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Engineers and Scientists

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Mr. Gary Jablonski
Rhode Island Department of Environmental Management
Office of Waste Management
235 Promenade Street
Providence, Rhode Island 02908

Re: Third Annual Interim Compliance Monitoring Report
(January 2010 through December 2010)
Charbert Division of NFA
Richmond, Rhode Island
RIDEM Case # 99-037

Dear Mr. Jablonski:

This letter with attachments serves as the third annual Interim Compliance Monitoring Report for the Charbert Facility located at 299 Church Street in Richmond (Alton), Rhode Island. The work was conducted in compliance with the December 18, 2007 Order of Approval, (as modified on September 17, 2009 and February 17, 2010) and the October 15, 2007 *Remedial Action Work Plan (RAWP)* that was prepared to address the applicable requirements of Section 9.00 of the RIDEM's Rules and Regulations for the Investigation and Remediation of Hazardous Materials Releases, (DEM-DSR01-93, Remediation Regulations). This report was prepared by GZA GeoEnvironmental, Inc., on behalf of our client, Charbert Division of NFA.

A Site locus plan is provided as Figure 1, Figure 2 is a detailed *Site Plan and Monitoring Well Locations Plan*, and the *Air Sparge and Soil Vapor Extraction Well Locations* are shown on Figure 3. The findings and conclusions presented in this report are subject to the Limitations provided in Appendix A.

The air sparge and soil vapor extraction system at the Charbert facility was damaged and turned off due to flooding on March 15, and March 30, 2010, respectively. The March flooding damaged the electrical components of the systems which were repaired and the systems resumed operation on August 26, 2010.

1.00 BACKGROUND

The air sparge and soil vapor extraction remedial system at the former Charbert Manufacturing Facility in Alton, Rhode Island was designed and installed by GZA between December of 2007 and January of 2008. The system was issued an Order of Approval (OA) from the Rhode Island Department of Environmental Management (RIDEM) on December 18, 2007 and began full scale operation on January 24, 2008. On September 17, 2009 RIDEM issued an Order of Approval Modification to include additional air sparge and soil vapor extraction wells proposed to address

oily soils associated with the oil line leak in the boiler room as reported in GZA's March 20, 2009 *Boiler Room Oil Line Leak.* The September 17, 2009 OA modification also approved additional air sparge and soil vapor extraction wells for an area of contaminated soils associated with the oil line leak and the chlorinated solvents reported in GZA's January 9, 2006 *Supplemental Site Investigation Report*, and petroleum impacted soils reported in GZA's May 12, 2009 *Technical Memorandum #2*. On February 17, 2010 RIDEM issued a second Order of Approval Modification to include three additional air sparge wells along the bank of the Wood River to address the chlorinated solvents reported in GZA's January 15, 2010 *Lagoon 5 Remediation Technical Memorandum #3.*

The air sparge system (AS) is designed to inject air into the soil aquifer and groundwater using a grid pattern of 1-inch diameter sparge wells. The purpose of the air injection is to introduce oxygen to enhance bioremediation and expedite the volatization of contaminants. The soil vapor extraction (SVE) system currently uses two blowers to apply vacuum to a series of 2-inch wells and/or trenches installed primarily above the groundwater table. The system collects the vapors from the natural breakdown and volatization of the contaminants generated by the air sparge system and also helps circulate oxygen rich air through unsaturated contaminated soils, stimulating bioremediation of organic contaminants (bioventing). The air collected by the SVE system is then filtered through activated carbon to collect the contaminants. The treated air is then discharged to the atmosphere.

The remedial system consists of an interior AS/SVE system located under the concrete floor in the approximate center of the mill building and an exterior AS/SVE system, primarily located under the rear maintenance area parking lot on the west side and south side of the mill building. The system controls, SVE blowers, and carbon filters are all located in the west end of the facility, near the boiler room. The air is supplied by a central air compressor system located in the eastern side of the mill building (see Figure 3).

1.10 SYSTEM MODIFICATIONS

In a letter to RIDEM dated September 10, 2009, GZA proposed modifications to the existing AS and SVE system to remediate TPH contamination observed in soils and groundwater beneath the facilities boiler room, and TPH and chlorinated hydrocarbons in soils within the exterior oil bunker/former UST area south of the building. These modifications were approved by RIDEM and, as noted above, an Order of Approval Modification was issued by the department on September 17, 2009. The modifications included the following:

- Addition of two SVE extraction wells and one air sparge well to the existing SVE/AS system to remediate oily soils associated with the oil line leak in the boiler room as reported in GZA's March 20, 2009 *Boiler Room Oil Line Leak*;
- The addition of five SVE extraction lines and three air sparge wells to the existing exterior SVE/AS system to remediate contaminated soils associated with the oil line leak and the chlorinated solvents identified to the south of the facility as reported in GZA's January 9, 2006 *Supplemental Site Investigation Report,* as well as petroleum impacted soils reported in GZA's May 12, 2009 *Technical Memorandum #2.*

GZA notified RIDEM in September of 2009 that the two new SVE wells in the boiler room would be activated on October 2, 2009 and in November of 2009 that the new air sparge well would begin operation on November 20, 2009. The two new boiler room SVE wells, (SVE-31 and SVE-32), are connected to the interior blower/control system and the new AS well, (AS-31), is monitored as part of the interior air sparge system but has an air supply separate from the interior AS system.

The five new exterior SVE lines (SVE-33 through 37) and control box in the oil bunker/former UST area were installed in 2009 and were expected to go on-line in March of 2010. The system was disabled by flooding in March and did not start operation until August of 2010. The work to connect the new SVE lines to the existing exterior SVE system was performed in May and June of 2010. In addition, the three new AS wells (AS-32, 33 and 34) were installed and connected to the exterior air sparge system at that time. As part of the expansion work, the existing 1-horsepower (HP) exterior blower was replaced by a 3-HP blower. The flooding in March of 2010 destroyed the existing 50-HP central rotary screw compressor and it was subsequently replaced with a 40 HP rotary screw compressor.

In a Technical Memorandum to RIDEM dated January 15, 2010, GZA proposed modifications to the existing exterior AS system to remediate chlorinated hydrocarbons in groundwater and soils between Old Lagoon 5 and the Wood River. These modifications were approved by RIDEM and an Order of Approval Modification was issued by the department on February 17, 2010. The modifications included the following:

- Addition of the three new deep overburden aquifer wells (i.e., GZ-24, GZ-25 and GZ-26) to the ICMP monitoring program, analysis to consist of VOCs;
- Installation and inclusion in the ICMP monitoring program of two new shallow overburden monitoring wells adjacent to GZ-25 and GZ-26, designated GZ-27 and GZ-28, to create deep/shallow clusters at each of these locations consistent with other monitoring installations at the Site; and
- Expansion of the existing air-sparge curtain approximately 90 feet to the west by the addition of three new sparge wells, designated AS-35, AS-36 and AS-37.

The work to perform the above RIDEM approved modifications was performed in May and June of 2010.

1.20 INTERIOR SYSTEMS

The interior AS system consists of 17 air injection wells (AS-1 through AS-16 and AS-31) that inject air approximately 25 to 30 feet below the floor of the mill. At this depth the air is injected approximately 19 to 24 feet below the groundwater surface. The interior SVE system consists of 18 soil vapor extraction wells (SVE-1 through SVE-16, SVE-31 and SVE-32) and 7 sub-slab vent wells (SSVW-1 through SSVW-7). The SVE wells are collecting vapors from 2 to 17 feet below the mill floor. The sub-slab vent wells are located around the perimeter of the interior system to remove any vapors that may collect under the concrete floors. The table below lists the interior remedial system specifics:

Sparge Air Supply: Central Rotary Screw Compressor (40 Hp)	
SVE Blower: 3 Horse Power	
Average Total Air Volume Injected	27 SCFM
Average Total Air Volume Removed	135 SCFM
Average AS Well Flow	1.6 SCFM
Average SVE Well Flow	5.8 SCFM

SCFM = Standard Cubic Feet per Minute

1.30 EXTERIOR SYSTEMS

The exterior AS system includes six new wells, for a total of 20 air injection wells (AS-17 through AS-30 and AS-32 through AS-37) that inject air approximately 20 to 25 feet below the ground surface. At this depth the air is injected approximately 15 to 20 feet below the groundwater surface. To reduce groundwater-born contaminant concentrations discharging to the Wood River, a line of 8-sparge wells (i.e., a sparge curtain) is located along the river bank between the river and the contaminated area. The SVE system consists of the original 14 soil vapor extraction trenches (SVE-17 through SVE-30) that are collecting vapors 2 feet below the ground surface, and the five new SVE trenches (SVE-33 and SVE-37) located between the oil bunker/former UST area. The table below lists the exterior remedial system specifics:

Sparge Air Supply: Central Rotary Screw Compressor (40 Hp)	
SVE Blower: 3 Horse Power	
Total Air Volume Injected	60 SCFM
Total Air Volume Removed	105 SCFM
Average AS Well Flow	3.0 SCFM
Average SVE Well Flow	6.3 SCFM

SCFM = Standard Cubic Feet per Minute

The remedial system operations are monitored weekly by Charbert personnel. GZA personnel conduct bi-monthly performance monitoring for the soil vapor extraction/air sparge system. The air flow and vacuum readings are taken bi-monthly at each well and the exhaust air flow rates and contaminant concentrations are evaluated with field equipment. Data collected at each SVE well includes total volatile organic compounds (by volume), carbon dioxide (percent by volume), methane (percent by volume), lower explosive limit (LEL) and oxygen level (percent by volume).

To monitor the effectiveness of the remedial system, an Interim Compliance Monitoring Plan (ICMP), as approved by RIDEM in December of 2007, is ongoing and started with a baseline round of groundwater samples collected from 14 groundwater monitoring wells (RIZ-1, RIZ-5, RIZ-6, RIZ-7, RIZ-13, GZ-3, GZ-7, GZ-19 to 23, GP-26 and GP-28) in January of 2008. The current ICMP program consist of 19 groundwater monitoring wells with the addition of GZ-24 through GZ-28 in 2010. On a quarterly basis groundwater samples are collected from 15 wells located around the perimeter of the contaminated area and samples are analyzed for volatile organic compounds (VOCs). Quarterly sampling and analysis consists of six field screening parameters (temperature, pH, oxidation/reduction potential (ORP), specific conductivity, turbidity, and dissolved oxygen) and laboratory analysis for volatile organic compounds (VOCs) via EPA Method 8260B. On a yearly basis groundwater samples are collected from two additional perimeter background wells (RIZ-1 and RIZ-6) and two monitoring wells that appear to be directly affected by adjacent air sparge wells (RIZ-5 and RIZ-13). The annual sample analysis is consistent with the quarterly program with the addition of total petroleum hydrocarbon analysis via EPA 8100M from the eleven shallow overburden wells (15 foot deep +/-) RIZ-1, RIZ-5, RIZ-6, RIZ-7, RIZ-13, GZ-21, GZ-23, GZ-27, GZ-28, GP-26 and GP-28.

2.00 MONITORING AND MAINTENANCE PROGRAM

The groundwater quality and SVE/AS system monitoring program that was performed at the Site between January 2010 and January 2011 is described in this section. In addition, the activities undertaken to maintain system performance are reviewed. During this reporting period, maintenance consisted of routine system tuning and the startup of SVE-33, SVE-34, SVE-35, SVE-36 and SVE-37, and AS-32, AS-33, AS-34, AS-35, AS-36 and AS-37 in August of 2010.

2.10 QUARTERLY GROUNDWATER MONITORING

The quarterly compliance groundwater monitoring program consists of 15 wells: GZ-21, GZ-22, GZ-23, GZ-19, RIZ-7, GP-28, GZ-20, GP-26, GZ-7, GZ-3, GZ-24, GZ-25, GZ-26, GZ-27, and GZ-28. Monitoring locations were selected based on our review of historical groundwater sampling results, piezometric monitoring of the Site and adjacent area, and changes to the groundwater flow directions following the mill closure in March of 2008. As described above, four perimeter background wells, RIZ-5, RIZ-13, RIZ-1 and RIZ-6 are sampled annually. The groundwater monitoring locations are shown on Figure 2.

