	40	4.8		18		5.62	25	V-06
Benzene	0.098	0.050	0.31	0.16		0.22		75.6	25	R-01
Benzyl chloride	ND	0.050	ND	0.26		ND			25	
Bromodichloromethane	ND	0.025	ND	0.17		ND			25	
Bromoform	ND	0.050	ND	0.52		ND			25	
Bromomethane	ND	0.050	ND	0.19		ND			25	
1,3-Butadiene	ND	0.050	ND	0.11		ND			25	
2-Butanone (MEK)	2.8	2.0	8.3	5.9		2.8		0.142	25	
Carbon Disulfide	0.92	0.50	2.9	1.6		0.94		1.72	25	
Carbon Tetrachloride	0.090	0.025	0.57	0.16		0.093		3.28	25	
Chlorobenzene	ND	0.050	ND	0.23		ND			25	
Chloroethane	ND	0.050	ND	0.13		ND			25	
Chloroform	0.51	0.025	2.5	0.12		0.52		1.55	25	
Chloromethane	0.12	0.10	0.26	0.21		0.13		5.49	25	
Cyclohexane	ND	0.050	ND	0.17		ND			25	
Dibromochloromethane	ND	0.025	ND	0.21		ND			25	
1,2-Dibromoethane (EDB)	ND	0.025	ND	0.19		ND			25	
1,2-Dichlorobenzene	ND	0.050	ND	0.30		ND			25	
1,3-Dichlorobenzene	ND	0.050	ND	0.30		ND			25	
1,4-Dichlorobenzene	ND	0.050	ND	0.30		ND			25	
Dichlorodifluoromethane (Freon 12)	0.52	0.050	2.6	0.25		0.67		23.8	25	
1,1-Dichloroethane	ND	0.025	ND	0.10		ND			25	
1,2-Dichloroethane	ND	0.025	ND	0.10		ND			25	
1,1-Dichloroethylene	ND	0.025	ND	0.099		ND			25	
cis-1,2-Dichloroethylene	ND	0.025	ND	0.099		ND			25	
trans-1,2-Dichloroethylene	ND	0.025	ND	0.099		ND			25	
1,2-Dichloropropane	ND	0.025	ND	0.12		ND			25	
cis-1,3-Dichloropropene	ND	0.025	ND	0.11		ND			25	
trans-1,3-Dichloropropene	ND	0.025	ND	0.11		ND			25	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050	ND	0.35		ND			25	
1,4-Dioxane	ND	0.50	ND	1.8		ND			25	
Ethanol	3.5	2.0	6.5	3.8		3.7		5.53	25	
Ethyl Acetate	ND	0.050	ND	0.18		ND			25	
Ethylbenzene	ND	0.050	ND	0.22		ND			25	
4-Ethyltoluene	0.027	0.050	0.13	0.25		0.057		71.4	25	R-01
Heptane	0.10	0.050	0.41	0.20		0.16		44.6	25	R-01
Hexachlorobutadiene	ND	0.050	ND	0.53		ND			25	
Hexane	0.30	2.0	1.1	7.0		0.38		22.4	25	
2-Hexanone (MBK)	0.69	0.050	2.8	0.20		0.70		0.718	25	
Indane	ND	0.13	ND	0.62		ND			25	
Indene	ND	0.13	ND	0.63		ND			25	L-03
Isopropanol	1.1	2.0	2.7	4.9		1.1		2.43	25	
Isopropylbenzene (Cumene)	ND	0.13	ND	0.62		ND			25	
Methyl tert-Butyl Ether (MTBE)	ND	0.050	ND	0.18		ND			25	
Methylene Chloride	0.29	0.50	1.0	1.7		0.30		3.69	25	
4-Methyl-2-pentanone (MIBK)	0.25	0.050	1.0	0.20		0.27		6.15	25	

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level ppbv	Source Result	%REC Limits	RPD	RPD Limit	Flag
	Results	RL	Results	RL						
Batch B078183 - TO-15 Prep										
Duplicate (B078183-DUP1)		Source: 13H0055-14				Prepared: 08/04/13 Analyzed: 08/05/13				
Naphthalene	0.046	0.050	0.24	0.26		0.078		51.6	25	R-01
Propene	5.3	2.0	9.1	3.4		7.9		39.9	25	R-01
Styrene	ND	0.050	ND	0.21		ND			25	
1,1,2,2-Tetrachloroethane	0.023	0.025	0.16	0.17		ND			25	
Tetrachloroethylene	2.6	0.025	18	0.17		2.7		1.90	25	
Tetrahydrofuran	0.10	0.050	0.30	0.15		0.28		95.3	25	R-01
Toluene	0.072	0.050	0.27	0.19		0.097		29.6	25	R-01
1,2,4-Trichlorobenzene	ND	0.050	ND	0.37		ND			25	
1,1,1-Trichloroethane	0.085	0.025	0.46	0.14		0.096		12.2	25	
1,1,2-Trichloroethane	ND	0.025	ND	0.14		ND			25	
Trichloroethylene	0.048	0.025	0.26	0.13		0.041		15.7	25	
Trichlorofluoromethane (Freon 11)	0.82	0.050	4.6	0.28		0.86		3.81	25	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.56	0.050	4.3	0.38		0.57		1.42	25	
1,2,4-Trimethylbenzene	0.020	0.050	0.098	0.25		0.19		162	25	R-01
1,3,5-Trimethylbenzene	0.033	0.050	0.16	0.25		0.070		71.8	25	R-01
Vinyl Acetate	ND	1.0	ND	3.5		ND			25	
Vinyl Chloride	ND	0.025	ND	0.064		ND			25	
m&p-Xylene	ND	0.10	ND	0.43		ND			25	
o-Xylene	ND	0.050	ND	0.22		ND			25	
<i>Surrogate: 4-Bromofluorobenzene (1)</i>	<i>8.60</i>				<i>8.00</i>		<i>108</i>	<i>70-130</i>		
<i>Surrogate: 4-Bromofluorobenzene (2)</i>	<i>8.17</i>				<i>8.00</i>		<i>102</i>	<i>70-130</i>		
Duplicate (B078183-DUP2)		Source: 13H0055-21				Prepared: 08/04/13 Analyzed: 08/05/13				
Acetone	17	2.0	42	4.8		18		0.911	25	V-06
Benzene	0.072	0.050	0.23	0.16		0.073		1.38	25	
Benzyl chloride	ND	0.050	ND	0.26		ND			25	
Bromodichloromethane	0.020	0.025	0.13	0.17		0.021		4.88	25	
Bromoform	ND	0.050	ND	0.52		ND			25	
Bromomethane	ND	0.050	ND	0.19		ND			25	
1,3-Butadiene	ND	0.050	ND	0.11		ND			25	
2-Butanone (MEK)	2.4	2.0	7.0	5.9		2.4		0.466	25	
Carbon Disulfide	1.1	0.50	3.4	1.6		1.1		0.00	25	
Carbon Tetrachloride	0.075	0.025	0.47	0.16		0.070		6.90	25	
Chlorobenzene	ND	0.050	ND	0.23		ND			25	
Chloroethane	ND	0.050	ND	0.13		ND			25	
Chloroform	1.4	0.025	6.8	0.12		1.4		0.0720	25	
Chloromethane	ND	0.10	ND	0.21		ND			25	
Cyclohexane	ND	0.050	ND	0.17		ND			25	
Dibromochloromethane	ND	0.025	ND	0.21		ND			25	
1,2-Dibromoethane (EDB)	ND	0.025	ND	0.19		ND			25	
1,2-Dichlorobenzene	ND	0.050	ND	0.30		ND			25	
1,3-Dichlorobenzene	ND	0.050	ND	0.30		ND			25	
1,4-Dichlorobenzene	0.021	0.050	0.13	0.30		0.022		4.65	25	
Dichlorodifluoromethane (Freon 12)	0.40	0.050	2.0	0.25		0.44		8.76	25	
1,1-Dichloroethane	ND	0.025	ND	0.10		ND			25	
1,2-Dichloroethane	ND	0.025	ND	0.10		ND			25	

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level ppbv	Source Result	%REC Limits	RPD	RPD Limit	Flag
	Results	RL	Results	RL						
Batch B078183 - TO-15 Prep										
Duplicate (B078183-DUP2)		Source: 13H0055-21				Prepared: 08/04/13 Analyzed: 08/05/13				
1,1-Dichloroethylene	ND	0.025	ND	0.099		ND			25	
cis-1,2-Dichloroethylene	8.6	0.025	34	0.099		8.7		1.46	25	
trans-1,2-Dichloroethylene	0.24	0.025	0.96	0.099		0.24		0.414	25	
1,2-Dichloropropane	ND	0.025	ND	0.12		ND			25	
cis-1,3-Dichloropropene	ND	0.025	ND	0.11		ND			25	
trans-1,3-Dichloropropene	ND	0.025	ND	0.11		ND			25	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050	ND	0.35		ND			25	
1,4-Dioxane	ND	0.50	ND	1.8		ND			25	
Ethanol	2.3	2.0	4.4	3.8		2.4		3.41	25	
Ethyl Acetate	0.69	0.050	2.5	0.18		0.72		3.99	25	
Ethylbenzene	0.022	0.050	0.096	0.22		0.022		0.00	25	
4-Ethyltoluene	ND	0.050	ND	0.25		0.020			25	
Heptane	0.078	0.050	0.32	0.20		0.080		2.53	25	
Hexachlorobutadiene	ND	0.050	ND	0.53		ND			25	
Hexane	0.27	2.0	0.96	7.0		0.28		3.95	25	
2-Hexanone (MBK)	0.55	0.050	2.3	0.20		0.56		1.97	25	
Indane	ND	0.13	ND	0.62		ND			25	
Indene	ND	0.13	ND	0.63		ND			25	L-03
Isopropanol	1.1	2.0	2.6	4.9		1.0		4.55	25	
Isopropylbenzene (Cumene)	ND	0.13	ND	0.62		ND			25	
Methyl tert-Butyl Ether (MTBE)	ND	0.050	ND	0.18		ND			25	
Methylene Chloride	0.41	0.50	1.4	1.7		0.41		0.733	25	
4-Methyl-2-pentanone (MIBK)	0.23	0.050	0.95	0.20		0.25		6.64	25	
Naphthalene	0.17	0.050	0.90	0.26		0.20		13.0	25	
Propene	2.6	2.0	4.5	3.4		2.7		3.49	25	
Styrene	ND	0.050	ND	0.21		ND			25	
1,1,2,2-Tetrachloroethane	ND	0.025	ND	0.17		ND			25	
Tetrachloroethylene	88	0.025	600	0.17		90		2.70	25	
Tetrahydrofuran	0.099	0.050	0.29	0.15		0.097		2.04	25	
Toluene	0.14	0.050	0.54	0.19		0.15		1.38	25	
1,2,4-Trichlorobenzene	ND	0.050	ND	0.37		ND			25	
1,1,1-Trichloroethane	0.57	0.025	3.1	0.14		0.58		1.57	25	
1,1,2-Trichloroethane	ND	0.025	ND	0.14		ND			25	
Trichloroethylene	29	0.025	150	0.13		29		2.11	25	
Trichlorofluoromethane (Freon 11)	0.85	0.050	4.8	0.28		0.86		0.702	25	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.79	0.050	6.1	0.38		0.79		0.379	25	
1,2,4-Trimethylbenzene	0.060	0.050	0.29	0.25		0.062		3.28	25	
1,3,5-Trimethylbenzene	0.043	0.050	0.21	0.25		0.044		2.30	25	
Vinyl Acetate	ND	1.0	ND	3.5		ND			25	
Vinyl Chloride	ND	0.025	ND	0.064		ND			25	
m&p-Xylene	0.062	0.10	0.27	0.43		0.065		4.72	25	
o-Xylene	0.028	0.050	0.12	0.22		0.029		3.51	25	
Surrogate: 4-Bromofluorobenzene (1)	8.58				8.00		107	70-130		
Surrogate: 4-Bromofluorobenzene (2)	8.15				8.00		102	70-130		

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	RPD	RPD Limit	Flag
	Results	RL	Results	RL	ppbv	Result	%REC	Limits		
Batch B078184 - TO-15 Prep										
Blank (B078184-BLK1)					Prepared & Analyzed: 08/05/13					
Naphthalene	ND	0.025								
Tetrachloroethylene	ND	0.012								
Trichloroethylene	ND	0.012								
<i>Surrogate: 4-Bromofluorobenzene (1)</i>	8.69				8.00		109		70-130	
LCS (B078184-BS1)					Prepared & Analyzed: 08/05/13					
Naphthalene	5.11				5.00		102		70-130	
Tetrachloroethylene	5.78				5.00		116		70-130	
Trichloroethylene	5.38				5.00		108		70-130	
<i>Surrogate: 4-Bromofluorobenzene (1)</i>	8.66				8.00		108		70-130	
Duplicate (B078184-DUP1)					Source: 13H0055-21RE1		Prepared: 08/05/13 Analyzed: 08/06/13			
Naphthalene	0.58	0.50	3.0	2.6		2.2		118	25	
Tetrachloroethylene	98	0.25	660	1.7		96		1.75	25	
Trichloroethylene	30	0.25	160	1.3		29		2.91	25	
<i>Surrogate: 4-Bromofluorobenzene (1)</i>	8.38				8.00		105		70-130	

FLAG/QUALIFIER SUMMARY

- * QC result is outside of established limits.
 - † Wide recovery limits established for difficult compound.
 - ‡ Wide RPD limits established for difficult compound.
 - # Data exceeded client recommended or regulatory level
- Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
- L-03 Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.
 - L-05 Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the high side.
 - R-01 Duplicate RPD is outside of control limits. Reduced precision is anticipated for reported result.
 - S-03 Surrogate recovery outside of control limits due to suspected sample matrix interference.
 - V-06 Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA TO-15 in Air</i>	
Acetone	AIHA
Benzene	AIHA,FL,NJ,NY,VA
Benzyl chloride	AIHA,FL,NJ,NY,VA
Bromodichloromethane	AIHA,NJ,VA
Bromoform	AIHA,NJ,VA
Bromomethane	AIHA,FL,NJ,NY
1,3-Butadiene	AIHA,NJ,VA
2-Butanone (MEK)	AIHA,FL,NJ,NY,VA
Carbon Disulfide	AIHA,NJ,VA
Carbon Tetrachloride	AIHA,FL,NJ,NY,VA
Chlorobenzene	AIHA,FL,NJ,NY,VA
Chloroethane	AIHA,FL,NJ,NY,VA
Chloroform	AIHA,FL,NJ,NY,VA
Chloromethane	AIHA,FL,NJ,NY,VA
Cyclohexane	AIHA,NJ,VA
Dibromochloromethane	AIHA,NY
1,2-Dibromoethane (EDB)	AIHA,NJ,NY
1,2-Dichlorobenzene	AIHA,FL,NJ,NY,VA
1,3-Dichlorobenzene	AIHA,NJ,NY
1,4-Dichlorobenzene	AIHA,FL,NJ,NY,VA
Dichlorodifluoromethane (Freon 12)	AIHA,NY
1,1-Dichloroethane	AIHA,FL,NJ,NY,VA
1,2-Dichloroethane	AIHA,FL,NJ,NY,VA
1,1-Dichloroethylene	AIHA,FL,NJ,NY,VA
cis-1,2-Dichloroethylene	AIHA,FL,NY,VA
trans-1,2-Dichloroethylene	AIHA,NJ,NY,VA
1,2-Dichloropropane	AIHA,FL,NJ,NY,VA
cis-1,3-Dichloropropene	AIHA,FL,NJ,NY,VA
trans-1,3-Dichloropropene	AIHA,NY
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	AIHA,NJ,VA
1,4-Dioxane	AIHA,NJ,VA
Ethanol	AIHA
Ethyl Acetate	AIHA
Ethylbenzene	AIHA,FL,NJ,NY,VA
4-Ethyltoluene	AIHA,NJ
Heptane	AIHA,NJ,NY,VA
Hexachlorobutadiene	AIHA,NJ,NY,VA
Hexane	AIHA,FL,NJ,NY,VA
2-Hexanone (MBK)	AIHA
Isopropanol	AIHA,NY
Isopropylbenzene (Cumene)	AIHA,NJ,NY
Methyl tert-Butyl Ether (MTBE)	AIHA,FL,NJ,NY,VA
Methylene Chloride	AIHA,FL,NJ,NY,VA
4-Methyl-2-pentanone (MIBK)	AIHA,FL,NJ,NY
Naphthalene	NY
Propene	AIHA
Styrene	AIHA,FL,NJ,NY,VA

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA TO-15 in Air</i>	
1,1,2,2-Tetrachloroethane	AIHA,FL,NJ,NY,VA
Tetrachloroethylene	AIHA,FL,NJ,NY,VA
Tetrahydrofuran	AIHA
Toluene	AIHA,FL,NJ,NY,VA
1,2,4-Trichlorobenzene	AIHA,NJ,NY,VA
1,1,1-Trichloroethane	AIHA,FL,NJ,NY,VA
1,1,2-Trichloroethane	AIHA,FL,NJ,NY,VA
Trichloroethylene	AIHA,FL,NJ,NY,VA
Trichlorofluoromethane (Freon 11)	AIHA,NY
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	AIHA,NJ,NY,VA
1,2,4-Trimethylbenzene	AIHA,NJ,NY
1,3,5-Trimethylbenzene	AIHA,NJ,NY
Vinyl Acetate	AIHA,FL,NJ,NY,VA
Vinyl Chloride	AIHA,FL,NJ,NY,VA
m&p-Xylene	AIHA,FL,NJ,NY,VA
o-Xylene	AIHA,FL,NJ,NY,VA

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2014
MA	Massachusetts DEP	M-MA100	06/30/2014
CT	Connecticut Department of Public Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2014
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2014
RI	Rhode Island Department of Health	LAO00112	12/30/2013
NC	North Carolina Div. of Water Quality	652	12/31/2013
NJ	New Jersey DEP	MA007 NELAP	06/30/2014
FL	Florida Department of Health	E871027 NELAP	06/30/2014
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2014
WA	State of Washington Department of Ecology	C2065	02/23/2014
ME	State of Maine	2011028	06/9/2015
VA	Commonwealth of Virginia	460217	12/14/2013
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2012



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 Fax: 413-525-6405
 Email: info@contestlabs.com
 www.contestlabs.com

AIR SAMPLE CHAIN OF CUSTODY RECORD

39 SPRUCE ST
 EAST LONGMEADOW, MA 01028

Company Name: Q2A

Address: 530 BROADWAY

PROVIDENCE, RI

Attention:

Project Location: INDUSTRIAL, DR

Sampled By:

Proposal Provided? (For Billing purposes)

yes no proposal date

Telephone: (401) 443-8161
 Project # 43654
 Client PO #

DATA DELIVERY (check one):
 FAX EMAIL WEBSITE CLIENT

Fax #:

Email: Sophia.mckreuz@q2a.com

Format: EXCEL PDF GIS KEY OTHER

ANALYSIS REQUESTED

Hg

Please fill out completely, sign, date and retain the yellow copy for your record.

Summa canisters and flow controllers must be returned within 14 days of receipt or rental fees will apply.

Summa canisters will be retained for a minimum of 14 days after sampling date prior to cleaning.

Field ID	Sample Description	Media	Lab #	Date Time	Date Time	ONLY USE WHEN USING PUMPS			Matrix Code*
						Date	Stop	Total	
				Start	Stop	Minutes Sampled	M ³ /Min. or L/Min.	Liters or M ³	
1	INDUSTRIAL-72913	S		7/29/13 6:53	7/29/13 11:5				AMB X
2	INDUSTRIAL-72913	S		7/29/13 7:02	7/29/13 11:05				AMB X
3	SG-100D	S		7/29/13 9:02	7/29/13 9:16				SG X
4	SG-100S	S		7/29/13 9:43	7/29/13 9:57				SG X
5	DUPPLICATE 1	S		7/29/13 9:43	7/29/13 9:57				SG X
6	INDUSTRIAL-73013	S		7/30/13 12:29	7/30/13 17:54				AMB X
7	INDUSTRIAL-73013	S		7/30/13 12:29	7/30/13 17:54				AMB X
8	SG-101S	S		7/30/13 13:46	7/30/13 14:06				SG X

CLIENT COMMENTS:
 EMMA MARGARET KIPATRICK @q2a.com Also

Special Requirements

Regulations: MS/CT

Data Enhancement/RCP? Y N
 Enhanced Data Package Y N
 (Surcharge Applies)

Required Detection Limits: MS/CT
 Other:

*Matrix Codes:
 SG= SOIL GAS
 IA= INDOOR AIR
 AMB=AMBIENT
 SS= SUB SLAB
 D= DUP
 BL= BLANK
 O= other

**Media Codes:
 S=summa can
 TB=fedlar bag
 P=PUP
 T=tube
 F= filter
 C=cassette
 O= Other

Relinquished by: (signature)	Date/Time:
<u>[Signature]</u>	7/31/13 18:30
<u>[Signature]</u>	8/1/13 12:00
<u>[Signature]</u>	8-1-13
<u>[Signature]</u>	8-1-13

Turnaround**
 7-Day
 10-Day
 Other
RUSH*
 *24-Hr *48-Hr
 *72-Hr *4-Day
 Approval Required

*TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.



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AIR SAMPLE CHAIN OF CUSTODY RECORD

1340055

39 SPRUCE ST
 EAST LONGMEADOW, MA 01028

Company Name: _____

Address: _____

Attention: _____

Project Location: _____

Sampled By: _____

Proposal Provided? (For Billing purposes)

yes no proposal date _____

Telephone: () _____
 Project # Same As Sheet 1
 Client PO # _____

DATA DELIVERY (check one):
 FAX EMAIL WEBSITE CLIENT

Fax #: Same
 Email: _____

Format: EXCEL PDF GIS KEY OTHER _____

Date Sampled ONLY USE WHEN USING PUMPS

Field ID	Sample Description	Media	Lab #	Date Time	Stop Date Time	Total Minutes Sampled	Flow Rate M ³ /Min. or L/Min.	Volume Liters or M ³	Matrix Code*	ANALYSIS REQUESTED		Summa Canister ID	Flow Controller ID
										TO-15	HELIUM		
9A	S6-101D	S	UNUSED	7/30/13	7/30/13					X		1479	4180
9A10	S6-102S	S	09	7/30/13 1525	7/30/13 1540	15	1631		S6	X		1517	4183
9A11	S6-103S	S	10	7/30/13 1616	7/30/13 1631	15	1631		S6	X		1516	4182
12	RTIPWATER-73113	S	11	7/31/13 0945	7/31/13 1046	101	1446		AMB	X		2050	3070
13	RYHLEVE-73113	S	12	7/31/13 0945	7/31/13 1036	91	1136		AMB	X		2049	3068
14	S6-105B	S	13	7/31/13 0945	7/31/13 0910	15	810		S6	X		1680	4191
15	S6-108S	S	14	7/31/13 0945	7/31/13 0935	10	435		S6	X		2085	4186
16	S6-108D	S	15	7/31/13 1025	7/31/13 1041	16	1041		S6	X		2088	4187

Laboratory Comments: _____

CLIENT COMMENTS: _____

Same As Sheet 1

S6-101D is unused. BWP
 BWP ONE TO WATER IN WELL.
 NOT USABLE.

Turnaround **

7-Day
 10-Day
 Other _____

RUSH *

*24-Hr *48-Hr
 *72-Hr *4-Day
 Approval Required

Special Requirements

Regulations: Same
 Data Enhancement/RCP? Y N
 Enhanced Data Package Y N
 (Surcharge Applies)
 Required Detection Limits: _____
 Other: _____

Matrix Code:

SG= SOIL GAS
 IA= INDOOR AIR
 AMB= AMBIENT
 SS= SUB SLAB
 D= DUP
 BL= BLANK
 O= other _____

Media Codes:

S= summa can
 TB= tieclad bag
 P= PUF
 T= tube
 F= filter
 C= cassette
 O= Other _____

ANALYSIS REQUESTED

Summa canisters and flow controllers must be returned within 14 days of receipt or rental fees will apply.

Summa canisters will be retained for a minimum of 14 days after sampling date prior to cleaning.

"Hg"

Please fill out completely, sign, date and retain the yellow copy for your record.

*TURNAROUND TIME STARTS AT 9:00 AM. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.



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 Fax: 413-525-6405
 Email: info@contestlabs.com
 www.contestlabs.com

AIR SAMPLE CHAIN OF CUSTODY RECORD

39 SPRUCE ST
 EAST LONGMEADOW, MA 01028

Company Name: SHM L3
 Address: SHEET 1

Telephone: () SHM
 Project # 13 HOBBS
 Client PO # _____

Attention: _____

Project Location: _____

Sampled By: _____

Proposal Provided? (For Billing purposes)
 yes proposal date _____

DATA DELIVERY (check one):
 FAX EMAIL WEBSITE CLIENT
 Fax #: SHM L3 SHEET 1
 Email: _____
 Format: EXCEL PDF GIS KEY OTHER _____

ANALYSIS REQUESTED

IN	Flow Controller	Summa Canister ID	Flow Controller ID
FP			
PS			
SS			
UU			
EE			
RR			
LL			

Please fill out completely, sign, date and retain the yellow copy for your record.
 Summa canisters and flow controllers must be returned within 14 days of receipt or rental fees will apply.
 Summa canisters will be retained for a minimum of 14 days after sampling date prior to cleaning.

Field ID	Sample Description	Media	Lab #	Date	Start	Stop	Total	Flow Rate	Volume	Matrix	Code*	Analysis Requested	Summa Canister ID	Flow Controller ID
1012 17	S6-1095	S		7/31/13	7/31/13	7/31/13				S6	X	HELIUM	1397	4066
1018 18	S6-109D	S		7/31/13	7/31/13	7/31/13				S6	X		1395	4067
1019 19	S6-110S	S		7/31/13	7/31/13	7/31/13				S6	X		2052	4090
1020 20	S6-110D	S		7/31/13	7/31/13	7/31/13				S6	X		2080	4091
1021 21	S6-111S	S		7/31/13	7/31/13	7/31/13				S6	X		1524	4190
1022 22	S6-111D	S		7/31/13	7/31/13	7/31/13				S6	X		2084	4176

Laboratory Comments: _____

CLIENT COMMENTS: _____

SHM L3 SHEET 2

Special Requirements

Regulations: SHM

Data Enhancement/RCP? Y N
 Enhanced Data Package Y N
 (Surcharge Applies)
 Required Detection Limits: _____
 Other: _____

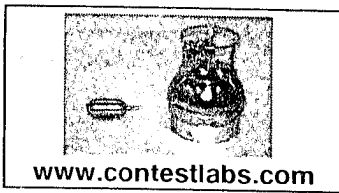
Turnaround **
 7-Day
 90-Day
 Other _____
RUSH *
 *24-Hr *48-Hr
 *72-Hr *4-Day
 *Approval Required

Date/Time: 7/31/13 1830

Date/Time: 8/1/13 1000

Date/Time: 8/1/13 1540

Turnaround Time Starts at 9:00 AM. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.
 AIHA, NELAP & WBE/DBE Certified



39 Spruce St.
East Longmeadow, MA.
01028
P: 413-525-2332
F: 413-525-6405

AIR Only Receipt Checklist

CLIENT NAME: GZA RECEIVED BY: JMH DATE: 8/1/13

- 1) Was the chain(s) of custody relinquished and signed? Yes No
- 2) Does the chain agree with the samples?
If not, explain: Yes No
- 3) Are all the samples in good condition?
If not, explain: Yes No
- 4) Are there any samples "On Hold"? Yes No Stored where:
- 5) Are there any RUSH or SHORT HOLDING TIME samples? Yes No
Who was notified _____ Date _____ Time _____

6) Location where samples are stored: Air Lab
 Permission to subcontract samples? Yes No
 (Walk-in clients only) if not already approved
 Client Signature: _____

Containers received at Con-Test			
		# of Containers	Types (Size, Duration)
Summa Cans		22	3L
Tedlar Bags			
Tubes			
Regulators		22	6-8hr 16-15 min
Restrictors			
Tubing			
Other			

Unused Summas:
1479

Unused Regulators:
4180

- 1) Was all media (used & unused checked into the WASP? YES WFF
- 2) Were all returned summa cans, Restrictors, & Regulators documented as returned in the Air Lab Inbound/Outbound Excel Spreadsheet? YES WFF

Laboratory Comments:

1400	1794	1479	2049	1397	1524	3012	3312	3070	4066
1511	1790	1517	1690	1395	2084	3062	3434	3068	4067
1632	1797	1516	2085	2052		4192	4181	4191	4090
2089	1480	2050	2088	2080		4177	4180	4186	4091
						4193	4182	4187	4190
									4176

August 14, 2013

Sophia Narkiewicz
GZA GeoEnvironmental-RI
530 Broadway Street
Providence, RI 02909

Project Location: Tidewater, Pawtucket RI
Client Job Number:
Project Number: 43654
Laboratory Work Order Number: 13H0164

Enclosed are results of analyses for samples received by the laboratory on August 5, 2013. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Lisa A. Worthington
Project Manager

GZA GeoEnvironmental-RI
 530 Broadway Street
 Providence, RI 02909
 ATTN: Sophia Narkiewicz

REPORT DATE: 8/14/2013

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 43654

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 13H0164

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Tidewater, Pawtucket RI

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
Tidewater - 8113	13H0164-01	Ambient Air		EPA TO-15	
SG-113S	13H0164-02	Soil Gas		EPA 3C	
				EPA TO-15	
Blind Duplicate #2	13H0164-03	Soil Gas		EPA 3C	
				EPA TO-15	
SG-202	13H0164-05	Soil Gas		EPA 3C	
				EPA TO-15	
SG-203S	13H0164-06	Soil Gas		EPA 3C	
				EPA TO-15	
SG-203M	13H0164-07	Soil Gas		EPA 3C	
				EPA TO-15	
SG-203D	13H0164-08	Soil Gas		EPA 3C	
				EPA TO-15	
SG-200	13H0164-09	Soil Gas		EPA 3C	
				EPA TO-15	
SG-204	13H0164-10	Soil Gas		EPA 3C	
				EPA TO-15	
SG-207	13H0164-11	Soil Gas		EPA 3C	
				EPA TO-15	
SG-112D	13H0164-12	Soil Gas		EPA 3C	
				EPA TO-15	
SG-206	13H0164-13	Soil Gas		EPA 3C	
				EPA TO-15	
SG-205	13H0164-14	Soil Gas		EPA 3C	
				EPA TO-15	
SG-112S	13H0164-15	Soil Gas		EPA 3C	
				EPA TO-15	
SG-113D	13H0164-16	Soil Gas		EPA 3C	
				EPA TO-15	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

EPA TO-15

Qualifications:

Elevated reporting limit due to matrix.

Analyte & Samples(s) Qualified:

13H0164-06[SG-203S], 13H0164-07[SG-203M], 13H0164-08[SG-203D], 13H0164-10[SG-204], 13H0164-13[SG-206]

Laboratory fortified blank /laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.

Analyte & Samples(s) Qualified:

1,2,4-Trichlorobenzene, Hexachlorobutadiene, Isopropanol

B078352-BS1, B078353-BS1

Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

Indene

13H0164-01[Tidewater - 8113], 13H0164-02[SG-113S], 13H0164-03[Blind Duplicate #2], 13H0164-05[SG-202], 13H0164-06RE2[SG-203S], 13H0164-07RE2[SG-203M], 13H0164-08RE2[SG-203D], 13H0164-09[SG-200], 13H0164-11[SG-207], 13H0164-12[SG-112D], 13H0164-13[SG-206], 13H0164-14RE1[SG-205], 13H0164-15[SG-112S], 13H0164-16[SG-113D], B078352-BLK1, B078352-BS1, B078353-BLK1, B078353-BS1, B078645-BLK1, B078645-BS1

Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the high side.

Analyte & Samples(s) Qualified:

1,2,4-Trichlorobenzene

13H0164-12[SG-112D], 13H0164-15[SG-112S], B078353-BS1

Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.

Analyte & Samples(s) Qualified:

Acetone, Indene, Isopropanol

13H0164-02[SG-113S], 13H0164-03[Blind Duplicate #2], 13H0164-05[SG-202], 13H0164-09[SG-200], 13H0164-11[SG-207], 13H0164-12[SG-112D], 13H0164-14[SG-205], 13H0164-15[SG-112S], 13H0164-16[SG-113D], B078353-BS1, 13H0164-06RE2[SG-203S], 13H0164-07RE2[SG-203M], 13H0164-08RE2[SG-203D], B078645-BS1, B078352-BS1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

A handwritten signature in black ink, appearing to read "Daren J. Damboragian", is written over a light gray rectangular background.