In accordance with the ICMP, the quarterly wells were to be sampled for a minimum of eight quarters concurrent with AS/SVE system operation. The first Annual Interim Compliance Monitoring Report provided data for the April, July and October 2008 and January 2009 sampling rounds. The second Annual Interim Compliance Monitoring Report provided data for the April, July, and October 2009 and January 2010 sampling rounds. The April, July, and October 2010 and January 2011 results are summarized in Tables 1 through 19. The January 2011 sampling round represents the twelfth quarterly sampling round. With the completion of twelve quarterly sampling rounds, GZA is evaluating the need to continue sampling the existing monitoring wells on a quarterly basis.

Groundwater sampling was performed in general accordance with EPA's January 19, 2010 *Low Stress (low flow) Purging and Sampling Procedure* (Low Flow SOP). Low flow sampling equipment (exclusive of tubing, which is dedicated) is decontaminated prior to use on-site and between each location following EPA's recommended protocols. Water quality monitoring for stabilization was conducted utilizing a Horiba multi-meter (or equivalent) in a flow through cell. The Horiba records temperature, pH, specific conductance, dissolved oxygen, and turbidity. The ORP readings were taken with an Oakton ORP Tester-10 water quality meter. Groundwater samples were transported, under chain-of-custody procedures, to the GZA Environmental Chemistry Laboratory in Hopkinton, Massachusetts for chemical analysis. Laboratory data sheets for the January 2011 sampling event are provided in Appendix B.

2.20 SOIL VAPOR EXTRACTION SYSTEM

GZA personnel visited the site monthly through March of 2010 and bi-monthly thereafter to monitor the SVE system. During each visit, the following data was collected at each of the SVE wells and the seven SSVW wells: (1) air flow rates; (2) vacuum response in inches of water column (IW); (3) total volatile organic compound (TVOC) reading, and (4) O_2, CO_2 and Lower Explosive Limit (LEL) readings. TVOC measurements were performed using a PID equipped with a 10.6 eV lamp. O_2, CO_2 and LEL measurements were collected utilizing a LandTech infrared gas meter. Tables 20 through 63 show the monitoring results for vent wells SVE-1 through SVE-37 and SSVW-1 through SSVW-7.

2.30 AIR SPARGE SYSTEM

GZA personnel visited the site bi-monthly to monitor the air sparge system (concurrent with SVE system monitoring). The following field monitoring parameters were measured at each of the sparge points: (1) Air sparging flows; and (2) air pressures. When the system was first started up, air pressure was increased to provide a flow of greater than 2 standard cubic feet per minute (scfm). In 2008, the groundwater elevation rose and the air pressure was increased to maintain a flow of 2-scfm. In 2010, the flows were adjusted for the interior system to approximately 1-scfm and in the exterior system to approximately 3-scfm in an effort to deliver more oxygen to the exterior sparge. Air flows in the individual wells are adjusted monthly to maintain the flow rate at approximately or slightly greater than 1 scfm in the interior system and 3-scfm in the exterior system. Refer to Tables 66 and 67 for field screening measurements at locations AS-1 through AS-37.

In addition, during each site visit the following were measured at the combined air extraction and injection lines for the SVE and AS systems: (1) air flow rates (injection and recovery); (2) vacuum response in inches of water column (IW); (3) injection air pressure (psig); (4) TVOC PID readings, and (5) O_2, CO_2 and LEL readings. Combined effluent samples of soil vapor to the GAC units were also monitored on a bi-monthly basis for TVOCs with a PID as shown on Tables 64 and 65. The Soil Vapor Extraction and Air Sparge Operations Log have been included as Table 68.

3.00 RESULTS

The results of the monitoring and maintenance work described above are reviewed below with respect to:

- Quarterly groundwater monitoring results;
- SVE TVOC PID, O_2 and CO_2 Levels;
- SVE flows and radius of influence;
- Air sparging pressures and flow response;
- Oxygen introduction and consumption, carbon dioxide generation; estimated rates of hydrocarbon removal via biodegradation and physical venting to the GAC unit; and
- GAC unit maintenance.

3.10 QUARTERLY GROUNDWATER MONITORING RESULTS

The following subsections discuss the results of the various ongoing monitoring and remedial programs.

Twelfth Quarter Monitoring Results

The January 2011 (twelfth quarter) groundwater results, collected January 3rd and January 4th 2011, have been compared to the applicable groundwater quality standards for Rhode Island. Contaminants that exceed the RIDEM Preventative Action Limits (PALs) and RIDEM GA Groundwater Objectives for VOCs were observed in eleven of the nineteen monitoring wells. The four contaminants exceeding the GA Groundwater objectives are: vinyl chloride, cis-1,2-dichloroethene, trichloroethene (TCE) and tetrachloroethene (PCE). Six of the nineteen remaining monitoring wells (RIZ-1, GZ-26, GZ-28, RIZ-6, RIZ-13 and RIZ-5) had no detectable levels of VOCs. Two wells (GP-26 and GZ-23) had detectable concentrations of VOCs that did not exceed GA Groundwater Objectives or PALs. For reference, all previous analytical testing results for these wells are included in Tables 1 through 19.

The RIDEM GA Groundwater Objective for vinyl chloride (VC) is 2 µg/L. The samples from RIZ-7, GP-28, GZ-20, GZ-24, GZ-27 and GZ-3 had levels of 69, 26, 69, 250, 88 and 71 µg/L, respectively. The GA Objective for cis-1,2-dichloroethene (1,2 DCE) is 70 µg/L. The samples from GP-28, GZ-20, GZ-24, GZ-27 and GZ-3 had levels of 180, 630, 740, 380, and 250 µg/L, respectively. Cis-1,2-dichloroethene was detected in RIZ-7 at 46 µg/L, which exceeds the PAL but not the GA Groundwater Standard. Trichloroethene (TCE) has a GA objective of 5 µg/L. Monitoring well locations GP-28, GZ-20, GZ-24, GZ-27, GZ-7 and GZ-3 were all in excess of the regulatory limit, with concentrations of 19, 1500, 24, 45, 17 and 130 µg/L, respectively. Monitoring wells GZ-21 and GZ-25 exceeded the PAL for trichloroethene at concentrations of 3.5 and 4.8 µg/L, respectively. Tetrachloroethene (PCE) has a GA groundwater objective of 5 µg/L. Monitoring well locations GZ-22, GZ-19, GZ-20, GZ-24, GZ-25, GZ-27, GZ-7 and GZ-3 were in excess of the regulatory limit with concentrations of 39, 480, 2900, 65, 63, 12, 5.1 and 230 µg/L, respectively. Monitoring wells GZ-21 and GP-28 exceeded the PAL for tetrachloroethene at concentrations of 2.8 and 2.9 µg/L, respectively.

For wells GZ-22, GZ-23, GZ-26, RIZ-7, GZ-21 and GZ-28, the detected levels of each of these compounds are within historical ranges of analytical data collected previously from the Site. A comparison of baseline results and previous quarters with this the twelfth quarter results show that there have been changes in the distribution of contaminant concentrations within the identified zone of contamination. Most notable are the increases observed in GZ-20, GZ-24, GZ-27, GZ-7, and GZ-3 along with long-term decreases in GP-26, GZ-19, GZ-25, and GP-28. The ratio of parent to daughter products (i.e., PCE concentrations relative to TCE, 1,2-DCE and VC), which was initially affected by the level of disturbance to the aquifer introduced by the sparge system, generally appears to have stabilized at the levels observed at the time of the fourth sampling round.

The TPH results from eight of the nine shallow overburden wells (15 foot deep +/-) (RIZ-1, RIZ-5, RIZ-6, RIZ-7, RIZ-13, GZ-23, and GP-21) were generally within historical ranges. Only RIZ-7 had a detectable concentration of TPH, 230 µg/L. Four monitoring wells (GZ-23, RIZ-5, RIZ-1 and RIZ-6) continue to have no detectable levels of TPH. Monitoring wells GP-26 and GP-28 also had non-detectable TPH levels this quarter, respectively, and have show decreases in TPH concentrations since the January 5, 2009 sampling round. A GA Groundwater Standard and PAL have not been established for TPH.

Based on a review of the twelve quarterly sampling rounds and the completion of the Bedrock Aquifer Evaluation, GZA is recommending that the Interim Compliance Monitoring program be discontinued and a site wide Environmental Monitoring Plan (EMP) be developed and implemented. GZA has prepared a proposed EMP and it is attached as Appendix C. The 19 ICMP compliance monitoring wells, located southwest of the existing mill building, will be sampled on a semiannual basis, at approximately the seasonal high and low groundwater table elevations (mid spring and early fall). The laboratory analysis of contaminant levels observed in the monitoring wells can be summarized as follows:

- Total VOC concentrations have decreased or remained unchanged over the last four quarters in 9 of the monitoring wells;
- Five of the 19 monitoring wells continue to have increasing or sporadic total VOC concentrations.
- VOCs were not detected above method reporting limits in 5 of the 19 monitoring wells.

Of the 5 wells that had increased contaminant levels, 3 of the 5 had the highest observed contaminant levels in October of 2010. At this time we recommend the semiannual sampling of the ICMP wells be performed on approximately April 1 and October 1 of each year. We propose that the 15 monitoring wells currently sampled on a quarterly basis be sampled and analyzed for VOCs (EPA Method 8260) only in April. We further recommend that during the October sampling event samples will be collected and analyzed for VOCs in all 19 program monitoring wells (inclusive of the 4 perimeter/background wells) and TPH (EPA Method 8100M) in the 9 shallow monitoring wells currently being evaluated annually for TPH. The recommended sampling modification is detailed in the proposed EMP, in Appendix C.

3.20 SVE TVOC, O_2 AND CO_2 LEVELS

As shown in the bi-monthly SVE monitoring tables (Tables 20 through 63), oxygen (O_2) levels in the unsaturated soil zone are being maintained at sufficient levels to support aerobic biological activity via the operation of the soil vapor extraction system. Bi-monthly O_2 levels measured in samples of the vapor extracted from December 2009 through January 2011 have ranged from 20.4 to 20.9% for the interior SVE system and 19.7 to

20.9% for the exterior SVE system. Theoretically, soil gas oxygen levels as low as 4% are deemed sufficient to achieve an aerobic environment within the water film on soil particles (bacteria exist primarily within this water film on soil particles)[1]. Thus, the aerobic environment established by the vent system will stimulate existing bacteria within the unsaturated zone to biodegrade hydrocarbon contamination. Oxygen introduced by the biovent system to the soil is assumed to undergo a transformation to carbon dioxide (CO_2) through biodegradation processes. The difference between ambient oxygen and carbon dioxide levels compared to measured levels is assumed to be equal to the amount of O_2 consumption and CO_2 generation during soil venting.

For the period December 30, 2009 through January 5, 2011, the average O_2 depletion and CO_2 enrichment for interior SVE system vent wells has been observed at approximately 0.30% and 0.08%, respectively. For the exterior SVE system, the average O_2 depletion and CO_2 generation for the vent wells has been observed at approximately 0.38% and 0.17%, respectively. The observed percentages of O_2 consumed and CO_2 generated over time at the individual SVE wells are summarized in Appendix C. The data collected for the individual vent wells are shown on Tables 20 through 63.

Based on a review of the past three years of monthly and bi-monthly monitoring rounds, GZA does not recommend any changes to the SVE and AS monitoring program, currently conducted on a bi-monthly (6 times annually) schedule.

3.30 SVE FLOWS & RADIUS OF INFLUENCE

Since January 2009, the average vacuum response at each vent well has ranged from 0.55 to 18.0 inches of water (IW) for the interior SVE system and 1.1 to 3.29 IW for the exterior SVE system, with an average combined vacuum of 28.0 IW applied at the interior SVE system and an average combined vacuum of 16.1 IW applied at the exterior SVE system. The combined average flow rates are approximately 135 scfm for the interior SVE system and approximately 105 scfm for the exterior SVE system. Tables 20 through 63 summarize soil vapor extraction performance in the individual vent wells. Tables 64 and 65, respectively, summarize the combined interior and exterior soil vapor extraction monitoring data.