Daren J. Damboragian
Laboratory Manager

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: Tidewater - 8113
Sample ID: 13H0164-01
 Sample Matrix: Ambient Air
 Sampled: 8/1/2013 16:53

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 2048
 Canister Size: 3 liter
 Flow Controller ID: 3015
 Sample Type: 8 hr

Work Order: 13H0164
 Initial Vacuum(in Hg): -32
 Final Vacuum(in Hg): -2.5
 Receipt Vacuum(in Hg): -1.5
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Acetone	11	2.0		26	4.8	1	8/7/13	1:14	TPH
Benzene	0.092	0.050		0.29	0.16	1	8/7/13	1:14	TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/7/13	1:14	TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/7/13	1:14	TPH
Bromoform	ND	0.050		ND	0.52	1	8/7/13	1:14	TPH
Bromomethane	ND	0.050		ND	0.19	1	8/7/13	1:14	TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/7/13	1:14	TPH
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/7/13	1:14	TPH
Carbon Disulfide	ND	0.50		ND	1.6	1	8/7/13	1:14	TPH
Carbon Tetrachloride	0.070	0.025		0.44	0.16	1	8/7/13	1:14	TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/7/13	1:14	TPH
Chloroethane	ND	0.050		ND	0.13	1	8/7/13	1:14	TPH
Chloroform	ND	0.025		ND	0.12	1	8/7/13	1:14	TPH
Chloromethane	0.51	0.10		1.1	0.21	1	8/7/13	1:14	TPH
Cyclohexane	ND	0.050		ND	0.17	1	8/7/13	1:14	TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/7/13	1:14	TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/7/13	1:14	TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/7/13	1:14	TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/7/13	1:14	TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/7/13	1:14	TPH
Dichlorodifluoromethane (Freon 12)	0.41	0.050		2.0	0.25	1	8/7/13	1:14	TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/7/13	1:14	TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/7/13	1:14	TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13	1:14	TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13	1:14	TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13	1:14	TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/7/13	1:14	TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/7/13	1:14	TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/7/13	1:14	TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/7/13	1:14	TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/7/13	1:14	TPH
Ethanol	4.7	2.0		8.8	3.8	1	8/7/13	1:14	TPH
Ethyl Acetate	ND	0.050		ND	0.18	1	8/7/13	1:14	TPH
Ethylbenzene	ND	0.050		ND	0.22	1	8/7/13	1:14	TPH
4-Ethyltoluene	ND	0.050		ND	0.25	1	8/7/13	1:14	TPH
Heptane	0.056	0.050		0.23	0.20	1	8/7/13	1:14	TPH
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/7/13	1:14	TPH

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: Tidewater - 8113
Sample ID: 13H0164-01
 Sample Matrix: Ambient Air
 Sampled: 8/1/2013 16:53

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 2048
 Canister Size: 3 liter
 Flow Controller ID: 3015
 Sample Type: 8 hr

Work Order: 13H0164
 Initial Vacuum(in Hg): -32
 Final Vacuum(in Hg): -2.5
 Receipt Vacuum(in Hg): -1.5
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Hexane	ND	2.0		ND	7.0	1	8/7/13	1:14	TPH
2-Hexanone (MBK)	0.28	0.050		1.1	0.20	1	8/7/13	1:14	TPH
Indane	ND	0.13		ND	0.62	1	8/7/13	1:14	TPH
Indene	ND	0.13	L-03	ND	0.63	1	8/7/13	1:14	TPH
Isopropanol	ND	2.0		ND	4.9	1	8/7/13	1:14	TPH
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/7/13	1:14	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/7/13	1:14	TPH
Methylene Chloride	ND	0.50		ND	1.7	1	8/7/13	1:14	TPH
4-Methyl-2-pentanone (MIBK)	0.097	0.050		0.40	0.20	1	8/7/13	1:14	TPH
Naphthalene	0.057	0.050		0.30	0.26	1	8/7/13	1:14	TPH
Propene	ND	2.0		ND	3.4	1	8/7/13	1:14	TPH
Styrene	ND	0.050		ND	0.21	1	8/7/13	1:14	TPH
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/7/13	1:14	TPH
Tetrachloroethylene	0.026	0.025		0.18	0.17	1	8/7/13	1:14	TPH
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/7/13	1:14	TPH
Toluene	0.24	0.050		0.91	0.19	1	8/7/13	1:14	TPH
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/7/13	1:14	TPH
1,1,1-Trichloroethane	ND	0.025		ND	0.14	1	8/7/13	1:14	TPH
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/7/13	1:14	TPH
Trichloroethylene	ND	0.025		ND	0.13	1	8/7/13	1:14	TPH
Trichlorofluoromethane (Freon 11)	0.28	0.050		1.6	0.28	1	8/7/13	1:14	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.22	0.050		1.7	0.38	1	8/7/13	1:14	TPH
1,2,4-Trimethylbenzene	ND	0.050		ND	0.25	1	8/7/13	1:14	TPH
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	8/7/13	1:14	TPH
Vinyl Acetate	ND	1.0		ND	3.5	1	8/7/13	1:14	TPH
Vinyl Chloride	ND	0.025		ND	0.064	1	8/7/13	1:14	TPH
m&p-Xylene	ND	0.10		ND	0.43	1	8/7/13	1:14	TPH
o-Xylene	ND	0.050		ND	0.22	1	8/7/13	1:14	TPH

Surrogates	% Recovery	% REC Limits		
4-Bromofluorobenzene (1)	100	70-130	8/7/13	1:14
4-Bromofluorobenzene (2)	88.1	70-130	8/7/13	1:14

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-113S
Sample ID: 13H0164-02
 Sample Matrix: Soil Gas
 Sampled: 8/1/2013 08:15

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1350
 Canister Size: 3 liter
 Flow Controller ID: 4074
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -2.8
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analized		
Helium	ND	0.40		1	8/7/13 9:46		TPH

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time		Analyst
	Results	RL	Flag	Results	RL		Analized		
Acetone	8.3	2.0	V-06	20	4.8	1	8/7/13 18:05		TPH
Benzene	ND	0.050		ND	0.16	1	8/7/13 18:05		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/7/13 18:05		TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/7/13 18:05		TPH
Bromoform	ND	0.050		ND	0.52	1	8/7/13 18:05		TPH
Bromomethane	ND	0.050		ND	0.19	1	8/7/13 18:05		TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/7/13 18:05		TPH
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/7/13 18:05		TPH
Carbon Disulfide	1.8	0.50		5.7	1.6	1	8/7/13 18:05		TPH
Carbon Tetrachloride	0.15	0.025		0.96	0.16	1	8/7/13 18:05		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/7/13 18:05		TPH
Chloroethane	ND	0.025		ND	0.066	1	8/7/13 18:05		TPH
Chloroform	0.24	0.025		1.2	0.12	1	8/7/13 18:05		TPH
Chloromethane	0.18	0.10		0.36	0.21	1	8/7/13 18:05		TPH
Cyclohexane	ND	0.050		ND	0.17	1	8/7/13 18:05		TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/7/13 18:05		TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/7/13 18:05		TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/7/13 18:05		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/7/13 18:05		TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/7/13 18:05		TPH
Dichlorodifluoromethane (Freon 12)	0.28	0.050		1.4	0.25	1	8/7/13 18:05		TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/7/13 18:05		TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/7/13 18:05		TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13 18:05		TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13 18:05		TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13 18:05		TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/7/13 18:05		TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/7/13 18:05		TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/7/13 18:05		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/7/13 18:05		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/7/13 18:05		TPH

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-113S
Sample ID: 13H0164-02
 Sample Matrix: Soil Gas
 Sampled: 8/1/2013 08:15

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1350
 Canister Size: 3 liter
 Flow Controller ID: 4074
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -2.8
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL		Results	RL			
Ethanol	ND	2.0		ND	3.8	1	8/7/13 18:05	TPH
Ethyl Acetate	0.18	0.050		0.65	0.18	1	8/7/13 18:05	TPH
Ethylbenzene	0.059	0.050		0.26	0.22	1	8/7/13 18:05	TPH
4-Ethyltoluene	0.16	0.050		0.81	0.25	1	8/7/13 18:05	TPH
Heptane	ND	0.050		ND	0.20	1	8/7/13 18:05	TPH
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/7/13 18:05	TPH
Hexane	ND	2.0		ND	7.0	1	8/7/13 18:05	TPH
2-Hexanone (MBK)	0.12	0.050		0.49	0.20	1	8/7/13 18:05	TPH
Indane	ND	0.13		ND	0.62	1	8/7/13 18:05	TPH
Indene	ND	0.13	L-03	ND	0.63	1	8/7/13 18:05	TPH
Isopropanol	ND	2.0		ND	4.9	1	8/7/13 18:05	TPH
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/7/13 18:05	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/7/13 18:05	TPH
Methylene Chloride	ND	0.50		ND	1.7	1	8/7/13 18:05	TPH
4-Methyl-2-pentanone (MIBK)	ND	0.050		ND	0.20	1	8/7/13 18:05	TPH
Naphthalene	0.16	0.050		0.82	0.26	1	8/7/13 18:05	TPH
Propene	ND	2.0		ND	3.4	1	8/7/13 18:05	TPH
Styrene	ND	0.050		ND	0.21	1	8/7/13 18:05	TPH
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/7/13 18:05	TPH
Tetrachloroethylene	5.7	0.025		39	0.17	1	8/7/13 18:05	TPH
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/7/13 18:05	TPH
Toluene	0.068	0.050		0.26	0.19	1	8/7/13 18:05	TPH
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/7/13 18:05	TPH
1,1,1-Trichloroethane	0.24	0.025		1.3	0.14	1	8/7/13 18:05	TPH
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/7/13 18:05	TPH
Trichloroethylene	0.23	0.025		1.3	0.13	1	8/7/13 18:05	TPH
Trichlorofluoromethane (Freon 11)	0.28	0.050		1.6	0.28	1	8/7/13 18:05	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.094	0.050		0.72	0.38	1	8/7/13 18:05	TPH
1,2,4-Trimethylbenzene	0.55	0.050		2.7	0.25	1	8/7/13 18:05	TPH
1,3,5-Trimethylbenzene	0.20	0.050		0.97	0.25	1	8/7/13 18:05	TPH
Vinyl Acetate	ND	1.0		ND	3.5	1	8/7/13 18:05	TPH
Vinyl Chloride	ND	0.025		ND	0.064	1	8/7/13 18:05	TPH
m&p-Xylene	0.18	0.10		0.79	0.43	1	8/7/13 18:05	TPH
o-Xylene	0.056	0.050		0.24	0.22	1	8/7/13 18:05	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	101	70-130	8/7/13 18:05

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-113S
Sample ID: 13H0164-02
 Sample Matrix: Soil Gas
 Sampled: 8/1/2013 08:15

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1350
 Canister Size: 3 liter
 Flow Controller ID: 4074
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -2.8
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		83.4			70-130		8/7/13 18:05	

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: Blind Duplicate #2
Sample ID: 13H0164-03
 Sample Matrix: Soil Gas
 Sampled: 8/1/2013 09:17

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1352
 Canister Size: 3 liter
 Flow Controller ID: 4075
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -0.3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analized		
Helium	ND	0.40		1	8/7/13 10:10		TPH

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time		Analyst
	Results	RL	Flag	Results	RL		Analized		
Acetone	7.6	2.0	V-06	18	4.8	1	8/7/13 18:47		TPH
Benzene	0.10	0.050		0.32	0.16	1	8/7/13 18:47		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/7/13 18:47		TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/7/13 18:47		TPH
Bromoform	ND	0.050		ND	0.52	1	8/7/13 18:47		TPH
Bromomethane	ND	0.050		ND	0.19	1	8/7/13 18:47		TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/7/13 18:47		TPH
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/7/13 18:47		TPH
Carbon Disulfide	0.69	0.50		2.1	1.6	1	8/7/13 18:47		TPH
Carbon Tetrachloride	0.33	0.025		2.1	0.16	1	8/7/13 18:47		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/7/13 18:47		TPH
Chloroethane	ND	0.025		ND	0.066	1	8/7/13 18:47		TPH
Chloroform	0.19	0.025		0.94	0.12	1	8/7/13 18:47		TPH
Chloromethane	0.30	0.10		0.63	0.21	1	8/7/13 18:47		TPH
Cyclohexane	ND	0.050		ND	0.17	1	8/7/13 18:47		TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/7/13 18:47		TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/7/13 18:47		TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/7/13 18:47		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/7/13 18:47		TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/7/13 18:47		TPH
Dichlorodifluoromethane (Freon 12)	0.28	0.050		1.4	0.25	1	8/7/13 18:47		TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/7/13 18:47		TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/7/13 18:47		TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13 18:47		TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13 18:47		TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13 18:47		TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/7/13 18:47		TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/7/13 18:47		TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/7/13 18:47		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/7/13 18:47		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/7/13 18:47		TPH

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: Blind Duplicate #2
Sample ID: 13H0164-03
 Sample Matrix: Soil Gas
 Sampled: 8/1/2013 09:17

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1352
 Canister Size: 3 liter
 Flow Controller ID: 4075
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -0.3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Ethanol	4.8	2.0		9.0	3.8	1	8/7/13 18:47	TPH	
Ethyl Acetate	0.49	0.050		1.8	0.18	1	8/7/13 18:47	TPH	
Ethylbenzene	0.097	0.050		0.42	0.22	1	8/7/13 18:47	TPH	
4-Ethyltoluene	ND	0.050		ND	0.25	1	8/7/13 18:47	TPH	
Heptane	0.088	0.050		0.36	0.20	1	8/7/13 18:47	TPH	
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/7/13 18:47	TPH	
Hexane	2.1	2.0		7.3	7.0	1	8/7/13 18:47	TPH	
2-Hexanone (MBK)	ND	0.050		ND	0.20	1	8/7/13 18:47	TPH	
Indane	ND	0.13		ND	0.62	1	8/7/13 18:47	TPH	
Indene	ND	0.13	L-03	ND	0.63	1	8/7/13 18:47	TPH	
Isopropanol	ND	2.0		ND	4.9	1	8/7/13 18:47	TPH	
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/7/13 18:47	TPH	
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/7/13 18:47	TPH	
Methylene Chloride	0.84	0.50		2.9	1.7	1	8/7/13 18:47	TPH	
4-Methyl-2-pentanone (MIBK)	ND	0.050		ND	0.20	1	8/7/13 18:47	TPH	
Naphthalene	0.12	0.050		0.62	0.26	1	8/7/13 18:47	TPH	
Propene	ND	2.0		ND	3.4	1	8/7/13 18:47	TPH	
Styrene	0.25	0.050		1.0	0.21	1	8/7/13 18:47	TPH	
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/7/13 18:47	TPH	
Tetrachloroethylene	0.88	0.025		6.0	0.17	1	8/7/13 18:47	TPH	
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/7/13 18:47	TPH	
Toluene	0.26	0.050		0.98	0.19	1	8/7/13 18:47	TPH	
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/7/13 18:47	TPH	
1,1,1-Trichloroethane	0.17	0.025		0.92	0.14	1	8/7/13 18:47	TPH	
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/7/13 18:47	TPH	
Trichloroethylene	ND	0.025		ND	0.13	1	8/7/13 18:47	TPH	
Trichlorofluoromethane (Freon 11)	0.26	0.050		1.5	0.28	1	8/7/13 18:47	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.097	0.050		0.74	0.38	1	8/7/13 18:47	TPH	
1,2,4-Trimethylbenzene	0.14	0.050		0.70	0.25	1	8/7/13 18:47	TPH	
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	8/7/13 18:47	TPH	
Vinyl Acetate	ND	1.0		ND	3.5	1	8/7/13 18:47	TPH	
Vinyl Chloride	ND	0.025		ND	0.064	1	8/7/13 18:47	TPH	
m&p-Xylene	0.14	0.10		0.61	0.43	1	8/7/13 18:47	TPH	
o-Xylene	0.070	0.050		0.30	0.22	1	8/7/13 18:47	TPH	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	101	70-130	8/7/13 18:47

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: Blind Duplicate #2
Sample ID: 13H0164-03
 Sample Matrix: Soil Gas
 Sampled: 8/1/2013 09:17

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1352
 Canister Size: 3 liter
 Flow Controller ID: 4075
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -0.3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		86.2			70-130		8/7/13 18:47	

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-202
Sample ID: 13H0164-05
 Sample Matrix: Soil Gas
 Sampled: 8/2/2013 12:18

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1354
 Canister Size: 3 liter
 Flow Controller ID: 4077
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -28
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -5.4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analized		
Helium	ND	0.40		1	8/7/13 10:37		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Acetone	6.9	2.0	V-06	16	4.8	1	8/7/13 19:28		TPH
Benzene	0.41	0.050		1.3	0.16	1	8/7/13 19:28		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/7/13 19:28		TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/7/13 19:28		TPH
Bromoform	ND	0.050		ND	0.52	1	8/7/13 19:28		TPH
Bromomethane	ND	0.050		ND	0.19	1	8/7/13 19:28		TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/7/13 19:28		TPH
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/7/13 19:28		TPH
Carbon Disulfide	5.4	0.50		17	1.6	1	8/7/13 19:28		TPH
Carbon Tetrachloride	ND	0.025		ND	0.16	1	8/7/13 19:28		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/7/13 19:28		TPH
Chloroethane	ND	0.025		ND	0.066	1	8/7/13 19:28		TPH
Chloroform	0.10	0.025		0.50	0.12	1	8/7/13 19:28		TPH
Chloromethane	0.41	0.10		0.84	0.21	1	8/7/13 19:28		TPH
Cyclohexane	ND	0.050		ND	0.17	1	8/7/13 19:28		TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/7/13 19:28		TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/7/13 19:28		TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/7/13 19:28		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/7/13 19:28		TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/7/13 19:28		TPH
Dichlorodifluoromethane (Freon 12)	0.25	0.050		1.2	0.25	1	8/7/13 19:28		TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/7/13 19:28		TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/7/13 19:28		TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13 19:28		TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13 19:28		TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13 19:28		TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/7/13 19:28		TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/7/13 19:28		TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/7/13 19:28		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/7/13 19:28		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/7/13 19:28		TPH

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-202
Sample ID: 13H0164-05
 Sample Matrix: Soil Gas
 Sampled: 8/2/2013 12:18

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1354
 Canister Size: 3 liter
 Flow Controller ID: 4077
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -28
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -5.4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Ethanol	ND	2.0		ND	3.8	1	8/7/13 19:28	TPH	
Ethyl Acetate	ND	0.050		ND	0.18	1	8/7/13 19:28	TPH	
Ethylbenzene	ND	0.050		ND	0.22	1	8/7/13 19:28	TPH	
4-Ethyltoluene	ND	0.050		ND	0.25	1	8/7/13 19:28	TPH	
Heptane	ND	0.050		ND	0.20	1	8/7/13 19:28	TPH	
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/7/13 19:28	TPH	
Hexane	ND	2.0		ND	7.0	1	8/7/13 19:28	TPH	
2-Hexanone (MBK)	0.13	0.050		0.53	0.20	1	8/7/13 19:28	TPH	
Indane	ND	0.13		ND	0.62	1	8/7/13 19:28	TPH	
Indene	ND	0.13	L-03	ND	0.63	1	8/7/13 19:28	TPH	
Isopropanol	ND	2.0		ND	4.9	1	8/7/13 19:28	TPH	
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/7/13 19:28	TPH	
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/7/13 19:28	TPH	
Methylene Chloride	0.80	0.50		2.8	1.7	1	8/7/13 19:28	TPH	
4-Methyl-2-pentanone (MIBK)	ND	0.050		ND	0.20	1	8/7/13 19:28	TPH	
Naphthalene	1.8	0.050		9.4	0.26	1	8/7/13 19:28	TPH	
Propene	ND	2.0		ND	3.4	1	8/7/13 19:28	TPH	
Styrene	ND	0.050		ND	0.21	1	8/7/13 19:28	TPH	
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/7/13 19:28	TPH	
Tetrachloroethylene	0.89	0.025		6.0	0.17	1	8/7/13 19:28	TPH	
Tetrahydrofuran	0.16	0.050		0.48	0.15	1	8/7/13 19:28	TPH	
Toluene	0.12	0.050		0.46	0.19	1	8/7/13 19:28	TPH	
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/7/13 19:28	TPH	
1,1,1-Trichloroethane	ND	0.025		ND	0.14	1	8/7/13 19:28	TPH	
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/7/13 19:28	TPH	
Trichloroethylene	ND	0.025		ND	0.13	1	8/7/13 19:28	TPH	
Trichlorofluoromethane (Freon 11)	0.22	0.050		1.2	0.28	1	8/7/13 19:28	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.080	0.050		0.61	0.38	1	8/7/13 19:28	TPH	
1,2,4-Trimethylbenzene	0.20	0.050		0.96	0.25	1	8/7/13 19:28	TPH	
1,3,5-Trimethylbenzene	0.074	0.050		0.36	0.25	1	8/7/13 19:28	TPH	
Vinyl Acetate	ND	1.0		ND	3.5	1	8/7/13 19:28	TPH	
Vinyl Chloride	ND	0.025		ND	0.064	1	8/7/13 19:28	TPH	
m&p-Xylene	ND	0.10		ND	0.43	1	8/7/13 19:28	TPH	
o-Xylene	0.059	0.050		0.26	0.22	1	8/7/13 19:28	TPH	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	104	70-130	8/7/13 19:28

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-202
Sample ID: 13H0164-05
 Sample Matrix: Soil Gas
 Sampled: 8/2/2013 12:18

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1354
 Canister Size: 3 liter
 Flow Controller ID: 4077
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -28
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -5.4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		96.0			70-130		8/7/13 19:28	

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-203S
Sample ID: 13H0164-06
 Sample Matrix: Soil Gas
 Sampled: 8/2/2013 13:16

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1353
 Canister Size: 3 liter
 Flow Controller ID: 4076
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -5.6
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analyzed		
Helium	ND	0.40		1	8/7/13 13:44		TPH

EPA TO-15

Sample Flags: DL-03

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Acetone	ND	80		ND	190	40	8/8/13 3:38		TPH
Benzene	1200	2.0		4000	6.4	40	8/8/13 3:38		TPH
Benzyl chloride	ND	2.0		ND	10	40	8/8/13 3:38		TPH
Bromodichloromethane	ND	1.0		ND	6.7	40	8/8/13 3:38		TPH
Bromoform	ND	2.0		ND	21	40	8/8/13 3:38		TPH
Bromomethane	ND	2.0		ND	7.8	40	8/8/13 3:38		TPH
1,3-Butadiene	ND	2.0		ND	4.4	40	8/8/13 3:38		TPH
2-Butanone (MEK)	ND	80		ND	240	40	8/8/13 3:38		TPH
Carbon Disulfide	37	20		110	62	40	8/8/13 3:38		TPH
Carbon Tetrachloride	ND	1.0		ND	6.3	40	8/8/13 3:38		TPH
Chlorobenzene	ND	2.0		ND	9.2	40	8/8/13 3:38		TPH
Chloroethane	ND	1.0		ND	2.6	40	8/8/13 3:38		TPH
Chloroform	ND	1.0		ND	4.9	40	8/8/13 3:38		TPH
Chloromethane	ND	4.0		ND	8.3	40	8/8/13 3:38		TPH
Cyclohexane	4.4	2.0		15	6.9	40	8/8/13 3:38		TPH
Dibromochloromethane	ND	1.0		ND	8.5	40	8/8/13 3:38		TPH
1,2-Dibromoethane (EDB)	ND	1.0		ND	7.7	40	8/8/13 3:38		TPH
1,2-Dichlorobenzene	ND	2.0		ND	12	40	8/8/13 3:38		TPH
1,3-Dichlorobenzene	ND	2.0		ND	12	40	8/8/13 3:38		TPH
1,4-Dichlorobenzene	ND	2.0		ND	12	40	8/8/13 3:38		TPH
Dichlorodifluoromethane (Freon 12)	ND	2.0		ND	9.9	40	8/8/13 3:38		TPH
1,1-Dichloroethane	ND	1.0		ND	4.0	40	8/8/13 3:38		TPH
1,2-Dichloroethane	ND	1.0		ND	4.0	40	8/8/13 3:38		TPH
1,1-Dichloroethylene	ND	1.0		ND	4.0	40	8/8/13 3:38		TPH
cis-1,2-Dichloroethylene	ND	1.0		ND	4.0	40	8/8/13 3:38		TPH
trans-1,2-Dichloroethylene	ND	1.0		ND	4.0	40	8/8/13 3:38		TPH
1,2-Dichloropropane	ND	1.0		ND	4.6	40	8/8/13 3:38		TPH
cis-1,3-Dichloropropene	ND	1.0		ND	4.5	40	8/8/13 3:38		TPH
trans-1,3-Dichloropropene	ND	1.0		ND	4.5	40	8/8/13 3:38		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	2.0		ND	14	40	8/8/13 3:38		TPH
1,4-Dioxane	ND	20		ND	72	40	8/8/13 3:38		TPH

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-203S
Sample ID: 13H0164-06
 Sample Matrix: Soil Gas
 Sampled: 8/2/2013 13:16

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1353
 Canister Size: 3 liter
 Flow Controller ID: 4076
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -5.6
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Sample Flags: DL-03

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Ethanol	ND	80		ND	150	40	8/8/13 3:38	TPH	
Ethyl Acetate	ND	2.0		ND	7.2	40	8/8/13 3:38	TPH	
Ethylbenzene	3000	30		13000	130	600	8/12/13 12:44	TPH	
4-Ethyltoluene	1200	2.0		6000	9.8	40	8/8/13 3:38	TPH	
Heptane	13	2.0		55	8.2	40	8/8/13 3:38	TPH	
Hexachlorobutadiene	ND	2.0		ND	21	40	8/8/13 3:38	TPH	
Hexane	ND	80		ND	280	40	8/8/13 3:38	TPH	
2-Hexanone (MBK)	ND	2.0		ND	8.2	40	8/8/13 3:38	TPH	
Indane	1700	77		8200	370	600	8/12/13 12:44	TPH	
Indene	34000	790	L-03, V-06	160000	3800	6000	8/12/13 14:03	TPH	
Isopropanol	ND	80		ND	200	40	8/8/13 3:38	TPH	
Isopropylbenzene (Cumene)	93	5.1		460	25	40	8/8/13 3:38	TPH	
Methyl tert-Butyl Ether (MTBE)	ND	2.0		ND	7.2	40	8/8/13 3:38	TPH	
Methylene Chloride	ND	20		ND	69	40	8/8/13 3:38	TPH	
4-Methyl-2-pentanone (MIBK)	ND	2.0		ND	8.2	40	8/8/13 3:38	TPH	
Naphthalene	9800	30		52000	160	600	8/12/13 12:44	TPH	
Propene	ND	80		ND	140	40	8/8/13 3:38	TPH	
Styrene	6800	30		29000	130	600	8/12/13 12:44	TPH	
1,1,2,2-Tetrachloroethane	ND	1.0		ND	6.9	40	8/8/13 3:38	TPH	
Tetrachloroethylene	ND	1.0		ND	6.8	40	8/8/13 3:38	TPH	
Tetrahydrofuran	ND	2.0		ND	5.9	40	8/8/13 3:38	TPH	
Toluene	25000	30		95000	110	600	8/12/13 12:44	TPH	
1,2,4-Trichlorobenzene	ND	2.0		ND	15	40	8/8/13 3:38	TPH	
1,1,1-Trichloroethane	ND	1.0		ND	5.5	40	8/8/13 3:38	TPH	
1,1,2-Trichloroethane	ND	1.0		ND	5.5	40	8/8/13 3:38	TPH	
Trichloroethylene	ND	1.0		ND	5.4	40	8/8/13 3:38	TPH	
Trichlorofluoromethane (Freon 11)	ND	2.0		ND	11	40	8/8/13 3:38	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	2.0		ND	15	40	8/8/13 3:38	TPH	
1,2,4-Trimethylbenzene	12000	30		57000	150	600	8/12/13 12:44	TPH	
1,3,5-Trimethylbenzene	6800	30		33000	150	600	8/12/13 12:44	TPH	
Vinyl Acetate	ND	40		ND	140	40	8/8/13 3:38	TPH	
Vinyl Chloride	ND	1.0		ND	2.6	40	8/8/13 3:38	TPH	
m&p-Xylene	39000	60		170000	260	600	8/12/13 12:44	TPH	
o-Xylene	19000	30		84000	130	600	8/12/13 12:44	TPH	

Surrogates

% Recovery

% REC Limits

4-Bromofluorobenzene (1)

102

70-130

8/12/13 14:03

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-203S
Sample ID: 13H0164-06
 Sample Matrix: Soil Gas
 Sampled: 8/2/2013 13:16

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1353
 Canister Size: 3 liter
 Flow Controller ID: 4076
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -5.6
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (1)		102		70-130			8/12/13 12:44	
4-Bromofluorobenzene (1)		101		70-130			8/8/13 3:38	
4-Bromofluorobenzene (2)		95.7		70-130			8/12/13 14:03	
4-Bromofluorobenzene (2)		96.8		70-130			8/12/13 12:44	
4-Bromofluorobenzene (2)		102		70-130			8/8/13 3:38	

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-203M
Sample ID: 13H0164-07
 Sample Matrix: Soil Gas
 Sampled: 8/2/2013 14:25

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 2087
 Canister Size: 3 liter
 Flow Controller ID: 4197
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -5.1
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analized		
Helium	ND	0.40		1	8/7/13 14:08		TPH

EPA TO-15

Sample Flags: DL-03

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Acetone	ND	80		ND	190	40	8/8/13 2:58		TPH
Benzene	740	2.0		2400	6.4	40	8/8/13 2:58		TPH
Benzyl chloride	ND	2.0		ND	10	40	8/8/13 2:58		TPH
Bromodichloromethane	ND	1.0		ND	6.7	40	8/8/13 2:58		TPH
Bromoform	ND	2.0		ND	21	40	8/8/13 2:58		TPH
Bromomethane	ND	2.0		ND	7.8	40	8/8/13 2:58		TPH
1,3-Butadiene	ND	2.0		ND	4.4	40	8/8/13 2:58		TPH
2-Butanone (MEK)	ND	80		ND	240	40	8/8/13 2:58		TPH
Carbon Disulfide	ND	20		ND	62	40	8/8/13 2:58		TPH
Carbon Tetrachloride	ND	1.0		ND	6.3	40	8/8/13 2:58		TPH
Chlorobenzene	ND	2.0		ND	9.2	40	8/8/13 2:58		TPH
Chloroethane	ND	1.0		ND	2.6	40	8/8/13 2:58		TPH
Chloroform	ND	1.0		ND	4.9	40	8/8/13 2:58		TPH
Chloromethane	ND	4.0		ND	8.3	40	8/8/13 2:58		TPH
Cyclohexane	ND	2.0		ND	6.9	40	8/8/13 2:58		TPH
Dibromochloromethane	ND	1.0		ND	8.5	40	8/8/13 2:58		TPH
1,2-Dibromoethane (EDB)	ND	1.0		ND	7.7	40	8/8/13 2:58		TPH
1,2-Dichlorobenzene	ND	2.0		ND	12	40	8/8/13 2:58		TPH
1,3-Dichlorobenzene	ND	2.0		ND	12	40	8/8/13 2:58		TPH
1,4-Dichlorobenzene	ND	2.0		ND	12	40	8/8/13 2:58		TPH
Dichlorodifluoromethane (Freon 12)	ND	2.0		ND	9.9	40	8/8/13 2:58		TPH
1,1-Dichloroethane	ND	1.0		ND	4.0	40	8/8/13 2:58		TPH
1,2-Dichloroethane	ND	1.0		ND	4.0	40	8/8/13 2:58		TPH
1,1-Dichloroethylene	ND	1.0		ND	4.0	40	8/8/13 2:58		TPH
cis-1,2-Dichloroethylene	ND	1.0		ND	4.0	40	8/8/13 2:58		TPH
trans-1,2-Dichloroethylene	ND	1.0		ND	4.0	40	8/8/13 2:58		TPH
1,2-Dichloropropane	ND	1.0		ND	4.6	40	8/8/13 2:58		TPH
cis-1,3-Dichloropropene	ND	1.0		ND	4.5	40	8/8/13 2:58		TPH
trans-1,3-Dichloropropene	ND	1.0		ND	4.5	40	8/8/13 2:58		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	2.0		ND	14	40	8/8/13 2:58		TPH
1,4-Dioxane	ND	20		ND	72	40	8/8/13 2:58		TPH

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-203M
Sample ID: 13H0164-07
 Sample Matrix: Soil Gas
 Sampled: 8/2/2013 14:25

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 2087
 Canister Size: 3 liter
 Flow Controller ID: 4197
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -5.1
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Sample Flags: DL-03

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Ethanol	ND	80		ND	150	40	8/8/13	2:58	TPH
Ethyl Acetate	ND	2.0		ND	7.2	40	8/8/13	2:58	TPH
Ethylbenzene	1600	2.0		6800	8.7	40	8/8/13	2:58	TPH
4-Ethyltoluene	610	2.0		3000	9.8	40	8/8/13	2:58	TPH
Heptane	10	2.0		41	8.2	40	8/8/13	2:58	TPH
Hexachlorobutadiene	ND	2.0		ND	21	40	8/8/13	2:58	TPH
Hexane	ND	80		ND	280	40	8/8/13	2:58	TPH
2-Hexanone (MBK)	ND	2.0		ND	8.2	40	8/8/13	2:58	TPH
Indane	640	77		3100	370	600	8/12/13	12:05	TPH
Indene	4200	400	L-03, V-06	20000	1900	3000	8/12/13	13:24	TPH
Isopropanol	ND	80		ND	200	40	8/8/13	2:58	TPH
Isopropylbenzene (Cumene)	41	5.1		200	25	40	8/8/13	2:58	TPH
Methyl tert-Butyl Ether (MTBE)	ND	2.0		ND	7.2	40	8/8/13	2:58	TPH
Methylene Chloride	ND	20		ND	69	40	8/8/13	2:58	TPH
4-Methyl-2-pentanone (MIBK)	ND	2.0		ND	8.2	40	8/8/13	2:58	TPH
Naphthalene	6800	30		36000	160	600	8/12/13	12:05	TPH
Propene	ND	80		ND	140	40	8/8/13	2:58	TPH
Styrene	10000	30		44000	130	600	8/12/13	12:05	TPH
1,1,2,2-Tetrachloroethane	ND	1.0		ND	6.9	40	8/8/13	2:58	TPH
Tetrachloroethylene	12	1.0		80	6.8	40	8/8/13	2:58	TPH
Tetrahydrofuran	ND	2.0		ND	5.9	40	8/8/13	2:58	TPH
Toluene	27000	30		100000	110	600	8/12/13	12:05	TPH
1,2,4-Trichlorobenzene	ND	2.0		ND	15	40	8/8/13	2:58	TPH
1,1,1-Trichloroethane	ND	1.0		ND	5.5	40	8/8/13	2:58	TPH
1,1,2-Trichloroethane	ND	1.0		ND	5.5	40	8/8/13	2:58	TPH
Trichloroethylene	ND	1.0		ND	5.4	40	8/8/13	2:58	TPH
Trichlorofluoromethane (Freon 11)	ND	2.0		ND	11	40	8/8/13	2:58	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	2.0		ND	15	40	8/8/13	2:58	TPH
1,2,4-Trimethylbenzene	4700	30		23000	150	600	8/12/13	12:05	TPH
1,3,5-Trimethylbenzene	2100	30		10000	150	600	8/12/13	12:05	TPH
Vinyl Acetate	ND	40		ND	140	40	8/8/13	2:58	TPH
Vinyl Chloride	ND	1.0		ND	2.6	40	8/8/13	2:58	TPH
m&p-Xylene	18000	60		76000	260	600	8/12/13	12:05	TPH
o-Xylene	6900	30		30000	130	600	8/12/13	12:05	TPH

Surrogates

% Recovery

% REC Limits

4-Bromofluorobenzene (1)

101

70-130

8/12/13 13:24

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-203M
Sample ID: 13H0164-07
 Sample Matrix: Soil Gas
 Sampled: 8/2/2013 14:25

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 2087
 Canister Size: 3 liter
 Flow Controller ID: 4197
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -5.1
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (1)		102		70-130			8/12/13 12:05	
4-Bromofluorobenzene (1)		103		70-130			8/8/13 2:58	
4-Bromofluorobenzene (2)		95.9		70-130			8/12/13 13:24	
4-Bromofluorobenzene (2)		96.4		70-130			8/12/13 12:05	
4-Bromofluorobenzene (2)		98.6		70-130			8/8/13 2:58	

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-203D
Sample ID: 13H0164-08
 Sample Matrix: Soil Gas
 Sampled: 8/2/2013 15:19

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 2086
 Canister Size: 3 liter
 Flow Controller ID: 4198
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -31
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -5.2
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analized		
Helium	ND	0.40		1	8/7/13 14:33		TPH

EPA TO-15

Sample Flags: DL-03

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Acetone	ND	40		ND	95	20	8/8/13 2:18		TPH
Benzene	14	1.0		45	3.2	20	8/8/13 2:18		TPH
Benzyl chloride	ND	1.0		ND	5.2	20	8/8/13 2:18		TPH
Bromodichloromethane	ND	0.50		ND	3.4	20	8/8/13 2:18		TPH
Bromoform	ND	1.0		ND	10	20	8/8/13 2:18		TPH
Bromomethane	ND	1.0		ND	3.9	20	8/8/13 2:18		TPH
1,3-Butadiene	ND	1.0		ND	2.2	20	8/8/13 2:18		TPH
2-Butanone (MEK)	ND	40		ND	120	20	8/8/13 2:18		TPH
Carbon Disulfide	ND	10		ND	31	20	8/8/13 2:18		TPH
Carbon Tetrachloride	ND	0.50		ND	3.1	20	8/8/13 2:18		TPH
Chlorobenzene	ND	1.0		ND	4.6	20	8/8/13 2:18		TPH
Chloroethane	ND	0.50		ND	1.3	20	8/8/13 2:18		TPH
Chloroform	ND	0.50		ND	2.4	20	8/8/13 2:18		TPH
Chloromethane	3.3	2.0		6.9	4.1	20	8/8/13 2:18		TPH
Cyclohexane	ND	1.0		ND	3.4	20	8/8/13 2:18		TPH
Dibromochloromethane	ND	0.50		ND	4.3	20	8/8/13 2:18		TPH
1,2-Dibromoethane (EDB)	ND	0.50		ND	3.8	20	8/8/13 2:18		TPH
1,2-Dichlorobenzene	ND	1.0		ND	6.0	20	8/8/13 2:18		TPH
1,3-Dichlorobenzene	ND	1.0		ND	6.0	20	8/8/13 2:18		TPH
1,4-Dichlorobenzene	ND	1.0		ND	6.0	20	8/8/13 2:18		TPH
Dichlorodifluoromethane (Freon 12)	ND	1.0		ND	4.9	20	8/8/13 2:18		TPH
1,1-Dichloroethane	ND	0.50		ND	2.0	20	8/8/13 2:18		TPH
1,2-Dichloroethane	ND	0.50		ND	2.0	20	8/8/13 2:18		TPH
1,1-Dichloroethylene	ND	0.50		ND	2.0	20	8/8/13 2:18		TPH
cis-1,2-Dichloroethylene	ND	0.50		ND	2.0	20	8/8/13 2:18		TPH
trans-1,2-Dichloroethylene	ND	0.50		ND	2.0	20	8/8/13 2:18		TPH
1,2-Dichloropropane	ND	0.50		ND	2.3	20	8/8/13 2:18		TPH
cis-1,3-Dichloropropene	ND	0.50		ND	2.3	20	8/8/13 2:18		TPH
trans-1,3-Dichloropropene	ND	0.50		ND	2.3	20	8/8/13 2:18		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	1.0		ND	7.0	20	8/8/13 2:18		TPH
1,4-Dioxane	ND	10		ND	36	20	8/8/13 2:18		TPH

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-203D
Sample ID: 13H0164-08
 Sample Matrix: Soil Gas
 Sampled: 8/2/2013 15:19

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 2086
 Canister Size: 3 liter
 Flow Controller ID: 4198
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -31
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -5.2
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Sample Flags: DL-03

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Ethanol	ND	40		ND	75	20	8/8/13 2:18	TPH	
Ethyl Acetate	ND	1.0		ND	3.6	20	8/8/13 2:18	TPH	
Ethylbenzene	44	1.0		190	4.3	20	8/8/13 2:18	TPH	
4-Ethyltoluene	53	1.0		260	4.9	20	8/8/13 2:18	TPH	
Heptane	ND	1.0		ND	4.1	20	8/8/13 2:18	TPH	
Hexachlorobutadiene	ND	1.0		ND	11	20	8/8/13 2:18	TPH	
Hexane	ND	40		ND	140	20	8/8/13 2:18	TPH	
2-Hexanone (MBK)	ND	1.0		ND	4.1	20	8/8/13 2:18	TPH	
Indane	120	19		570	94	150	8/12/13 10:07	TPH	
Indene	1900	79	L-03, V-06	8900	380	600	8/12/13 15:08	TPH	
Isopropanol	ND	40		ND	98	20	8/8/13 2:18	TPH	
Isopropylbenzene (Cumene)	ND	2.5		ND	12	20	8/8/13 2:18	TPH	
Methyl tert-Butyl Ether (MTBE)	ND	1.0		ND	3.6	20	8/8/13 2:18	TPH	
Methylene Chloride	ND	10		ND	35	20	8/8/13 2:18	TPH	
4-Methyl-2-pentanone (MIBK)	ND	1.0		ND	4.1	20	8/8/13 2:18	TPH	
Naphthalene	1600	7.5		8100	39	150	8/12/13 10:07	TPH	
Propene	ND	40		ND	69	20	8/8/13 2:18	TPH	
Styrene	420	1.0		1800	4.3	20	8/8/13 2:18	TPH	
1,1,2,2-Tetrachloroethane	ND	0.50		ND	3.4	20	8/8/13 2:18	TPH	
Tetrachloroethylene	15	0.50		100	3.4	20	8/8/13 2:18	TPH	
Tetrahydrofuran	ND	1.0		ND	2.9	20	8/8/13 2:18	TPH	
Toluene	350	1.0		1300	3.8	20	8/8/13 2:18	TPH	
1,2,4-Trichlorobenzene	ND	1.0		ND	7.4	20	8/8/13 2:18	TPH	
1,1,1-Trichloroethane	ND	0.50		ND	2.7	20	8/8/13 2:18	TPH	
1,1,2-Trichloroethane	ND	0.50		ND	2.7	20	8/8/13 2:18	TPH	
Trichloroethylene	ND	0.50		ND	2.7	20	8/8/13 2:18	TPH	
Trichlorofluoromethane (Freon 11)	ND	1.0		ND	5.6	20	8/8/13 2:18	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0		ND	7.7	20	8/8/13 2:18	TPH	
1,2,4-Trimethylbenzene	600	1.0		3000	4.9	20	8/8/13 2:18	TPH	
1,3,5-Trimethylbenzene	250	1.0		1200	4.9	20	8/8/13 2:18	TPH	
Vinyl Acetate	ND	20		ND	70	20	8/8/13 2:18	TPH	
Vinyl Chloride	ND	0.50		ND	1.3	20	8/8/13 2:18	TPH	
m&p-Xylene	880	2.0		3800	8.7	20	8/8/13 2:18	TPH	
o-Xylene	350	1.0		1500	4.3	20	8/8/13 2:18	TPH	

Surrogates

% Recovery

% REC Limits

4-Bromofluorobenzene (1)

100

70-130

8/12/13 10:07

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-203D
Sample ID: 13H0164-08
 Sample Matrix: Soil Gas
 Sampled: 8/2/2013 15:19

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 2086
 Canister Size: 3 liter
 Flow Controller ID: 4198
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -31
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -5.2
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Surrogates	% Recovery			% REC Limits					
4-Bromofluorobenzene (1)		105		70	130		8/12/13	15:08	
4-Bromofluorobenzene (1)		103		70	130		8/8/13	2:18	
4-Bromofluorobenzene (2)		91.7		70	130		8/12/13	10:07	
4-Bromofluorobenzene (2)		97.8		70	130		8/12/13	15:08	
4-Bromofluorobenzene (2)		96.5		70	130		8/8/13	2:18	

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-200
Sample ID: 13H0164-09
 Sample Matrix: Soil Gas
 Sampled: 8/2/2013 11:04

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1358
 Canister Size: 3 liter
 Flow Controller ID: 4106
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -4.6
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analized		
Helium	ND	0.40		1	8/7/13 11:00		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Acetone	8.1	2.0	V-06	19	4.8	1	8/7/13 20:10		TPH
Benzene	2.2	0.050		7.2	0.16	1	8/7/13 20:10		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/7/13 20:10		TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/7/13 20:10		TPH
Bromoform	ND	0.050		ND	0.52	1	8/7/13 20:10		TPH
Bromomethane	ND	0.050		ND	0.19	1	8/7/13 20:10		TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/7/13 20:10		TPH
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/7/13 20:10		TPH
Carbon Disulfide	0.67	0.50		2.1	1.6	1	8/7/13 20:10		TPH
Carbon Tetrachloride	0.090	0.025		0.57	0.16	1	8/7/13 20:10		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/7/13 20:10		TPH
Chloroethane	0.058	0.025		0.15	0.066	1	8/7/13 20:10		TPH
Chloroform	2.2	0.025		11	0.12	1	8/7/13 20:10		TPH
Chloromethane	0.26	0.10		0.53	0.21	1	8/7/13 20:10		TPH
Cyclohexane	0.26	0.050		0.89	0.17	1	8/7/13 20:10		TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/7/13 20:10		TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/7/13 20:10		TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/7/13 20:10		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/7/13 20:10		TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/7/13 20:10		TPH
Dichlorodifluoromethane (Freon 12)	0.30	0.050		1.5	0.25	1	8/7/13 20:10		TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/7/13 20:10		TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/7/13 20:10		TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13 20:10		TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13 20:10		TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13 20:10		TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/7/13 20:10		TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/7/13 20:10		TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/7/13 20:10		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/7/13 20:10		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/7/13 20:10		TPH

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-200
Sample ID: 13H0164-09
 Sample Matrix: Soil Gas
 Sampled: 8/2/2013 11:04

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1358
 Canister Size: 3 liter
 Flow Controller ID: 4106
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -4.6
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL		Results	RL			
Ethanol	2.2	2.0		4.1	3.8	1	8/7/13 20:10	TPH
Ethyl Acetate	0.26	0.050		0.94	0.18	1	8/7/13 20:10	TPH
Ethylbenzene	1.2	0.050		5.3	0.22	1	8/7/13 20:10	TPH
4-Ethyltoluene	1.3	0.050		6.6	0.25	1	8/7/13 20:10	TPH
Heptane	0.073	0.050		0.30	0.20	1	8/7/13 20:10	TPH
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/7/13 20:10	TPH
Hexane	ND	2.0		ND	7.0	1	8/7/13 20:10	TPH
2-Hexanone (MBK)	0.18	0.050		0.75	0.20	1	8/7/13 20:10	TPH
Indane	3.7	0.13		18	0.62	1	8/7/13 20:10	TPH
Indene	3.7	0.13	L-03	18	0.63	1	8/7/13 20:10	TPH
Isopropanol	ND	2.0		ND	4.9	1	8/7/13 20:10	TPH
Isopropylbenzene (Cumene)	0.14	0.13		0.67	0.62	1	8/7/13 20:10	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/7/13 20:10	TPH
Methylene Chloride	1.1	0.50		3.8	1.7	1	8/7/13 20:10	TPH
4-Methyl-2-pentanone (MIBK)	ND	0.050		ND	0.20	1	8/7/13 20:10	TPH
Naphthalene	27	0.050		140	0.26	1	8/7/13 20:10	TPH
Propene	ND	2.0		ND	3.4	1	8/7/13 20:10	TPH
Styrene	7.1	0.050		30	0.21	1	8/7/13 20:10	TPH
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/7/13 20:10	TPH
Tetrachloroethylene	0.44	0.025		3.0	0.17	1	8/7/13 20:10	TPH
Tetrahydrofuran	0.16	0.050		0.48	0.15	1	8/7/13 20:10	TPH
Toluene	5.3	0.050		20	0.19	1	8/7/13 20:10	TPH
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/7/13 20:10	TPH
1,1,1-Trichloroethane	0.46	0.025		2.5	0.14	1	8/7/13 20:10	TPH
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/7/13 20:10	TPH
Trichloroethylene	ND	0.025		ND	0.13	1	8/7/13 20:10	TPH
Trichlorofluoromethane (Freon 11)	0.28	0.050		1.6	0.28	1	8/7/13 20:10	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.078	0.050		0.60	0.38	1	8/7/13 20:10	TPH
1,2,4-Trimethylbenzene	11	0.050		56	0.25	1	8/7/13 20:10	TPH
1,3,5-Trimethylbenzene	12	0.050		57	0.25	1	8/7/13 20:10	TPH
Vinyl Acetate	ND	1.0		ND	3.5	1	8/7/13 20:10	TPH
Vinyl Chloride	ND	0.025		ND	0.064	1	8/7/13 20:10	TPH
m&p-Xylene	11	0.10		48	0.43	1	8/7/13 20:10	TPH
o-Xylene	6.7	0.050		29	0.22	1	8/7/13 20:10	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	104	70-130	8/7/13 20:10

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-200
Sample ID: 13H0164-09
 Sample Matrix: Soil Gas
 Sampled: 8/2/2013 11:04

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1358
 Canister Size: 3 liter
 Flow Controller ID: 4106
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -4.6
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		95.8			70-130		8/7/13 20:10	

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-204
Sample ID: 13H0164-10
 Sample Matrix: Soil Gas
 Sampled: 8/2/2013 09:48

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1357
 Canister Size: 3 liter
 Flow Controller ID: 4105
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -1.1
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analized		
Helium	ND	0.40		1	8/7/13 14:58		TPH

EPA TO-15

Sample Flags: DL-03

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Acetone	ND	40		ND	95	20	8/8/13 1:37		TPH
Benzene	290	1.0		930	3.2	20	8/8/13 1:37		TPH
Benzyl chloride	ND	1.0		ND	5.2	20	8/8/13 1:37		TPH
Bromodichloromethane	ND	0.50		ND	3.4	20	8/8/13 1:37		TPH
Bromoform	ND	1.0		ND	10	20	8/8/13 1:37		TPH
Bromomethane	ND	1.0		ND	3.9	20	8/8/13 1:37		TPH
1,3-Butadiene	ND	1.0		ND	2.2	20	8/8/13 1:37		TPH
2-Butanone (MEK)	ND	40		ND	120	20	8/8/13 1:37		TPH
Carbon Disulfide	ND	10		ND	31	20	8/8/13 1:37		TPH
Carbon Tetrachloride	ND	0.50		ND	3.1	20	8/8/13 1:37		TPH
Chlorobenzene	ND	1.0		ND	4.6	20	8/8/13 1:37		TPH
Chloroethane	ND	0.50		ND	1.3	20	8/8/13 1:37		TPH
Chloroform	ND	0.50		ND	2.4	20	8/8/13 1:37		TPH
Chloromethane	ND	2.0		ND	4.1	20	8/8/13 1:37		TPH
Cyclohexane	ND	1.0		ND	3.4	20	8/8/13 1:37		TPH
Dibromochloromethane	ND	0.50		ND	4.3	20	8/8/13 1:37		TPH
1,2-Dibromoethane (EDB)	ND	0.50		ND	3.8	20	8/8/13 1:37		TPH
1,2-Dichlorobenzene	ND	1.0		ND	6.0	20	8/8/13 1:37		TPH
1,3-Dichlorobenzene	ND	1.0		ND	6.0	20	8/8/13 1:37		TPH
1,4-Dichlorobenzene	ND	1.0		ND	6.0	20	8/8/13 1:37		TPH
Dichlorodifluoromethane (Freon 12)	ND	1.0		ND	4.9	20	8/8/13 1:37		TPH
1,1-Dichloroethane	ND	0.50		ND	2.0	20	8/8/13 1:37		TPH
1,2-Dichloroethane	ND	0.50		ND	2.0	20	8/8/13 1:37		TPH
1,1-Dichloroethylene	ND	0.50		ND	2.0	20	8/8/13 1:37		TPH
cis-1,2-Dichloroethylene	ND	0.50		ND	2.0	20	8/8/13 1:37		TPH
trans-1,2-Dichloroethylene	ND	0.50		ND	2.0	20	8/8/13 1:37		TPH
1,2-Dichloropropane	ND	0.50		ND	2.3	20	8/8/13 1:37		TPH
cis-1,3-Dichloropropene	ND	0.50		ND	2.3	20	8/8/13 1:37		TPH
trans-1,3-Dichloropropene	ND	0.50		ND	2.3	20	8/8/13 1:37		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	1.0		ND	7.0	20	8/8/13 1:37		TPH
1,4-Dioxane	ND	10		ND	36	20	8/8/13 1:37		TPH

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-204
Sample ID: 13H0164-10
 Sample Matrix: Soil Gas
 Sampled: 8/2/2013 09:48

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1357
 Canister Size: 3 liter
 Flow Controller ID: 4105
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -1.1
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Sample Flags: DL-03

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Ethanol	ND	40		ND	75	20	8/8/13 1:37	TPH	
Ethyl Acetate	ND	1.0		ND	3.6	20	8/8/13 1:37	TPH	
Ethylbenzene	170	1.0		730	4.3	20	8/8/13 1:37	TPH	
4-Ethyltoluene	22	1.0		110	4.9	20	8/8/13 1:37	TPH	
Heptane	1.9	1.0		7.9	4.1	20	8/8/13 1:37	TPH	
Hexachlorobutadiene	ND	1.0		ND	11	20	8/8/13 1:37	TPH	
Hexane	ND	40		ND	140	20	8/8/13 1:37	TPH	
2-Hexanone (MBK)	ND	1.0		ND	4.1	20	8/8/13 1:37	TPH	
Indane	50	2.6		240	12	20	8/8/13 1:37	TPH	
Indene	200	20		940	94	150	8/12/13 9:24	TPH	
Isopropanol	ND	40		ND	98	20	8/8/13 1:37	TPH	
Isopropylbenzene (Cumene)	ND	2.5		ND	12	20	8/8/13 1:37	TPH	
Methyl tert-Butyl Ether (MTBE)	ND	1.0		ND	3.6	20	8/8/13 1:37	TPH	
Methylene Chloride	ND	10		ND	35	20	8/8/13 1:37	TPH	
4-Methyl-2-pentanone (MIBK)	ND	1.0		ND	4.1	20	8/8/13 1:37	TPH	
Naphthalene	250	1.0		1300	5.2	20	8/8/13 1:37	TPH	
Propene	ND	40		ND	69	20	8/8/13 1:37	TPH	
Styrene	190	1.0		820	4.3	20	8/8/13 1:37	TPH	
1,1,2,2-Tetrachloroethane	ND	0.50		ND	3.4	20	8/8/13 1:37	TPH	
Tetrachloroethylene	3.0	0.50		20	3.4	20	8/8/13 1:37	TPH	
Tetrahydrofuran	ND	1.0		ND	2.9	20	8/8/13 1:37	TPH	
Toluene	3200	7.5		12000	28	150	8/12/13 9:24	TPH	
1,2,4-Trichlorobenzene	ND	1.0		ND	7.4	20	8/8/13 1:37	TPH	
1,1,1-Trichloroethane	ND	0.50		ND	2.7	20	8/8/13 1:37	TPH	
1,1,2-Trichloroethane	ND	0.50		ND	2.7	20	8/8/13 1:37	TPH	
Trichloroethylene	ND	0.50		ND	2.7	20	8/8/13 1:37	TPH	
Trichlorofluoromethane (Freon 11)	ND	1.0		ND	5.6	20	8/8/13 1:37	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0		ND	7.7	20	8/8/13 1:37	TPH	
1,2,4-Trimethylbenzene	260	1.0		1300	4.9	20	8/8/13 1:37	TPH	
1,3,5-Trimethylbenzene	180	1.0		880	4.9	20	8/8/13 1:37	TPH	
Vinyl Acetate	ND	20		ND	70	20	8/8/13 1:37	TPH	
Vinyl Chloride	ND	0.50		ND	1.3	20	8/8/13 1:37	TPH	
m&p-Xylene	1400	2.0		6300	8.7	20	8/8/13 1:37	TPH	
o-Xylene	510	1.0		2200	4.3	20	8/8/13 1:37	TPH	

Surrogates

% Recovery

% REC Limits

4-Bromofluorobenzene (1)

103

70-130

8/8/13 1:37

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-204
Sample ID: 13H0164-10
 Sample Matrix: Soil Gas
 Sampled: 8/2/2013 09:48

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1357
 Canister Size: 3 liter
 Flow Controller ID: 4105
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -1.1
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Surrogates	% Recovery			% REC Limits					
4-Bromofluorobenzene (1)		102		70	130		8/12/13	9:24	
4-Bromofluorobenzene (2)		96.8		70	130		8/8/13	1:37	
4-Bromofluorobenzene (2)		91.6		70	130		8/12/13	9:24	

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-207
Sample ID: 13H0164-11
 Sample Matrix: Soil Gas
 Sampled: 8/1/2013 13:07

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1402
 Canister Size: 3 liter
 Flow Controller ID: 4175
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analized		
Helium	ND	0.40		1	8/7/13 11:27		TPH

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time		Analyst
	Results	RL	Flag	Results	RL		Analized		
Acetone	3.5	2.0	V-06	8.2	4.8	1	8/7/13 20:51		TPH
Benzene	0.57	0.050		1.8	0.16	1	8/7/13 20:51		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/7/13 20:51		TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/7/13 20:51		TPH
Bromoform	ND	0.050		ND	0.52	1	8/7/13 20:51		TPH
Bromomethane	ND	0.050		ND	0.19	1	8/7/13 20:51		TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/7/13 20:51		TPH
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/7/13 20:51		TPH
Carbon Disulfide	0.83	0.50		2.6	1.6	1	8/7/13 20:51		TPH
Carbon Tetrachloride	ND	0.025		ND	0.16	1	8/7/13 20:51		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/7/13 20:51		TPH
Chloroethane	ND	0.025		ND	0.066	1	8/7/13 20:51		TPH
Chloroform	0.079	0.025		0.39	0.12	1	8/7/13 20:51		TPH
Chloromethane	0.23	0.10		0.47	0.21	1	8/7/13 20:51		TPH
Cyclohexane	0.39	0.050		1.3	0.17	1	8/7/13 20:51		TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/7/13 20:51		TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/7/13 20:51		TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/7/13 20:51		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/7/13 20:51		TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/7/13 20:51		TPH
Dichlorodifluoromethane (Freon 12)	0.30	0.050		1.5	0.25	1	8/7/13 20:51		TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/7/13 20:51		TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/7/13 20:51		TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13 20:51		TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13 20:51		TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13 20:51		TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/7/13 20:51		TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/7/13 20:51		TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/7/13 20:51		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/7/13 20:51		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/7/13 20:51		TPH

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
 Field Sample #: SG-207
 Sample ID: 13H0164-11
 Sample Matrix: Soil Gas
 Sampled: 8/1/2013 13:07

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1402
 Canister Size: 3 liter
 Flow Controller ID: 4175
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL		Results	RL			
Ethanol	ND	2.0		ND	3.8	1	8/7/13 20:51	TPH
Ethyl Acetate	ND	0.050		ND	0.18	1	8/7/13 20:51	TPH
Ethylbenzene	0.083	0.050		0.36	0.22	1	8/7/13 20:51	TPH
4-Ethyltoluene	0.089	0.050		0.44	0.25	1	8/7/13 20:51	TPH
Heptane	ND	0.050		ND	0.20	1	8/7/13 20:51	TPH
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/7/13 20:51	TPH
Hexane	ND	2.0		ND	7.0	1	8/7/13 20:51	TPH
2-Hexanone (MBK)	ND	0.050		ND	0.20	1	8/7/13 20:51	TPH
Indane	0.29	0.13		1.4	0.62	1	8/7/13 20:51	TPH
Indene	0.26	0.13	L-03	1.2	0.63	1	8/7/13 20:51	TPH
Isopropanol	ND	2.0		ND	4.9	1	8/7/13 20:51	TPH
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/7/13 20:51	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/7/13 20:51	TPH
Methylene Chloride	0.69	0.50		2.4	1.7	1	8/7/13 20:51	TPH
4-Methyl-2-pentanone (MIBK)	ND	0.050		ND	0.20	1	8/7/13 20:51	TPH
Naphthalene	70	1.0		370	5.2	20	8/7/13 4:28	TPH
Propene	ND	2.0		ND	3.4	1	8/7/13 20:51	TPH
Styrene	0.089	0.050		0.38	0.21	1	8/7/13 20:51	TPH
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/7/13 20:51	TPH
Tetrachloroethylene	0.23	0.025		1.5	0.17	1	8/7/13 20:51	TPH
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/7/13 20:51	TPH
Toluene	0.78	0.050		2.9	0.19	1	8/7/13 20:51	TPH
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/7/13 20:51	TPH
1,1,1-Trichloroethane	0.094	0.025		0.51	0.14	1	8/7/13 20:51	TPH
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/7/13 20:51	TPH
Trichloroethylene	ND	0.025		ND	0.13	1	8/7/13 20:51	TPH
Trichlorofluoromethane (Freon 11)	0.42	0.050		2.4	0.28	1	8/7/13 20:51	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.095	0.050		0.73	0.38	1	8/7/13 20:51	TPH
1,2,4-Trimethylbenzene	1.2	0.050		5.7	0.25	1	8/7/13 20:51	TPH
1,3,5-Trimethylbenzene	0.62	0.050		3.0	0.25	1	8/7/13 20:51	TPH
Vinyl Acetate	ND	1.0		ND	3.5	1	8/7/13 20:51	TPH
Vinyl Chloride	ND	0.025		ND	0.064	1	8/7/13 20:51	TPH
m&p-Xylene	1.0	0.10		4.5	0.43	1	8/7/13 20:51	TPH
o-Xylene	0.32	0.050		1.4	0.22	1	8/7/13 20:51	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	98.8	70-130	8/7/13 4:28

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-207
Sample ID: 13H0164-11
 Sample Matrix: Soil Gas
 Sampled: 8/1/2013 13:07

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1402
 Canister Size: 3 liter
 Flow Controller ID: 4175
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (1)		103		70-130			8/7/13 20:51	
4-Bromofluorobenzene (2)		96.1		70-130			8/7/13 20:51	

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-112D
Sample ID: 13H0164-12
 Sample Matrix: Soil Gas
 Sampled: 8/1/2013 11:41

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1382
 Canister Size: 3 liter
 Flow Controller ID: 4173
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -2
 Receipt Vacuum(in Hg): -3.3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analized		
Helium	ND	0.40		1	8/7/13 11:51		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Acetone	6.5	2.0	V-06	15	4.8	1	8/7/13 21:33		TPH
Benzene	0.69	0.050		2.2	0.16	1	8/7/13 21:33		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/7/13 21:33		TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/7/13 21:33		TPH
Bromoform	ND	0.050		ND	0.52	1	8/7/13 21:33		TPH
Bromomethane	ND	0.050		ND	0.19	1	8/7/13 21:33		TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/7/13 21:33		TPH
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/7/13 21:33		TPH
Carbon Disulfide	0.74	0.50		2.3	1.6	1	8/7/13 21:33		TPH
Carbon Tetrachloride	0.84	0.025		5.3	0.16	1	8/7/13 21:33		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/7/13 21:33		TPH
Chloroethane	0.050	0.025		0.13	0.066	1	8/7/13 21:33		TPH
Chloroform	2.2	0.025		11	0.12	1	8/7/13 21:33		TPH
Chloromethane	0.28	0.10		0.58	0.21	1	8/7/13 21:33		TPH
Cyclohexane	0.14	0.050		0.46	0.17	1	8/7/13 21:33		TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/7/13 21:33		TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/7/13 21:33		TPH
1,2-Dichlorobenzene	0.078	0.050		0.47	0.30	1	8/7/13 21:33		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/7/13 21:33		TPH
1,4-Dichlorobenzene	0.12	0.050		0.72	0.30	1	8/7/13 21:33		TPH
Dichlorodifluoromethane (Freon 12)	0.28	0.050		1.4	0.25	1	8/7/13 21:33		TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/7/13 21:33		TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/7/13 21:33		TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13 21:33		TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13 21:33		TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13 21:33		TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/7/13 21:33		TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/7/13 21:33		TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/7/13 21:33		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/7/13 21:33		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/7/13 21:33		TPH

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-112D
Sample ID: 13H0164-12
 Sample Matrix: Soil Gas
 Sampled: 8/1/2013 11:41

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1382
 Canister Size: 3 liter
 Flow Controller ID: 4173
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -2
 Receipt Vacuum(in Hg): -3.3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Ethanol	ND	2.0		ND	3.8	1	8/7/13 21:33	TPH	
Ethyl Acetate	0.67	0.050		2.4	0.18	1	8/7/13 21:33	TPH	
Ethylbenzene	0.23	0.050		1.0	0.22	1	8/7/13 21:33	TPH	
4-Ethyltoluene	0.10	0.050		0.50	0.25	1	8/7/13 21:33	TPH	
Heptane	ND	0.050		ND	0.20	1	8/7/13 21:33	TPH	
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/7/13 21:33	TPH	
Hexane	ND	2.0		ND	7.0	1	8/7/13 21:33	TPH	
2-Hexanone (MBK)	0.085	0.050		0.35	0.20	1	8/7/13 21:33	TPH	
Indane	ND	0.13		ND	0.62	1	8/7/13 21:33	TPH	
Indene	0.44	0.13	L-03	2.1	0.63	1	8/7/13 21:33	TPH	
Isopropanol	ND	2.0		ND	4.9	1	8/7/13 21:33	TPH	
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/7/13 21:33	TPH	
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/7/13 21:33	TPH	
Methylene Chloride	0.98	0.50		3.4	1.7	1	8/7/13 21:33	TPH	
4-Methyl-2-pentanone (MIBK)	ND	0.050		ND	0.20	1	8/7/13 21:33	TPH	
Naphthalene	3.1	0.050		16	0.26	1	8/7/13 21:33	TPH	
Propene	ND	2.0		ND	3.4	1	8/7/13 21:33	TPH	
Styrene	0.14	0.050		0.61	0.21	1	8/7/13 21:33	TPH	
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/7/13 21:33	TPH	
Tetrachloroethylene	ND	0.025		ND	0.17	1	8/7/13 21:33	TPH	
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/7/13 21:33	TPH	
Toluene	1.4	0.050		5.3	0.19	1	8/7/13 21:33	TPH	
1,2,4-Trichlorobenzene	0.22	0.050	L-05	1.6	0.37	1	8/7/13 21:33	TPH	
1,1,1-Trichloroethane	1.0	0.025		5.6	0.14	1	8/7/13 21:33	TPH	
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/7/13 21:33	TPH	
Trichloroethylene	ND	0.025		ND	0.13	1	8/7/13 21:33	TPH	
Trichlorofluoromethane (Freon 11)	0.47	0.050		2.7	0.28	1	8/7/13 21:33	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.10	0.050		0.80	0.38	1	8/7/13 21:33	TPH	
1,2,4-Trimethylbenzene	0.52	0.050		2.5	0.25	1	8/7/13 21:33	TPH	
1,3,5-Trimethylbenzene	0.56	0.050		2.8	0.25	1	8/7/13 21:33	TPH	
Vinyl Acetate	ND	1.0		ND	3.5	1	8/7/13 21:33	TPH	
Vinyl Chloride	ND	0.025		ND	0.064	1	8/7/13 21:33	TPH	
m&p-Xylene	1.2	0.10		5.3	0.43	1	8/7/13 21:33	TPH	
o-Xylene	0.62	0.050		2.7	0.22	1	8/7/13 21:33	TPH	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	105	70-130	8/7/13 21:33

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-112D
Sample ID: 13H0164-12
 Sample Matrix: Soil Gas
 Sampled: 8/1/2013 11:41

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1382
 Canister Size: 3 liter
 Flow Controller ID: 4173
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -2
 Receipt Vacuum(in Hg): -3.3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		98.3			70-130		8/7/13 21:33	

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-206
Sample ID: 13H0164-13
 Sample Matrix: Soil Gas
 Sampled: 8/1/2013 14:33

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1370
 Canister Size: 3 liter
 Flow Controller ID: 4171
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -2.4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analyzed		
Helium	ND	0.40		1	8/7/13 15:24		TPH