At the applied vacuums, we believe the operation of the vent wells over the past twelve months achieved the design radius of influence of 20 feet. This radius is based on a pilot test conducted in April and May 2007, where an applied vacuum of as low as 0.01 IW, resulted in a radius of influence of approximately 20 feet. Therefore, at the current applied

[1]Dineen, D., et. al., 1992, "In-Situ Biodegradation of Petroleum Hydrocarbons in Unsaturated Soils". Chapter 14 of Text: "Contaminated Soils", edited by P. Kostecki and E.J. Calabrese, Jr. Lewis Publishers, Chelsea, MI.

vacuums, we would expect the radius of influence of the wells to meet or exceed the 20 foot design radius of influence.

3.40 AIR SPARGE SYSTEM

The air sparge system consists of 17 interior sparge wells (AS-1 thought AS-16 and AS-31 and 20 exterior sparge wells (AS-17 through AS-30, and AS-32 through AS-37). Sparge well AS-31 was placed in operation in December 2009 and sparge wells AS-32 through AS-37 were placed into operation in August 2010. The air supply for the sparge wells is a new 40 horsepower air compressor system that was installed after the March 2010 flooding. At present, compressed air is delivered to 17 interior sparge wells at an average combined flow rate of approximately 18 scfm and to 20 exterior sparge wells at an average combined flow rate of approximately 60 scfm. Previously air injection rates had been approximately 2 scfm per well for all sparge wells. In November of 2010, the flows were adjusted to deliver approximately 1 scfm to the 17 interior sparge wells and approximately 3 scfm to the exterior sparge wells. This change was made to deliver more oxygen to the exterior subsurface soils to increase contaminant removal. The injected air flow readings for individual wells for the interior and exterior air sparge systems are shown on Tables 66 and 67, respectively.

Each sparge well has an approximately 5-foot long screened section set with the top of the well screen approximately 15 to 20-feet below the top of the water table; and a total depth of approximately 25 to 30-feet below ground surface. The sparge wells are assumed to have a radius of influence of 15 feet. The SVE wells and trenches are oriented to recover VOCs in vapors being generated from the groundwater sparging systems.

3.50 HYDROCARBON REMOVAL RATES

The following section provides a discussion of the hydrocarbon removal for the current reporting period (December 30, 2009 to January 5, 2011), and since the startup of the AS/SVE system in January of 2008. Calculations are included in Appendix D.

For the current reporting period, it is estimated that the interior SVE system has removed approximately 1,703 pounds (126 gallons) of hydrocarbons and the exterior SVE system has removed approximately 1,759 pounds (130 gallons) of hydrocarbons, representing a total of 3,462 pounds (256 gallons) of hydrocarbons. These figures represent the combined hydrocarbon removal via two distinct processes: direct venting of soil vapor and biological degradation. By the direct venting process, it is estimated that approximately 13 and 11 pounds of hydrocarbons were removed by soil vapor extraction, and 1,690 and 1,748 pounds have been remediated by biodegradation from the interior and exterior SVE systems, respectively. These values were estimated using average combined venting flow rates and average effluent TVOC, O_2 and CO_2 readings. These values should be viewed as

approximations, since TVOC PID readings are only relative indicators of hydrocarbon levels and the biodegradation estimates are subject to the assumptions discussed below.

Aerobic biological activity within the remedial areas is estimated to have resulted in the total biodegradation of approximately 3,115 pounds of hydrocarbons during the current reporting period. During this timeframe, the average CO_2 generation as measured in the vent wells has been observed at approximately 0.08% and 0.17% from the interior and exterior SVE systems, respectively. Under the assumption that there is no significant degradation of natural organics in the subsurface at the site, the amount of hydrocarbons biodegraded can be estimated by assuming that 3.1 pounds of CO_2 is generated when 1 lb. of hydrocarbon is mineralized, but that approximately half of the CO_2 generated is utilized in growth of the bacterial mass. Therefore, for each pound of hydrocarbon consumed, the measured CO_2 increase in soil gas would only be approximately 1.6 pounds. Given the measured rates of soil vapor extraction and the observed enrichment in carbon dioxide levels in the vent wells relative to atmospheric levels, it is estimated that approximately 3,115 pounds of total hydrocarbons were degraded during this reporting period at the Site.

Since the AS/SVE system was commissioned in January 2008, it is estimated that the interior SVE system has removed a total of approximately 13,109 pounds (971 gallons) of hydrocarbons and the exterior SVE system has removed a total of approximately 10,827 pounds (805 gallons) of hydrocarbons, respectively, for a Site-wide total of 23,936 pounds (1,776 gallons). These figures represent the combined hydrocarbon removal via direct venting of soil vapor and biological degradation. Total hydrocarbon removal estimates, in pounds, for the full AS/SVE system are summarized in the following table:

	Jan. 18, 2008-Jan 21, 2009	Jan 22, 2009-Dec. 29, 2009	Dec 30, 2009-Jan 5, 2011	Total Since Jan 2008
Total CAHs and TPH removed by soil vapor extraction	148	118	24	290
Total CAHs and TPH removed by biodegradation	12,378	8,198	3,115	23,691
Total mass of CAHs and TPH remediated	12,526	8,316	3,462	23,981
Average Rate of Removal (pounds per day)	35.2	24.3	16.7	24.8

Note: CAHs include PCE, TCE, 1,1-DCE and VC.

3.60 GAC UNIT MAINTENANCE

The two interior and two exterior vessels (800 pounds combined for each system) of granular activated carbon (GAC) was saturated with river water during the March 2010 flooding. The saturated carbon was removed from the Site for reactivation by Service Tech Inc., of North Providence, Rhode Island, on May 19, 2010. Service Tech also refilled the carbon vessels with clean carbon on May 19, 2010.

4.00 PASSIVE PETROLEUM RECOVERY TRENCH

As part of the Lagoon 5 remedial activities, an interceptor trench with product recovery wells was installed parallel to the eastern channel of Old Lagoon 5 on the west side of the chain-link fence. The recovery trench configuration is discussed in detail in GZA's October 15, 2007 *Remedial Action Work Plan*. The objective of the trench is to minimize the potential for further migration of petroleum products to former Lagoon 5. This trench system was installed in January of 2009 and is monitored bi-monthly in accordance with the August 22, 2008 *Revised Remedial Work Plan* and the February 17, 2010 *Interim Compliance Monitoring Plan Modification*.

The bi-monthly product recovery operations are monitored in conjunction with the air sparge and soil vapor extraction monitoring program and the results are summarized in Table 69. Accumulated petroleum product and groundwater depths are measured with a Solinst Model 122 oil/water interface probe. Data collected since December 30, 2009 indicated that the depth to water in the northern recovery well fluctuated from 4.26 feet below grade in January to 6.82 feet below grade in September. The depth to water in the southern recovery wells fluctuated from 4.40 feet below grade in January to 7.28 feet below grade in September.

To date the recovery wells have yielded a minimal volume of petroleum product. Observations indicate the presence of sheen only, with no measureable product detected with the exception of June 2009, when 0.01 feet of petroleum was observed in both wells. The wells were subsequently cleaned with oil absorbent pads to remove the petroleum product. Recovered petroleum and used oil absorbent pads are stored in a 55 gallon drum located inside the facility in accordance with the *Revised Remedial Work Plan*. No drums were removed for disposal in 2010.

Other observations in the recovery wells include occasional bubbling in the northern recovery well. It appears that the bubbling is caused by an intermittent preferential pathway between an adjacent air sparge well and the northern recovery well. The bubbling varies in intensity depending on groundwater elevations.

5.00 ADDITIONAL ENVIRONMENTAL MONITORING

To provide RIDEM with a comprehensive assessment of overburden water quality in the interim period until the bedrock aquifer assessment was completed, GZA developed an Interim Compliance Monitoring Plan for interim site wide monitoring and reporting. In addition to monitoring the AS and SVE systems and the associated compliance monitoring

wells, the reporting includes data from four additional monitoring programs. These additional monitoring programs consist of: (1) the residential water treatment performance monitoring at the 14, 16 and 18 River Street homes; (2) the quarterly underground injection control (UIC) monitoring and reporting; (3) the monitoring of three wells located along the perimeter of the Charbert property adjacent to River Street; and (4) the annual diffusion bag sampling in the Wood River. Each program and the current monitoring results are briefly described below.

At this time, the former infiltration lagoons have been closed with the last UIC Quarterly Report completed in July of 2010 and the Residential Well Treatment Systems will be decommissioned in March of 2011. GZA has submitted the *Bedrock Site Investigation Report*, dated December 16, 2011 and recommends discontinuing the ICMP and implementing a final comprehensive Environmental Monitoring Plan for the site.

5.10 RESIDENTIAL DRINKING WATER TREATMENT SYSTEMS

In January of 2005, Charbert installed point-of-use water treatment systems at homes located at 14, 16 and 18 River Street as shown on Figure 2. The systems consist of four main components:

1) Water softening and iron removal;
2) Particulate filtration;
3) Carbon absorption to remove organic contaminants, and
4) Ultraviolet disinfection to address bacteria either from the aquifer or from the treatment system components (i.e., carbon).

GZA presented a decommissioning plan to RIDEM in a letter dated November 4, 2009 and modified that plan per comments from RIDEM in a letter dated December 3, 2009. GZA has completed the sampling program in accordance with the revised decommissioning plan and the results indicated that treatment for volatile organic contaminants was no longer necessary. On December 15, 2010, GZA submitted a letter report to RIDEM and RIDOH requesting the decommissioning of the treatment systems. The decommissioning request was approved by RIDEM and RIDOH in a letter dated January 27, 2011 and the treatment systems will be decommissioned by GZA by March 31, 2011. As such, the residential well monitoring program will no longer be conducted.

5.10.1 Background

GZA designed the water treatment systems for these three properties and submitted the design to RIDEM and the Rhode Island Department of Health (RIDOH) for approval in December of 2004 in response to the August 11, 2004 Notice of Violation issued to Charbert by RIDEM. GZA's initial proposed monitoring program was modified per RIDEM's December 31, 2004 comments. The WTS were installed in January 2005 and

are currently operating with quarterly monitoring and servicing being supplied by Charbert through GZA and Northeast Water Solutions.

On November 4, 2009 GZA provided information to RIDEM and RIDOH showing that treatment of the groundwater due to contamination potentially sourced by the Charbert facility was no longer needed. In a letter dated December 3, 2009 RIDEM and RIDOH requested that the need to continue treating the water at the residences be further evaluated. As such, the quarterly monitoring program was modified to include quarterly testing of the untreated well water for one additional year.

The expanded 2010 quarterly monitoring program consisted of:

Untreated Well Water
- VOCs, via EPA Method 524.2;
- SVOCs, via EPA Method 8270C with low detection limits; and
- Total Coliform Bacteria, SM9221B.

Interior Tap
- VOCs, via EPA Method 524.2;
- SVOCs, via EPA Method 8270C with low detection limits; and
- Total Coliform Bacteria, SM9221B.

Between Carbon Filters
- VOCs, via EPA Method 524.2 on February 1 and August 1 only.

For the convenience of the homeowners, GZA coordinated the sampling with the quarterly maintenance program. Charbert, through GZA, issues written reports to the home owners and copies to the Town of Richmond, RIDEM and RIDOH.

5.10.2 Water Quality Testing Results Summary

Quarterly testing results of treated water samples at 14, 16 and 18 River Street have predominantly been non-detect for VOCs, SVOCs and coliform bacteria. The only exceptions to this were the detection of di-n-butylphthalate in all three tap samples on November 1, 2006, at estimated concentrations of 5.6, 6.6 and 5.4 µg/L, respectively, and of bis(2-ethylhexyl)phthalate in the 14 River Street tap sample, at an estimated concentration of 1.3 µg/L on May 1, 2005. Acenaphthene was detected in the tap sample from 16 River Street at an estimated concentration of 0.23 µg/L on August 1, 2007. These detections are all well below any risk-based or regulatory drinking water quality criteria. Additionally; coliform bacteria was detected at the kitchen tap at 18 River Street on May 3, 2010. Negative laboratory results of additional samples collected from the bathroom tap and the post-WTS sample port led to the determination that a leaking kitchen faucet was

the source of the coliform bacteria. The faucet was replaced by the homeowner prior to the August 2010 sample collection.