EPA TO-15

Sample Flags: DL-03

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Acetone	ND	40		ND	95	20	8/8/13 0:57		TPH
Benzene	1.5	1.0		4.9	3.2	20	8/8/13 0:57		TPH
Benzyl chloride	ND	1.0		ND	5.2	20	8/8/13 0:57		TPH
Bromodichloromethane	ND	0.50		ND	3.4	20	8/8/13 0:57		TPH
Bromoform	ND	1.0		ND	10	20	8/8/13 0:57		TPH
Bromomethane	ND	1.0		ND	3.9	20	8/8/13 0:57		TPH
1,3-Butadiene	ND	1.0		ND	2.2	20	8/8/13 0:57		TPH
2-Butanone (MEK)	ND	40		ND	120	20	8/8/13 0:57		TPH
Carbon Disulfide	ND	10		ND	31	20	8/8/13 0:57		TPH
Carbon Tetrachloride	ND	0.50		ND	3.1	20	8/8/13 0:57		TPH
Chlorobenzene	ND	1.0		ND	4.6	20	8/8/13 0:57		TPH
Chloroethane	ND	0.50		ND	1.3	20	8/8/13 0:57		TPH
Chloroform	ND	0.50		ND	2.4	20	8/8/13 0:57		TPH
Chloromethane	ND	2.0		ND	4.1	20	8/8/13 0:57		TPH
Cyclohexane	100	1.0		360	3.4	20	8/8/13 0:57		TPH
Dibromochloromethane	ND	0.50		ND	4.3	20	8/8/13 0:57		TPH
1,2-Dibromoethane (EDB)	ND	0.50		ND	3.8	20	8/8/13 0:57		TPH
1,2-Dichlorobenzene	ND	1.0		ND	6.0	20	8/8/13 0:57		TPH
1,3-Dichlorobenzene	ND	1.0		ND	6.0	20	8/8/13 0:57		TPH
1,4-Dichlorobenzene	ND	1.0		ND	6.0	20	8/8/13 0:57		TPH
Dichlorodifluoromethane (Freon 12)	ND	1.0		ND	4.9	20	8/8/13 0:57		TPH
1,1-Dichloroethane	ND	0.50		ND	2.0	20	8/8/13 0:57		TPH
1,2-Dichloroethane	ND	0.50		ND	2.0	20	8/8/13 0:57		TPH
1,1-Dichloroethylene	ND	0.50		ND	2.0	20	8/8/13 0:57		TPH
cis-1,2-Dichloroethylene	ND	0.50		ND	2.0	20	8/8/13 0:57		TPH
trans-1,2-Dichloroethylene	ND	0.50		ND	2.0	20	8/8/13 0:57		TPH
1,2-Dichloropropane	ND	0.50		ND	2.3	20	8/8/13 0:57		TPH
cis-1,3-Dichloropropene	ND	0.50		ND	2.3	20	8/8/13 0:57		TPH
trans-1,3-Dichloropropene	ND	0.50		ND	2.3	20	8/8/13 0:57		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	1.0		ND	7.0	20	8/8/13 0:57		TPH
1,4-Dioxane	ND	10		ND	36	20	8/8/13 0:57		TPH

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-206
Sample ID: 13H0164-13
 Sample Matrix: Soil Gas
 Sampled: 8/1/2013 14:33

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1370
 Canister Size: 3 liter
 Flow Controller ID: 4171
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -2.4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Sample Flags: DL-03

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Ethanol	ND	40		ND	75	20	8/8/13	0:57	TPH
Ethyl Acetate	ND	1.0		ND	3.6	20	8/8/13	0:57	TPH
Ethylbenzene	5.6	1.0		24	4.3	20	8/8/13	0:57	TPH
4-Ethyltoluene	1.4	1.0		6.9	4.9	20	8/8/13	0:57	TPH
Heptane	87	1.0		360	4.1	20	8/8/13	0:57	TPH
Hexachlorobutadiene	ND	1.0		ND	11	20	8/8/13	0:57	TPH
Hexane	110	40		390	140	20	8/8/13	0:57	TPH
2-Hexanone (MBK)	ND	1.0		ND	4.1	20	8/8/13	0:57	TPH
Indane	ND	2.6		ND	12	20	8/8/13	0:57	TPH
Indene	ND	2.6	L-03	ND	13	20	8/8/13	0:57	TPH
Isopropanol	ND	40		ND	98	20	8/8/13	0:57	TPH
Isopropylbenzene (Cumene)	ND	2.5		ND	12	20	8/8/13	0:57	TPH
Methyl tert-Butyl Ether (MTBE)	ND	1.0		ND	3.6	20	8/8/13	0:57	TPH
Methylene Chloride	ND	10		ND	35	20	8/8/13	0:57	TPH
4-Methyl-2-pentanone (MIBK)	ND	1.0		ND	4.1	20	8/8/13	0:57	TPH
Naphthalene	1.6	1.0		8.5	5.2	20	8/8/13	0:57	TPH
Propene	ND	40		ND	69	20	8/8/13	0:57	TPH
Styrene	ND	1.0		ND	4.3	20	8/8/13	0:57	TPH
1,1,2,2-Tetrachloroethane	ND	0.50		ND	3.4	20	8/8/13	0:57	TPH
Tetrachloroethylene	1.9	0.50		13	3.4	20	8/8/13	0:57	TPH
Tetrahydrofuran	ND	1.0		ND	2.9	20	8/8/13	0:57	TPH
Toluene	3.4	1.0		13	3.8	20	8/8/13	0:57	TPH
1,2,4-Trichlorobenzene	ND	1.0		ND	7.4	20	8/8/13	0:57	TPH
1,1,1-Trichloroethane	ND	0.50		ND	2.7	20	8/8/13	0:57	TPH
1,1,2-Trichloroethane	ND	0.50		ND	2.7	20	8/8/13	0:57	TPH
Trichloroethylene	ND	0.50		ND	2.7	20	8/8/13	0:57	TPH
Trichlorofluoromethane (Freon 11)	ND	1.0		ND	5.6	20	8/8/13	0:57	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0		ND	7.7	20	8/8/13	0:57	TPH
1,2,4-Trimethylbenzene	1.3	1.0		6.3	4.9	20	8/8/13	0:57	TPH
1,3,5-Trimethylbenzene	1.1	1.0		5.5	4.9	20	8/8/13	0:57	TPH
Vinyl Acetate	ND	20		ND	70	20	8/8/13	0:57	TPH
Vinyl Chloride	ND	0.50		ND	1.3	20	8/8/13	0:57	TPH
m&p-Xylene	9.5	2.0		41	8.7	20	8/8/13	0:57	TPH
o-Xylene	5.0	1.0		22	4.3	20	8/8/13	0:57	TPH

Surrogates

% Recovery

% REC Limits

4-Bromofluorobenzene (1)

103

70-130

8/8/13 0:57

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-206
Sample ID: 13H0164-13
 Sample Matrix: Soil Gas
 Sampled: 8/1/2013 14:33

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1370
 Canister Size: 3 liter
 Flow Controller ID: 4171
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -2.4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Sample Flags: DL-03

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		110		70-130			8/8/13 0:57	

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-205
Sample ID: 13H0164-14
 Sample Matrix: Soil Gas
 Sampled: 8/1/2013 15:48

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1363
 Canister Size: 3 liter
 Flow Controller ID: 4170
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -2.5
 Receipt Vacuum(in Hg): -3.2
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analyzed		
Helium	ND	0.40		1	8/7/13 12:16		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Acetone	4.4	2.0	V-06	11	4.8	1	8/7/13 22:14		TPH
Benzene	ND	0.050		ND	0.16	1	8/7/13 22:14		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/7/13 22:14		TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/7/13 22:14		TPH
Bromoform	ND	0.050		ND	0.52	1	8/7/13 22:14		TPH
Bromomethane	ND	0.050		ND	0.19	1	8/7/13 22:14		TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/7/13 22:14		TPH
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/7/13 22:14		TPH
Carbon Disulfide	6.2	0.50		19	1.6	1	8/7/13 22:14		TPH
Carbon Tetrachloride	0.089	0.025		0.56	0.16	1	8/7/13 22:14		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/7/13 22:14		TPH
Chloroethane	ND	0.025		ND	0.066	1	8/7/13 22:14		TPH
Chloroform	0.14	0.025		0.66	0.12	1	8/7/13 22:14		TPH
Chloromethane	ND	0.10		ND	0.21	1	8/7/13 22:14		TPH
Cyclohexane	0.24	0.050		0.82	0.17	1	8/7/13 22:14		TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/7/13 22:14		TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/7/13 22:14		TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/7/13 22:14		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/7/13 22:14		TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/7/13 22:14		TPH
Dichlorodifluoromethane (Freon 12)	0.33	0.050		1.6	0.25	1	8/7/13 22:14		TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/7/13 22:14		TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/7/13 22:14		TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13 22:14		TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13 22:14		TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13 22:14		TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/7/13 22:14		TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/7/13 22:14		TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/7/13 22:14		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/7/13 22:14		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/7/13 22:14		TPH

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-205
Sample ID: 13H0164-14
 Sample Matrix: Soil Gas
 Sampled: 8/1/2013 15:48

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1363
 Canister Size: 3 liter
 Flow Controller ID: 4170
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -2.5
 Receipt Vacuum(in Hg): -3.2
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL		Results	RL			
Ethanol	ND	2.0		ND	3.8	1	8/7/13 22:14	TPH
Ethyl Acetate	0.23	0.050		0.83	0.18	1	8/7/13 22:14	TPH
Ethylbenzene	0.11	0.050		0.47	0.22	1	8/7/13 22:14	TPH
4-Ethyltoluene	0.97	0.050		4.8	0.25	1	8/7/13 22:14	TPH
Heptane	0.20	0.050		0.84	0.20	1	8/7/13 22:14	TPH
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/7/13 22:14	TPH
Hexane	ND	2.0		ND	7.0	1	8/7/13 22:14	TPH
2-Hexanone (MBK)	ND	0.050		ND	0.20	1	8/7/13 22:14	TPH
Indane	1.2	0.13		5.8	0.62	1	8/7/13 22:14	TPH
Indene	5.5	2.6	L-03	26	13	20	8/7/13 5:44	TPH
Isopropanol	ND	2.0		ND	4.9	1	8/7/13 22:14	TPH
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/7/13 22:14	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/7/13 22:14	TPH
Methylene Chloride	0.73	0.50		2.5	1.7	1	8/7/13 22:14	TPH
4-Methyl-2-pentanone (MIBK)	ND	0.050		ND	0.20	1	8/7/13 22:14	TPH
Naphthalene	100	1.0		530	5.2	20	8/7/13 5:44	TPH
Propene	ND	2.0		ND	3.4	1	8/7/13 22:14	TPH
Styrene	0.13	0.050		0.55	0.21	1	8/7/13 22:14	TPH
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/7/13 22:14	TPH
Tetrachloroethylene	1.4	0.025		9.2	0.17	1	8/7/13 22:14	TPH
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/7/13 22:14	TPH
Toluene	0.11	0.050		0.41	0.19	1	8/7/13 22:14	TPH
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/7/13 22:14	TPH
1,1,1-Trichloroethane	0.091	0.025		0.50	0.14	1	8/7/13 22:14	TPH
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/7/13 22:14	TPH
Trichloroethylene	ND	0.025		ND	0.13	1	8/7/13 22:14	TPH
Trichlorofluoromethane (Freon 11)	0.68	0.050		3.8	0.28	1	8/7/13 22:14	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.11	0.050		0.83	0.38	1	8/7/13 22:14	TPH
1,2,4-Trimethylbenzene	3.1	0.050		15	0.25	1	8/7/13 22:14	TPH
1,3,5-Trimethylbenzene	1.7	0.050		8.5	0.25	1	8/7/13 22:14	TPH
Vinyl Acetate	ND	1.0		ND	3.5	1	8/7/13 22:14	TPH
Vinyl Chloride	ND	0.025		ND	0.064	1	8/7/13 22:14	TPH
m&p-Xylene	0.34	0.10		1.5	0.43	1	8/7/13 22:14	TPH
o-Xylene	0.37	0.050		1.6	0.22	1	8/7/13 22:14	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	103	70-130	8/7/13 22:14

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-205
Sample ID: 13H0164-14
 Sample Matrix: Soil Gas
 Sampled: 8/1/2013 15:48

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1363
 Canister Size: 3 liter
 Flow Controller ID: 4170
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -2.5
 Receipt Vacuum(in Hg): -3.2
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (1)		98.7		70-130			8/7/13 5:44	
4-Bromofluorobenzene (2)		87.2		70-130			8/7/13 5:44	
4-Bromofluorobenzene (2)		96.8		70-130			8/7/13 22:14	

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-112S
Sample ID: 13H0164-15
 Sample Matrix: Soil Gas
 Sampled: 8/1/2013 10:35

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1377
 Canister Size: 3 liter
 Flow Controller ID: 4172
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -3.4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analized		
Helium	ND	0.40		1	8/7/13 12:49		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Acetone	11	2.0	V-06	26	4.8	1	8/7/13 22:56		TPH
Benzene	1.8	0.050		5.8	0.16	1	8/7/13 22:56		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/7/13 22:56		TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/7/13 22:56		TPH
Bromoform	ND	0.050		ND	0.52	1	8/7/13 22:56		TPH
Bromomethane	ND	0.050		ND	0.19	1	8/7/13 22:56		TPH
1,3-Butadiene	1.0	0.050		2.3	0.11	1	8/7/13 22:56		TPH
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/7/13 22:56		TPH
Carbon Disulfide	13	0.50		41	1.6	1	8/7/13 22:56		TPH
Carbon Tetrachloride	0.95	0.025		6.0	0.16	1	8/7/13 22:56		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/7/13 22:56		TPH
Chloroethane	0.071	0.025		0.19	0.066	1	8/7/13 22:56		TPH
Chloroform	0.21	0.025		1.0	0.12	1	8/7/13 22:56		TPH
Chloromethane	2.2	0.10		4.5	0.21	1	8/7/13 22:56		TPH
Cyclohexane	0.45	0.050		1.6	0.17	1	8/7/13 22:56		TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/7/13 22:56		TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/7/13 22:56		TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/7/13 22:56		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/7/13 22:56		TPH
1,4-Dichlorobenzene	0.41	0.050		2.4	0.30	1	8/7/13 22:56		TPH
Dichlorodifluoromethane (Freon 12)	0.31	0.050		1.5	0.25	1	8/7/13 22:56		TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/7/13 22:56		TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/7/13 22:56		TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13 22:56		TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13 22:56		TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13 22:56		TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/7/13 22:56		TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/7/13 22:56		TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/7/13 22:56		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/7/13 22:56		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/7/13 22:56		TPH

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-112S
Sample ID: 13H0164-15
 Sample Matrix: Soil Gas
 Sampled: 8/1/2013 10:35

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1377
 Canister Size: 3 liter
 Flow Controller ID: 4172
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -3.4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL		Results	RL			
Ethanol	ND	2.0		ND	3.8	1	8/7/13 22:56	TPH
Ethyl Acetate	0.60	0.050		2.2	0.18	1	8/7/13 22:56	TPH
Ethylbenzene	3.9	0.050		17	0.22	1	8/7/13 22:56	TPH
4-Ethyltoluene	0.50	0.050		2.4	0.25	1	8/7/13 22:56	TPH
Heptane	0.29	0.050		1.2	0.20	1	8/7/13 22:56	TPH
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/7/13 22:56	TPH
Hexane	ND	2.0		ND	7.0	1	8/7/13 22:56	TPH
2-Hexanone (MBK)	0.069	0.050		0.28	0.20	1	8/7/13 22:56	TPH
Indane	0.19	0.13		0.93	0.62	1	8/7/13 22:56	TPH
Indene	1.7	0.13	L-03	8.3	0.63	1	8/7/13 22:56	TPH
Isopropanol	ND	2.0		ND	4.9	1	8/7/13 22:56	TPH
Isopropylbenzene (Cumene)	0.16	0.13		0.81	0.62	1	8/7/13 22:56	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/7/13 22:56	TPH
Methylene Chloride	1.8	0.50		6.4	1.7	1	8/7/13 22:56	TPH
4-Methyl-2-pentanone (MIBK)	ND	0.050		ND	0.20	1	8/7/13 22:56	TPH
Naphthalene	2.6	0.050		14	0.26	1	8/7/13 22:56	TPH
Propene	16	2.0		27	3.4	1	8/7/13 22:56	TPH
Styrene	3.4	0.050		15	0.21	1	8/7/13 22:56	TPH
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/7/13 22:56	TPH
Tetrachloroethylene	0.44	0.025		3.0	0.17	1	8/7/13 22:56	TPH
Tetrahydrofuran	0.073	0.050		0.22	0.15	1	8/7/13 22:56	TPH
Toluene	2.9	0.050		11	0.19	1	8/7/13 22:56	TPH
1,2,4-Trichlorobenzene	0.094	0.050	L-05	0.70	0.37	1	8/7/13 22:56	TPH
1,1,1-Trichloroethane	0.12	0.025		0.63	0.14	1	8/7/13 22:56	TPH
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/7/13 22:56	TPH
Trichloroethylene	ND	0.025		ND	0.13	1	8/7/13 22:56	TPH
Trichlorofluoromethane (Freon 11)	0.35	0.050		1.9	0.28	1	8/7/13 22:56	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.11	0.050		0.84	0.38	1	8/7/13 22:56	TPH
1,2,4-Trimethylbenzene	0.21	0.050		1.0	0.25	1	8/7/13 22:56	TPH
1,3,5-Trimethylbenzene	1.2	0.050		6.0	0.25	1	8/7/13 22:56	TPH
Vinyl Acetate	ND	1.0		ND	3.5	1	8/7/13 22:56	TPH
Vinyl Chloride	ND	0.025		ND	0.064	1	8/7/13 22:56	TPH
m&p-Xylene	1.4	0.10		6.1	0.43	1	8/7/13 22:56	TPH
o-Xylene	2.0	0.050		8.6	0.22	1	8/7/13 22:56	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	104	70-130	8/7/13 22:56

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-112S
Sample ID: 13H0164-15
 Sample Matrix: Soil Gas
 Sampled: 8/1/2013 10:35

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1377
 Canister Size: 3 liter
 Flow Controller ID: 4172
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -3.4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		98.3			70-130		8/7/13 22:56	

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-113D
Sample ID: 13H0164-16
 Sample Matrix: Soil Gas
 Sampled: 8/1/2013 09:17

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1392
 Canister Size: 3 liter
 Flow Controller ID: 4174
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -31
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -2.9
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analized		
Helium	ND	0.40		1	8/7/13 13:19		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Acetone	5.5	2.0	V-06	13	4.8	1	8/7/13 23:37		TPH
Benzene	0.091	0.050		0.29	0.16	1	8/7/13 23:37		TPH
Benzyl chloride	ND	0.050		ND	0.26	1	8/7/13 23:37		TPH
Bromodichloromethane	ND	0.025		ND	0.17	1	8/7/13 23:37		TPH
Bromoform	ND	0.050		ND	0.52	1	8/7/13 23:37		TPH
Bromomethane	ND	0.050		ND	0.19	1	8/7/13 23:37		TPH
1,3-Butadiene	ND	0.050		ND	0.11	1	8/7/13 23:37		TPH
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/7/13 23:37		TPH
Carbon Disulfide	0.77	0.50		2.4	1.6	1	8/7/13 23:37		TPH
Carbon Tetrachloride	0.35	0.025		2.2	0.16	1	8/7/13 23:37		TPH
Chlorobenzene	ND	0.050		ND	0.23	1	8/7/13 23:37		TPH
Chloroethane	ND	0.025		ND	0.066	1	8/7/13 23:37		TPH
Chloroform	0.24	0.025		1.2	0.12	1	8/7/13 23:37		TPH
Chloromethane	0.25	0.10		0.52	0.21	1	8/7/13 23:37		TPH
Cyclohexane	0.10	0.050		0.34	0.17	1	8/7/13 23:37		TPH
Dibromochloromethane	ND	0.025		ND	0.21	1	8/7/13 23:37		TPH
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/7/13 23:37		TPH
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/7/13 23:37		TPH
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/7/13 23:37		TPH
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/7/13 23:37		TPH
Dichlorodifluoromethane (Freon 12)	0.28	0.050		1.4	0.25	1	8/7/13 23:37		TPH
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/7/13 23:37		TPH
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/7/13 23:37		TPH
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13 23:37		TPH
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13 23:37		TPH
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/7/13 23:37		TPH
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/7/13 23:37		TPH
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/7/13 23:37		TPH
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/7/13 23:37		TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/7/13 23:37		TPH
1,4-Dioxane	ND	0.50		ND	1.8	1	8/7/13 23:37		TPH

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-113D
Sample ID: 13H0164-16
 Sample Matrix: Soil Gas
 Sampled: 8/1/2013 09:17

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1392
 Canister Size: 3 liter
 Flow Controller ID: 4174
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -31
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -2.9
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL		Results	RL			
Ethanol	ND	2.0		ND	3.8	1	8/7/13 23:37	TPH
Ethyl Acetate	0.42	0.050		1.5	0.18	1	8/7/13 23:37	TPH
Ethylbenzene	0.12	0.050		0.50	0.22	1	8/7/13 23:37	TPH
4-Ethyltoluene	0.056	0.050		0.28	0.25	1	8/7/13 23:37	TPH
Heptane	ND	0.050		ND	0.20	1	8/7/13 23:37	TPH
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/7/13 23:37	TPH
Hexane	ND	2.0		ND	7.0	1	8/7/13 23:37	TPH
2-Hexanone (MBK)	0.11	0.050		0.46	0.20	1	8/7/13 23:37	TPH
Indane	ND	0.13		ND	0.62	1	8/7/13 23:37	TPH
Indene	ND	0.13	L-03	ND	0.63	1	8/7/13 23:37	TPH
Isopropanol	ND	2.0		ND	4.9	1	8/7/13 23:37	TPH
Isopropylbenzene (Cumene)	ND	0.13		ND	0.62	1	8/7/13 23:37	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/7/13 23:37	TPH
Methylene Chloride	0.63	0.50		2.2	1.7	1	8/7/13 23:37	TPH
4-Methyl-2-pentanone (MIBK)	0.066	0.050		0.27	0.20	1	8/7/13 23:37	TPH
Naphthalene	0.26	0.050		1.4	0.26	1	8/7/13 23:37	TPH
Propene	ND	2.0		ND	3.4	1	8/7/13 23:37	TPH
Styrene	0.32	0.050		1.4	0.21	1	8/7/13 23:37	TPH
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/7/13 23:37	TPH
Tetrachloroethylene	1.1	0.025		7.5	0.17	1	8/7/13 23:37	TPH
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/7/13 23:37	TPH
Toluene	0.28	0.050		1.0	0.19	1	8/7/13 23:37	TPH
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/7/13 23:37	TPH
1,1,1-Trichloroethane	0.18	0.025		1.0	0.14	1	8/7/13 23:37	TPH
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/7/13 23:37	TPH
Trichloroethylene	0.087	0.025		0.47	0.13	1	8/7/13 23:37	TPH
Trichlorofluoromethane (Freon 11)	0.27	0.050		1.5	0.28	1	8/7/13 23:37	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.12	0.050		0.92	0.38	1	8/7/13 23:37	TPH
1,2,4-Trimethylbenzene	0.18	0.050		0.87	0.25	1	8/7/13 23:37	TPH
1,3,5-Trimethylbenzene	0.056	0.050		0.28	0.25	1	8/7/13 23:37	TPH
Vinyl Acetate	ND	1.0		ND	3.5	1	8/7/13 23:37	TPH
Vinyl Chloride	ND	0.025		ND	0.064	1	8/7/13 23:37	TPH
m&p-Xylene	0.16	0.10		0.68	0.43	1	8/7/13 23:37	TPH
o-Xylene	0.081	0.050		0.35	0.22	1	8/7/13 23:37	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	104	70-130	8/7/13 23:37

ANALYTICAL RESULTS

Project Location: Tidewater, Pawtucket RI
 Date Received: 8/5/2013
Field Sample #: SG-113D
Sample ID: 13H0164-16
 Sample Matrix: Soil Gas
 Sampled: 8/1/2013 09:17

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1392
 Canister Size: 3 liter
 Flow Controller ID: 4174
 Sample Type: 15 min

Work Order: 13H0164
 Initial Vacuum(in Hg): -31
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -2.9
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		97.7			70-130		8/7/13 23:37	

Sample Extraction Data

Prep Method: TO-15 Prep-EPA 3C

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
13H0164-02 [SG-113S]	B078336	1.5	1	N/A	1000	0.5	0.75	08/07/13
13H0164-03 [Blind Duplicate #2]	B078336	1.5	1	N/A	1000	0.5	0.75	08/07/13
13H0164-05 [SG-202]	B078336	1.5	1	N/A	1000	0.5	0.75	08/07/13
13H0164-06 [SG-203S]	B078336	1.5	1	N/A	1000	0.5	0.75	08/07/13
13H0164-07 [SG-203M]	B078336	1.5	1	N/A	1000	0.5	0.75	08/07/13
13H0164-08 [SG-203D]	B078336	1.5	1	N/A	1000	0.5	0.75	08/07/13
13H0164-09 [SG-200]	B078336	1.5	1	N/A	1000	0.5	0.75	08/07/13
13H0164-10 [SG-204]	B078336	1.5	1	N/A	1000	0.5	0.75	08/07/13
13H0164-11 [SG-207]	B078336	1.5	1	N/A	1000	0.5	0.75	08/07/13
13H0164-12 [SG-112D]	B078336	1.5	1	N/A	1000	0.5	0.75	08/07/13
13H0164-13 [SG-206]	B078336	1.5	1	N/A	1000	0.5	0.75	08/07/13
13H0164-14 [SG-205]	B078336	1.5	1	N/A	1000	0.5	0.75	08/07/13
13H0164-15 [SG-112S]	B078336	1.5	1	N/A	1000	0.5	0.75	08/07/13
13H0164-16 [SG-113D]	B078336	1.5	1	N/A	1000	0.5	0.75	08/07/13

Prep Method: TO-15 Prep-EPA TO-15

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
13H0164-01 [Tidewater - 8113]	B078352	1.5	1	N/A	1000	400	600	08/06/13
13H0164-11RE1 [SG-207]	B078352	1.5	1	N/A	1000	400	30	08/06/13
13H0164-14RE1 [SG-205]	B078352	1.5	1	N/A	1000	400	30	08/06/13

Prep Method: TO-15 Prep-EPA TO-15

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
13H0164-02 [SG-113S]	B078353	1.5	1	N/A	1000	400	600	08/07/13
13H0164-03 [Blind Duplicate #2]	B078353	1.5	1	N/A	1000	400	600	08/07/13
13H0164-05 [SG-202]	B078353	1.5	1	N/A	1000	400	600	08/07/13
13H0164-06 [SG-203S]	B078353	1.5	1	N/A	1000	400	15	08/07/13
13H0164-07 [SG-203M]	B078353	1.5	1	N/A	1000	400	15	08/07/13
13H0164-08 [SG-203D]	B078353	1.5	1	N/A	1000	400	30	08/07/13
13H0164-09 [SG-200]	B078353	1.5	1	N/A	1000	400	600	08/07/13
13H0164-10 [SG-204]	B078353	1.5	1	N/A	1000	400	30	08/07/13
13H0164-11 [SG-207]	B078353	1.5	1	N/A	1000	400	600	08/07/13
13H0164-12 [SG-112D]	B078353	1.5	1	N/A	1000	400	600	08/07/13
13H0164-13 [SG-206]	B078353	1.5	1	N/A	1000	400	30	08/07/13
13H0164-14 [SG-205]	B078353	1.5	1	N/A	1000	400	600	08/07/13
13H0164-15 [SG-112S]	B078353	1.5	1	N/A	1000	400	600	08/07/13
13H0164-16 [SG-113D]	B078353	1.5	1	N/A	1000	400	600	08/07/13

Prep Method: TO-15 Prep-EPA TO-15

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
13H0164-06RE1 [SG-203S]	B078645	1.5	100	10	1000	400	100	08/11/13
13H0164-06RE2 [SG-203S]	B078645	1.5	100	10	1000	400	10	08/11/13
13H0164-07RE1 [SG-203M]	B078645	1.5	100	10	1000	400	100	08/11/13

Sample Extraction Data

Prep Method: TO-15 Prep-EPA TO-15

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
13H0164-07RE2 [SG-203M]	B078645	1.5	100	10	1000	400	20	08/11/13
13H0164-08RE1 [SG-203D]	B078645	1.5	100	10	1000	400	400	08/11/13
13H0164-08RE2 [SG-203D]	B078645	1.5	100	10	1000	400	100	08/11/13
13H0164-10RE1 [SG-204]	B078645	1.5	100	10	1000	400	400	08/11/13

QUALITY CONTROL

Miscellaneous Air Analyses - Quality Control

Analyte	%		ug/m3		Spike Level	Source	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	%	Result	%REC	Limits	RPD	

Batch B078336 - TO-15 Prep

Duplicate (B078336-DUP1)

Source: 13H0164-13

Prepared & Analyzed: 08/07/13

Helium	ND	0.40				0.0				200
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QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	RPD	RPD Limit	Flag
	Results	RL	Results	RL	ppbv	Result	%REC Limits	RPD		

Batch B078352 - TO-15 Prep

Blank (B078352-BLK1)

Prepared & Analyzed: 08/06/13

Acetone	ND	0.80
Benzene	ND	0.020
Benzyl chloride	ND	0.020
Bromodichloromethane	ND	0.010
Bromoform	ND	0.020
Bromomethane	ND	0.020
1,3-Butadiene	ND	0.020
2-Butanone (MEK)	ND	0.80
Carbon Disulfide	ND	0.20
Carbon Tetrachloride	ND	0.010
Chlorobenzene	ND	0.020
Chloroethane	ND	0.020
Chloroform	ND	0.010
Chloromethane	ND	0.040
Cyclohexane	ND	0.020
Dibromochloromethane	ND	0.010
1,2-Dibromoethane (EDB)	ND	0.010
1,2-Dichlorobenzene	ND	0.020
1,3-Dichlorobenzene	ND	0.020
1,4-Dichlorobenzene	ND	0.020
Dichlorodifluoromethane (Freon 12)	ND	0.020
1,1-Dichloroethane	ND	0.010
1,2-Dichloroethane	ND	0.010
1,1-Dichloroethylene	ND	0.010
cis-1,2-Dichloroethylene	ND	0.010
trans-1,2-Dichloroethylene	ND	0.010
1,2-Dichloropropane	ND	0.010
cis-1,3-Dichloropropene	ND	0.010
trans-1,3-Dichloropropene	ND	0.010
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.020
1,4-Dioxane	ND	0.20
Ethanol	ND	0.80
Ethyl Acetate	ND	0.020
Ethylbenzene	ND	0.020
4-Ethyltoluene	ND	0.020
Heptane	ND	0.020
Hexachlorobutadiene	ND	0.020
Hexane	ND	0.80
2-Hexanone (MBK)	ND	0.020
Indane	ND	0.052
Indene	ND	0.053
Isopropanol	ND	0.80
Isopropylbenzene (Cumene)	ND	0.051
Methyl tert-Butyl Ether (MTBE)	ND	0.020
Methylene Chloride	ND	0.20
4-Methyl-2-pentanone (MIBK)	ND	0.020

L-03

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		

Batch B078352 - TO-15 Prep

Blank (B078352-BLK1)

Prepared & Analyzed: 08/06/13

Naphthalene	ND	0.020
Propene	ND	0.80
Styrene	ND	0.020
1,1,2,2-Tetrachloroethane	ND	0.010
Tetrachloroethylene	ND	0.010
Tetrahydrofuran	ND	0.020
Toluene	ND	0.020
1,2,4-Trichlorobenzene	ND	0.020
1,1,1-Trichloroethane	ND	0.010
1,1,2-Trichloroethane	ND	0.010
Trichloroethylene	ND	0.010
Trichlorofluoromethane (Freon 11)	ND	0.020
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.020
1,2,4-Trimethylbenzene	ND	0.020
1,3,5-Trimethylbenzene	ND	0.020
Vinyl Acetate	ND	0.40
Vinyl Chloride	ND	0.010
m&p-Xylene	ND	0.040
o-Xylene	ND	0.020

<i>Surrogate: 4-Bromofluorobenzene (1)</i>	7.99		8.00		99.9	70-130
<i>Surrogate: 4-Bromofluorobenzene (2)</i>	7.16		8.00		89.4	70-130

LCS (B078352-BS1)

Prepared & Analyzed: 08/06/13

Acetone	5.98		5.00		120	70-130
Benzene	4.62		5.00		92.5	70-130
Benzyl chloride	5.68		5.00		114	70-130
Bromodichloromethane	5.43		5.00		109	70-130
Bromoform	5.51		5.00		110	70-130
Bromomethane	4.26		5.00		85.2	70-130
1,3-Butadiene	4.62		5.00		92.4	70-130
2-Butanone (MEK)	4.42		5.00		88.4	70-130
Carbon Disulfide	5.13		5.00		103	70-130
Carbon Tetrachloride	4.82		5.00		96.4	70-130
Chlorobenzene	5.13		5.00		103	70-130
Chloroethane	4.78		5.00		95.6	70-130
Chloroform	4.92		5.00		98.4	70-130
Chloromethane	4.33		5.00		86.6	70-130
Cyclohexane	4.99		5.00		99.8	70-130
Dibromochloromethane	5.00		5.00		100	70-130
1,2-Dibromoethane (EDB)	5.17		5.00		103	70-130
1,2-Dichlorobenzene	5.92		5.00		118	70-130
1,3-Dichlorobenzene	5.78		5.00		116	70-130
1,4-Dichlorobenzene	5.62		5.00		112	70-130
Dichlorodifluoromethane (Freon 12)	4.66		5.00		93.2	70-130
1,1-Dichloroethane	4.74		5.00		94.8	70-130
1,2-Dichloroethane	4.72		5.00		94.4	70-130

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		
Batch B078352 - TO-15 Prep											
LCS (B078352-BS1)					Prepared & Analyzed: 08/06/13						
1,1-Dichloroethylene	4.40				5.00		88.1	70-130			
cis-1,2-Dichloroethylene	4.98				5.00		99.6	70-130			
trans-1,2-Dichloroethylene	4.77				5.00		95.5	70-130			
1,2-Dichloropropane	5.07				5.00		101	70-130			
cis-1,3-Dichloropropene	5.29				5.00		106	70-130			
trans-1,3-Dichloropropene	5.57				5.00		111	70-130			
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	4.55				5.00		91.0	70-130			
1,4-Dioxane	5.04				5.00		101	70-130			
Ethanol	4.52				5.00		90.5	70-130			
Ethyl Acetate	5.84				5.00		117	70-130			
Ethylbenzene	5.31				5.00		106	70-130			
4-Ethyltoluene	5.10				5.00		102	70-130			
Heptane	4.80				5.00		95.9	70-130			
Hexachlorobutadiene	6.47				5.00		129	70-130			
Hexane	4.76				5.00		95.3	70-130			
2-Hexanone (MBK)	4.70				5.00		93.9	70-130			
Indane	1.25				1.29		96.7	70-130			
Indene	0.862				1.32		65.3 *	70-130			L-03
Isopropanol	6.73				5.00		135 *	70-130			L-01, V-06
Isopropylbenzene (Cumene)	1.19				1.27		93.9	70-130			
Methyl tert-Butyl Ether (MTBE)	4.74				5.00		94.8	70-130			
Methylene Chloride	4.35				5.00		87.0	70-130			
4-Methyl-2-pentanone (MIBK)	4.74				5.00		94.7	70-130			
Naphthalene	5.20				5.00		104	70-130			
Propene	5.30				5.00		106	70-130			
Styrene	5.56				5.00		111	70-130			
1,1,2,2-Tetrachloroethane	5.78				5.00		116	70-130			
Tetrachloroethylene	5.65				5.00		113	70-130			
Tetrahydrofuran	5.12				5.00		102	70-130			
Toluene	5.18				5.00		104	70-130			
1,2,4-Trichlorobenzene	6.65				5.00		133 *	70-130			L-01
1,1,1-Trichloroethane	4.92				5.00		98.3	70-130			
1,1,2-Trichloroethane	5.53				5.00		111	70-130			
Trichloroethylene	5.10				5.00		102	70-130			
Trichlorofluoromethane (Freon 11)	4.71				5.00		94.2	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	4.50				5.00		89.9	70-130			
1,2,4-Trimethylbenzene	5.63				5.00		113	70-130			
1,3,5-Trimethylbenzene	5.43				5.00		109	70-130			
Vinyl Acetate	3.74				5.00		74.8	70-130			
Vinyl Chloride	4.50				5.00		89.9	70-130			
m&p-Xylene	10.9				10.0		109	70-130			
o-Xylene	5.44				5.00		109	70-130			
Surrogate: 4-Bromofluorobenzene (1)	8.25				8.00		103	70-130			
Surrogate: 4-Bromofluorobenzene (2)	7.48				8.00		93.4	70-130			

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	RPD	RPD Limit	Flag
	Results	RL	Results	RL	ppbv	Result	%REC Limits	RPD		

Batch B078353 - TO-15 Prep

Blank (B078353-BLK1)

Prepared & Analyzed: 08/07/13

Acetone	ND	1.0
Benzene	ND	0.025
Benzyl chloride	ND	0.025
Bromodichloromethane	ND	0.012
Bromoform	ND	0.025
Bromomethane	ND	0.025
1,3-Butadiene	ND	0.025
2-Butanone (MEK)	ND	1.0
Carbon Disulfide	ND	0.25
Carbon Tetrachloride	ND	0.012
Chlorobenzene	ND	0.025
Chloroethane	ND	0.025
Chloroform	ND	0.012
Chloromethane	ND	0.050
Cyclohexane	ND	0.025
Dibromochloromethane	ND	0.012
1,2-Dibromoethane (EDB)	ND	0.012
1,2-Dichlorobenzene	ND	0.025
1,3-Dichlorobenzene	ND	0.025
1,4-Dichlorobenzene	ND	0.025
Dichlorodifluoromethane (Freon 12)	ND	0.025
1,1-Dichloroethane	ND	0.012
1,2-Dichloroethane	ND	0.012
1,1-Dichloroethylene	ND	0.012
cis-1,2-Dichloroethylene	ND	0.012
trans-1,2-Dichloroethylene	ND	0.012
1,2-Dichloropropane	ND	0.012
cis-1,3-Dichloropropene	ND	0.012
trans-1,3-Dichloropropene	ND	0.012
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.025
1,4-Dioxane	ND	0.25
Ethanol	ND	1.0
Ethyl Acetate	ND	0.025
Ethylbenzene	ND	0.025
4-Ethyltoluene	ND	0.025
Heptane	ND	0.025
Hexachlorobutadiene	ND	0.025
Hexane	ND	1.0
2-Hexanone (MBK)	ND	0.025
Indane	ND	0.064
Indene	ND	0.066
Isopropanol	ND	1.0
Isopropylbenzene (Cumene)	ND	0.064
Methyl tert-Butyl Ether (MTBE)	ND	0.025
Methylene Chloride	ND	0.25
4-Methyl-2-pentanone (MIBK)	ND	0.025

L-03

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	%REC	Limits	RPD	Limit	

Batch B078353 - TO-15 Prep

Blank (B078353-BLK1)

Prepared & Analyzed: 08/07/13

Naphthalene	ND	0.025									
Propene	ND	1.0									
Styrene	ND	0.025									
1,1,2,2-Tetrachloroethane	ND	0.012									
Tetrachloroethylene	ND	0.012									
Tetrahydrofuran	ND	0.025									
Toluene	ND	0.025									
1,2,4-Trichlorobenzene	ND	0.025									
1,1,1-Trichloroethane	ND	0.012									
1,1,2-Trichloroethane	ND	0.012									
Trichloroethylene	ND	0.012									
Trichlorofluoromethane (Freon 11)	ND	0.025									
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.025									
1,2,4-Trimethylbenzene	ND	0.025									
1,3,5-Trimethylbenzene	ND	0.025									
Vinyl Acetate	ND	0.50									
Vinyl Chloride	ND	0.012									
m&p-Xylene	ND	0.050									
o-Xylene	ND	0.025									
<hr/>											
Surrogate: 4-Bromofluorobenzene (1)	8.11				8.00		101	70-130			
Surrogate: 4-Bromofluorobenzene (2)	6.84				8.00		85.5	70-130			

LCS (B078353-BS1)

Prepared & Analyzed: 08/07/13

Acetone	6.24				5.00		125	70-130			V-06
Benzene	4.81				5.00		96.2	70-130			
Benzyl chloride	5.98				5.00		120	70-130			
Bromodichloromethane	5.82				5.00		116	70-130			
Bromoform	5.76				5.00		115	70-130			
Bromomethane	4.41				5.00		88.3	70-130			
1,3-Butadiene	5.14				5.00		103	70-130			
2-Butanone (MEK)	4.51				5.00		90.1	70-130			
Carbon Disulfide	5.04				5.00		101	70-130			
Carbon Tetrachloride	5.30				5.00		106	70-130			
Chlorobenzene	5.28				5.00		106	70-130			
Chloroethane	5.36				5.00		107	70-130			
Chloroform	5.02				5.00		100	70-130			
Chloromethane	4.99				5.00		99.9	70-130			
Cyclohexane	5.10				5.00		102	70-130			
Dibromochloromethane	5.31				5.00		106	70-130			
1,2-Dibromoethane (EDB)	5.34				5.00		107	70-130			
1,2-Dichlorobenzene	6.15				5.00		123	70-130			
1,3-Dichlorobenzene	5.81				5.00		116	70-130			
1,4-Dichlorobenzene	5.88				5.00		118	70-130			
Dichlorodifluoromethane (Freon 12)	4.82				5.00		96.4	70-130			
1,1-Dichloroethane	4.77				5.00		95.3	70-130			
1,2-Dichloroethane	5.02				5.00		100	70-130			

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		
Batch B078353 - TO-15 Prep											
LCS (B078353-BS1)					Prepared & Analyzed: 08/07/13						
1,1-Dichloroethylene	4.52				5.00		90.4	70-130			
cis-1,2-Dichloroethylene	5.09				5.00		102	70-130			
trans-1,2-Dichloroethylene	4.83				5.00		96.6	70-130			
1,2-Dichloropropane	5.42				5.00		108	70-130			
cis-1,3-Dichloropropene	5.51				5.00		110	70-130			
trans-1,3-Dichloropropene	5.98				5.00		120	70-130			
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	4.71				5.00		94.3	70-130			
1,4-Dioxane	5.24				5.00		105	70-130			
Ethanol	4.60				5.00		92.0	70-130			
Ethyl Acetate	5.79				5.00		116	70-130			
Ethylbenzene	5.49				5.00		110	70-130			
4-Ethyltoluene	5.39				5.00		108	70-130			
Heptane	5.21				5.00		104	70-130			
Hexachlorobutadiene	6.74				5.00		135 *	70-130			L-01
Hexane	4.96				5.00		99.2	70-130			
2-Hexanone (MBK)	5.23				5.00		105	70-130			
Indane	1.15				1.29		89.5	70-130			
Indene	0.765				1.32		58.0 *	70-130			L-03
Isopropanol	6.82				5.00		136 *	70-130			L-01, V-06
Isopropylbenzene (Cumene)	1.09				1.27		85.5	70-130			
Methyl tert-Butyl Ether (MTBE)	4.73				5.00		94.6	70-130			
Methylene Chloride	4.50				5.00		90.0	70-130			
4-Methyl-2-pentanone (MIBK)	5.20				5.00		104	70-130			
Naphthalene	5.35				5.00		107	70-130			
Propene	5.52				5.00		110	70-130			
Styrene	5.67				5.00		113	70-130			
1,1,2,2-Tetrachloroethane	6.18				5.00		124	70-130			
Tetrachloroethylene	5.75				5.00		115	70-130			
Tetrahydrofuran	5.08				5.00		102	70-130			
Toluene	5.33				5.00		107	70-130			
1,2,4-Trichlorobenzene	6.73				5.00		135 *	70-130			L-05
1,1,1-Trichloroethane	5.32				5.00		106	70-130			
1,1,2-Trichloroethane	5.75				5.00		115	70-130			
Trichloroethylene	5.36				5.00		107	70-130			
Trichlorofluoromethane (Freon 11)	4.76				5.00		95.2	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	4.43				5.00		88.7	70-130			
1,2,4-Trimethylbenzene	5.89				5.00		118	70-130			
1,3,5-Trimethylbenzene	5.63				5.00		113	70-130			
Vinyl Acetate	3.80				5.00		75.9	70-130			
Vinyl Chloride	4.97				5.00		99.3	70-130			
m&p-Xylene	11.4				10.0		114	70-130			
o-Xylene	5.71				5.00		114	70-130			
Surrogate: 4-Bromofluorobenzene (1)	8.30				8.00		104	70-130			
Surrogate: 4-Bromofluorobenzene (2)	7.12				8.00		89.0	70-130			

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	%REC	Limits	RPD	Limit	

Batch B078645 - TO-15 Prep

Blank (B078645-BLK1)

Prepared & Analyzed: 08/11/13

Ethylbenzene	ND	0.025									
Indane	ND	0.064									
Indene	ND	0.066									L-03
Naphthalene	ND	0.025									
Styrene	ND	0.025									
Toluene	ND	0.025									
1,2,4-Trimethylbenzene	ND	0.025									
1,3,5-Trimethylbenzene	ND	0.025									
m&p-Xylene	ND	0.050									
o-Xylene	ND	0.025									
<i>Surrogate: 4-Bromofluorobenzene (1)</i>	8.12				8.00		102	70-130			
<i>Surrogate: 4-Bromofluorobenzene (2)</i>	7.41				8.00		92.6	70-130			

LCS (B078645-BS1)

Prepared & Analyzed: 08/11/13

Ethylbenzene	5.58				5.00		112	70-130			
Indane	1.21				1.29		93.7	70-130			
Indene	0.682				1.32		51.7 *	70-130			L-03, V-06
Naphthalene	5.53				5.00		111	70-130			
Styrene	5.85				5.00		117	70-130			
Toluene	5.53				5.00		111	70-130			
1,2,4-Trimethylbenzene	5.88				5.00		118	70-130			
1,3,5-Trimethylbenzene	5.74				5.00		115	70-130			
m&p-Xylene	11.3				10.0		113	70-130			
o-Xylene	5.72				5.00		114	70-130			
<i>Surrogate: 4-Bromofluorobenzene (1)</i>	8.23				8.00		103	70-130			
<i>Surrogate: 4-Bromofluorobenzene (2)</i>	7.64				8.00		95.5	70-130			

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
DL-03	Elevated reporting limit due to matrix.
L-01	Laboratory fortified blank /laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.
L-03	Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.
L-05	Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the high side.
V-06	Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA TO-15 in Air</i>	
Acetone	AIHA
Benzene	AIHA,FL,NJ,NY,VA
Benzyl chloride	AIHA,FL,NJ,NY,VA
Bromodichloromethane	AIHA,NJ,VA
Bromoform	AIHA,NJ,VA
Bromomethane	AIHA,FL,NJ,NY
1,3-Butadiene	AIHA,NJ,VA
2-Butanone (MEK)	AIHA,FL,NJ,NY,VA
Carbon Disulfide	AIHA,NJ,VA
Carbon Tetrachloride	AIHA,FL,NJ,NY,VA
Chlorobenzene	AIHA,FL,NJ,NY,VA
Chloroethane	AIHA,FL,NJ,NY,VA
Chloroform	AIHA,FL,NJ,NY,VA
Chloromethane	AIHA,FL,NJ,NY,VA
Cyclohexane	AIHA,NJ,VA
Dibromochloromethane	AIHA,NY
1,2-Dibromoethane (EDB)	AIHA,NJ,NY
1,2-Dichlorobenzene	AIHA,FL,NJ,NY,VA
1,3-Dichlorobenzene	AIHA,NJ,NY
1,4-Dichlorobenzene	AIHA,FL,NJ,NY,VA
Dichlorodifluoromethane (Freon 12)	AIHA,NY
1,1-Dichloroethane	AIHA,FL,NJ,NY,VA
1,2-Dichloroethane	AIHA,FL,NJ,NY,VA
1,1-Dichloroethylene	AIHA,FL,NJ,NY,VA
cis-1,2-Dichloroethylene	AIHA,FL,NY,VA
trans-1,2-Dichloroethylene	AIHA,NJ,NY,VA
1,2-Dichloropropane	AIHA,FL,NJ,NY,VA
cis-1,3-Dichloropropene	AIHA,FL,NJ,NY,VA
trans-1,3-Dichloropropene	AIHA,NY
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	AIHA,NJ,VA
1,4-Dioxane	AIHA,NJ,VA
Ethanol	AIHA
Ethyl Acetate	AIHA
Ethylbenzene	AIHA,FL,NJ,NY,VA
4-Ethyltoluene	AIHA,NJ
Heptane	AIHA,NJ,NY,VA
Hexachlorobutadiene	AIHA,NJ,NY,VA
Hexane	AIHA,FL,NJ,NY,VA
2-Hexanone (MBK)	AIHA
Isopropanol	AIHA,NY
Isopropylbenzene (Cumene)	AIHA,NJ,NY
Methyl tert-Butyl Ether (MTBE)	AIHA,FL,NJ,NY,VA
Methylene Chloride	AIHA,FL,NJ,NY,VA
4-Methyl-2-pentanone (MIBK)	AIHA,FL,NJ,NY
Naphthalene	NY
Propene	AIHA
Styrene	AIHA,FL,NJ,NY,VA

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA TO-15 in Air</i>	
1,1,2,2-Tetrachloroethane	AIHA,FL,NJ,NY,VA
Tetrachloroethylene	AIHA,FL,NJ,NY,VA
Tetrahydrofuran	AIHA
Toluene	AIHA,FL,NJ,NY,VA
1,2,4-Trichlorobenzene	AIHA,NJ,NY,VA
1,1,1-Trichloroethane	AIHA,FL,NJ,NY,VA
1,1,2-Trichloroethane	AIHA,FL,NJ,NY,VA
Trichloroethylene	AIHA,FL,NJ,NY,VA
Trichlorofluoromethane (Freon 11)	AIHA,NY
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	AIHA,NJ,NY,VA
1,2,4-Trimethylbenzene	AIHA,NJ,NY
1,3,5-Trimethylbenzene	AIHA,NJ,NY
Vinyl Acetate	AIHA,FL,NJ,NY,VA
Vinyl Chloride	AIHA,FL,NJ,NY,VA
m&p-Xylene	AIHA,FL,NJ,NY,VA
o-Xylene	AIHA,FL,NJ,NY,VA

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2014
MA	Massachusetts DEP	M-MA100	06/30/2014
CT	Connecticut Department of Public Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2014
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2014
RI	Rhode Island Department of Health	LAO00112	12/30/2013
NC	North Carolina Div. of Water Quality	652	12/31/2013
NJ	New Jersey DEP	MA007 NELAP	06/30/2014
FL	Florida Department of Health	E871027 NELAP	06/30/2014
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2014
WA	State of Washington Department of Ecology	C2065	02/23/2014
ME	State of Maine	2011028	06/9/2015
VA	Commonwealth of Virginia	460217	12/14/2013
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2012



Phone: 413-525-2332
 Fax: 413-525-6405
 Email: info@contestlabs.com

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AIR SAMPLE CHAIN OF CUSTODY RECORD

39 SPRUCE ST
 EAST LONGMEADOW, MA 01028

Company Name: G2A

Address: 530 Brockway Providence, Rhode Island

Attention: SOPHIA NIEKIEWICZ

Project Location: TIMWATER, PONTIAC, MI

Sampled By: SOPHIA NIEKIEWICZ

Proposal Provided? (For Billing purposes) yes no

Telephone: (401) 447-8161

Project # 43654

Client PO #

DATA DELIVERY (check one):
 FAX EMAIL WEBSITE CLIENT

Fax #:

Email: Sophia.niekiewicz@g2a.com

Format: EXCEL PDF GIS KEY OTHER

ONLY USE WHEN USING PUMPS

Field ID	Sample Description	Media	Lab #	Date	Stop Date	Total Minutes Sampled	Flow Rate M ³ /Min. or L/Min.	Volume Liters or M ³	Matrix Code*	ANALYSIS REQUESTED		Summa Canister ID	Flow Controller ID
										Hg	Pb		
1	TIMWATER-0113	S	01	8-1-13	8-1-13	648	6653	AMB	X	X	2048	3015	
2	SG-1135	S	02	8-1-13	8-1-13	758	015	SG	X	X	1350	4074	
3	BIND OVERLICKER #2	S	03	8-1-13	8-1-13	900	917	SG	X	X	1352	4075	
4	WHELEVA - 0113#	S	04	8-1-13	8-1-13	N/A	N/A	AMB		X	2045	3007	
5	SG-202	S	05	8-2-13	8-2-13	154	1218	SG	X	X	1354	4077	
6	SG-2035	S	06	8-2-13	8-2-13	1302	136	SG	X	X	1353	4076	
7	SG-203M	S	07	8-2-13	8-2-13	1410	1425	SG	X	X	2087	4197	
8	SG-703D	S	08	8-2-13	8-2-13	1503	1519	SG	X	X	2086	4198	

Laboratory Comments:

CLIENT COMMENTS:
 - Email Margaret.kipatricik@g2a.com
 - SWMA WHELEVA-0113 W/S STORED + FC# 3007. - #6-PID=290PPM, - #7-PID=110PPM - #8-PID=107PPM

Special Requirements

Regulations: MS/CT

Turnaround **
 7-Day
 10-15 Day
 Other

Regulations: MS/CT

Required Detection Limits: MS/CT

Matrix Code: SG=SOIL GAS, IA=INDOOR AIR, AMB=AMBIENT, SS=SUB SLAB, D=DUP, BL=BLANK, O=Other

Media Codes: S=Summa can, TB=teclab bag, P=PUF, T=tube, F=filter, C=cassette, O=Other

Approval Required: *72-Hr *4-Day

Turnaround Time Starts at 9:00 AM. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

AIHA, NELAP & WBE/DBE Certified



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 Fax: 413-525-6405
 Email: info@contestlabs.com

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AIR SAMPLE CHAIN OF CUSTODY RECORD

39 SPRUCE ST
 EAST LONGMEADOW, MA 01028

Company Name: 624

Address: 538 Brookway

Providence, RI

Sophia Markiewicz

Attention: Sophia Markiewicz

Project Location: TOWNVILLE, PROVIDENCE, RI

Sampled By: Sophia Markiewicz

Proposal Provided? (For Billing purposes)

yes no proposal date

Field ID	Sample Description	Media	Lab #
9	SG-200	S	09
10	SG-204	S	10
11	SG-207	S	11
12	SG-112D	S	12
13	SG-206	S	13
14	SG-205	S	14
15	SG-112S	S	15
16	SG-113D	S	16

Telephone: (401) 447 0161
 Project # 43654
 Client PO # _____

DATA DELIVERY (check one):
 FAX EMAIL WEBSITE CLIENT
 Fax #: _____
 Email: Sophia.Markiewicz@qsta.com
 Format: EXCEL PDF GIS KEY OTHER _____

Date Sampled ONLY USE WHEN USING PUMPS

Start Date	Stop Date	Total Minutes Sampled	Flow Rate M ³ /Min. or L/Min.	Volume Liters or M ³	Matrix Code*
01/13 10:45	01/13 11:04				SG
01/13 09:22	01/13 09:46				SG
01/13 12:52	01/13 13:03				SG
01/13 11:20	01/13 11:41				SG
01/13 14:10	01/13 14:33				SG
01/13 15:32	01/13 15:48				SG
01/13 10:10	01/13 10:35				SG
01/13 09:00	01/13 09:17				SG

CLIENT COMMENTS:

- EMAIL Mark Ditt, kipa@rick@qsta.com as well
 - #13 = 710 = 15 ppm
 - #16 = 710 = 30 ppm

Special Requirements

Regulations: NA/CT

Data Enhancement/RCP? Y N
 Enhanced Data Package Y N
 (Surcharge Applies)

Required Detection Limits: NA/CT

ANALYSIS REQUESTED	"Hg	Please fill out completely, sign, date and retain the yellow copy for your record.
TO-15 FULLLIST		
HELIUM		
NONE		

Summa canisters will be retained for a minimum of 14 days after sampling date prior to cleaning.
 Summa canisters and flow controllers must be returned within 14 days of receipt or rental fees will apply.
 Summa canisters will be retained for a minimum of 14 days after sampling date prior to cleaning.

Summa Canister ID	Flow Controller ID
1358	4106
1352	4105
1402	4135
1302	4173
1370	4171
1363	4170
1377	4172
1392	4174

Relinquished by: (signature) [Signature] Date/Time: 01/13 12:45

Required by: (signature) [Signature] Date/Time: 01/13 12:45

Relinquished by: (signature) [Signature] Date/Time: 01/13 15:55

Received by: (signature) [Signature] Date/Time: 01/13 19:55

Turnaround **
 7-Day
 10-Day
 Other _____
 RUSH *
 *24-Hr *48-Hr
 *72-Hr *4-Day
 *Approval Required

Regulations: NA/CT

Data Enhancement/RCP? Y N
 Enhanced Data Package Y N
 (Surcharge Applies)

Required Detection Limits: NA/CT

*Matrix Codes:
 SG=SOIL GAS
 IA=INDOOR AIR
 AMB=AMBIENT
 SS=SUB SLAB
 D=DUP
 BL=BLANK
 O=other

**Media Codes:
 S=summa can
 TB=tecliar bag
 P=PUF
 T=tube
 F=filter
 C=cassette
 O=Other

** TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

AHIA, NELAC & WBE/DBE Certified



Phone: 413-525-2332
 Fax: 413-525-6405
 Email: info@contestlabs.com

www.contestlabs.com

**13HOLEY
 AIR SAMPLE CHAIN OF CUSTODY
 RECORD**

39 SPRUCE ST
 EAST LONGMEADOW, MA 01028

Company Name: GA

Address: 530 Pleasant St

Providence, RI

Attention: SOPIA ANKIEWICZ

Project Location: TIOBATEA, PAVTUCKET, RI

Sampled By: SOPIA ANKIEWICZ

Proposal Provided? (For Billing purposes)

yes proposal date

Telephone: (401) 442-8161
 Project # 43654
 Client PO # _____

DATA DELIVERY (check one):
 FAX EMAIL WEBSITE CLIENT

Fax #: _____
 Email: Sophia.ankiewicz@contest.com
 Format: EXCEL PDF GIS KEY OTHER _____

ONLY USE WHEN USING PUMPS

Field ID	Sample Description	Media	Lab #	Date		Total	Flow Rate	Volume	Matrix	Code*
				Start	Stop					
17	TIOBATEA-0213	S	17	01/13	01/13				AMB	X
18	WATER-0213	S	18	01/13	01/13				AMB	X

ANALYSIS REQUESTED	"Hg		Please fill out and retain the yellow copy for your record.
	I	L	
			Summa canisters and flow controllers must be returned within 14 days of receipt or rental fees will apply.
			Summa canisters will be retained for a minimum of 14 days after sampling date prior to cleaning.
			Summa Canister ID
			Flow Controller ID

Field ID	Sample Description	Media	Lab #	Date	Date	Minutes Sampled	M ³ /Min. or L/Min.	Liters or M ³	Matrix Code*
17	TIOBATEA-0213	S	17	01/13	01/13				AMB
18	WATER-0213	S	18	01/13	01/13				AMB

CLIENT COMMENTS:

- EMAIL MARGARET.KIPATRICK@ga.com Also sending
 - ICS #02117 + #118 WHEEL 6-1 B-HR - T00S HOLT WMSO.
 - SENDING BACK ICS # 4207, 4208, 3357, 13350, 4179, 4200 WMSO.

SPECIAL REQUIREMENTS

Regulations: _____
 Data Enhancement/RCP? Y N
 Enhanced Data Package Y N
 (Surcharge Applies)
 Required Detection Limits: NO/CT

*Matrix Code:
 SG = SOIL GAS
 IA = INDOOR AIR
 AMB = AMBIENT
 SS = SUB SLAB
 D = DUP
 BL = BLANK
 O = other

**Media Codes:
 S = Summa can
 TB = Tedlar bag
 P = PUF
 T = tube
 F = filter
 C = cassette
 O = Other

Turnaround **

7-Day
 STD-Day
 Other _____
 RUSH *
 *24-Hr *48-Hr
 *72-Hr *4-Day
 *Approval Required

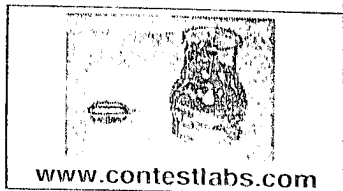
Requisitioned by: (signature) [Signature] Date/Time: 01/13 1245

Received by: (signature) [Signature] Date/Time: 01/13/2015

Relinquished by: (signature) [Signature] Date/Time: 01/13/2015

Received by: (signature) [Signature] Date/Time: 01/13/2015

** TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT. AIHA, NELAP & WBE/DBE Certified



39 Spruce St.
 East Longmeadow, MA.
 01028
 P: 413-525-2332
 F: 413-525-6405

AIR Only Receipt Checklist

CLIENT NAME: GZA

RECEIVED BY: RLF

DATE: 8/5/13

1) Was the chain(s) of custody relinquished and signed?

Yes No
 RLF Yes No

2) Does the chain agree with the samples?

If not, explain:

3) Are all the samples in good condition?

If not, explain:

Yes No

4) Are there any samples "On Hold"?

Yes No Stored where:

5) Are there any RUSH or SHORT HOLDING TIME samples?

Yes No

Who was notified _____ Date _____ Time _____

6) Location where samples are stored:

air lab

Permission to subcontract samples? Yes No
 (Walk-in clients only) if not already approved
 Client Signature: _____

Containers received at Con-Test

	# of Containers	Types (Size, Duration)
Summa Cans	19	3L
Tedlar Bags		
Tubes		
Regulators	23	15min / 8hr
Restrictors		
Tubing		
Other		

Unused Summas:

1682
1684

Unused Regulators:

4207 3358
4208 4199
3357 4200

1) Was all media (used & unused checked into the WASP?

2) Were all returned summa cans, Restrictors, & Regulators documented as returned in the Air Lab Inbound/Outbound Excel Spreadsheet?

Laboratory Comments: * Summa 2045 & Flow Controller 3007 were stolen.

<u>2048</u>	<u>1354</u>	<u>2086</u>	<u>1402</u>	<u>1363</u>	<u>3015</u>	<u>4077</u>	<u>4198</u>	<u>4175</u>	<u>4170</u>	<u>3206</u>
<u>1350</u>	<u>1353</u>	<u>1358</u>	<u>1382</u>	<u>1377</u>	<u>4074</u>	<u>4076</u>	<u>4106</u>	<u>4173</u>	<u>4172</u>	<u>3207</u>
<u>1352</u>	<u>2087</u>	<u>1357</u>	<u>1370</u>	<u>1392</u>	<u>4075</u>	<u>4197</u>	<u>4105</u>	<u>4171</u>	<u>4174</u>	

1905 1683

Doc # 278

August 28, 2013

Sophia Narkiewicz
GZA GeoEnvironmental-RI
530 Broadway Street
Providence, RI 02909

Project Location: Tidewater
Client Job Number:
Project Number: 2013074_Pawtucket
Laboratory Work Order Number: 13H0917

Enclosed are results of analyses for samples received by the laboratory on August 23, 2013. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Lisa A. Worthington
Project Manager



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

GZA GeoEnvironmental-RI
530 Broadway Street
Providence, RI 02909
ATTN: Sophia Narkiewicz

REPORT DATE: 8/28/2013

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 2013074_Pawtucket

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 13H0917

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Tidewater

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
SG-120S	13H0917-01	Soil Gas		EPA 3C EPA TO-15	
SG-119S	13H0917-02	Soil Gas		EPA 3C EPA TO-15	
SG-117S	13H0917-03	Soil Gas		EPA 3C EPA TO-15	
SG-115S	13H0917-04	Soil Gas		EPA 3C EPA TO-15	
SG-116S	13H0917-05	Soil Gas		EPA 3C EPA TO-15	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

REVISED REPORT 08/28/13: Per client request the TO-15 analyte list was revised in accordance with the project specific requirements.