The untreated "raw" well water at 14 River Street has been sampled by GZA seven times, the untreated well water at 16 River Street nine times and the untreated well water at 18 River Street 10 times, since the treatment systems were installed in February of 2005. The laboratory results of the untreated water sampling for each residence is discussed below and summarized in Tables 1, 2 and 3, attached in Appendix E.

The results of the untreated well water testing at 14 River Street have predominantly been non-detect since February 2005, with the exception of trichloroethene (TCE), which has been detected four times since February of 2009. The detected concentrations of TCE range from 0.71 µg/mL to 1.2 µg/mL; whereas the RIDEM GA Groundwater Objective for TCE is 5 ppb. In addition, bis(2-ethylhexyl)phthalate was detected at 1.0 µg/mL on November 1, 2010. The RIDEM GA Groundwater Objective for bis(2-ethylhexyl)phthalate is 6 ppb. There has never been an exceedance of the RIDEM GA Groundwater Objectives or the RIDEM preventative action limits (PAL) in the water samples collected by GZA at 14 River Street.

Low level VOCs have consistently been detected in the untreated well water at 16 River Street. The concentration and number of detected compounds have shown a downward trend since the start of this monitoring program. In the November 2005 sample, 7 VOCs were detected compared with no VOCs detected in February and November of 2010. Cis-1,2-dichloroethene and 1,1,1-trichloroethane were detected at 4.6 µg/L and 13 µg/L, respectively in November of 2005 and in May of 2010 the same compounds were present at 0.58 µg/L and 1.2 µg/L, respectively. There has not been an exceedance of the RIDEM GA Groundwater Objectives or the RIDEM preventative action limits (PAL) in the water samples collected by GZA at 16 River Street since November 5, 2004.

The results of the untreated well water testing at 18 River Street have also been non-detect since February 2005, with the exception of one VOC tentatively identified compound (TIC) detected on February 2, 2009, at an estimated concentration of 1 µg/L. The same VOC TIC was also detected in the trip blank at an estimated concentration of 1.2 µg/L on that date. Total coliform bacteria were detected in a sample collected on November 1, 2010. On November 5, 2010, GZA collected two well samples, one labeled "18 River Street Well" and a second labeled "22 River Street Well" as a blind duplicate. Both these samples were negative for coliform bacteria. We believe the sample collected on November 1, 2010 was compromised either in transport or at the laboratory. There has never been an exceedance of the RIDEM GA Groundwater Objectives or the RIDEM preventative action limits (PAL) in the water samples collected by GZA at 18 River Street.

5.20 UNDERGROUND INJECTION AND CONTROL REPORT

The quarterly groundwater sampling and analysis conducted in accordance with the *UIC Order of Approval # 1108* for the Site has been included as part of the quarterly and annual ICMP Reports. The first and second quarter 2010 reports were included in the first and second quarter 2010 ICMP reports. The infiltration lagoons, formerly used for wastewater disposal, were filled in the winter of 2009 and spring of 2010 and the area has been regraded and converted into a grassy meadow. A letter certifying the completion of the UIC closure of the former industrial wastewater disposal lagoons was prepared by GZA and submitted to RIDEM on August 13, 2010. Mr. Craig Roy of the UIC program subsequently stated that quarterly UIC sampling and reporting was no longer required, and a monitoring well closure plan was requested. On December 1, 2010, GZA submitted a plan for the closure of monitoring wells used for the UIC sampling program.

Analysis of samples from monitoring well MW-4A detected low levels of tetrachloroethylene (PCE), 1.5 µg/l in March 2010 and 2.1 µg/l in June 2010, which had not been detected in this well for the previous twenty quarters. As such GZA did not include this monitoring well in the well closure plan and has continued to monitor this well quarterly, see Table 70 for all current and historic results. PCE was also detected in October 2010 and in January of 2011 at 1.7 µg/l and 5.2 µg/l, respectively. At this time we recommend the continued monitoring of MW-4A for VOCs on a semiannual basis. The sampling will be performed at approximately the seasonal high and low groundwater table elevations. We have incorporated the proposed monitoring of MW-4A in the attached EMP.

5.30 PERIMETER WELL MONITORING

In accordance with discussions during the conference call on April 23, 2008 between RIDEM and Charbert, it was agreed that, as part of the environmental monitoring, additional groundwater samples would be collected from perimeter wells located between the Charbert facility and nearby private wells and analyzed for VOCs, see Figure 1, attached. Perimeter monitoring wells included RIZ-1, RIZ-14, RIZ-21, GP-22 and GZ-1. Based on previous results and the results of the Piezometric Monitoring Report dated May 2, 2008, RIDEM concurred with Charbert's recommendation (received via email on 5/9/08) to sample these wells for a total of eight quarters and include the data as an attachment to the quarterly Interim Compliance Monitoring Plan reports. After the eight quarters the need for future monitoring was assessed and it was recommended by GZA that two of the monitoring wells (RIZ-1 and RIZ-14) be removed from the quarterly monitoring program. The recommendation was approved by RIDEM in a letter dated April 26, 2010.

The twelfth round of groundwater sampling from the perimeter wells was conducted January 5, 2011. A complete letter report containing the results of this monitoring well sampling and analysis is included as Appendix F. Based on a review of the twelve quarterly sampling rounds, GZA is recommending that the Perimeter Well Monitoring

program be conducted on a semiannual basis and these three monitoring wells be included in the EMP as they are sentinel wells located between the facility and the adjacent residential neighborhood.

5.40 WOOD RIVER DIFFUSION BAG SAMPLING AND ANALYSIS

In accordance with the December 4, 2007 Interim Compliance Monitoring Plan, on September 17, 2010, diffusion bag samplers were placed in the Wood River adjacent to the Charbert Facility. Samplers were buried approximately 8 to 12 inches deep in river sediments, approximately one half of the way between the Charbert bank and the mid-point of the river. The purpose of this sampling is to evaluate the chemical composition (for VOCs only) of groundwater seepage to the river. As part of our QA/QC program a blank diffusion bag (diffusion bag transported with other diffusion bags) was sampled prior to diffusion bag placement. The diffusion blank, along with a trip blanks showed no detects. The diffusion bags were left in place for approximately 4.5 weeks and removed on October 19, 2010. The manufactures minimum recommended in place time is two weeks. A diffusion bag results summary for the 2010, 2009, 2008 and 2007 sampling events are included as Table 71 and the diffusion bag locations are shown on Figure 2. Note that the locations were approximately the same for 2008, 2009 and 2010.

A comparison of the 2008 results (post-AS/SVE system installation) and the 2007 (pre-AS/SVE system installation) results in Table 71 suggested that the air sparge curtain along the Wood River was effectively reducing the mass of contaminants discharging to the river. The 2009 results had an increase in detected levels of tetrachloroethene and trichloroethene that may have been the result of the Lagoon 5 dredging which appears to have disturbed contaminants in the lagoon bottom sediments. The 2010 results, also in Table 71, show a moderate decrease in contaminant concentrations from 2009, and with the exception of DB-2, lower contaminant levels than 2008 and 2007. It should be noted the air sparge curtain was not operational from March 15, 2010 until August 26, 2010, approximately 1 month before the diffusion bags were placed in the Wood River.

5.50 INTERIOR MONITORING WELL SAMPLING AND ANALYSIS

To evaluate the effectiveness of the interior AS and SVE systems and evaluate compliance with RIDEM Groundwater Objectives, GZA proposed a compliance sampling and analysis plan which included four interior sparge wells and three interior monitoring wells. The plan, described below, was verbally approved by RIDEM on December 9, 2010 and consisted of:

- Shutting down the interior AS system on or about December 15, 2010;
- Collecting samples for VOC analysis from the four corner sparge wells (AS-3, 12, 13 and 16) and the three interior monitoring wells (GP-27A, GP-27B and GZ-8), during the January ICMP monitoring;

- Restarting the AS system after groundwater sampling.

The interior air sparge system was shut down on December 17, 2010 and groundwater samples were collected on January 4, 2011. The laboratory analysis did not detect any VOCs above the method reporting limit in any of the samples, see Table 72 for analytical and field parameters summary.

At this time it appears the interior AS and SVE systems have been successful in removing contaminants from the groundwater beneath the existing building. A review of the contaminant removal calculation for the interior SVE system, see Appendix D, shows a decline in mass removal by bioremediation, and the TVOC results from the last six months, see Tables 2- to 44, have been approaching zero for most well locations. We request that the interior AS and SVE systems (with the exception of AS-31, SVE-31 and SVE-32 located in the boiler room) be turned off for a period of 6 months and at the end of the 6 month period the four corner sparge wells (AS-3, 12, 13 and 16) and the three interior monitoring wells (GP-27A, GP-27B and GZ-8), will be sampled for VOCs to evaluate whether contaminant rebound has occurred.

At that time the groundwater data will be evaluated and additional recommendations for the interior AS and SVE system will be made. While the interior AS and SVE systems are off, the boiler room SVE wells, SVE-31 and SVE-32 will be connected to the exterior system. The boiler room air sparge well, AS-31, operates independent of the remainder of the interior AS system and will remain operational.

As described in Sections 3.10, 5.10, 5.20, and 5.30 above, we are proposing minor modifications to the ongoing monitoring programs. In Section 5.40 we have proposed a modification to the operation of the interior AS and SVE systems. The EMP also incorporates monitoring of the natural attenuation of groundwater contaminants in the bedrock aquifer, consistent with the December 16, 2010 *Bedrock Site Investigation Report*.

We look forward to RIDEM's approval of these proposed revisions. We will contact you shortly to discuss the report; in the meantime, if you have any questions please call Stephen Andrus or Edward Summerly at (401) 421-4140.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

Stephen Andrus, P.E.
Assistant Project Manager

Albert Flori
Project Reviewer

Edward A. Summerly, P.G.
Principal

CC: Tracy Nelson Hay, Richmond Town Clerk
Clark Memorial Library – Charbert Repository

Attachments: Tables 1 to 19 – Quarterly ICMP Groundwater Monitoring
Tables 20 to 44 – Summary of Interior SVE Monitoring
Tables 45 to 63 – Summary of Exterior SVE Monitoring
Table 64 – Summary of Combined Interior SVE Monitoring
Table 65 – Summary of Combined Exterior SVE Monitoring
Table 66 – Summary of Interior Air Sparge Monitoring
Table 67 – Summary of Exterior Air Sparge Monitoring
Table 68 – SVE & AS Operations Log
Table 69 – Product Recovery Trench Data
Table 70 – MW-4A Laboratory Results Summary
Table 71 – Diffusion Bag Analytical Results Summary
Table 72 – Interior Monitoring Wells Laboratory Results Summary
Figure 1 – Locus Plan
Figure 2 – Site and Monitoring Well Location Plan
Figure 3 – Air Sparge and Soil Vapor Extraction Well Locations
Appendix A – Limitations
Appendix B – Laboratory Certificates of Analysis
Appendix C – Proposed Environmental Monitoring Plan
Appendix D – Hydrocarbon Degradation Calculations
Appendix E – Residential Wells Analytical Summary
Appendix F – Perimeter Well Monitoring Results Memorandum

TABLES

TABLE 1
MW-GZ-21 DETECTED CONSTITUENTS SUMMARY
Third Annual ICMP
Charbert Facility
Richmond, Rhode Island