EPA TO-15

Qualifications:

Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

Indane, Indene, Isopropylbenzene (Cumene)

13H0917-01[SG-120S], 13H0917-02[SG-119S], 13H0917-03[SG-117S], 13H0917-04[SG-115S], 13H0917-05[SG-116S], B079724-BLK1, B079724-BS1

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

Ethanol, Indane, Isopropylbenzene (Cumene)

13H0917-01[SG-120S], 13H0917-02[SG-119S], 13H0917-03[SG-117S], 13H0917-04[SG-115S], 13H0917-05[SG-116S], B079724-BLK1, B079724-BS1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Michael A. Erickson
Laboratory Director

ANALYTICAL RESULTS

Project Location: Tidewater
 Date Received: 8/23/2013
Field Sample #: SG-120S
Sample ID: 13H0917-01
 Sample Matrix: Soil Gas
 Sampled: 8/22/2013 15:05

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1517
 Canister Size: 3 liter
 Flow Controller ID: 4077
 Sample Type: 15 min

Work Order: 13H0917
 Initial Vacuum(in Hg): -28
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -5.5
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time Analyzed	Analyst
	Results	RL				
Helium	ND	0.40		1	8/26/13 11:54	TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL		Results	RL			
Acetone	22	2.0		52	4.8	1	8/27/13 16:06	WSD
Benzene	1.9	0.050		6.2	0.16	1	8/27/13 16:06	WSD
Benzyl chloride	ND	0.050		ND	0.26	1	8/27/13 16:06	WSD
Bromodichloromethane	ND	0.025		ND	0.17	1	8/27/13 16:06	WSD
Bromoform	ND	0.050		ND	0.52	1	8/27/13 16:06	WSD
Bromomethane	ND	0.050		ND	0.19	1	8/27/13 16:06	WSD
1,3-Butadiene	ND	0.050		ND	0.11	1	8/27/13 16:06	WSD
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/27/13 16:06	WSD
Carbon Disulfide	2.4	0.50		7.4	1.6	1	8/27/13 16:06	WSD
Carbon Tetrachloride	0.16	0.025		1.0	0.16	1	8/27/13 16:06	WSD
Chlorobenzene	ND	0.050		ND	0.23	1	8/27/13 16:06	WSD
Chloroethane	ND	0.050		ND	0.13	1	8/27/13 16:06	WSD
Chloroform	7.1	0.025		35	0.12	1	8/27/13 16:06	WSD
Chloromethane	ND	0.10		ND	0.21	1	8/27/13 16:06	WSD
Cyclohexane	ND	0.050		ND	0.17	1	8/27/13 16:06	WSD
Dibromochloromethane	ND	0.025		ND	0.21	1	8/27/13 16:06	WSD
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/27/13 16:06	WSD
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/27/13 16:06	WSD
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/27/13 16:06	WSD
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/27/13 16:06	WSD
Dichlorodifluoromethane (Freon 12)	0.39	0.050		1.9	0.25	1	8/27/13 16:06	WSD
1,1-Dichloroethane	0.060	0.025		0.24	0.10	1	8/27/13 16:06	WSD
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/27/13 16:06	WSD
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/27/13 16:06	WSD
cis-1,2-Dichloroethylene	0.084	0.025		0.33	0.099	1	8/27/13 16:06	WSD
trans-1,2-Dichloroethylene	0.18	0.025		0.71	0.099	1	8/27/13 16:06	WSD
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/27/13 16:06	WSD
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/27/13 16:06	WSD
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/27/13 16:06	WSD
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/27/13 16:06	WSD
1,4-Dioxane	ND	0.50		ND	1.8	1	8/27/13 16:06	WSD

ANALYTICAL RESULTS

Project Location: Tidewater
 Date Received: 8/23/2013
Field Sample #: SG-120S
Sample ID: 13H0917-01
 Sample Matrix: Soil Gas
 Sampled: 8/22/2013 15:05

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1517
 Canister Size: 3 liter
 Flow Controller ID: 4077
 Sample Type: 15 min

Work Order: 13H0917
 Initial Vacuum(in Hg): -28
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -5.5
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time		Analyst
	Results	RL	Flag	Results	RL		Analized		
Ethanol	ND	2.0	V-05	ND	3.8	1	8/27/13 16:06	WSD	
Ethyl Acetate	10	0.050		36	0.18	1	8/27/13 16:06	WSD	
Ethylbenzene	0.64	0.050		2.8	0.22	1	8/27/13 16:06	WSD	
4-Ethyltoluene	0.21	0.050		1.1	0.25	1	8/27/13 16:06	WSD	
Heptane	0.093	0.050		0.38	0.20	1	8/27/13 16:06	WSD	
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/27/13 16:06	WSD	
Hexane	ND	2.0		ND	7.0	1	8/27/13 16:06	WSD	
2-Hexanone (MBK)	0.31	0.050		1.3	0.20	1	8/27/13 16:06	WSD	
Indane	0.21	0.13	L-03, V-05	1.0	0.62	1	8/27/13 16:06	WSD	
Indene	0.83	0.13	L-03	3.9	0.63	1	8/27/13 16:06	WSD	
Isopropanol	ND	2.0		ND	4.9	1	8/27/13 16:06	WSD	
Isopropylbenzene (Cumene)	ND	0.13	L-03, V-05	ND	0.62	1	8/27/13 16:06	WSD	
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/27/13 16:06	WSD	
Methylene Chloride	ND	0.50		ND	1.7	1	8/27/13 16:06	WSD	
4-Methyl-2-pentanone (MIBK)	0.10	0.050		0.43	0.20	1	8/27/13 16:06	WSD	
Naphthalene	4.9	0.050		26	0.26	1	8/27/13 16:06	WSD	
Propene	ND	2.0		ND	3.4	1	8/27/13 16:06	WSD	
Styrene	1.9	0.050		7.9	0.21	1	8/27/13 16:06	WSD	
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/27/13 16:06	WSD	
Tetrachloroethylene	290	0.50		2000	3.4	20	8/27/13 23:05	WSD	
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/27/13 16:06	WSD	
Toluene	6.6	0.050		25	0.19	1	8/27/13 16:06	WSD	
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/27/13 16:06	WSD	
1,1,1-Trichloroethane	2.0	0.025		11	0.14	1	8/27/13 16:06	WSD	
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/27/13 16:06	WSD	
Trichloroethylene	65	0.50		350	2.7	20	8/27/13 23:05	WSD	
Trichlorofluoromethane (Freon 11)	0.36	0.050		2.0	0.28	1	8/27/13 16:06	WSD	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.15	0.050		1.2	0.38	1	8/27/13 16:06	WSD	
1,2,4-Trimethylbenzene	1.0	0.050		4.9	0.25	1	8/27/13 16:06	WSD	
1,3,5-Trimethylbenzene	0.28	0.050		1.4	0.25	1	8/27/13 16:06	WSD	
Vinyl Acetate	ND	1.0		ND	3.5	1	8/27/13 16:06	WSD	
Vinyl Chloride	ND	0.025		ND	0.064	1	8/27/13 16:06	WSD	
m&p-Xylene	1.5	0.10		6.6	0.43	1	8/27/13 16:06	WSD	
o-Xylene	0.82	0.050		3.6	0.22	1	8/27/13 16:06	WSD	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	102	70-130	8/27/13 23:05

ANALYTICAL RESULTS

Project Location: Tidewater
 Date Received: 8/23/2013
Field Sample #: SG-120S
Sample ID: 13H0917-01
 Sample Matrix: Soil Gas
 Sampled: 8/22/2013 15:05

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1517
 Canister Size: 3 liter
 Flow Controller ID: 4077
 Sample Type: 15 min

Work Order: 13H0917
 Initial Vacuum(in Hg): -28
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -5.5
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Date/Time		
	Results	RL	Flag	Results	RL	Dilution	Analyzed	Analyst
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (1)		95.8		70-130			8/27/13 16:06	
4-Bromofluorobenzene (2)		89.1		70-130			8/27/13 16:06	

ANALYTICAL RESULTS

Project Location: Tidewater
 Date Received: 8/23/2013
Field Sample #: SG-119S
Sample ID: 13H0917-02
 Sample Matrix: Soil Gas
 Sampled: 8/22/2013 15:53

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1516
 Canister Size: 3 liter
 Flow Controller ID: 4076
 Sample Type: 15 min

Work Order: 13H0917
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -3.6
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analized		
Helium	ND	0.40		1	8/26/13 12:19		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Acetone	20	2.0		47	4.8	1	8/27/13 16:48		WSD
Benzene	1.4	0.050		4.4	0.16	1	8/27/13 16:48		WSD
Benzyl chloride	ND	0.050		ND	0.26	1	8/27/13 16:48		WSD
Bromodichloromethane	ND	0.025		ND	0.17	1	8/27/13 16:48		WSD
Bromoform	ND	0.050		ND	0.52	1	8/27/13 16:48		WSD
Bromomethane	ND	0.050		ND	0.19	1	8/27/13 16:48		WSD
1,3-Butadiene	ND	0.050		ND	0.11	1	8/27/13 16:48		WSD
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/27/13 16:48		WSD
Carbon Disulfide	2.6	0.50		8.1	1.6	1	8/27/13 16:48		WSD
Carbon Tetrachloride	0.054	0.025		0.34	0.16	1	8/27/13 16:48		WSD
Chlorobenzene	ND	0.050		ND	0.23	1	8/27/13 16:48		WSD
Chloroethane	ND	0.050		ND	0.13	1	8/27/13 16:48		WSD
Chloroform	0.30	0.025		1.4	0.12	1	8/27/13 16:48		WSD
Chloromethane	0.10	0.10		0.21	0.21	1	8/27/13 16:48		WSD
Cyclohexane	0.18	0.050		0.62	0.17	1	8/27/13 16:48		WSD
Dibromochloromethane	ND	0.025		ND	0.21	1	8/27/13 16:48		WSD
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/27/13 16:48		WSD
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/27/13 16:48		WSD
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/27/13 16:48		WSD
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/27/13 16:48		WSD
Dichlorodifluoromethane (Freon 12)	0.36	0.050		1.8	0.25	1	8/27/13 16:48		WSD
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/27/13 16:48		WSD
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/27/13 16:48		WSD
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/27/13 16:48		WSD
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/27/13 16:48		WSD
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/27/13 16:48		WSD
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/27/13 16:48		WSD
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/27/13 16:48		WSD
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/27/13 16:48		WSD
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/27/13 16:48		WSD
1,4-Dioxane	ND	0.50		ND	1.8	1	8/27/13 16:48		WSD

ANALYTICAL RESULTS

Project Location: Tidewater
 Date Received: 8/23/2013
Field Sample #: SG-119S
Sample ID: 13H0917-02
 Sample Matrix: Soil Gas
 Sampled: 8/22/2013 15:53

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1516
 Canister Size: 3 liter
 Flow Controller ID: 4076
 Sample Type: 15 min

Work Order: 13H0917
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -3.6
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time		Analyst
	Results	RL	Flag	Results	RL		Analized		
Ethanol	ND	2.0	V-05	ND	3.8	1	8/27/13 16:48	WSD	
Ethyl Acetate	8.9	0.050		32	0.18	1	8/27/13 16:48	WSD	
Ethylbenzene	1.1	0.050		5.0	0.22	1	8/27/13 16:48	WSD	
4-Ethyltoluene	0.28	0.050		1.4	0.25	1	8/27/13 16:48	WSD	
Heptane	0.19	0.050		0.77	0.20	1	8/27/13 16:48	WSD	
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/27/13 16:48	WSD	
Hexane	ND	2.0		ND	7.0	1	8/27/13 16:48	WSD	
2-Hexanone (MBK)	0.20	0.050		0.82	0.20	1	8/27/13 16:48	WSD	
Indane	0.16	0.13	L-03, V-05	0.79	0.62	1	8/27/13 16:48	WSD	
Indene	0.18	0.13	L-03	0.87	0.63	1	8/27/13 16:48	WSD	
Isopropanol	ND	2.0		ND	4.9	1	8/27/13 16:48	WSD	
Isopropylbenzene (Cumene)	ND	0.13	L-03, V-05	ND	0.62	1	8/27/13 16:48	WSD	
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/27/13 16:48	WSD	
Methylene Chloride	ND	0.50		ND	1.7	1	8/27/13 16:48	WSD	
4-Methyl-2-pentanone (MIBK)	ND	0.050		ND	0.20	1	8/27/13 16:48	WSD	
Naphthalene	2.2	0.050		11	0.26	1	8/27/13 16:48	WSD	
Propene	4.4	2.0		7.6	3.4	1	8/27/13 16:48	WSD	
Styrene	0.79	0.050		3.3	0.21	1	8/27/13 16:48	WSD	
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/27/13 16:48	WSD	
Tetrachloroethylene	4.3	0.025		29	0.17	1	8/27/13 16:48	WSD	
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/27/13 16:48	WSD	
Toluene	5.8	0.050		22	0.19	1	8/27/13 16:48	WSD	
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/27/13 16:48	WSD	
1,1,1-Trichloroethane	0.054	0.025		0.29	0.14	1	8/27/13 16:48	WSD	
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/27/13 16:48	WSD	
Trichloroethylene	ND	0.025		ND	0.13	1	8/27/13 16:48	WSD	
Trichlorofluoromethane (Freon 11)	0.59	0.050		3.3	0.28	1	8/27/13 16:48	WSD	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.094	0.050		0.72	0.38	1	8/27/13 16:48	WSD	
1,2,4-Trimethylbenzene	0.79	0.050		3.9	0.25	1	8/27/13 16:48	WSD	
1,3,5-Trimethylbenzene	0.23	0.050		1.1	0.25	1	8/27/13 16:48	WSD	
Vinyl Acetate	ND	1.0		ND	3.5	1	8/27/13 16:48	WSD	
Vinyl Chloride	ND	0.025		ND	0.064	1	8/27/13 16:48	WSD	
m&p-Xylene	1.3	0.10		5.8	0.43	1	8/27/13 16:48	WSD	
o-Xylene	0.59	0.050		2.5	0.22	1	8/27/13 16:48	WSD	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	98.2	70-130	8/27/13 16:48

ANALYTICAL RESULTS

Project Location: Tidewater
 Date Received: 8/23/2013
Field Sample #: SG-119S
Sample ID: 13H0917-02
 Sample Matrix: Soil Gas
 Sampled: 8/22/2013 15:53

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1516
 Canister Size: 3 liter
 Flow Controller ID: 4076
 Sample Type: 15 min

Work Order: 13H0917
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -3.6
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Date/Time		
	Results	RL	Flag	Results	RL	Dilution	Analyzed	Analyst
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		100			70-130		8/27/13 16:48	

ANALYTICAL RESULTS

Project Location: Tidewater
 Date Received: 8/23/2013
Field Sample #: SG-117S
Sample ID: 13H0917-03
 Sample Matrix: Soil Gas
 Sampled: 8/22/2013 10:42

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1480
 Canister Size: 3 liter
 Flow Controller ID: 4075
 Sample Type: 15 min

Work Order: 13H0917
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analyzed		
Helium	ND	0.40		1	8/26/13 12:50		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Acetone	11	2.0		25	4.8	1	8/27/13 17:29		WSD
Benzene	0.35	0.050		1.1	0.16	1	8/27/13 17:29		WSD
Benzyl chloride	ND	0.050		ND	0.26	1	8/27/13 17:29		WSD
Bromodichloromethane	ND	0.025		ND	0.17	1	8/27/13 17:29		WSD
Bromoform	ND	0.050		ND	0.52	1	8/27/13 17:29		WSD
Bromomethane	ND	0.050		ND	0.19	1	8/27/13 17:29		WSD
1,3-Butadiene	ND	0.050		ND	0.11	1	8/27/13 17:29		WSD
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/27/13 17:29		WSD
Carbon Disulfide	0.95	0.50		3.0	1.6	1	8/27/13 17:29		WSD
Carbon Tetrachloride	ND	0.025		ND	0.16	1	8/27/13 17:29		WSD
Chlorobenzene	ND	0.050		ND	0.23	1	8/27/13 17:29		WSD
Chloroethane	ND	0.050		ND	0.13	1	8/27/13 17:29		WSD
Chloroform	0.051	0.025		0.25	0.12	1	8/27/13 17:29		WSD
Chloromethane	ND	0.10		ND	0.21	1	8/27/13 17:29		WSD
Cyclohexane	ND	0.050		ND	0.17	1	8/27/13 17:29		WSD
Dibromochloromethane	ND	0.025		ND	0.21	1	8/27/13 17:29		WSD
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/27/13 17:29		WSD
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/27/13 17:29		WSD
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/27/13 17:29		WSD
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/27/13 17:29		WSD
Dichlorodifluoromethane (Freon 12)	0.38	0.050		1.9	0.25	1	8/27/13 17:29		WSD
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/27/13 17:29		WSD
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/27/13 17:29		WSD
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/27/13 17:29		WSD
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/27/13 17:29		WSD
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/27/13 17:29		WSD
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/27/13 17:29		WSD
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/27/13 17:29		WSD
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/27/13 17:29		WSD
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/27/13 17:29		WSD
1,4-Dioxane	ND	0.50		ND	1.8	1	8/27/13 17:29		WSD

ANALYTICAL RESULTS

Project Location: Tidewater
 Date Received: 8/23/2013
Field Sample #: SG-117S
Sample ID: 13H0917-03
 Sample Matrix: Soil Gas
 Sampled: 8/22/2013 10:42

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1480
 Canister Size: 3 liter
 Flow Controller ID: 4075
 Sample Type: 15 min

Work Order: 13H0917
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Ethanol	ND	2.0	V-05	ND	3.8	1	8/27/13 17:29	WSD
Ethyl Acetate	7.6	0.050		27	0.18	1	8/27/13 17:29	WSD
Ethylbenzene	0.22	0.050		0.96	0.22	1	8/27/13 17:29	WSD
4-Ethyltoluene	0.11	0.050		0.56	0.25	1	8/27/13 17:29	WSD
Heptane	0.063	0.050		0.26	0.20	1	8/27/13 17:29	WSD
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/27/13 17:29	WSD
Hexane	ND	2.0		ND	7.0	1	8/27/13 17:29	WSD
2-Hexanone (MBK)	0.12	0.050		0.48	0.20	1	8/27/13 17:29	WSD
Indane	ND	0.13	L-03, V-05	ND	0.62	1	8/27/13 17:29	WSD
Indene	0.17	0.13	L-03	0.82	0.63	1	8/27/13 17:29	WSD
Isopropanol	ND	2.0		ND	4.9	1	8/27/13 17:29	WSD
Isopropylbenzene (Cumene)	ND	0.13	L-03, V-05	ND	0.62	1	8/27/13 17:29	WSD
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/27/13 17:29	WSD
Methylene Chloride	ND	0.50		ND	1.7	1	8/27/13 17:29	WSD
4-Methyl-2-pentanone (MIBK)	0.070	0.050		0.29	0.20	1	8/27/13 17:29	WSD
Naphthalene	2.3	0.050		12	0.26	1	8/27/13 17:29	WSD
Propene	ND	2.0		ND	3.4	1	8/27/13 17:29	WSD
Styrene	0.16	0.050		0.69	0.21	1	8/27/13 17:29	WSD
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/27/13 17:29	WSD
Tetrachloroethylene	0.59	0.025		4.0	0.17	1	8/27/13 17:29	WSD
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/27/13 17:29	WSD
Toluene	2.3	0.050		8.8	0.19	1	8/27/13 17:29	WSD
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/27/13 17:29	WSD
1,1,1-Trichloroethane	ND	0.025		ND	0.14	1	8/27/13 17:29	WSD
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/27/13 17:29	WSD
Trichloroethylene	ND	0.025		ND	0.13	1	8/27/13 17:29	WSD
Trichlorofluoromethane (Freon 11)	2.5	0.050		14	0.28	1	8/27/13 17:29	WSD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.088	0.050		0.67	0.38	1	8/27/13 17:29	WSD
1,2,4-Trimethylbenzene	0.50	0.050		2.5	0.25	1	8/27/13 17:29	WSD
1,3,5-Trimethylbenzene	0.13	0.050		0.63	0.25	1	8/27/13 17:29	WSD
Vinyl Acetate	ND	1.0		ND	3.5	1	8/27/13 17:29	WSD
Vinyl Chloride	ND	0.025		ND	0.064	1	8/27/13 17:29	WSD
m&p-Xylene	0.54	0.10		2.4	0.43	1	8/27/13 17:29	WSD
o-Xylene	0.23	0.050		1.0	0.22	1	8/27/13 17:29	WSD

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	98.9	70-130	8/27/13 17:29

ANALYTICAL RESULTS

Project Location: Tidewater
 Date Received: 8/23/2013
Field Sample #: SG-117S
Sample ID: 13H0917-03
 Sample Matrix: Soil Gas
 Sampled: 8/22/2013 10:42

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1480
 Canister Size: 3 liter
 Flow Controller ID: 4075
 Sample Type: 15 min

Work Order: 13H0917
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Date/Time		
	Results	RL	Flag	Results	RL	Dilution	Analyzed	Analyst
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		102			70-130		8/27/13 17:29	

ANALYTICAL RESULTS

Project Location: Tidewater
 Date Received: 8/23/2013
 Field Sample #: SG-1155
 Sample ID: 13H0917-04
 Sample Matrix: Soil Gas
 Sampled: 8/23/2013 07:50

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1402
 Canister Size: 3 liter
 Flow Controller ID: 4074
 Sample Type: 15 min

Work Order: 13H0917
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -3.4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analyzed		
Helium	ND	0.40		1	8/26/13 13:12		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Acetone	15	2.0		36	4.8	1	8/27/13 18:11		WSD
Benzene	0.40	0.050		1.3	0.16	1	8/27/13 18:11		WSD
Benzyl chloride	ND	0.050		ND	0.26	1	8/27/13 18:11		WSD
Bromodichloromethane	ND	0.025		ND	0.17	1	8/27/13 18:11		WSD
Bromoform	ND	0.050		ND	0.52	1	8/27/13 18:11		WSD
Bromomethane	ND	0.050		ND	0.19	1	8/27/13 18:11		WSD
1,3-Butadiene	ND	0.050		ND	0.11	1	8/27/13 18:11		WSD
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/27/13 18:11		WSD
Carbon Disulfide	0.98	0.50		3.1	1.6	1	8/27/13 18:11		WSD
Carbon Tetrachloride	ND	0.025		ND	0.16	1	8/27/13 18:11		WSD
Chlorobenzene	ND	0.050		ND	0.23	1	8/27/13 18:11		WSD
Chloroethane	ND	0.050		ND	0.13	1	8/27/13 18:11		WSD
Chloroform	0.43	0.025		2.1	0.12	1	8/27/13 18:11		WSD
Chloromethane	ND	0.10		ND	0.21	1	8/27/13 18:11		WSD
Cyclohexane	ND	0.050		ND	0.17	1	8/27/13 18:11		WSD
Dibromochloromethane	ND	0.025		ND	0.21	1	8/27/13 18:11		WSD
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/27/13 18:11		WSD
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/27/13 18:11		WSD
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/27/13 18:11		WSD
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/27/13 18:11		WSD
Dichlorodifluoromethane (Freon 12)	0.38	0.050		1.9	0.25	1	8/27/13 18:11		WSD
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/27/13 18:11		WSD
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/27/13 18:11		WSD
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/27/13 18:11		WSD
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/27/13 18:11		WSD
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/27/13 18:11		WSD
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/27/13 18:11		WSD
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/27/13 18:11		WSD
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/27/13 18:11		WSD
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/27/13 18:11		WSD
1,4-Dioxane	ND	0.50		ND	1.8	1	8/27/13 18:11		WSD

ANALYTICAL RESULTS

Project Location: Tidewater
 Date Received: 8/23/2013
Field Sample #: SG-115S
Sample ID: 13H0917-04
 Sample Matrix: Soil Gas
 Sampled: 8/23/2013 07:50

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1402
 Canister Size: 3 liter
 Flow Controller ID: 4074
 Sample Type: 15 min

Work Order: 13H0917
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -3.4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Ethanol	ND	2.0	V-05	ND	3.8	1	8/27/13 18:11	WSD
Ethyl Acetate	7.7	0.050		28	0.18	1	8/27/13 18:11	WSD
Ethylbenzene	0.20	0.050		0.88	0.22	1	8/27/13 18:11	WSD
4-Ethyltoluene	0.12	0.050		0.61	0.25	1	8/27/13 18:11	WSD
Heptane	0.058	0.050		0.24	0.20	1	8/27/13 18:11	WSD
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/27/13 18:11	WSD
Hexane	ND	2.0		ND	7.0	1	8/27/13 18:11	WSD
2-Hexanone (MBK)	0.13	0.050		0.52	0.20	1	8/27/13 18:11	WSD
Indane	ND	0.13	L-03, V-05	ND	0.62	1	8/27/13 18:11	WSD
Indene	ND	0.13	L-03	ND	0.63	1	8/27/13 18:11	WSD
Isopropanol	ND	2.0		ND	4.9	1	8/27/13 18:11	WSD
Isopropylbenzene (Cumene)	ND	0.13	L-03, V-05	ND	0.62	1	8/27/13 18:11	WSD
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/27/13 18:11	WSD
Methylene Chloride	ND	0.50		ND	1.7	1	8/27/13 18:11	WSD
4-Methyl-2-pentanone (MIBK)	ND	0.050		ND	0.20	1	8/27/13 18:11	WSD
Naphthalene	1.9	0.050		10	0.26	1	8/27/13 18:11	WSD
Propene	ND	2.0		ND	3.4	1	8/27/13 18:11	WSD
Styrene	0.085	0.050		0.36	0.21	1	8/27/13 18:11	WSD
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/27/13 18:11	WSD
Tetrachloroethylene	25	0.025		170	0.17	1	8/27/13 18:11	WSD
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/27/13 18:11	WSD
Toluene	3.4	0.050		13	0.19	1	8/27/13 18:11	WSD
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/27/13 18:11	WSD
1,1,1-Trichloroethane	0.28	0.025		1.5	0.14	1	8/27/13 18:11	WSD
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/27/13 18:11	WSD
Trichloroethylene	0.30	0.025		1.6	0.13	1	8/27/13 18:11	WSD
Trichlorofluoromethane (Freon 11)	3.5	0.050		19	0.28	1	8/27/13 18:11	WSD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.098	0.050		0.75	0.38	1	8/27/13 18:11	WSD
1,2,4-Trimethylbenzene	0.56	0.050		2.7	0.25	1	8/27/13 18:11	WSD
1,3,5-Trimethylbenzene	0.14	0.050		0.67	0.25	1	8/27/13 18:11	WSD
Vinyl Acetate	ND	1.0		ND	3.5	1	8/27/13 18:11	WSD
Vinyl Chloride	ND	0.025		ND	0.064	1	8/27/13 18:11	WSD
m&p-Xylene	0.70	0.10		3.0	0.43	1	8/27/13 18:11	WSD
o-Xylene	0.29	0.050		1.3	0.22	1	8/27/13 18:11	WSD

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	101	70-130	8/27/13 18:11

ANALYTICAL RESULTS

Project Location: Tidewater
 Date Received: 8/23/2013
Field Sample #: SG-115S
Sample ID: 13H0917-04
 Sample Matrix: Soil Gas
 Sampled: 8/23/2013 07:50

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1402
 Canister Size: 3 liter
 Flow Controller ID: 4074
 Sample Type: 15 min

Work Order: 13H0917
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -3.4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Date/Time		
	Results	RL	Flag	Results	RL	Dilution	Analyzed	Analyst
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		104			70-130		8/27/13 18:11	

ANALYTICAL RESULTS

Project Location: Tidewater
 Date Received: 8/23/2013
Field Sample #: SG-116S
Sample ID: 13H0917-05
 Sample Matrix: Soil Gas
 Sampled: 8/23/2013 09:05

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1352
 Canister Size: 3 liter
 Flow Controller ID: 4066
 Sample Type: 15 min

Work Order: 13H0917
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analized		
Helium	ND	0.40		1	8/26/13 13:47		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Acetone	9.6	2.0		23	4.8	1	8/27/13 18:55		WSD
Benzene	0.37	0.050		1.2	0.16	1	8/27/13 18:55		WSD
Benzyl chloride	ND	0.050		ND	0.26	1	8/27/13 18:55		WSD
Bromodichloromethane	ND	0.025		ND	0.17	1	8/27/13 18:55		WSD
Bromoform	ND	0.050		ND	0.52	1	8/27/13 18:55		WSD
Bromomethane	ND	0.050		ND	0.19	1	8/27/13 18:55		WSD
1,3-Butadiene	ND	0.050		ND	0.11	1	8/27/13 18:55		WSD
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/27/13 18:55		WSD
Carbon Disulfide	0.67	0.50		2.1	1.6	1	8/27/13 18:55		WSD
Carbon Tetrachloride	0.058	0.025		0.36	0.16	1	8/27/13 18:55		WSD
Chlorobenzene	ND	0.050		ND	0.23	1	8/27/13 18:55		WSD
Chloroethane	ND	0.050		ND	0.13	1	8/27/13 18:55		WSD
Chloroform	0.32	0.025		1.6	0.12	1	8/27/13 18:55		WSD
Chloromethane	0.15	0.10		0.31	0.21	1	8/27/13 18:55		WSD
Cyclohexane	ND	0.050		ND	0.17	1	8/27/13 18:55		WSD
Dibromochloromethane	ND	0.025		ND	0.21	1	8/27/13 18:55		WSD
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/27/13 18:55		WSD
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/27/13 18:55		WSD
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/27/13 18:55		WSD
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/27/13 18:55		WSD
Dichlorodifluoromethane (Freon 12)	0.36	0.050		1.8	0.25	1	8/27/13 18:55		WSD
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/27/13 18:55		WSD
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/27/13 18:55		WSD
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/27/13 18:55		WSD
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/27/13 18:55		WSD
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/27/13 18:55		WSD
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/27/13 18:55		WSD
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/27/13 18:55		WSD
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/27/13 18:55		WSD
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/27/13 18:55		WSD
1,4-Dioxane	ND	0.50		ND	1.8	1	8/27/13 18:55		WSD

ANALYTICAL RESULTS

Project Location: Tidewater
 Date Received: 8/23/2013
Field Sample #: SG-116S
Sample ID: 13H0917-05
 Sample Matrix: Soil Gas
 Sampled: 8/23/2013 09:05

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1352
 Canister Size: 3 liter
 Flow Controller ID: 4066
 Sample Type: 15 min

Work Order: 13H0917
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time		Analyst
	Results	RL	Flag	Results	RL		Analized		
Ethanol	ND	2.0	V-05	ND	3.8	1	8/27/13 18:55	WSD	
Ethyl Acetate	8.5	0.050		31	0.18	1	8/27/13 18:55	WSD	
Ethylbenzene	0.27	0.050		1.2	0.22	1	8/27/13 18:55	WSD	
4-Ethyltoluene	0.21	0.050		1.0	0.25	1	8/27/13 18:55	WSD	
Heptane	0.061	0.050		0.25	0.20	1	8/27/13 18:55	WSD	
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/27/13 18:55	WSD	
Hexane	ND	2.0		ND	7.0	1	8/27/13 18:55	WSD	
2-Hexanone (MBK)	0.15	0.050		0.60	0.20	1	8/27/13 18:55	WSD	
Indane	0.32	0.13	L-03, V-05	1.6	0.62	1	8/27/13 18:55	WSD	
Indene	1.0	0.13	L-03	4.9	0.63	1	8/27/13 18:55	WSD	
Isopropanol	ND	2.0		ND	4.9	1	8/27/13 18:55	WSD	
Isopropylbenzene (Cumene)	ND	0.13	L-03, V-05	ND	0.62	1	8/27/13 18:55	WSD	
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/27/13 18:55	WSD	
Methylene Chloride	0.64	0.50		2.2	1.7	1	8/27/13 18:55	WSD	
4-Methyl-2-pentanone (MIBK)	ND	0.050		ND	0.20	1	8/27/13 18:55	WSD	
Naphthalene	2.6	0.050		14	0.26	1	8/27/13 18:55	WSD	
Propene	ND	2.0		ND	3.4	1	8/27/13 18:55	WSD	
Styrene	0.34	0.050		1.4	0.21	1	8/27/13 18:55	WSD	
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/27/13 18:55	WSD	
Tetrachloroethylene	1.2	0.025		8.0	0.17	1	8/27/13 18:55	WSD	
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/27/13 18:55	WSD	
Toluene	3.3	0.050		13	0.19	1	8/27/13 18:55	WSD	
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/27/13 18:55	WSD	
1,1,1-Trichloroethane	ND	0.025		ND	0.14	1	8/27/13 18:55	WSD	
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/27/13 18:55	WSD	
Trichloroethylene	ND	0.025		ND	0.13	1	8/27/13 18:55	WSD	
Trichlorofluoromethane (Freon 11)	1.1	0.050		6.0	0.28	1	8/27/13 18:55	WSD	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.094	0.050		0.72	0.38	1	8/27/13 18:55	WSD	
1,2,4-Trimethylbenzene	1.2	0.050		5.8	0.25	1	8/27/13 18:55	WSD	
1,3,5-Trimethylbenzene	0.52	0.050		2.6	0.25	1	8/27/13 18:55	WSD	
Vinyl Acetate	ND	1.0		ND	3.5	1	8/27/13 18:55	WSD	
Vinyl Chloride	ND	0.025		ND	0.064	1	8/27/13 18:55	WSD	
m&p-Xylene	0.92	0.10		4.0	0.43	1	8/27/13 18:55	WSD	
o-Xylene	0.49	0.050		2.1	0.22	1	8/27/13 18:55	WSD	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	101	70-130	8/27/13 18:55

ANALYTICAL RESULTS

Project Location: Tidewater
 Date Received: 8/23/2013
Field Sample #: SG-116S
Sample ID: 13H0917-05
 Sample Matrix: Soil Gas
 Sampled: 8/23/2013 09:05

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1352
 Canister Size: 3 liter
 Flow Controller ID: 4066
 Sample Type: 15 min

Work Order: 13H0917
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -4
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Date/Time		
	Results	RL	Flag	Results	RL	Dilution	Analyzed	Analyst
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		106			70-130		8/27/13 18:55	

Sample Extraction Data

Prep Method: TO-15 Prep-EPA 3C

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
13H0917-01 [SG-120S]	B079528	1	1	N/A	1000	0.5	1.0	08/26/13
13H0917-02 [SG-119S]	B079528	1	1	N/A	1000	0.5	1.0	08/26/13
13H0917-03 [SG-117S]	B079528	1	1	N/A	1000	0.5	1.0	08/26/13
13H0917-04 [SG-115S]	B079528	1	1	N/A	1000	0.5	1.0	08/26/13
13H0917-05 [SG-116S]	B079528	1	1	N/A	1000	0.5	1.0	08/26/13

Prep Method: TO-15 Prep-EPA TO-15

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
13H0917-01 [SG-120S]	B079724	1.5	1	N/A	1000	400	600	08/27/13
13H0917-01RE1 [SG-120S]	B079724	2	1	N/A	1000	400	40	08/27/13
13H0917-02 [SG-119S]	B079724	2	1	N/A	1000	400	800	08/27/13
13H0917-03 [SG-117S]	B079724	2	1	N/A	1000	400	800	08/27/13
13H0917-04 [SG-115S]	B079724	2	1	N/A	1000	400	800	08/27/13
13H0917-05 [SG-116S]	B079724	2	1	N/A	1000	400	800	08/27/13

QUALITY CONTROL

Miscellaneous Air Analyses - Quality Control

Analyte	%		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	%	Result	%REC	Limits	RPD	Limit	

Batch B079528 - TO-15 Prep

Duplicate (B079528-DUP1)

Source: 13H0917-05

Prepared & Analyzed: 08/26/13

Helium	ND	0.40				0.0				200	
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QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	RPD	RPD Limit	Flag
	Results	RL	Results	RL	ppbv	Result	%REC Limits	RPD		

Batch B079724 - TO-15 Prep

Blank (B079724-BLK1)

Prepared & Analyzed: 08/27/13

Acetone	ND	1.0								
Benzene	ND	0.025								
Benzyl chloride	ND	0.025								
Bromodichloromethane	ND	0.012								
Bromoform	ND	0.025								
Bromomethane	ND	0.025								
1,3-Butadiene	ND	0.025								
2-Butanone (MEK)	ND	1.0								
Carbon Disulfide	ND	0.25								
Carbon Tetrachloride	ND	0.012								
Chlorobenzene	ND	0.025								
Chloroethane	ND	0.025								
Chloroform	ND	0.012								
Chloromethane	ND	0.050								
Cyclohexane	ND	0.025								
Dibromochloromethane	ND	0.012								
1,2-Dibromoethane (EDB)	ND	0.012								
1,2-Dichlorobenzene	ND	0.025								
1,3-Dichlorobenzene	ND	0.025								
1,4-Dichlorobenzene	ND	0.025								
Dichlorodifluoromethane (Freon 12)	ND	0.025								
1,1-Dichloroethane	ND	0.012								
1,2-Dichloroethane	ND	0.012								
1,1-Dichloroethylene	ND	0.012								
cis-1,2-Dichloroethylene	ND	0.012								
trans-1,2-Dichloroethylene	ND	0.012								
1,2-Dichloropropane	ND	0.012								
cis-1,3-Dichloropropene	ND	0.012								
trans-1,3-Dichloropropene	ND	0.012								
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.025								
1,4-Dioxane	ND	0.25								
Ethanol	ND	1.0								V-05
Ethyl Acetate	ND	0.025								
Ethylbenzene	ND	0.025								
4-Ethyltoluene	ND	0.025								
Heptane	ND	0.025								
Hexachlorobutadiene	ND	0.025								
Hexane	ND	1.0								
2-Hexanone (MBK)	ND	0.025								
Indane	ND	0.064								L-03, V-05
Indene	ND	0.066								L-03
Isopropanol	ND	1.0								
Isopropylbenzene (Cumene)	ND	0.064								L-03, V-05
Methyl tert-Butyl Ether (MTBE)	ND	0.025								
Methylene Chloride	ND	0.25								
4-Methyl-2-pentanone (MIBK)	ND	0.025								

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		

Batch B079724 - TO-15 Prep

Blank (B079724-BLK1)

Prepared & Analyzed: 08/27/13

Naphthalene	ND	0.025									
Propene	ND	1.0									
Styrene	ND	0.025									
1,1,2,2-Tetrachloroethane	ND	0.012									
Tetrachloroethylene	ND	0.012									
Tetrahydrofuran	ND	0.025									
Toluene	ND	0.025									
1,2,4-Trichlorobenzene	ND	0.025									
1,1,1-Trichloroethane	ND	0.012									
1,1,2-Trichloroethane	ND	0.012									
Trichloroethylene	ND	0.012									
Trichlorofluoromethane (Freon 11)	ND	0.025									
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.025									
1,2,4-Trimethylbenzene	ND	0.025									
1,3,5-Trimethylbenzene	ND	0.025									
Vinyl Acetate	ND	0.50									
Vinyl Chloride	ND	0.012									
m&p-Xylene	ND	0.050									
o-Xylene	ND	0.025									
<i>Surrogate: 4-Bromofluorobenzene (1)</i>	<i>7.47</i>				<i>8.00</i>		<i>93.4</i>		<i>70-130</i>		
<i>Surrogate: 4-Bromofluorobenzene (2)</i>	<i>7.04</i>				<i>8.00</i>		<i>88.1</i>		<i>70-130</i>		

LCS (B079724-BS1)

Prepared & Analyzed: 08/27/13

Acetone	6.12				5.00		122		70-130		
Benzene	4.71				5.00		94.2		70-130		
Benzyl chloride	5.20				5.00		104		70-130		
Bromodichloromethane	5.22				5.00		104		70-130		
Bromoform	5.37				5.00		107		70-130		
Bromomethane	5.07				5.00		101		70-130		
1,3-Butadiene	4.80				5.00		96.0		70-130		
2-Butanone (MEK)	4.92				5.00		98.4		70-130		
Carbon Disulfide	4.87				5.00		97.3		70-130		
Carbon Tetrachloride	4.94				5.00		98.9		70-130		
Chlorobenzene	5.15				5.00		103		70-130		
Chloroethane	4.84				5.00		96.8		70-130		
Chloroform	5.22				5.00		104		70-130		
Chloromethane	4.65				5.00		93.1		70-130		
Cyclohexane	4.43				5.00		88.6		70-130		
Dibromochloromethane	5.18				5.00		104		70-130		
1,2-Dibromoethane (EDB)	5.13				5.00		103		70-130		
1,2-Dichlorobenzene	5.26				5.00		105		70-130		
1,3-Dichlorobenzene	5.36				5.00		107		70-130		
1,4-Dichlorobenzene	5.27				5.00		105		70-130		
Dichlorodifluoromethane (Freon 12)	5.07				5.00		101		70-130		
1,1-Dichloroethane	4.91				5.00		98.2		70-130		
1,2-Dichloroethane	5.15				5.00		103		70-130		

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		
Batch B079724 - TO-15 Prep											
LCS (B079724-BS1)					Prepared & Analyzed: 08/27/13						
1,1-Dichloroethylene	4.48				5.00		89.5	70-130			
cis-1,2-Dichloroethylene	5.21				5.00		104	70-130			
trans-1,2-Dichloroethylene	4.89				5.00		97.9	70-130			
1,2-Dichloropropane	4.80				5.00		95.9	70-130			
cis-1,3-Dichloropropene	4.92				5.00		98.3	70-130			
trans-1,3-Dichloropropene	5.08				5.00		102	70-130			
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	5.14				5.00		103	70-130			
1,4-Dioxane	5.30				5.00		106	70-130			
Ethanol	3.61				5.00		72.2	70-130			V-05
Ethyl Acetate	5.43				5.00		109	70-130			
Ethylbenzene	4.95				5.00		99.1	70-130			
4-Ethyltoluene	4.87				5.00		97.3	70-130			
Heptane	4.76				5.00		95.1	70-130			
Hexachlorobutadiene	5.45				5.00		109	70-130			
Hexane	4.80				5.00		96.1	70-130			
2-Hexanone (MBK)	4.32				5.00		86.3	70-130			
Indane	0.612				1.29		47.4 *	70-130			L-03, V-05
Indene	0.857				1.32		64.9 *	70-130			L-03
Isopropanol	4.21				5.00		84.2	70-130			
Isopropylbenzene (Cumene)	0.636				1.27		50.1 *	70-130			L-03, V-05
Methyl tert-Butyl Ether (MTBE)	4.95				5.00		99.0	70-130			
Methylene Chloride	4.35				5.00		87.0	70-130			
4-Methyl-2-pentanone (MIBK)	4.71				5.00		94.1	70-130			
Naphthalene	5.46				5.00		109	70-130			
Propene	5.19				5.00		104	70-130			
Styrene	5.01				5.00		100	70-130			
1,1,1,2-Tetrachloroethane	5.44				5.00		109	70-130			
Tetrachloroethylene	4.97				5.00		99.4	70-130			
Tetrahydrofuran	4.91				5.00		98.1	70-130			
Toluene	5.01				5.00		100	70-130			
1,2,4-Trichlorobenzene	6.45				5.00		129	70-130			
1,1,1-Trichloroethane	4.74				5.00		94.9	70-130			
1,1,2-Trichloroethane	5.16				5.00		103	70-130			
Trichloroethylene	4.97				5.00		99.4	70-130			
Trichlorofluoromethane (Freon 11)	5.01				5.00		100	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	4.68				5.00		93.6	70-130			
1,2,4-Trimethylbenzene	5.14				5.00		103	70-130			
1,3,5-Trimethylbenzene	5.05				5.00		101	70-130			
Vinyl Acetate	4.72				5.00		94.4	70-130			
Vinyl Chloride	4.82				5.00		96.5	70-130			
m&p-Xylene	10.3				10.0		103	70-130			
o-Xylene	5.19				5.00		104	70-130			
Surrogate: 4-Bromofluorobenzene (1)	7.78				8.00		97.3	70-130			
Surrogate: 4-Bromofluorobenzene (2)	7.39				8.00		92.4	70-130			

FLAG/QUALIFIER SUMMARY

- * QC result is outside of established limits.
 - † Wide recovery limits established for difficult compound.
 - ‡ Wide RPD limits established for difficult compound.
 - # Data exceeded client recommended or regulatory level
- Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
No results have been blank subtracted unless specified in the case narrative section.
- L-03 Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.
 - V-05 Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA TO-15 in Air</i>	
Acetone	AIHA
Benzene	AIHA,FL,NJ,NY,VA
Benzyl chloride	AIHA,FL,NJ,NY,VA
Bromodichloromethane	AIHA,NJ,VA
Bromoform	AIHA,NJ,VA
Bromomethane	AIHA,FL,NJ,NY
1,3-Butadiene	AIHA,NJ,VA
2-Butanone (MEK)	AIHA,FL,NJ,NY,VA
Carbon Disulfide	AIHA,NJ,VA
Carbon Tetrachloride	AIHA,FL,NJ,NY,VA
Chlorobenzene	AIHA,FL,NJ,NY,VA
Chloroethane	AIHA,FL,NJ,NY,VA
Chloroform	AIHA,FL,NJ,NY,VA
Chloromethane	AIHA,FL,NJ,NY,VA
Cyclohexane	AIHA,NJ,VA
Dibromochloromethane	AIHA,NY
1,2-Dibromoethane (EDB)	AIHA,NJ,NY
1,2-Dichlorobenzene	AIHA,FL,NJ,NY,VA
1,3-Dichlorobenzene	AIHA,NJ,NY
1,4-Dichlorobenzene	AIHA,FL,NJ,NY,VA
Dichlorodifluoromethane (Freon 12)	AIHA,NY
1,1-Dichloroethane	AIHA,FL,NJ,NY,VA
1,2-Dichloroethane	AIHA,FL,NJ,NY,VA
1,1-Dichloroethylene	AIHA,FL,NJ,NY,VA
cis-1,2-Dichloroethylene	AIHA,FL,NY,VA
trans-1,2-Dichloroethylene	AIHA,NJ,NY,VA
1,2-Dichloropropane	AIHA,FL,NJ,NY,VA
cis-1,3-Dichloropropene	AIHA,FL,NJ,NY,VA
trans-1,3-Dichloropropene	AIHA,NY
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	AIHA,NJ,VA
1,4-Dioxane	AIHA,NJ,VA
Ethanol	AIHA
Ethyl Acetate	AIHA
Ethylbenzene	AIHA,FL,NJ,NY,VA
4-Ethyltoluene	AIHA,NJ
Heptane	AIHA,NJ,NY,VA
Hexachlorobutadiene	AIHA,NJ,NY,VA
Hexane	AIHA,FL,NJ,NY,VA
2-Hexanone (MBK)	AIHA
Isopropanol	AIHA,NY
Isopropylbenzene (Cumene)	AIHA,NJ,NY
Methyl tert-Butyl Ether (MTBE)	AIHA,FL,NJ,NY,VA
Methylene Chloride	AIHA,FL,NJ,NY,VA
4-Methyl-2-pentanone (MIBK)	AIHA,FL,NJ,NY
Naphthalene	NY
Propene	AIHA
Styrene	AIHA,FL,NJ,NY,VA

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA TO-15 in Air</i>	
1,1,2,2-Tetrachloroethane	AIHA,FL,NJ,NY,VA
Tetrachloroethylene	AIHA,FL,NJ,NY,VA
Tetrahydrofuran	AIHA
Toluene	AIHA,FL,NJ,NY,VA
1,2,4-Trichlorobenzene	AIHA,NJ,NY,VA
1,1,1-Trichloroethane	AIHA,FL,NJ,NY,VA
1,1,2-Trichloroethane	AIHA,FL,NJ,NY,VA
Trichloroethylene	AIHA,FL,NJ,NY,VA
Trichlorofluoromethane (Freon 11)	AIHA,NY
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	AIHA,NJ,NY,VA
1,2,4-Trimethylbenzene	AIHA,NJ,NY
1,3,5-Trimethylbenzene	AIHA,NJ,NY
Vinyl Acetate	AIHA,FL,NJ,NY,VA
Vinyl Chloride	AIHA,FL,NJ,NY,VA
m&p-Xylene	AIHA,FL,NJ,NY,VA
o-Xylene	AIHA,FL,NJ,NY,VA

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2014
MA	Massachusetts DEP	M-MA100	06/30/2014
CT	Connecticut Department of Public Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2014
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2014
RI	Rhode Island Department of Health	LAO00112	12/30/2013
NC	North Carolina Div. of Water Quality	652	12/31/2013
NJ	New Jersey DEP	MA007 NELAP	06/30/2014
FL	Florida Department of Health	E871027 NELAP	06/30/2014
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2014
WA	State of Washington Department of Ecology	C2065	02/23/2014
ME	State of Maine	2011028	06/9/2015
VA	Commonwealth of Virginia	460217	12/14/2013
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2012



Phone: 413-525-2332
 Fax: 413-525-6405
 Email: info@contestlabs.com
 www.contestlabs.com

AIR SAMPLE CHAIN OF CUSTODY RECORD

39 SPRUCE ST
 EAST LONGMEADOW, MA 01028

Company Name: GTA
 Address: 530 BRADWAY
PAVING, RI

Telephone: (401) 421-4140
 Project # 43654
 Client PO # _____

Attention: MARGARETTE / SMITH

Project Location: TOWN AVE

Sampled By: SONI BG

Proposal Provided? (For Billing purposes)
 yes no
 Date: _____

DATA DELIVERY (check one):
 FAX EMAIL WEBSITE CLIENT

Fax #: _____
 Email: soni.bg@contestlabs.com
 Format: EXCEL PDF GIS KEY OTHER _____

Field ID	Sample Description	Media	Lab #	Date Time	Date Time	Total	Flow Rate	Volume	Matrix	ANALYSIS REQUESTED		Summa Canister ID	Flow Control ID
										Minutes Sampled	M ³ /Min. or L/Min.		
1	SG-1205	S		8/22/13 1449	8/22/13 1505	-	-	-	SG	X	X	1517	4075
2	SG-1195	S		8/22/13 1532	8/22/13 1553	-	-	-	SG	X	X	1516	4075
3	SG-1175	S		8/22/13 1626	8/22/13 1642	-	-	-	SG	X	X	1480	4075
4	SG-1155	S		8/23/13 733	8/23/13 750	-	-	-	SG	X	X	1402	4074
5	SG-1165	S		8/23/13 850	8/23/13 905	-	-	-	SG	X	X	1352	4066

Laboratory Comments: _____
 CLIENT COMMENTS: _____

Relinquished by: (signature) [Signature] Date/Time: 8/23/13 908

Received by: (signature) [Signature] Date/Time: 8-23-13 910

Relinquished by: (signature) [Signature] Date/Time: 8-23-13 1045

Received by: (signature) [Signature] Date/Time: 8/23/13 1045

Turnaround **
 7-Day
 10-Day
 RUSH *
 *24-Hr *48-Hr
 *72-Hr *4-Day
 *Approval Required

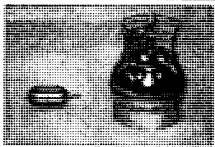
Special Requirements
 Regulations: None/CTDEE
 Data Enhancement/RCP? Y N
 Enhanced Data Package Y N
 (Surcharge Applies)
 Required Detection Limits: None/CTDEE
 Other: _____

*Matrix Code:
 SG= SOIL GAS
 IA= INDOOR AIR
 AMB= AMBIENT
 SS= SUB SLAB
 D= DUP
 BL= BLANK
 O= other

**Media Codes:
 S= summa can
 TB= tedar bag
 P= PUF
 T= tube
 F= filter
 C= cassette
 O= Other

** TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

AIHA, NELAC & WBEDBE Certified



www.contestlabs.com



AIR Only Receipt Checklist

39 Spruce St.
East Longmeadow, MA.
01028
P: 413-525-2332
F: 413-525-6405

CLIENT NAME: GZA RECEIVED BY: RLF DATE: 8/23/13

- 1) Was the chain(s) of custody relinquished and signed? Yes No
- 2) Does the chain agree with the samples? Yes No
If not, explain:
- 3) Are all the samples in good condition? Yes No
If not, explain:
- 4) Are there any samples "On Hold"? Yes No
- 5) Are there any RUSH or SHORT HOLDING TIME samples? Yes No

Who was notified _____ Date _____ Time _____

6) Location where samples are stored:

air lab

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: _____

Containers received at Con-Test

	# of Containers	Types (Size, Duration)
Summa Cans	5	3L
Tedlar Bags		
Tubes		
Regulators	4	15min
Restrictors		
Tubing		
Other		

Unused Summas:

Unused Regulators:

1) Was all media (used & unused checked into the WASP?

2) Were all returned summa cans, Restrictors, & Regulators documented as returned in the Air Lab Inbound/Outbound Excel Spreadsheet?

*missing req. 4066

Laboratory Comments:

1517	1480	1352	4077	4075
1516	1402		4076	4074

August 28, 2013

Sophia Narkiewicz
GZA GeoEnvironmental-RI
530 Broadway Street
Providence, RI 02909

Project Location: TideWater
Client Job Number:
Project Number: 43654
Laboratory Work Order Number: 13H0996

Enclosed are results of analyses for samples received by the laboratory on August 26, 2013. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Lisa A. Worthington
Project Manager

GZA GeoEnvironmental-RI
530 Broadway Street
Providence, RI 02909
ATTN: Sophia Narkiewicz

REPORT DATE: 8/28/2013

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 43654

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 13H0996

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: TideWater

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
SG-110S	13H0996-01	Soil Gas		EPA 3C EPA TO-15	
SG-114S	13H0996-02	Soil Gas		EPA 3C EPA TO-15	
SG-118S	13H0996-03	Soil Gas		EPA 3C EPA TO-15	
BD#3	13H0996-04	Soil Gas		EPA 3C EPA TO-15	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

EPA TO-15

Qualifications:

Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

Indane, Indene, Isopropylbenzene (Cumene)

13H0996-01[SG-110S], 13H0996-02[SG-114S], 13H0996-03[SG-118S], 13H0996-04[BD#3], B079724-BLK1, B079724-BS1, B079724-DUP1

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

Ethanol, Indane, Isopropylbenzene (Cumene)

13H0996-01[SG-110S], 13H0996-02[SG-114S], 13H0996-03[SG-118S], 13H0996-04[BD#3], B079724-BLK1, B079724-BS1, B079724-DUP1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Michael A. Erickson
Laboratory Director

ANALYTICAL RESULTS

Project Location: TideWater
 Date Received: 8/26/2013
Field Sample #: SG-110S
Sample ID: 13H0996-01
 Sample Matrix: Soil Gas
 Sampled: 8/23/2013 10:12

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1392
 Canister Size: 3 liter
 Flow Controller ID: 4013
 Sample Type: 15 min

Work Order: 13H0996
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -2.6
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time Analyzed	Analyst
	Results	RL				
Helium	ND	0.40		1	8/26/13 17:40	TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL		Results	RL			
Acetone	3.2	2.0		7.5	4.8	1	8/27/13 19:36	WSD
Benzene	0.59	0.050		1.9	0.16	1	8/27/13 19:36	WSD
Benzyl chloride	ND	0.050		ND	0.26	1	8/27/13 19:36	WSD
Bromodichloromethane	ND	0.025		ND	0.17	1	8/27/13 19:36	WSD
Bromoform	ND	0.050		ND	0.52	1	8/27/13 19:36	WSD
Bromomethane	ND	0.050		ND	0.19	1	8/27/13 19:36	WSD
1,3-Butadiene	ND	0.050		ND	0.11	1	8/27/13 19:36	WSD
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/27/13 19:36	WSD
Carbon Disulfide	0.78	0.50		2.4	1.6	1	8/27/13 19:36	WSD
Carbon Tetrachloride	0.068	0.025		0.43	0.16	1	8/27/13 19:36	WSD
Chlorobenzene	ND	0.050		ND	0.23	1	8/27/13 19:36	WSD
Chloroethane	ND	0.050		ND	0.13	1	8/27/13 19:36	WSD
Chloroform	0.15	0.025		0.72	0.12	1	8/27/13 19:36	WSD
Chloromethane	0.50	0.10		1.0	0.21	1	8/27/13 19:36	WSD
Cyclohexane	ND	0.050		ND	0.17	1	8/27/13 19:36	WSD
Dibromochloromethane	ND	0.025		ND	0.21	1	8/27/13 19:36	WSD
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/27/13 19:36	WSD
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/27/13 19:36	WSD
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/27/13 19:36	WSD
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/27/13 19:36	WSD
Dichlorodifluoromethane (Freon 12)	0.39	0.050		1.9	0.25	1	8/27/13 19:36	WSD
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/27/13 19:36	WSD
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/27/13 19:36	WSD
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/27/13 19:36	WSD
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/27/13 19:36	WSD
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/27/13 19:36	WSD
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/27/13 19:36	WSD
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/27/13 19:36	WSD
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/27/13 19:36	WSD
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/27/13 19:36	WSD
1,4-Dioxane	ND	0.50		ND	1.8	1	8/27/13 19:36	WSD

ANALYTICAL RESULTS

Project Location: TideWater
 Date Received: 8/26/2013
Field Sample #: SG-110S
Sample ID: 13H0996-01
 Sample Matrix: Soil Gas
 Sampled: 8/23/2013 10:12

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1392
 Canister Size: 3 liter
 Flow Controller ID: 4013
 Sample Type: 15 min

Work Order: 13H0996
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -2.6
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time		Analyst
	Results	RL	Flag	Results	RL		Analized		
Ethanol	ND	2.0	V-05	ND	3.8	1	8/27/13 19:36	WSD	
Ethyl Acetate	0.16	0.050		0.58	0.18	1	8/27/13 19:36	WSD	
Ethylbenzene	ND	0.050		ND	0.22	1	8/27/13 19:36	WSD	
4-Ethyltoluene	ND	0.050		ND	0.25	1	8/27/13 19:36	WSD	
Heptane	ND	0.050		ND	0.20	1	8/27/13 19:36	WSD	
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/27/13 19:36	WSD	
Hexane	ND	2.0		ND	7.0	1	8/27/13 19:36	WSD	
2-Hexanone (MBK)	0.075	0.050		0.31	0.20	1	8/27/13 19:36	WSD	
Indane	0.17	0.13	L-03, V-05	0.83	0.62	1	8/27/13 19:36	WSD	
Indene	1.1	0.13	L-03	5.3	0.63	1	8/27/13 19:36	WSD	
Isopropanol	ND	2.0		ND	4.9	1	8/27/13 19:36	WSD	
Isopropylbenzene (Cumene)	ND	0.13	L-03, V-05	ND	0.62	1	8/27/13 19:36	WSD	
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/27/13 19:36	WSD	
Methylene Chloride	ND	0.50		ND	1.7	1	8/27/13 19:36	WSD	
4-Methyl-2-pentanone (MIBK)	ND	0.050		ND	0.20	1	8/27/13 19:36	WSD	
Naphthalene	31	0.050		160	0.26	1	8/27/13 19:36	WSD	
Propene	ND	2.0		ND	3.4	1	8/27/13 19:36	WSD	
Styrene	0.14	0.050		0.61	0.21	1	8/27/13 19:36	WSD	
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/27/13 19:36	WSD	
Tetrachloroethylene	1.7	0.025		11	0.17	1	8/27/13 19:36	WSD	
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/27/13 19:36	WSD	
Toluene	0.25	0.050		0.93	0.19	1	8/27/13 19:36	WSD	
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/27/13 19:36	WSD	
1,1,1-Trichloroethane	ND	0.025		ND	0.14	1	8/27/13 19:36	WSD	
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/27/13 19:36	WSD	
Trichloroethylene	ND	0.025		ND	0.13	1	8/27/13 19:36	WSD	
Trichlorofluoromethane (Freon 11)	0.86	0.050		4.9	0.28	1	8/27/13 19:36	WSD	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.088	0.050		0.67	0.38	1	8/27/13 19:36	WSD	
1,2,4-Trimethylbenzene	0.37	0.050		1.8	0.25	1	8/27/13 19:36	WSD	
1,3,5-Trimethylbenzene	0.13	0.050		0.65	0.25	1	8/27/13 19:36	WSD	
Vinyl Acetate	ND	1.0		ND	3.5	1	8/27/13 19:36	WSD	
Vinyl Chloride	ND	0.025		ND	0.064	1	8/27/13 19:36	WSD	
m&p-Xylene	0.25	0.10		1.1	0.43	1	8/27/13 19:36	WSD	
o-Xylene	0.12	0.050		0.54	0.22	1	8/27/13 19:36	WSD	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	102	70-130	8/27/13 19:36

ANALYTICAL RESULTS

Project Location: TideWater
 Date Received: 8/26/2013
Field Sample #: SG-110S
Sample ID: 13H0996-01
 Sample Matrix: Soil Gas
 Sampled: 8/23/2013 10:12

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1392
 Canister Size: 3 liter
 Flow Controller ID: 4013
 Sample Type: 15 min

Work Order: 13H0996
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -3
 Receipt Vacuum(in Hg): -2.6
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Date/Time		
	Results	RL	Flag	Results	RL	Dilution	Analyzed	Analyst
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		107			70-130		8/27/13 19:36	

ANALYTICAL RESULTS

Project Location: TideWater
 Date Received: 8/26/2013
Field Sample #: SG-114S
Sample ID: 13H0996-02
 Sample Matrix: Soil Gas
 Sampled: 8/23/2013 12:43

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1363
 Canister Size: 3 liter
 Flow Controller ID: 4067
 Sample Type: 15 min

Work Order: 13H0996
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -2.3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analized		
Helium	ND	0.40		1	8/26/13 18:03		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Acetone	5.0	2.0		12	4.8	1	8/27/13 20:16		WSD
Benzene	0.21	0.050		0.67	0.16	1	8/27/13 20:16		WSD
Benzyl chloride	ND	0.050		ND	0.26	1	8/27/13 20:16		WSD
Bromodichloromethane	ND	0.025		ND	0.17	1	8/27/13 20:16		WSD
Bromoform	ND	0.050		ND	0.52	1	8/27/13 20:16		WSD
Bromomethane	ND	0.050		ND	0.19	1	8/27/13 20:16		WSD
1,3-Butadiene	ND	0.050		ND	0.11	1	8/27/13 20:16		WSD
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/27/13 20:16		WSD
Carbon Disulfide	ND	0.50		ND	1.6	1	8/27/13 20:16		WSD
Carbon Tetrachloride	ND	0.025		ND	0.16	1	8/27/13 20:16		WSD
Chlorobenzene	ND	0.050		ND	0.23	1	8/27/13 20:16		WSD
Chloroethane	ND	0.050		ND	0.13	1	8/27/13 20:16		WSD
Chloroform	0.16	0.025		0.76	0.12	1	8/27/13 20:16		WSD
Chloromethane	ND	0.10		ND	0.21	1	8/27/13 20:16		WSD
Cyclohexane	ND	0.050		ND	0.17	1	8/27/13 20:16		WSD
Dibromochloromethane	ND	0.025		ND	0.21	1	8/27/13 20:16		WSD
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/27/13 20:16		WSD
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/27/13 20:16		WSD
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/27/13 20:16		WSD
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/27/13 20:16		WSD
Dichlorodifluoromethane (Freon 12)	0.37	0.050		1.8	0.25	1	8/27/13 20:16		WSD
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/27/13 20:16		WSD
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/27/13 20:16		WSD
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/27/13 20:16		WSD
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/27/13 20:16		WSD
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/27/13 20:16		WSD
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/27/13 20:16		WSD
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/27/13 20:16		WSD
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/27/13 20:16		WSD
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/27/13 20:16		WSD
1,4-Dioxane	ND	0.50		ND	1.8	1	8/27/13 20:16		WSD

ANALYTICAL RESULTS

Project Location: TideWater
 Date Received: 8/26/2013
Field Sample #: SG-114S
Sample ID: 13H0996-02
 Sample Matrix: Soil Gas
 Sampled: 8/23/2013 12:43

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1363
 Canister Size: 3 liter
 Flow Controller ID: 4067
 Sample Type: 15 min

Work Order: 13H0996
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -2.3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Ethanol	ND	2.0	V-05	ND	3.8	1	8/27/13 20:16	WSD
Ethyl Acetate	1.7	0.050		6.3	0.18	1	8/27/13 20:16	WSD
Ethylbenzene	0.12	0.050		0.50	0.22	1	8/27/13 20:16	WSD
4-Ethyltoluene	0.095	0.050		0.47	0.25	1	8/27/13 20:16	WSD
Heptane	ND	0.050		ND	0.20	1	8/27/13 20:16	WSD
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/27/13 20:16	WSD
Hexane	ND	2.0		ND	7.0	1	8/27/13 20:16	WSD
2-Hexanone (MBK)	0.11	0.050		0.43	0.20	1	8/27/13 20:16	WSD
Indane	ND	0.13	L-03, V-05	ND	0.62	1	8/27/13 20:16	WSD
Indene	ND	0.13	L-03	ND	0.63	1	8/27/13 20:16	WSD
Isopropanol	ND	2.0		ND	4.9	1	8/27/13 20:16	WSD
Isopropylbenzene (Cumene)	ND	0.13	L-03, V-05	ND	0.62	1	8/27/13 20:16	WSD
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/27/13 20:16	WSD
Methylene Chloride	ND	0.50		ND	1.7	1	8/27/13 20:16	WSD
4-Methyl-2-pentanone (MIBK)	ND	0.050		ND	0.20	1	8/27/13 20:16	WSD
Naphthalene	2.5	0.050		13	0.26	1	8/27/13 20:16	WSD
Propene	ND	2.0		ND	3.4	1	8/27/13 20:16	WSD
Styrene	0.056	0.050		0.24	0.21	1	8/27/13 20:16	WSD
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/27/13 20:16	WSD
Tetrachloroethylene	17	0.025		120	0.17	1	8/27/13 20:16	WSD
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/27/13 20:16	WSD
Toluene	1.3	0.050		4.8	0.19	1	8/27/13 20:16	WSD
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/27/13 20:16	WSD
1,1,1-Trichloroethane	0.10	0.025		0.56	0.14	1	8/27/13 20:16	WSD
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/27/13 20:16	WSD
Trichloroethylene	0.62	0.025		3.4	0.13	1	8/27/13 20:16	WSD
Trichlorofluoromethane (Freon 11)	0.27	0.050		1.5	0.28	1	8/27/13 20:16	WSD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.094	0.050		0.72	0.38	1	8/27/13 20:16	WSD
1,2,4-Trimethylbenzene	0.50	0.050		2.5	0.25	1	8/27/13 20:16	WSD
1,3,5-Trimethylbenzene	0.13	0.050		0.63	0.25	1	8/27/13 20:16	WSD
Vinyl Acetate	ND	1.0		ND	3.5	1	8/27/13 20:16	WSD
Vinyl Chloride	ND	0.025		ND	0.064	1	8/27/13 20:16	WSD
m&p-Xylene	0.46	0.10		2.0	0.43	1	8/27/13 20:16	WSD
o-Xylene	0.21	0.050		0.92	0.22	1	8/27/13 20:16	WSD

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	101	70-130	8/27/13 20:16

ANALYTICAL RESULTS

Project Location: TideWater
 Date Received: 8/26/2013
Field Sample #: SG-114S
Sample ID: 13H0996-02
 Sample Matrix: Soil Gas
 Sampled: 8/23/2013 12:43

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1363
 Canister Size: 3 liter
 Flow Controller ID: 4067
 Sample Type: 15 min

Work Order: 13H0996
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -2.3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Date/Time		
	Results	RL	Flag	Results	RL	Dilution	Analyzed	Analyst
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		106			70-130		8/27/13 20:16	

ANALYTICAL RESULTS

Project Location: TideWater
 Date Received: 8/26/2013
Field Sample #: SG-118S
Sample ID: 13H0996-03
 Sample Matrix: Soil Gas
 Sampled: 8/23/2013 11:18

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1374
 Canister Size: 3 liter
 Flow Controller ID: 4069
 Sample Type: 15 min

Work Order: 13H0996
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -4.2
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analized		
Helium	ND	0.40		1	8/26/13 18:29		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Acetone	11	2.0		26	4.8	1	8/27/13 20:58		WSD
Benzene	0.46	0.050		1.5	0.16	1	8/27/13 20:58		WSD
Benzyl chloride	ND	0.050		ND	0.26	1	8/27/13 20:58		WSD
Bromodichloromethane	ND	0.025		ND	0.17	1	8/27/13 20:58		WSD
Bromoform	ND	0.050		ND	0.52	1	8/27/13 20:58		WSD
Bromomethane	ND	0.050		ND	0.19	1	8/27/13 20:58		WSD
1,3-Butadiene	ND	0.050		ND	0.11	1	8/27/13 20:58		WSD
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/27/13 20:58		WSD
Carbon Disulfide	1.1	0.50		3.3	1.6	1	8/27/13 20:58		WSD
Carbon Tetrachloride	ND	0.025		ND	0.16	1	8/27/13 20:58		WSD
Chlorobenzene	ND	0.050		ND	0.23	1	8/27/13 20:58		WSD
Chloroethane	ND	0.050		ND	0.13	1	8/27/13 20:58		WSD
Chloroform	0.14	0.025		0.68	0.12	1	8/27/13 20:58		WSD
Chloromethane	0.11	0.10		0.22	0.21	1	8/27/13 20:58		WSD
Cyclohexane	ND	0.050		ND	0.17	1	8/27/13 20:58		WSD
Dibromochloromethane	ND	0.025		ND	0.21	1	8/27/13 20:58		WSD
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/27/13 20:58		WSD
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/27/13 20:58		WSD
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/27/13 20:58		WSD
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/27/13 20:58		WSD
Dichlorodifluoromethane (Freon 12)	0.37	0.050		1.8	0.25	1	8/27/13 20:58		WSD
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/27/13 20:58		WSD
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/27/13 20:58		WSD
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/27/13 20:58		WSD
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/27/13 20:58		WSD
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/27/13 20:58		WSD
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/27/13 20:58		WSD
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/27/13 20:58		WSD
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/27/13 20:58		WSD
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/27/13 20:58		WSD
1,4-Dioxane	ND	0.50		ND	1.8	1	8/27/13 20:58		WSD

ANALYTICAL RESULTS

Project Location: TideWater
 Date Received: 8/26/2013
Field Sample #: SG-118S
Sample ID: 13H0996-03
 Sample Matrix: Soil Gas
 Sampled: 8/23/2013 11:18

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1374
 Canister Size: 3 liter
 Flow Controller ID: 4069
 Sample Type: 15 min

Work Order: 13H0996
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -4.2
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Ethanol	ND	2.0	V-05	ND	3.8	1	8/27/13 20:58	WSD
Ethyl Acetate	5.8	0.050		21	0.18	1	8/27/13 20:58	WSD
Ethylbenzene	0.34	0.050		1.5	0.22	1	8/27/13 20:58	WSD
4-Ethyltoluene	0.13	0.050		0.65	0.25	1	8/27/13 20:58	WSD
Heptane	ND	0.050		ND	0.20	1	8/27/13 20:58	WSD
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/27/13 20:58	WSD
Hexane	ND	2.0		ND	7.0	1	8/27/13 20:58	WSD
2-Hexanone (MBK)	0.15	0.050		0.61	0.20	1	8/27/13 20:58	WSD
Indane	0.13	0.13	L-03, V-05	0.65	0.62	1	8/27/13 20:58	WSD
Indene	0.30	0.13	L-03	1.4	0.63	1	8/27/13 20:58	WSD
Isopropanol	ND	2.0		ND	4.9	1	8/27/13 20:58	WSD
Isopropylbenzene (Cumene)	ND	0.13	L-03, V-05	ND	0.62	1	8/27/13 20:58	WSD
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/27/13 20:58	WSD
Methylene Chloride	0.74	0.50		2.6	1.7	1	8/27/13 20:58	WSD
4-Methyl-2-pentanone (MIBK)	ND	0.050		ND	0.20	1	8/27/13 20:58	WSD
Naphthalene	2.3	0.050		12	0.26	1	8/27/13 20:58	WSD
Propene	ND	2.0		ND	3.4	1	8/27/13 20:58	WSD
Styrene	0.23	0.050		0.98	0.21	1	8/27/13 20:58	WSD
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/27/13 20:58	WSD
Tetrachloroethylene	2.4	0.025		17	0.17	1	8/27/13 20:58	WSD
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/27/13 20:58	WSD
Toluene	2.7	0.050		10	0.19	1	8/27/13 20:58	WSD
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/27/13 20:58	WSD
1,1,1-Trichloroethane	ND	0.025		ND	0.14	1	8/27/13 20:58	WSD
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/27/13 20:58	WSD
Trichloroethylene	ND	0.025		ND	0.13	1	8/27/13 20:58	WSD
Trichlorofluoromethane (Freon 11)	0.62	0.050		3.5	0.28	1	8/27/13 20:58	WSD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.094	0.050		0.72	0.38	1	8/27/13 20:58	WSD
1,2,4-Trimethylbenzene	0.52	0.050		2.6	0.25	1	8/27/13 20:58	WSD
1,3,5-Trimethylbenzene	0.13	0.050		0.65	0.25	1	8/27/13 20:58	WSD
Vinyl Acetate	ND	1.0		ND	3.5	1	8/27/13 20:58	WSD
Vinyl Chloride	ND	0.025		ND	0.064	1	8/27/13 20:58	WSD
m&p-Xylene	0.66	0.10		2.9	0.43	1	8/27/13 20:58	WSD
o-Xylene	0.29	0.050		1.3	0.22	1	8/27/13 20:58	WSD