GZ-21 Shallow Aquifer Monitoring Well Screen From 10'-20' BGS		RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	Date															
					Baseline 1/2/2008		04/01/2008		07/07/2008		10/01/2008		01/05/2009		04/01/2009		07/09/2009		10/12/2009	
					Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS																			
EPA 8260	Vinyl Chloride	2	1	ug/L	<	1.0	**8.4**	1.0	**2.8**	1.0	**3.4**	1.0	**2.3**	1.0	<	1.0	**1.0**	1.0	<	1.0
	cis-1,2-Dichloroethene	70	35	ug/L	**7.8**	1.0	**10.0**	1.0	**7.7**	1.0	**4.7**	1.0	**1.7**	1.0	<	1.0	<	1.0	**1.8**	1.0
	Trichloroethene	5	2.5	ug/L	**3.5**	1.0	**1.7**	1.0	**2.3**	1.0	**2.7**	1.0	**1.7**	1.0	**1.4**	1.0	**1.4**	1.0	**2.4**	1.0
	Tetrachloroethene	5	2.5	ug/L	**7.2**	1.0	**2.4**	1.0	**7.6**	1.0	**6.1**	1.0	**6.2**	1.0	**7.1**	1.0	**4.1**	1.0	**2.5**	1.0
Mod. EPA 8100	**TOTAL PETROLEUM HYDROCARBON**																			
	Hydrocarbon Content	NS	NS	ug/L	<	200	NT		NT		NT		<	200	NT		NT		NT	
	FIELD PARAMETERS																			
	pH	NS	NS	SU	4.0		5.0		5.7		6.2		5.4		6.4		7.0		6.2	
	CONDUCTIVITY	NS	NS	mS/cm	0.337		0.660		0.480		0.378		0.788		0.369		0.406		0.885	
	TURBIDITY	NS	NS	NTU	5		3		80		12		4		4		108		1	
	DISSOLVED OXYGEN	NS	NS	mg/L	1.0		0.0		1.4		0.6		0.45		6.51		0.0		0.0	
	TEMPERATURE	NS	NS	°C	16.4		14.4		14.8		17.9		13.2		9.8		13.0		16.0	
	ORP	NS	NS	mV	191		-58		-64		34		67		-64		-33		-8	

GZ-21 Shallow Aquifer Monitoring Well Screen From 10'-20' BGS		RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	Date									
					12/31/2009		04/30/2010		07/08/2010		10/13/2010		01/05/2011	
					Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS													
EPA 8260	Vinyl Chloride	2	1	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	cis-1,2-Dichloroethene	70	35	ug/L	<	1.0	<	1.0	<	1.0	**1.7**	1.0	**1.5**	1.0
	Trichloroethene	5	2.5	ug/L	<	1.0	<	1.0	**1.2**	1.0	**2.1**	1.0	**3.5**	1.0
	Tetrachloroethene	5	2.5	ug/L	**2.0**	1.0	**3.2**	1.0	**3.1**	1.0	**3.6**	1.0	**2.8**	1.0
Mod. EPA 8100	**TOTAL PETROLEUM HYDROCARBON**													
	Hydrocarbon Content	NS	NS	ug/L	**270**	200	NT		NT		NT		<	200
	FIELD PARAMETERS													
	pH	NS	NS	SU	5.5		5.9		6.4		6.2		6.0	
	CONDUCTIVITY	NS	NS	mS/cm	0.380		0.387		0.476		0.135		0.346	
	TURBIDITY	NS	NS	NTU	4		0		210		1		NT	
	DISSOLVED OXYGEN	NS	NS	mg/L	0.0		0.0		0.2		0.5		0.7	
	TEMPERATURE	NS	NS	°C	11.7		10.2		17.1		15.6		12.3	
	ORP	NS	NS	mV	59		140		NT		109		110	

Notes:
PAL = RIDEM's Preventative Action Limit
RIDEM GA EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED GREEN
PALs EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED BLUE
< = NOT DETECTED
NS = NO STANDARD
NT = NOT TESTED
BGS = BELOW GROUND SURFACE

TABLE 2
MW-GZ-22 DETECTED CONSTITUENTS SUMMARY
Third Annual ICMP
Charbert Facility
Richmond, Rhode Island

GZ-22 Deep Aquifer Monitoring Well Screen From 25'-30' BGS		RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	Date: Baseline 1/2/2008		04/01/2008		07/07/2008		10/01/2008		01/05/2009		04/01/2009		07/08/2009		10/12/2009	
					Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS																			
EPA 8260	Vinyl Chloride	2	1	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	cis-1,2-Dichloroethene	70	35	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	Trichloroethene	5	2.5	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	Tetrachloroethene	5	2.5	ug/L	**14**	1.0	**12**	1.0	**86**	1.0	<	1.0	**28**	1.0	**17**	1.0	**35**	1.0	**45**	1.0
	FIELD PARAMETERS																			
	pH	NS	NS	SU	4.0		5.0		5.1		6.1		6.4		6.3		6.2		6.3	
	CONDUCTIVITY	NS	NS	mS/cm	0.330		0.218		0.173		0.146		0.128		0.127		0.137		0.227	
	TURBIDITY	NS	NS	NTU	5		5		25		31		126		141		NT		20	
	DISSOLVED OXYGEN	NS	NS	mg/L	1.0		0.0		1.5		0.5		0.2		0.1		0.0		0.0	
	TEMPERATURE	NS	NS	°C	15.8		15.1		15.9		16.6		11.7		11.0		14.0		14.5	
	ORP	NS	NS	mV	198		91		32		154		81		12		76		-25	

GZ-22 Deep Aquifer Monitoring Well Screen From 25'-30' BGS		RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	Date: 12/31/2009		04/30/2010		07/08/2010		10/13/2010		01/05/2011	
					Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS													
EPA 8260	Vinyl Chloride	2	1	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	cis-1,2-Dichloroethene	70	35	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	Trichloroethene	5	2.5	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	**1.0**	1.0
	Tetrachloroethene	5	2.5	ug/L	**49**	1.0	**57**	1.0	**50**	1.0	**50**	1.0	**39**	1.0
	FIELD PARAMETERS													
	pH	NS	NS	SU	5.1		6.0		6.5		6.3		6.2	
	CONDUCTIVITY	NS	NS	mS/cm	0.139		0.126		0.17		0.134		0.116	
	TURBIDITY	NS	NS	NTU	55		5		260		1		1	
	DISSOLVED OXYGEN	NS	NS	mg/L	0.0		0.0		0.8		0.3		0.2	
	TEMPERATURE	NS	NS	°C	11.8		11.1		16.4		14.9		12.5	
	ORP	NS	NS	mV	36		101		75		NT		38	

Notes:
PAL = RIDEM's Preventative Action Limit
RIDEM GA EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED GREEN
PALs EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED BLUE
< = NOT DETECTED
NS = NO STANDARD
NT = NOT TESTED
BGS = BELOW GROUND SURFACE

TABLE 3
MW-GZ-23 DETECTED CONSTITUENTS SUMMARY
Third Annual ICMP
Charbert Facility
Richmond, Rhode Island

GZ-23 Shallow Aquifer Monitoring Well Screen From 10'-20' BGS		RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	Date: Baseline 1/2/2008 Result	Limit	04/01/2008 Result	Limit	07/07/2008 Result	Limit	10/01/2008 Result	Limit	01/05/2009 Result	Limit	04/01/2009 Result	Limit	07/08/2009 Result	Limit	10/12/2009 Result	Limit
	VOLATILE ORGANICS																			
EPA 8260	Vinyl Chloride	2	1	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	cis-1,2-Dichloroethene	70	35	ug/L	<	1.0	<	1.0	**6.5**	1.0	**<**	1.0	**<**	1.0	**3**	1.0	**3.4**	1.0	**6.4**	1.0
	Trichloroethene	5	2.5	ug/L	<	1.0	**1.8**	1.0	**27**	1.0	**1.8**	1.0	**1.4**	1.0	**14**	1.0	**21**	1.0	**18**	1.0
	Tetrachloroethene	5	2.5	ug/L	<	1.0	**2.4**	1.0	**59**	1.0	**1.7**	1.0	**2**	1.0	**24**	1.0	**17**	1.0	**10**	1.0
Mod. EPA 8100	**TOTAL PETROLEUM HYDROCARBON**																			
	Hydrocarbon Content	NS	NS	ug/L	<	200	NT		NT		NT		<	200	NT		NT		NT	
	FIELD PARAMETERS																			
	pH	NS	NS	SU	4.0		5.0		5.7		6.5		6.5		6.3		6.7		6.4	
	CONDUCTIVITY	NS	NS	mS/cm	0.339		0.428		0.254		0.109		0.129		0.481		0.335		0.266	
	TURBIDITY	NS	NS	NTU	157		0		224		12.2		4		2		59		0	
	DISSOLVED OXYGEN	NS	NS	mg/L	0.0		0.0		0.3		0.1		0.1		0.0		0.0		0.1	
	TEMPERATURE	NS	NS	°C	16.6		16.1		15.4		14.6		11.6		11.8		13.7		12.8	
	ORP	NS	NS	mV	-8		-60		-78		-106		25		-77		-39		-258	

GZ-23 Shallow Aquifer Monitoring Well Screen From 10'-20' BGS		RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	Date: 12/31/2009 Result	Limit	04/30/2010 Result	Limit	07/08/2010 Result	Limit	10/13/2010 Result	Limit	01/05/2010 Result	Limit
	VOLATILE ORGANICS													
EPA 8260	Vinyl Chloride	2	1	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	cis-1,2-Dichloroethene	70	35	ug/L	**1.4**	1.0	**11**	1.0	**2.4**	1.0	**1.1**	1.0	**1.1**	1.0
	Trichloroethene	5	2.5	ug/L	**1.4**	1.0	**46**	1.0	**15**	1.0	**6.9**	1.0	**2.1**	1.0
	Tetrachloroethene	5	2.5	ug/L	<	1.0	**29**	1.0	**30**	1.0	**1.2**	1.0	**<**	1.0
Mod. EPA 8100	**TOTAL PETROLEUM HYDROCARBON**													
	Hydrocarbon Content	NS	NS	ug/L	<	200	NT		NT		NT		<	200
	FIELD PARAMETERS													
	pH	NS	NS	SU	5.6		6.0		6.4		6.4		6.3	
	CONDUCTIVITY	NS	NS	mS/cm	0.134		0.144		0.456		0.195		0.131	
	TURBIDITY	NS	NS	NTU	5		0		393		4		1.39	
	DISSOLVED OXYGEN	NS	NS	mg/L	0.0		0.2		0.2		0.1		0.7	
	TEMPERATURE	NS	NS	°C	10.5		12.2		16.1		14.2		10.7	
	ORP	NS	NS	mV	-59		-8		NT		34		-97	

Notes:
PAL = RIDEM's Preventative Action Limit
RIDEM GA EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED GREEN
PALs EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED BLUE
< = NOT DETECTED
NS = NO STANDARD
NT = NOT TESTED
BGS = BELOW GROUND SURFACE

TABLE 4
MW-GZ-19 DETECTED CONSTITUENTS SUMMARY
Third Annual ICMP
Charbert Facility
Richmond, Rhode Island

GZ-19 Deep Aquifer Monitoring Well Screen From 25'-30' BGS		RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	Date: Baseline 1/2/2008		04/01/2008		07/07/2008		10/01/2008		01/05/2009		04/01/2009		07/08/2009		10/12/2009		12/31/2009	
					Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS																					
EPA 8260	cis-1,2-Dichloroethene	70	35	ug/L	**4.6**	1.0	<	250	**4.2**	1.0	<	250	<	250	<	3	<	10	<	5	<	5
	1,1,1-Trichloroethane	200	100	ug/L	**13**	1.0	<	250	**9.0**	1.0	<	250	<	250	<	3	<	10	<	5	<	5
	1,1,2-Trichloroethane	200	100	ug/L	<	1.0	<	250	<	1.0	<	250	<	250	<	3	<	10	**12**	5	<	5
	Trichloroethene	5	2.5	ug/L	**260**	1.0	**390**	250	**200**	1.0	<	250	<	250	<	3	<	10	**7.7**	5	<	5
	Tetrachloroethene	5	2.5	ug/L	**16,000**	1.0	**20,000**	250	**19,000**	1.0	**16,000**	250	**8,400**	250	**2,900**	3	**1,300**	10	**780**	5	**650**	5
	FIELD PARAMETERS																					
	pH	NS	NS	SU	4.0		5.0		5.0		6.1		6.4		6.2		6.3		6.3		5.0	
	CONDUCTIVITY	NS	NS	mS/cm	0.338		0.453		0.106		0.085		0.114		0.211		0.130		0.145		0.108	
	TURBIDITY	NS	NS	NTU	68		1		240		31.7		4		3		27.4		5		5	
	DISSOLVED OXYGEN	NS	NS	mg/L	0.0		0.0		0.3		0.1		0.2		0.8		0.0		0.3		0.0	
	TEMPERATURE	NS	NS	°C	16.5		15.6		15.6		14		12.4		11.6		14.1		12.7		11.8	
	ORP	NS	NS	mV	24		79		105		113		51		58		89		-10		73	

GZ-19 Deep Aquifer Monitoring Well Screen From 25'-30' BGS		RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	Date: 04/30/2010		07/13/2010		10/13/2010		01/05/2011	
					Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS											
EPA 8260	cis-1,2-Dichloroethene	70	35	ug/L	<	5	<	5	<	5	<	5
	1,1,1-Trichloroethane	200	100	ug/L	<	5	<	5	<	5	<	5
	1,1,2-Trichloroethane	200	100	ug/L	<	5	<	5	<	5	<	5
	Trichloroethene	5	2.5	ug/L	<	5	<	5	<	5	<	5
	Tetrachloroethene	5	2.5	ug/L	**600**	5	**570**	5	**560**	5	**480**	5
	FIELD PARAMETERS											
	pH	NS	NS	SU	6.0		6.3		6.2		6.2	
	CONDUCTIVITY	NS	NS	mS/cm	0.122		0.166		0.110		0.107	
	TURBIDITY	NS	NS	NTU	5		0		4		2.1	
	DISSOLVED OXYGEN	NS	NS	mg/L	0.0		0.1		0.4		1.2	
	TEMPERATURE	NS	NS	°C	12.1		16.7		13.8		12	
	ORP	NS	NS	mV	85		154		135		96	

Notes:
PAL = RIDEM's Preventative Action Limit
RIDEM GA EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED GREEN
PALs EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED BLUE
< = NOT DETECTED
NS = NO STANDARD
NT = NOT TESTED
NS = NO STANDARD

TABLE 5
RIZ-7 DETECTED CONSTITUENTS SUMMARY
Third Annual ICMP
Charbert Facility
Richmond, Rhode Island

RIZ-7		RIDEM GA	RIDEM Groundwater	Units	Date															
Shallow Aquifer Monitoring Well		Groundwater	Quality		Baseline 1/2/2008		04/01/2008		07/07/2008		10/01/2008		01/05/2009		04/01/2009		07/08/2009		10/12/2009	
Screen From 5'-15' BGS		Objectives	PALs		Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS																			
	Vinyl Chloride	2	1	ug/L	**15**	1.0	**120**	1.0	**85**	2.5	**100**	1.0	**130**	1.0	**150**	1.0	**130**	2.5	**97**	1.0
	trans-1,2-Dichloroethene	100	50	ug/L	<	1.0	**2.6**	1.0	**3.1**	2.5	**3**	1.0	**3.6**	1.0	**5.6**	1.0	**5.4**	2.5	**2.8**	1.0
	cis-1,2-Dichloroethene	70	35	ug/L	**2.5**	1.0	**64**	1.0	**41**	2.5	**54**	1.0	**100**	1.0	**190**	1.0	**160**	2.5	**57**	1.0
	Trichloroethene	5	2.5	ug/L	<	1.0	<	1.0	<	2.5	<	1.0	<	1.0	<	0.0	<	2.5	<	1.0
	Tetrachloroethene	5	2.5	ug/L	<	1.0	<	1.0	**7**	2.5	<	1.0	<	1.0	<	1.0	<	2.5	<	1.0
EPA 8260	Ethylbenzene	700	350	ug/L	<	1.0	**2.7**	1.0	**2.8**	2.5	<	1.0	<	1.0	<	1.0	<	2.5	<	1.0
	m&p-Xylene	NS	NS	ug/L	<	2.0	**2.9**	2.0	<	5.0	<	2.0	<	2.0	<	2.0	<	5.0	<	2.0
	o-Xylene	NS	NS	ug/L	**1.7**	1.0	**2.6**	1.0	**3.2**	2.5	**1.6**	1.0	**1.3**	1.0	<	1.0	<	2.5	**1.1**	1.0
	Total Xylenes	1000	500	ug/L	**1.7**	2.0	**5.7**	2.0	**3.2**	5.0	**1.6**	2.0	<	2.0	<	2.0	<	5.0	**1.1**	2.0
	2-Chlorotoluene	NS	NS	ug/L	**1.0**	1.0	**1.2**	1.0	<	2.5	**3.2**	1.0	**3**	1.0	**2.8**	1.0	**3.6**	2.5	**3.5**	1.0
	N-Propylbenzene	NS	NS	ug/L	<	1.0	<	1.0	**1.0**	2.5	<	1.0	<	1.0	<	1.0	<	2.5	<	1.0
	sec-Butylbenzene	NS	NS	ug/L	<	1.0	<	1.0	**1.0**	2.5	<	1.0	<	1.0	<	1.0	<	2.5	<	1.0
Mod. EPA 8100	**TOTAL PETROLEUM HYDROCARBON**																			
	Hydrocarbon Content	NS	NS	ug/L	**300**	200	NT		NT		NT		**570**	200	NT		NT		NT	
	FIELD PARAMETERS																			
	pH	NS	NS	SU	4.0		5.0		6.1		6.4		6.7		6.4		7.6		6.7	
	CONDUCTIVITY	NS	NS	mS/cm	0.786		0.748		0.357		0.249		0.316		0.090		0.474		0.332	
	TURBIDITY	NS	NS	NTU	5		0		153		20		0		3		4		5	
	DISSOLVED OXYGEN	NS	NS	mg/L	0.0		0.0		0.2		0.0		0.1		0.0		0.0		0.1	
	TEMPERATURE	NS	NS	°C	16.5		14.4		15.8		15.8		13.1		10.7		13.6		14.5	
	ORP	NS	NS	mV	-23		-53		-112		-117		5		-92		-46		-149	

RIZ-7		RIDEM GA	RIDEM Groundwater	Units	Date									
Shallow Aquifer Monitoring Well		Groundwater	Quality		12/31/2009		04/30/2010		07/13/2010		10/13/2010		01/05/2011	
Screen From 5'-15' BGS		Objectives	PALs		Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS													
	Vinyl Chloride	2	1	ug/L	**49**	1.0	**82**	1.0	**43**	1.0	**110**	1.0	**69**	1.0
	trans-1,2-Dichloroethene	100	50	ug/L	**1.5**	1.0	**2.1**	1.0	**1.9**	1.0	**3.0**	1.0	**2.1**	1.0
	cis-1,2-Dichloroethene	70	35	ug/L	**42**	1.0	**51**	1.0	**70**	1.0	**78**	1.0	**46**	1.0
	Trichloroethene	5	2.5	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	Tetrachloroethene	5	2.5	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
EPA 8260	Ethylbenzene	700	350	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	m&p-Xylene	NS	NS	ug/L	<	2.0	<	2.0	<	2.0	<	2.0	<	2.0
	o-Xylene	NS	NS	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	Total Xylenes	1000	500	ug/L	<	2.0	<	2.0	<	2.0	<	2.0	<	2.0
	2-Chlorotoluene	NS	NS	ug/L	**2.5**	1.0	**2.8**	1.0	**1.1**	1.0	**2.4**	1.0	<	1.0
	N-Propylbenzene	NS	NS	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	NS = NO STANDARD	NS	NS	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
Mod. EPA 8100	**TOTAL PETROLEUM HYDROCARBON**													
	Hydrocarbon Content	NS	NS	ug/L	**470**	200	NT		NT		NT		**230**	200
	FIELD PARAMETERS													
	pH	NS	NS	SU	5.9		6.4		6.6		6.8		6.7	
	CONDUCTIVITY	NS	NS	mS/cm	0.227		0.229		0.399		0.227		0.221	
	TURBIDITY	NS	NS	NTU	5		0		0		4		1	
	DISSOLVED OXYGEN	NS	NS	mg/L	0.0		0.0		4.0		0.3		0.1	
	TEMPERATURE	NS	NS	°C	12.2		10.5		16.9		15.3		12.6	
	ORP	NS	NS	mV	-85		-99		60		-10		127	

Notes:
PAL = RIDEM's Preventative Action Limit
RIDEM GA EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED GREEN
PALs EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED BLUE
< = NOT DETECTED
NS = NO STANDARD
NT = NOT TESTED
BGS = BELOW GROUND SURFACE

TABLE 6
MW-GP-28 DETECTED CONSTITUENTS SUMMARY
Third Annual ICMP
Charbert Facility
Richmond, Rhode Island

GP-28 Shallow Aquifer Monitoring Well Screen From 3'-15' BGS		RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	Date: Baseline 1/2/2008		04/01/2008		07/07/2008		10/01/2008		01/05/2009		04/01/2009		07/08/2009		10/12/2009	
					Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS																			
EPA 8260	Vinyl Chloride	2	1	ug/L	**1,200**	5.0	**180**	2.5	<	1.0	**10**	1.0	**140**	1.0	**52**	50.0	**440**	5.0	**18**	1.0
	cis-1,2-Dichloroethene	70	35	ug/L	**1,400**	5.0	**200**	2.5	**6.2**	1.0	**2.9**	1.0	**940**	1.0	**2,900**	50.0	**560**	5.0	**12**	1.0
	Trichloroethene	5	2.5	ug/L	<	5.0	<	2.5	<	1.0	<	1.0	**350**	1.0	<	50.0	**23**	5.0	<	1.0
	Tetrachloroethene	5	2.5	ug/L	<	5.0	<	2.5	<	1.0	<	1.0	**2,900**	1.0	<	50.0	**15**	5.0	**1.5**	1.0
	trans-1,2-Dichloroethene	100	50	ug/L	**11**	5.0	<	2.5	<	1.0	<	1.0	<	25.0	<	50.0	**7**	5.0	<	1.0
	Ethylbenzene	700	350	ug/L	<	5.0	<	2.5	**1.2**	1.0	<	1.0	<	1.0	<	50.0	<	5.0	<	1.0
	o-Xylene	NS	NS	ug/L	<	5.0	<	2.5	**1.8**	1.0	**1.9**	1.0	<	1.0	<	50.0	<	5.0	<	1.0
	Total Xylenes	1000	500	ug/L	<	10	<	5.0	**1.8**	2.0	**<**	2.0	<	2.0	<	50.0	<	10.0	<	2.0
	2-Chlorotoluene	NS	NS	ug/L	<	5.0	<	2.5	**1.3**	1.0	**1.0**	1.0	<	1.0	<	50.0	<	5.0	<	1.0
Mod. EPA 8100	**TOTAL PETROLEUM HYDROCARBON**																			
	Hydrocarbon Content	NS	NS	ug/L	**350**	200	NT		NT		NT		**290**	200	NT		NT		NT	
	FIELD PARAMETERS																			
	pH	NS	NS	SU	4.0		5.0		5.5		6.5		6.9		6.8		7.2		6.7	
	CONDUCTIVITY	NS	NS	mS/cm	0.900		0.492		0.700		0.410		0.135		0.191		0.230		0.197	
	TURBIDITY	NS	NS	NTU	5		30		270		116		420		399		11		4	
	DISSOLVED OXYGEN	NS	NS	mg/L	0.0		0.0		0.6		0.1		0.32		0		0.71		0.19	
	TEMPERATURE	NS	NS	°C	12.0		11.1		17.6		16.8		5.9		7.9		19.6		15.1	
	ORP	NS	NS	mV	-47		-71		-112		-144		8		-117		-96		-138	