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	101	70-130	8/27/13 20:58

ANALYTICAL RESULTS

Project Location: TideWater
 Date Received: 8/26/2013
Field Sample #: SG-118S
Sample ID: 13H0996-03
 Sample Matrix: Soil Gas
 Sampled: 8/23/2013 11:18

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1374
 Canister Size: 3 liter
 Flow Controller ID: 4069
 Sample Type: 15 min

Work Order: 13H0996
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -4.2
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Date/Time		
	Results	RL	Flag	Results	RL	Dilution	Analyzed	Analyst
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		107			70-130		8/27/13 20:58	

ANALYTICAL RESULTS

Project Location: TideWater
 Date Received: 8/26/2013
Field Sample #: BD#3
Sample ID: 13H0996-04
 Sample Matrix: Soil Gas
 Sampled: 8/23/2013 11:18

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1368
 Canister Size: 3 liter
 Flow Controller ID: 4068
 Sample Type: 15 min

Work Order: 13H0996
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -5.2
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA 3C

Analyte	%		Flag	Dilution	Date/Time		Analyst
	Results	RL			Analyzed		
Helium	ND	0.40		1	8/26/13 18:53		TPH

EPA TO-15

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Acetone	11	2.0		25	4.8	1	8/27/13 21:40		WSD
Benzene	0.48	0.050		1.5	0.16	1	8/27/13 21:40		WSD
Benzyl chloride	ND	0.050		ND	0.26	1	8/27/13 21:40		WSD
Bromodichloromethane	ND	0.025		ND	0.17	1	8/27/13 21:40		WSD
Bromoform	ND	0.050		ND	0.52	1	8/27/13 21:40		WSD
Bromomethane	ND	0.050		ND	0.19	1	8/27/13 21:40		WSD
1,3-Butadiene	ND	0.050		ND	0.11	1	8/27/13 21:40		WSD
2-Butanone (MEK)	ND	2.0		ND	5.9	1	8/27/13 21:40		WSD
Carbon Disulfide	1.0	0.50		3.2	1.6	1	8/27/13 21:40		WSD
Carbon Tetrachloride	0.051	0.025		0.32	0.16	1	8/27/13 21:40		WSD
Chlorobenzene	ND	0.050		ND	0.23	1	8/27/13 21:40		WSD
Chloroethane	ND	0.050		ND	0.13	1	8/27/13 21:40		WSD
Chloroform	0.14	0.025		0.71	0.12	1	8/27/13 21:40		WSD
Chloromethane	ND	0.10		ND	0.21	1	8/27/13 21:40		WSD
Cyclohexane	ND	0.050		ND	0.17	1	8/27/13 21:40		WSD
Dibromochloromethane	ND	0.025		ND	0.21	1	8/27/13 21:40		WSD
1,2-Dibromoethane (EDB)	ND	0.025		ND	0.19	1	8/27/13 21:40		WSD
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	8/27/13 21:40		WSD
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	8/27/13 21:40		WSD
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	8/27/13 21:40		WSD
Dichlorodifluoromethane (Freon 12)	0.35	0.050		1.8	0.25	1	8/27/13 21:40		WSD
1,1-Dichloroethane	ND	0.025		ND	0.10	1	8/27/13 21:40		WSD
1,2-Dichloroethane	ND	0.025		ND	0.10	1	8/27/13 21:40		WSD
1,1-Dichloroethylene	ND	0.025		ND	0.099	1	8/27/13 21:40		WSD
cis-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/27/13 21:40		WSD
trans-1,2-Dichloroethylene	ND	0.025		ND	0.099	1	8/27/13 21:40		WSD
1,2-Dichloropropane	ND	0.025		ND	0.12	1	8/27/13 21:40		WSD
cis-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/27/13 21:40		WSD
trans-1,3-Dichloropropene	ND	0.025		ND	0.11	1	8/27/13 21:40		WSD
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	8/27/13 21:40		WSD
1,4-Dioxane	ND	0.50		ND	1.8	1	8/27/13 21:40		WSD

ANALYTICAL RESULTS

Project Location: TideWater
 Date Received: 8/26/2013
Field Sample #: BD#3
Sample ID: 13H0996-04
 Sample Matrix: Soil Gas
 Sampled: 8/23/2013 11:18

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1368
 Canister Size: 3 liter
 Flow Controller ID: 4068
 Sample Type: 15 min

Work Order: 13H0996
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -5.2
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag	Results	RL			
Ethanol	ND	2.0	V-05	ND	3.8	1	8/27/13 21:40	WSD
Ethyl Acetate	5.6	0.050		20	0.18	1	8/27/13 21:40	WSD
Ethylbenzene	0.34	0.050		1.5	0.22	1	8/27/13 21:40	WSD
4-Ethyltoluene	0.14	0.050		0.68	0.25	1	8/27/13 21:40	WSD
Heptane	ND	0.050		ND	0.20	1	8/27/13 21:40	WSD
Hexachlorobutadiene	ND	0.050		ND	0.53	1	8/27/13 21:40	WSD
Hexane	ND	2.0		ND	7.0	1	8/27/13 21:40	WSD
2-Hexanone (MBK)	0.16	0.050		0.66	0.20	1	8/27/13 21:40	WSD
Indane	0.13	0.13	L-03, V-05	0.63	0.62	1	8/27/13 21:40	WSD
Indene	0.28	0.13	L-03	1.3	0.63	1	8/27/13 21:40	WSD
Isopropanol	ND	2.0		ND	4.9	1	8/27/13 21:40	WSD
Isopropylbenzene (Cumene)	ND	0.13	L-03, V-05	ND	0.62	1	8/27/13 21:40	WSD
Methyl tert-Butyl Ether (MTBE)	ND	0.050		ND	0.18	1	8/27/13 21:40	WSD
Methylene Chloride	ND	0.50		ND	1.7	1	8/27/13 21:40	WSD
4-Methyl-2-pentanone (MIBK)	ND	0.050		ND	0.20	1	8/27/13 21:40	WSD
Naphthalene	2.3	0.050		12	0.26	1	8/27/13 21:40	WSD
Propene	ND	2.0		ND	3.4	1	8/27/13 21:40	WSD
Styrene	0.23	0.050		0.98	0.21	1	8/27/13 21:40	WSD
1,1,2,2-Tetrachloroethane	ND	0.025		ND	0.17	1	8/27/13 21:40	WSD
Tetrachloroethylene	2.4	0.025		16	0.17	1	8/27/13 21:40	WSD
Tetrahydrofuran	ND	0.050		ND	0.15	1	8/27/13 21:40	WSD
Toluene	2.6	0.050		9.9	0.19	1	8/27/13 21:40	WSD
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	8/27/13 21:40	WSD
1,1,1-Trichloroethane	ND	0.025		ND	0.14	1	8/27/13 21:40	WSD
1,1,2-Trichloroethane	ND	0.025		ND	0.14	1	8/27/13 21:40	WSD
Trichloroethylene	ND	0.025		ND	0.13	1	8/27/13 21:40	WSD
Trichlorofluoromethane (Freon 11)	0.61	0.050		3.4	0.28	1	8/27/13 21:40	WSD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.094	0.050		0.72	0.38	1	8/27/13 21:40	WSD
1,2,4-Trimethylbenzene	0.52	0.050		2.6	0.25	1	8/27/13 21:40	WSD
1,3,5-Trimethylbenzene	0.13	0.050		0.65	0.25	1	8/27/13 21:40	WSD
Vinyl Acetate	ND	1.0		ND	3.5	1	8/27/13 21:40	WSD
Vinyl Chloride	ND	0.025		ND	0.064	1	8/27/13 21:40	WSD
m&p-Xylene	0.65	0.10		2.8	0.43	1	8/27/13 21:40	WSD
o-Xylene	0.28	0.050		1.2	0.22	1	8/27/13 21:40	WSD

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	102	70-130	8/27/13 21:40

ANALYTICAL RESULTS

Project Location: TideWater
 Date Received: 8/26/2013
Field Sample #: BD#3
Sample ID: 13H0996-04
 Sample Matrix: Soil Gas
 Sampled: 8/23/2013 11:18

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1368
 Canister Size: 3 liter
 Flow Controller ID: 4068
 Sample Type: 15 min

Work Order: 13H0996
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -4
 Receipt Vacuum(in Hg): -5.2
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3		Date/Time		
	Results	RL	Flag	Results	RL	Dilution	Analyzed	Analyst
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (2)		107			70-130		8/27/13 21:40	

Sample Extraction Data

Prep Method: TO-15 Prep-EPA 3C

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
13H0996-01 [SG-110S]	B079528	1.5	1	N/A	1000	0.5	0.75	08/26/13
13H0996-02 [SG-114S]	B079528	1.5	1	N/A	1000	0.5	0.75	08/26/13
13H0996-03 [SG-118S]	B079528	1.5	1	N/A	1000	0.5	0.75	08/26/13
13H0996-04 [BD#3]	B079528	1.5	1	N/A	1000	0.5	0.75	08/26/13

Prep Method: TO-15 Prep-EPA TO-15

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
13H0996-01 [SG-110S]	B079724	2	1	N/A	1000	400	800	08/27/13
13H0996-02 [SG-114S]	B079724	1.5	1	N/A	1000	400	600	08/27/13
13H0996-03 [SG-118S]	B079724	1.5	1	N/A	1000	400	600	08/27/13
13H0996-04 [BD#3]	B079724	1.5	1	N/A	1000	400	600	08/27/13

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit	

Batch B079724 - TO-15 Prep

Blank (B079724-BLK1)

Prepared & Analyzed: 08/27/13

Acetone	ND	1.0								
Benzene	ND	0.025								
Benzyl chloride	ND	0.025								
Bromodichloromethane	ND	0.012								
Bromoform	ND	0.025								
Bromomethane	ND	0.025								
1,3-Butadiene	ND	0.025								
2-Butanone (MEK)	ND	1.0								
Carbon Disulfide	ND	0.25								
Carbon Tetrachloride	ND	0.012								
Chlorobenzene	ND	0.025								
Chloroethane	ND	0.025								
Chloroform	ND	0.012								
Chloromethane	ND	0.050								
Cyclohexane	ND	0.025								
Dibromochloromethane	ND	0.012								
1,2-Dibromoethane (EDB)	ND	0.012								
1,2-Dichlorobenzene	ND	0.025								
1,3-Dichlorobenzene	ND	0.025								
1,4-Dichlorobenzene	ND	0.025								
Dichlorodifluoromethane (Freon 12)	ND	0.025								
1,1-Dichloroethane	ND	0.012								
1,2-Dichloroethane	ND	0.012								
1,1-Dichloroethylene	ND	0.012								
cis-1,2-Dichloroethylene	ND	0.012								
trans-1,2-Dichloroethylene	ND	0.012								
1,2-Dichloropropane	ND	0.012								
cis-1,3-Dichloropropene	ND	0.012								
trans-1,3-Dichloropropene	ND	0.012								
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.025								
1,4-Dioxane	ND	0.25								
Ethanol	ND	1.0								V-05
Ethyl Acetate	ND	0.025								
Ethylbenzene	ND	0.025								
4-Ethyltoluene	ND	0.025								
Heptane	ND	0.025								
Hexachlorobutadiene	ND	0.025								
Hexane	ND	1.0								
2-Hexanone (MBK)	ND	0.025								
Indane	ND	0.064								L-03, V-05
Indene	ND	0.066								L-03
Isopropanol	ND	1.0								
Isopropylbenzene (Cumene)	ND	0.064								L-03, V-05
Methyl tert-Butyl Ether (MTBE)	ND	0.025								
Methylene Chloride	ND	0.25								
4-Methyl-2-pentanone (MIBK)	ND	0.025								

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		

Batch B079724 - TO-15 Prep

Blank (B079724-BLK1)

Prepared & Analyzed: 08/27/13

Naphthalene	ND	0.025									
Propene	ND	1.0									
Styrene	ND	0.025									
1,1,2,2-Tetrachloroethane	ND	0.012									
Tetrachloroethylene	ND	0.012									
Tetrahydrofuran	ND	0.025									
Toluene	ND	0.025									
1,2,4-Trichlorobenzene	ND	0.025									
1,1,1-Trichloroethane	ND	0.012									
1,1,2-Trichloroethane	ND	0.012									
Trichloroethylene	ND	0.012									
Trichlorofluoromethane (Freon 11)	ND	0.025									
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.025									
1,2,4-Trimethylbenzene	ND	0.025									
1,3,5-Trimethylbenzene	ND	0.025									
Vinyl Acetate	ND	0.50									
Vinyl Chloride	ND	0.012									
m&p-Xylene	ND	0.050									
o-Xylene	ND	0.025									
<hr/>											
Surrogate: 4-Bromofluorobenzene (1)	7.47				8.00		93.4		70-130		
Surrogate: 4-Bromofluorobenzene (2)	7.04				8.00		88.1		70-130		

LCS (B079724-BS1)

Prepared & Analyzed: 08/27/13

Acetone	6.12				5.00		122		70-130		
Benzene	4.71				5.00		94.2		70-130		
Benzyl chloride	5.20				5.00		104		70-130		
Bromodichloromethane	5.22				5.00		104		70-130		
Bromoform	5.37				5.00		107		70-130		
Bromomethane	5.07				5.00		101		70-130		
1,3-Butadiene	4.80				5.00		96.0		70-130		
2-Butanone (MEK)	4.92				5.00		98.4		70-130		
Carbon Disulfide	4.87				5.00		97.3		70-130		
Carbon Tetrachloride	4.94				5.00		98.9		70-130		
Chlorobenzene	5.15				5.00		103		70-130		
Chloroethane	4.84				5.00		96.8		70-130		
Chloroform	5.22				5.00		104		70-130		
Chloromethane	4.65				5.00		93.1		70-130		
Cyclohexane	4.43				5.00		88.6		70-130		
Dibromochloromethane	5.18				5.00		104		70-130		
1,2-Dibromoethane (EDB)	5.13				5.00		103		70-130		
1,2-Dichlorobenzene	5.26				5.00		105		70-130		
1,3-Dichlorobenzene	5.36				5.00		107		70-130		
1,4-Dichlorobenzene	5.27				5.00		105		70-130		
Dichlorodifluoromethane (Freon 12)	5.07				5.00		101		70-130		
1,1-Dichloroethane	4.91				5.00		98.2		70-130		
1,2-Dichloroethane	5.15				5.00		103		70-130		

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		
Batch B079724 - TO-15 Prep											
LCS (B079724-BS1)											
Prepared & Analyzed: 08/27/13											
1,1-Dichloroethylene	4.48				5.00		89.5	70-130			
cis-1,2-Dichloroethylene	5.21				5.00		104	70-130			
trans-1,2-Dichloroethylene	4.89				5.00		97.9	70-130			
1,2-Dichloropropane	4.80				5.00		95.9	70-130			
cis-1,3-Dichloropropene	4.92				5.00		98.3	70-130			
trans-1,3-Dichloropropene	5.08				5.00		102	70-130			
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	5.14				5.00		103	70-130			
1,4-Dioxane	5.30				5.00		106	70-130			
Ethanol	3.61				5.00		72.2	70-130			V-05
Ethyl Acetate	5.43				5.00		109	70-130			
Ethylbenzene	4.95				5.00		99.1	70-130			
4-Ethyltoluene	4.87				5.00		97.3	70-130			
Heptane	4.76				5.00		95.1	70-130			
Hexachlorobutadiene	5.45				5.00		109	70-130			
Hexane	4.80				5.00		96.1	70-130			
2-Hexanone (MBK)	4.32				5.00		86.3	70-130			
Indane	0.612				1.29		47.4 *	70-130			L-03, V-05
Indene	0.857				1.32		64.9 *	70-130			L-03
Isopropanol	4.21				5.00		84.2	70-130			
Isopropylbenzene (Cumene)	0.636				1.27		50.1 *	70-130			L-03, V-05
Methyl tert-Butyl Ether (MTBE)	4.95				5.00		99.0	70-130			
Methylene Chloride	4.35				5.00		87.0	70-130			
4-Methyl-2-pentanone (MIBK)	4.71				5.00		94.1	70-130			
Naphthalene	5.46				5.00		109	70-130			
Propene	5.19				5.00		104	70-130			
Styrene	5.01				5.00		100	70-130			
1,1,1,2-Tetrachloroethane	5.44				5.00		109	70-130			
Tetrachloroethylene	4.97				5.00		99.4	70-130			
Tetrahydrofuran	4.91				5.00		98.1	70-130			
Toluene	5.01				5.00		100	70-130			
1,2,4-Trichlorobenzene	6.45				5.00		129	70-130			
1,1,1-Trichloroethane	4.74				5.00		94.9	70-130			
1,1,2-Trichloroethane	5.16				5.00		103	70-130			
Trichloroethylene	4.97				5.00		99.4	70-130			
Trichlorofluoromethane (Freon 11)	5.01				5.00		100	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	4.68				5.00		93.6	70-130			
1,2,4-Trimethylbenzene	5.14				5.00		103	70-130			
1,3,5-Trimethylbenzene	5.05				5.00		101	70-130			
Vinyl Acetate	4.72				5.00		94.4	70-130			
Vinyl Chloride	4.82				5.00		96.5	70-130			
m&p-Xylene	10.3				10.0		103	70-130			
o-Xylene	5.19				5.00		104	70-130			
Surrogate: 4-Bromofluorobenzene (1)	7.78				8.00		97.3	70-130			
Surrogate: 4-Bromofluorobenzene (2)	7.39				8.00		92.4	70-130			

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level ppbv	Source Result	%REC Limits	RPD	RPD Limit	Flag
	Results	RL	Results	RL						
Batch B079724 - TO-15 Prep										
Duplicate (B079724-DUP1)		Source: 13H0996-04				Prepared & Analyzed: 08/27/13				
Acetone	10	2.0	24	4.8		11		6.37	25	
Benzene	0.43	0.050	1.4	0.16		0.48		10.7	25	
Benzyl chloride	ND	0.050	ND	0.26		ND			25	
Bromodichloromethane	ND	0.025	ND	0.17		ND			25	
Bromoform	ND	0.050	ND	0.52		ND			25	
Bromomethane	ND	0.050	ND	0.19		ND			25	
1,3-Butadiene	ND	0.050	ND	0.11		ND			25	
2-Butanone (MEK)	0.97	2.0	2.9	5.9		1.1		9.23	25	
Carbon Disulfide	0.97	0.50	3.0	1.6		1.0		5.89	25	
Carbon Tetrachloride	ND	0.025	ND	0.16		0.051			25	
Chlorobenzene	ND	0.050	ND	0.23		ND			25	
Chloroethane	ND	0.050	ND	0.13		ND			25	
Chloroform	0.14	0.025	0.69	0.12		0.14		2.09	25	
Chloromethane	ND	0.10	ND	0.21		0.077			25	
Cyclohexane	ND	0.050	ND	0.17		ND			25	
Dibromochloromethane	ND	0.025	ND	0.21		ND			25	
1,2-Dibromoethane (EDB)	ND	0.025	ND	0.19		ND			25	
1,2-Dichlorobenzene	ND	0.050	ND	0.30		ND			25	
1,3-Dichlorobenzene	ND	0.050	ND	0.30		ND			25	
1,4-Dichlorobenzene	ND	0.050	ND	0.30		ND			25	
Dichlorodifluoromethane (Freon 12)	0.36	0.050	1.8	0.25		0.35		1.40	25	
1,1-Dichloroethane	ND	0.025	ND	0.10		ND			25	
1,2-Dichloroethane	ND	0.025	ND	0.10		ND			25	
1,1-Dichloroethylene	ND	0.025	ND	0.099		ND			25	
cis-1,2-Dichloroethylene	ND	0.025	ND	0.099		ND			25	
trans-1,2-Dichloroethylene	ND	0.025	ND	0.099		ND			25	
1,2-Dichloropropane	ND	0.025	ND	0.12		ND			25	
cis-1,3-Dichloropropene	ND	0.025	ND	0.11		ND			25	
trans-1,3-Dichloropropene	ND	0.025	ND	0.11		ND			25	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050	ND	0.35		ND			25	
1,4-Dioxane	ND	0.50	ND	1.8		ND			25	
Ethanol	1.0	2.0	1.9	3.8		1.0		0.388	25	V-05
Ethyl Acetate	5.4	0.050	19	0.18		5.6		4.83	25	
Ethylbenzene	0.32	0.050	1.4	0.22		0.34		5.16	25	
4-Ethyltoluene	0.13	0.050	0.64	0.25		0.14		5.97	25	
Heptane	ND	0.050	ND	0.20		ND			25	
Hexachlorobutadiene	ND	0.050	ND	0.53		ND			25	
Hexane	0.30	2.0	1.0	7.0		0.29		2.40	25	
2-Hexanone (MBK)	0.15	0.050	0.61	0.20		0.16		7.69	25	
Indane	0.13	0.13	0.62	0.62		0.13		1.55	25	L-03, V-05
Indene	0.27	0.13	1.3	0.63		0.28		4.32	25	L-03
Isopropanol	0.19	2.0	0.47	4.9		0.21		8.08	25	
Isopropylbenzene (Cumene)	ND	0.13	ND	0.62		ND			25	L-03, V-05
Methyl tert-Butyl Ether (MTBE)	ND	0.050	ND	0.18		ND			25	
Methylene Chloride	0.41	0.50	1.4	1.7		0.35		16.9	25	
4-Methyl-2-pentanone (MIBK)	ND	0.050	ND	0.20		ND			25	

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	RPD	RPD Limit	Flag
	Results	RL	Results	RL	ppbv	Result	%REC	RPD		
Batch B079724 - TO-15 Prep										
Duplicate (B079724-DUP1)	Source: 13H0996-04				Prepared & Analyzed: 08/27/13					
Naphthalene	2.2	0.050	12	0.26		2.3		4.71	25	
Propene	0.91	2.0	1.6	3.4		0.97		6.27	25	
Styrene	0.21	0.050	0.90	0.21		0.23		8.62	25	
1,1,2,2-Tetrachloroethane	ND	0.025	ND	0.17		ND			25	
Tetrachloroethylene	2.2	0.025	15	0.17		2.4		7.46	25	
Tetrahydrofuran	ND	0.050	ND	0.15		ND			25	
Toluene	2.5	0.050	9.3	0.19		2.6		6.28	25	
1,2,4-Trichlorobenzene	ND	0.050	ND	0.37		ND			25	
1,1,1-Trichloroethane	ND	0.025	ND	0.14		ND			25	
1,1,2-Trichloroethane	ND	0.025	ND	0.14		ND			25	
Trichloroethylene	ND	0.025	ND	0.13		ND			25	
Trichlorofluoromethane (Freon 11)	0.58	0.050	3.2	0.28		0.61		5.73	25	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.085	0.050	0.65	0.38		0.094		10.1	25	
1,2,4-Trimethylbenzene	0.49	0.050	2.4	0.25		0.52		6.73	25	
1,3,5-Trimethylbenzene	0.12	0.050	0.59	0.25		0.13		8.70	25	
Vinyl Acetate	ND	1.0	ND	3.5		ND			25	
Vinyl Chloride	ND	0.025	ND	0.064		ND			25	
m&p-Xylene	0.62	0.10	2.7	0.43		0.65		4.72	25	
o-Xylene	0.26	0.050	1.2	0.22		0.28		5.15	25	
Surrogate: 4-Bromofluorobenzene (1)	8.08				8.00		101	70-130		
Surrogate: 4-Bromofluorobenzene (2)	8.45				8.00		106	70-130		

FLAG/QUALIFIER SUMMARY

- * QC result is outside of established limits.
 - † Wide recovery limits established for difficult compound.
 - ‡ Wide RPD limits established for difficult compound.
 - # Data exceeded client recommended or regulatory level
- Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
No results have been blank subtracted unless specified in the case narrative section.
- L-03 Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.
 - V-05 Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA TO-15 in Air</i>	
Acetone	AIHA
Benzene	AIHA,FL,NJ,NY,VA
Benzyl chloride	AIHA,FL,NJ,NY,VA
Bromodichloromethane	AIHA,NJ,VA
Bromoform	AIHA,NJ,VA
Bromomethane	AIHA,FL,NJ,NY
1,3-Butadiene	AIHA,NJ,VA
2-Butanone (MEK)	AIHA,FL,NJ,NY,VA
Carbon Disulfide	AIHA,NJ,VA
Carbon Tetrachloride	AIHA,FL,NJ,NY,VA
Chlorobenzene	AIHA,FL,NJ,NY,VA
Chloroethane	AIHA,FL,NJ,NY,VA
Chloroform	AIHA,FL,NJ,NY,VA
Chloromethane	AIHA,FL,NJ,NY,VA
Cyclohexane	AIHA,NJ,VA
Dibromochloromethane	AIHA,NY
1,2-Dibromoethane (EDB)	AIHA,NJ,NY
1,2-Dichlorobenzene	AIHA,FL,NJ,NY,VA
1,3-Dichlorobenzene	AIHA,NJ,NY
1,4-Dichlorobenzene	AIHA,FL,NJ,NY,VA
Dichlorodifluoromethane (Freon 12)	AIHA,NY
1,1-Dichloroethane	AIHA,FL,NJ,NY,VA
1,2-Dichloroethane	AIHA,FL,NJ,NY,VA
1,1-Dichloroethylene	AIHA,FL,NJ,NY,VA
cis-1,2-Dichloroethylene	AIHA,FL,NY,VA
trans-1,2-Dichloroethylene	AIHA,NJ,NY,VA
1,2-Dichloropropane	AIHA,FL,NJ,NY,VA
cis-1,3-Dichloropropene	AIHA,FL,NJ,NY,VA
trans-1,3-Dichloropropene	AIHA,NY
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	AIHA,NJ,VA
1,4-Dioxane	AIHA,NJ,VA
Ethanol	AIHA
Ethyl Acetate	AIHA
Ethylbenzene	AIHA,FL,NJ,NY,VA
4-Ethyltoluene	AIHA,NJ
Heptane	AIHA,NJ,NY,VA
Hexachlorobutadiene	AIHA,NJ,NY,VA
Hexane	AIHA,FL,NJ,NY,VA
2-Hexanone (MBK)	AIHA
Isopropanol	AIHA,NY
Isopropylbenzene (Cumene)	AIHA,NJ,NY
Methyl tert-Butyl Ether (MTBE)	AIHA,FL,NJ,NY,VA
Methylene Chloride	AIHA,FL,NJ,NY,VA
4-Methyl-2-pentanone (MIBK)	AIHA,FL,NJ,NY
Naphthalene	NY
Propene	AIHA
Styrene	AIHA,FL,NJ,NY,VA

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA TO-15 in Air</i>	
1,1,2,2-Tetrachloroethane	AIHA,FL,NJ,NY,VA
Tetrachloroethylene	AIHA,FL,NJ,NY,VA
Tetrahydrofuran	AIHA
Toluene	AIHA,FL,NJ,NY,VA
1,2,4-Trichlorobenzene	AIHA,NJ,NY,VA
1,1,1-Trichloroethane	AIHA,FL,NJ,NY,VA
1,1,2-Trichloroethane	AIHA,FL,NJ,NY,VA
Trichloroethylene	AIHA,FL,NJ,NY,VA
Trichlorofluoromethane (Freon 11)	AIHA,NY
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	AIHA,NJ,NY,VA
1,2,4-Trimethylbenzene	AIHA,NJ,NY
1,3,5-Trimethylbenzene	AIHA,NJ,NY
Vinyl Acetate	AIHA,FL,NJ,NY,VA
Vinyl Chloride	AIHA,FL,NJ,NY,VA
m&p-Xylene	AIHA,FL,NJ,NY,VA
o-Xylene	AIHA,FL,NJ,NY,VA

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2014
MA	Massachusetts DEP	M-MA100	06/30/2014
CT	Connecticut Department of Public Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2014
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2014
RI	Rhode Island Department of Health	LAO00112	12/30/2013
NC	North Carolina Div. of Water Quality	652	12/31/2013
NJ	New Jersey DEP	MA007 NELAP	06/30/2014
FL	Florida Department of Health	E871027 NELAP	06/30/2014
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2014
WA	State of Washington Department of Ecology	C2065	02/23/2014
ME	State of Maine	2011028	06/9/2015
VA	Commonwealth of Virginia	460217	12/14/2013
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2012



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 Email: info@contestlabs.com
 www.contestlabs.com

AIR SAMPLE CHAIN OF CUSTODY RECORD

39 SPRUCE ST
 EAST LONGMEADOW, MA 01028

Company Name: GZA

Address: 520 BROOKWAY

PROVIDENCE, RI

Attention: MEG KUPATZICK / SOPHIA NEPHEW

Project Location: TIDNAPETA

Sampled By: SUBB

Proposal Provided? (For Billing purposes)

yes no

Telephone: (401) 421-4140

Project # 49654

Client PO #

DATA DELIVERY (check one):

FAX EMAIL WEBSITE CLIENT

Fax #: MARYALYN LEWIS

Email: Sophia.nepew@qda.com

Format: EXCEL PDF GIS KEY OTHER

Field ID	Sample Description	Media	Lab #	Start		Stop		Total	Flow Rate	Volume	Matrix Code*	ANALYSIS REQUESTED	"Hg"	Please fill out completely, sign, date and retain the yellow copy for your record
				Date Time	Date Time	Minutes Sampled	M ³ /Min. or L/Min.							
1	SG-110S	S	01	8/23/13 9:50	8/23/13 10:12	-	-	-	-	-	SG	X	X	Summa canisters are retained for a minimum of 14 days after sampling date prior to cleaning.
2	SG-114S	S	08	8/23/13 10:55	8/23/13 11:05	-	-	-	-	-	SG	X	X	Summa canisters will apply.
3	SG-110S	S	03	8/23/13 11:05	8/23/13 11:10	-	-	-	-	-	SG	X	X	Summa canisters will apply.
4	BD#3	S	04	8/23/13 11:05	8/23/13 11:10	-	-	-	-	-	SG	X	X	Summa canisters will apply.

Laboratory Comments:

CLIENT COMMENTS:

Relinquished by: (signature)

Received by: (signature)

Relinquished by: (signature)

Received by: (signature)

Relinquished by: (signature)

Received by: (signature)

Date/Time:

Date/Time:

Date/Time:

Turnaround **

7-Day

10-Day

Other

RUSH *

*24-Hr *48-Hr

*72-Hr *4-Day

Approval Required

Special Requirements

Regulations: MSDE/CTDEP

Data Enhancement/RCP? Y N

Enhanced Data Package Y N

(Surcharge Applies)

Required Detection Limits: MSDE/CTDEP

Other:

Matrix Code:

SG= SOIL GAS

IA= INDOOR AIR

AMB= AMBIENT

SS= SUB SLAB

D= DUP

BL= BLANK

O= other

Media Codes:

S= summa can

TB= tediard bag

P= PUF

T= tube

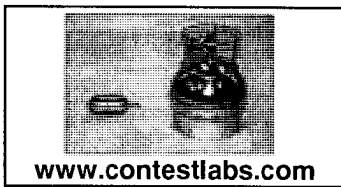
F= filter

C= cassette

O= Other

** TURNAROUND TIME STARTS AT 9:00 AM. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

AIHA, NELAP & WBE/DBE Certified



39 Spruce St.
 East Longmeadow, MA.
 01028
 P: 413-525-2332
 F: 413-525-6405

AIR Only Receipt Checklist

CLIENT NAME: GZA RECEIVED BY: PB DATE: 8-26

- 1) Was the chain(s) of custody relinquished and signed? Yes No
- 2) Does the chain agree with the samples? Yes No
 If not, explain:
- 3) Are all the samples in good condition? Yes No
 If not, explain:
- 4) Are there any samples "On Hold"? Yes No Stored where:
- 5) Are there any RUSH or SHORT HOLDING TIME samples? Yes No
 Who was notified _____ Date _____ Time _____

6) Location where samples are stored: Air Lab
 Permission to subcontract samples? Yes No
 (Walk-in clients only) if not already approved
 Client Signature: _____

Containers received at Con-Test		
	# of Containers	Types (Size, Duration)
Summa Cans	<u>5</u>	<u>3 lit</u>
Tedlar Bags		
Tubes		
Regulators	<u>6</u>	<u>15min</u>
Restrictors		
Tubing		
Other		

Unused Summas: 1377

Unused Regulators: 4072
4066

- 1) Was all media (used & unused checked into the WASP?
- 2) Were all returned summa cans, Restrictors, & Regulators documented as returned in the Air Lab Inbound/Outbound Excel Spreadsheet?

Laboratory Comments: 1392 4073 ~~4073~~
1363 ~~4073~~ 4067
1374 4068
1368 4069