GP-28 Shallow Aquifer Monitoring Well Screen From 3'-15' BGS		RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	Date: 01/04/2010		04/30/2010		07/10/2010		10/13/2010		01/05/2011	
					Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS													
EPA 8260	Vinyl Chloride	2	1	ug/L	**28**	1.0	**150**	1.0	**62**	1.0	**4**	1.0	**26**	1.0
	cis-1,2-Dichloroethene	70	35	ug/L	**91**	1.0	**500**	1.0	**100**	1.0	**2.4**	1.0	**180**	1.0
	Trichloroethene	5	2.5	ug/L	**6.4**	1.0	**46**	1.0	**7.2**	1.0	<	1.0	**19**	1.0
	Tetrachloroethene	5	2.5	ug/L	<	1.0	**30**	1.0	**61**	1.0	<	1.0	**2.9**	1.0
	trans-1,2-Dichloroethene	100	50	ug/L	**1.3**	1.0	<	1.0	**1.5**	1.0	<	1.0	**1.7**	1.0
	Ethylbenzene	700	350	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	o-Xylene	NS	NS	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	Total Xylenes	1000	500	ug/L	<	2.0	<	2.0	<	2.0	<	2.0	<	2.0
	2-Chlorotoluene	NS	NS	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
Mod. EPA 8100	**TOTAL PETROLEUM HYDROCARBON**													
	Hydrocarbon Content	NS	NS	ug/L	**240**	200	NT		NT		NT		<	200
	FIELD PARAMETERS													
	pH	NS	NS	SU	6.5		6.7		6.7		6.6		6.9	
	CONDUCTIVITY	NS	NS	mS/cm	0.443		0.156		0.277		0.169		0.153	
	NS = NO STANDARD	NS	NS	NTU	5		0		0		3		2	
	DISSOLVED OXYGEN	NS	NS	mg/L	0		3.4		0.77		0.04		0.19	
	TEMPERATURE	NS	NS	°C	6.2		11.2		21.2		17.5		6.5	
	ORP	NS	NS	mV	21		-101		-10		-33		-115	

Notes:
PAL = RIDEM's Preventative Action Limit
RIDEM GA EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED GREEN
PALs EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED BLUE
< = NOT DETECTED
NS = NO STANDARD
NT = NOT TESTED
BGS = BELOW GROUND SURFACE

TABLE 7
MW-GZ-24 DETECTED CONSTITUENTS SUMMARY
Third Annual ICMP
Charbert Facility
Richmond, Rhode Island

GZ-24 Deep Aquifer Monitoring Well Screen From 24'-34' BGS		RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	Date Baseline 7/10/2009		06/17/2010		07/08/2010		10/13/2010		01/05/2011	
					Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS													
EPA 8260	Vinyl Chloride	2	1	ug/L	**30**	5.0	**63**	2.5	**62**	1.0	**150**	1.0	**250**	1.0
	trans-1,2-Dichloroethene	100	50	ug/L	**5**	5.0	**3**	2.5	**1.5**	1.0	**11**	1.0	**9**	1.0
	cis-1,2-Dichloroethene	70	35	ug/L	**390**	5.0	**210**	2.5	**100**	1.0	**960**	1.0	**740**	1.0
	Trichloroethene	5	2.5	ug/L	**22**	5.0	**11**	2.5	**7**	1.0	**22**	1.0	**24**	1.0
	Tetrachloroethene	5	2.5	ug/L	**150**	5.0	**100**	2.5	**61**	1.0	**46**	1.0	**65**	1.0
	FIELD PARAMETERS													
	Depth to groundwater (top of PVC)	--	--	Feet	3.3		5.5		6.6					
	pH	NS	NS	SU	7.6		5.9		6.6		6.3		6.6	
	CONDUCTIVITY	NS	NS	mS/cm	0.233		0.180		0.429		0.170		0.127	
	TURBIDITY	NS	NS	NTU	0		3		0		1		1	
	DISSOLVED OXYGEN	NS	NS	mg/L	0.0		1.6		1.81		0.42		0.69	
	TEMPERATURE	NS	NS	°C	14.0		15.2		15.9		14.8		11.6	
	ORP	NS	NS	mV	-65		7		79		-7		-1	

Notes:
PAL = RIDEM's Preventative Action Limit
RIDEM GA EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED GREEN
PALs EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED BLUE
< = NOT DETECTED
NS = NO STANDARD
NT = NOT TESTED
BGS = BELOW GROUND SURFACE

TABLE 8
MW-RIZ-5 DETECTED CONSTITUENTS SUMMARY
Third Annual ICMP
Charbert Facility
Richmond, Rhode Island

RIZ-5 Shallow Aquifer Monitoring Well Screen From 9.5'-19.5' BGS		RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	Date															
					Baseline 1/2/2008		04/01/2008		07/07/2008		10/01/2008		01/05/2009		04/01/2009		07/08/2009		10/12/2009	
					Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS																			
EPA 8260	Vinyl Chloride	2	1	ug/L	<	1.0	<	1.0	<	2.5	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	cis-1,2-Dichloroethene	70	35	ug/L	**2.9**	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	Trichloroethene	5	2.5	ug/L	**2.4**	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	Tetrachloroethene	5	2.5	ug/L	**5.3**	1.0	<	1.0	<	1.0	<	1.0	**1.9**	1.0	<	1.0	<	1.0	<	1.0
Mod. EPA 8100	**TOTAL PETROLEUM HYDROCARBON**																			
	Hydrocarbon Content	NS	NS	ug/L	<	200	NT		NT		NT		<	200	NT		NT		NT	
	FIELD PARAMETERS																			
	pH	NS	NS	SU	4.0		5.0		5.6		6.0		6.6		7.0		6.3		6.8	
	CONDUCTIVITY	NS	NS	mS/cm	0.465		0.919		0.181		0.226		0.353		0.221		0.165		0.185	
	TURBIDITY	NS	NS	NTU	64		110		713		325		1		5		3		3	
	DISSOLVED OXYGEN	NS	NS	mg/L	0.0		7.0		7.4		8.59		3.55		12.51		10.3		9.69	
	TEMPERATURE	NS	NS	°C	14.7		13.5		14.2		14.5		11.4		11.5		12.9		13.6	
	ORP	NS	NS	mV	26		135		140		154		143		42		119		-44	

RIZ-5 Shallow Aquifer Monitoring Well Screen From 9.5'-19.5' BGS		RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	Date			
					12/31/2009		01/05/2011	
					Result	Limit	Result	Limit
	VOLATILE ORGANICS							
EPA 8260	Vinyl Chloride	2	1	ug/L	<	1.0	<	1.0
	cis-1,2-Dichloroethene	70	35	ug/L	<	1.0	<	1.0
	Trichloroethene	5	2.5	ug/L	<	1.0	<	1.0
	Tetrachloroethene	5	2.5	ug/L	<	1.0	<	1.0
Mod. EPA 8100	**TOTAL PETROLEUM HYDROCARBON**							
	Hydrocarbon Content	NS	NS	ug/L	<	200	<	200
	FIELD PARAMETERS							
	pH	NS	NS	SU	5.1		6.7	
	CONDUCTIVITY	NS	NS	mS/cm	0.234		0.247	
	TURBIDITY	NS	NS	NTU	5		1	
	DISSOLVED OXYGEN	NS	NS	mg/L	0		10.24	
	TEMPERATURE	NS	NS	°C	12		11.9	
	ORP	NS	NS	mV	68		105	

Notes:
PAL = RIDEM's Preventative Action Limit
RIDEM GA EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED GREEN
PALs EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED BLUE
< = NOT DETECTED
NS = NO STANDARD
NT = NOT TESTED
BGS = BELOW GROUND SURFACE

TABLE 9
MW-GZ-20 DETECTED CONSTITUENTS SUMMARY
Third Annual ICMP
Charbert Facility
Richmond, Rhode Island

GZ-20		RIDEM GA	RIDEM Groundwater	Units	Date															
Deep Aquifer Monitoring Well		Groundwater	Quality		Baseline 1/2/2008		04/01/2008		07/07/2008		10/01/2008		01/05/2009		04/01/2009		07/08/2009		10/12/2009	
Screen From 25'-30' BGS		Objectives	PALs		Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS																			
EPA 8260	Vinyl Chloride	2	1	ug/L	**1.2**	1.0	**1.3**	1.0	<	5.0	<	5.0	**35**	5.0	**48**	10.0	**71**	10.0	**84**	10.0
	cis-1,2-Dichloroethene	70	35	ug/L	**52**	1.0	**64**	1.0	**120**	5.0	**230**	5.0	**500**	5.0	**600**	10.0	**830**	10.0	**790**	10.0
	1,1,2-Trichloroethane	200	100	ug/L	<	1.0	<	1.0	<	5.0	<	5.0	<	5.0	<	10.0	<	10.0	**35**	10.0
	Trichloroethene	5	2.5	ug/L	**52**	1.0	**60**	1.0	**99**	5.0	**180**	5.0	**400**	5.0	**520**	10.0	**690**	10.0	**1,200**	10.0
	Tetrachloroethene	5	2.5	ug/L	**89**	1.0	**130**	1.0	**230**	5.0	**430**	5.0	**880**	5.0	**110**	10.0	**1,200**	10.0	**2,100**	10.0
	FIELD PARAMETERS																			
	pH	NS	NS	SU	4.0		5.0		5.4		6.1		6.4		6.4		6.4		6.3	
	CONDUCTIVITY	NS	NS	mS/cm	0.346		0.220		0.124		0.139		0.132		0.148		0.163		0.146	
	TURBIDITY	NS	NS	NTU	280		165		585		118		42		185		52		5	
	DISSOLVED OXYGEN	NS	NS	mg/L	0.0		0.0		0.6		0.1		0.23		1.0		0.0		0.0	
	TEMPERATURE	NS	NS	°C	15.3		14.6		15.0		14.4		12.0		11.9		14.5		12.6	
	ORP	NS	NS	mV	8		-38		66		73		86		40		86		-7	

GZ-20		RIDEM GA	RIDEM Groundwater	Units	Date									
Deep Aquifer Monitoring Well		Groundwater	Quality		12/31/2009		04/30/2010		07/13/2010		10/13/2010		01/05/2011	
Screen From 25'-30' BGS		Objectives	PALs		Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS													
EPA 8260	Vinyl Chloride	2	1	ug/L	**66**	25	**72**	25	**44**	25	**50**	25	**69**	25
	cis-1,2-Dichloroethene	70	35	ug/L	**740**	25	**870**	25	**510**	25	**520**	25	**630**	25
	1,1,2-Trichloroethane	200	100	ug/L	<	25	<	25	<	25	<	25	<	25
	Trichloroethene	5	2.5	ug/L	**1,300**	25	**1,400**	25	**1,300**	25	**1,400**	25	**1,500**	25
	Tetrachloroethene	5	2.5	ug/L	**2,300**	25	**2,400**	25	**2,800**	25	**3,100**	25	**2,900**	25
	FIELD PARAMETERS													
	pH	NS	NS	SU	5.1		6.2		6.2		6.1		6.4	
	CONDUCTIVITY	NS	NS	mS/cm	0.125		0.140		0.183		0.125		0.121	
	TURBIDITY	NS	NS	NTU	112		5		0		2		4	
	DISSOLVED OXYGEN	NS	NS	mg/L	0.0		0.1		1.2		0.4		0.1	
	TEMPERATURE	NS	NS	°C	11.7		11.8		15.1		13.6		12.2	
	ORP	NS	NS	mV	59		51		202		119		116	

Notes:
PAL = RIDEM's Preventative Action Limit
RIDEM GA EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED GREEN
PALs EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED BLUE
< = NOT DETECTED
NS = NO STANDARD
NT = NOT TESTED
NS = NO STANDARD

TABLE 10
MW-GP-26 DETECTED CONSTITUENTS SUMMARY
Third Annual ICMP
Charbert Facility
Richmond, Rhode Island

GP-26		RIDEM GA	RIDEM Groundwater	Units	Date															
Shallow Aquifer Monitoring Well		Groundwater	Quality		Baseline 1/2/2008		04/01/2008		07/07/2008		10/01/2008		01/05/2009		04/01/2009		07/08/2009		10/12/2009	
Screen From 4'-16' BGS		Objectives	PALs		Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS																			
EPA 8260	Vinyl Chloride	2	1	ug/L	**530**	25	**100**	1.0	**100**	5.0	**16**	10	**96**	10	**9**	2.5	**81**	10.0	**42**	1.0
	1,1-Dichloroethene	7	3.5	ug/L	<	25	**1.1**	1.0	<	5.0	<	10	<	10	<	2.5	<	10.0	<	1.0
	trans-1,2-Dichloroethene	100	50	ug/L	**70**	25	**20**	1.0	<	5.0	**19**	10	<	10	<	2.5	<	10.0	**1.4**	1.0
	cis-1,2-Dichloroethene	70	35	ug/L	**6,800**	25	**2,100**	1.0	**160**	5.0	**2,300**	100	**1,200**	100	**110**	2.5	**910**	10.0	**190**	1.0
	Trichloroethene	5	2.5	ug/L	**1,200**	25	**2,500**	1.0	**82**	5.0	**2,300**	100	**1,600**	100	**120**	2.5	**310**	10.0	**41**	1.0
	Tetrachloroethene	5	2.5	ug/L	**1,800**	25	**4,100**	1.0	**330**	5.0	**2,900**	100	**2,100**	100	**210**	2.5	**330**	10.0	**30**	1.0
Mod. EPA 8100	**TOTAL PETROLEUM HYDROCARBON**																			
	Hydrocarbon Content	NS	NS	ug/L	**800**	200	NT		NT		NT		**450**	200	NT		NT		NT	
	FIELD PARAMETERS																			
	pH	NS	NS	SU	4.0		6.0		5.3		6.5		6.8		6.6		7.0		6.7	
	CONDUCTIVITY	NS	NS	mS/cm	3.00		3.49		0.462		0.341		0.490		0.267		0.449		0.278	
	TURBIDITY	NS	NS	NTU	5		1		51		31		5		35		19		4	
	DISSOLVED OXYGEN	NS	NS	mg/L	0.0		0.0		0.3		0.3		0.3		0		0		0.2	
	TEMPERATURE	NS	NS	°C	13.9		12.5		14.6		17.7		10.4		10.6		15.4		14.5	
	ORP	NS	NS	mV	31		61		-40		-8		89		10		-24		-122	

GP-26		RIDEM GA	RIDEM Groundwater	Units	Date									
Shallow Aquifer Monitoring Well		Groundwater	Quality		01/04/2010		04/30/2010		07/08/2010		10/13/2010		01/05/2011	
Screen From 4'-16' BGS		Objectives	PALs		Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS													
EPA 8260	Vinyl Chloride	2	1	ug/L	**29**	5.0	**15**	5.0	**3.6**	2.0	<	2.0	<	1.0
	1,1-Dichloroethene	7	3.5	ug/L	<	5.0	<	5.0	<	1.0	<	1.0	<	1.0
	trans-1,2-Dichloroethene	100	50	ug/L	<	5.0	**1.2**	5.0	<	1.0	<	1.0	<	1.0
	cis-1,2-Dichloroethene	70	35	ug/L	**640**	5.0	**170**	5.0	**5.8**	1.0	<	1.0	**1.2**	1.0
	Trichloroethene	5	2.5	ug/L	**470**	5.0	**40**	5.0	**13**	1.0	<	1.0	<	1.0
	Tetrachloroethene	5	2.5	ug/L	**490**	5.0	**56**	5.0	**32**	1.0	<	1.0	<	1.0
Mod. EPA 8100	**TOTAL PETROLEUM HYDROCARBON**													
	Hydrocarbon Content	NS	NS	ug/L	**660**	200	NT		NT		NT		<	200
	FIELD PARAMETERS													
	pH	NS	NS	SU	6.3		7.2		6.9		6.8		6.6	
	CONDUCTIVITY	NS	NS	mS/cm	0.346		0.269		0.305		0.268		0.108	
	TURBIDITY	NS	NS	NTU	5		2		NT		1		0	
	DISSOLVED OXYGEN	NS	NS	mg/L	0.0		11.7		0.4		0.6		0.0	
	TEMPERATURE	NS	NS	°C	10.4		10.4		16.5		16.4		12.3	
	ORP	NS	NS	mV	31		-136		5		-11		-7	

Notes:
NS = NO STANDARD
RIDEM GA EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED GREEN
PALs EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED BLUE
< = NOT DETECTED
NS = NO STANDARD
NT = NOT TESTED
BGS = BELOW GROUND SURFACE

TABLE 11
MW-GZ-7 DETECTED CONSTITUENTS SUMMARY
Third Annual ICMP
Charbert Facility
Richmond, Rhode Island

GZ-7 Deep Aquifer Monitoring Well Screen From 33'-43' BGS		RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	Date: Baseline 1/2/2008		04/01/2008		07/07/2008		10/01/2008		01/05/2009		04/01/2009		07/08/2009		10/12/2009	
					Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS																			
EPA 8260	Vinyl Chloride	2	1	ug/L	<	1.0	<	1.0	**1.3**	1.0	<	1.0	<	1.0	<	1.0	**2.2**	1.0	<	1.0
	cis-1,2-Dichloroethene	70	35	ug/L	<	1.0	**13**	1.0	**140**	1.0	**33**	1.0	**4.2**	1.0	**72**	1.0	**100**	1.0	**27**	1.0
	Trichloroethene	5	2.5	ug/L	<	1.0	**74**	1.0	**140**	1.0	**37**	1.0	<	1.0	**97**	1.0	**42**	1.0	**43**	1.0
	Tetrachloroethene	5	2.5	ug/L	<	1.0	**26**	1.0	**15**	1.0	**7.1**	1.0	<	1.0	**30**	1.0	**18**	1.0	**28**	1.0
	FIELD PARAMETERS																			
	pH	NS	NS	SU	4.0		5.0		5.5		6.3		7.2		6.6		7.7		6.5	
	CONDUCTIVITY	NS	NS	mS/cm	0.223		0.359		0.226		0.106		0.168		0.185		0.175		0.166	
	TURBIDITY	NS	NS	NTU	5		5		17		0.3		4		1.4		2		4	
	DISSOLVED OXYGEN	NS	NS	mg/L	0.0		0.0		1.0		0.4		0.3		0.0		0.0		0.1	
	TEMPERATURE	NS	NS	°C	14.5		14.3		13.9		13.9		12.2		12.6		13.5		12.6	
	ORP	NS	NS	mV	-8		-55		-80		-48		-18		-74		-98		-114	

GZ-7 Deep Aquifer Monitoring Well Screen From 33'-43' BGS		RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	Date: 01/04/2010		04/30/2010		07/08/2010		10/13/2010		01/05/2011	
					Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS													
EPA 8260	Vinyl Chloride	2	1	ug/L	<	1.0	<	1.0	<	1.0	**150**	1.0	**<**	1.0
	cis-1,2-Dichloroethene	70	35	ug/L	**24**	1.0	**260**	1.0	**60**	1.0	**510**	1.0	**16**	1.0
	Trichloroethene	5	2.5	ug/L	**14**	1.0	**40**	1.0	**17**	1.0	**350**	1.0	**17**	1.0
	Tetrachloroethene	5	2.5	ug/L	**9.7**	1.0	**56**	1.0	**41**	1.0	**600**	1.0	**5.1**	1.0
	FIELD PARAMETERS													
	pH	NS	NS	SU	6.4		6.8		6.6		6.3		6.9	
	CONDUCTIVITY	NS	NS	mS/cm	0.185		0.15		0.179		0.119		0.111	
	TURBIDITY	NS	NS	NTU	5		0		114		2		0	
	DISSOLVED OXYGEN	NS	NS	mg/L	0.0		0.1		0.6		0.3		0.0	
	TEMPERATURE	NS	NS	°C	11.0		11.0		16.5		14.1		15.1	
	ORP	NS	NS	mV	32		-98		69		57		41	

Notes:
PAL = RIDEM's Preventative Action Limit
RIDEM GA EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED GREEN
PALs EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED BLUE
< = NOT DETECTED
NS = NO STANDARD
NT = NOT TESTED
BGS = BELOW GROUND SURFACE

TABLE 12
MW-GZ-3 DETECTED CONSTITUENTS SUMMARY
Third Annual ICMP
Charbert Facility
Richmond, Rhode Island

GZ-3 Deep Aquifer Monitoring Well Screen From 30'-40' BGS		RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	Date: Baseline 1/2/2008		04/01/2008		07/07/2008		10/01/2008		01/06/2009		04/01/2009		07/08/2009		10/12/2009	
					Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS																			
EPA 8260	Vinyl Chloride	2	1	ug/L	<	1.0	<	1.0	**3.1**	1.0	<	10	**8.1**	10	**16**	5	**19**	5	**35**	5
	cis-1,2-Dichloroethene	70	35	ug/L	**9.3**	1.0	**16**	1.0	**65**	1.0	**86**	10	**110**	10	**180**	5	**180**	5	**230**	5
	Trichloroethene	5	2.5	ug/L	**10**	1.0	**17**	1.0	**91**	1.0	**93**	10	**81**	10	**150**	5	**180**	5	**210**	5
	Tetrachloroethene	5	2.5	ug/L	**12**	1.0	**22**	1.0	**440**	1.0	**180**	10	**160**	10	**450**	5	**560**	5	**630**	5
	FIELD PARAMETERS																			
	pH	NS	NS	SU	4.0		5.0		5.1		6.5		6.2		6.4		7.4		6.5	
	CONDUCTIVITY	NS	NS	mS/cm	0.339		0.392		0.206		0.114		0.415		0.419		0.171		0.152	
	TURBIDITY	NS	NS	NTU	5		5		34		7		5		4		19		3	
	DISSOLVED OXYGEN	NS	NS	mg/L	0.0		0.0		0.7		0.28		0.25		0		0		0.1	
	TEMPERATURE	NS	NS	°C	15.4		15.4		14.8		14.6		12.4		12.2		13.1		13.1	
	ORP	NS	NS	mV	-15		8		-22		-41		49		-25		-41		-90	

GZ-3 Deep Aquifer Monitoring Well Screen From 30'-40' BGS		RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	Date: 01/04/2010		04/30/2010		07/08/2010		10/13/2010		01/05/2011	
					Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS													
EPA 8260	Vinyl Chloride	2	1	ug/L	**23**	5	**84**	5	**56**	5	<	5	**71**	2.5
	cis-1,2-Dichloroethene	70	35	ug/L	**160**	5	**450**	5	**290**	5	**23**	5	**250**	2.5
	Trichloroethene	5	2.5	ug/L	**130**	5	**380**	5	**320**	5	**14**	5	**130**	2.5
	Tetrachloroethene	5	2.5	ug/L	**370**	5	**610**	5	**600**	5	**4.9**	5	**230**	2.5
	FIELD PARAMETERS													
	pH	NS	NS	SU	6.4		6.5		6.4		6.3		6.5	
	CONDUCTIVITY	NS	NS	mS/cm	0.150		0.149		0.265		0.128		0.363	
	TURBIDITY	NS	NS	NTU	2		5		230		4		3	
	DISSOLVED OXYGEN	NS	NS	mg/L	1.0		0.0		1.5		0.3		3.9	
	TEMPERATURE	NS	NS	°C	11.6		11.1		15.3		14.6		12.8	
	ORP	NS	NS	mV	14		-33		46		58		78	

Notes:
PAL = RIDEM's Preventative Action Limit
RIDEM GA EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED GREEN
PALs EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED BLUE
< = NOT DETECTED
NS = NO STANDARD
NT = NOT TESTED
BGS = BELOW GROUND SURFACE

TABLE 13
MW-GZ-25 DETECTED CONSTITUENTS SUMMARY
Third Annual ICMP
Charbert Facility
Richmond, Rhode Island

GZ-25 Deep Aquifer Monitoring Well Screen From 20'-30' BGS		RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	Date Baseline 7/10/2009		06/17/2010		07/08/2010		10/13/2010		01/05/2011	
					Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS													
EPA 8260	Vinyl Chloride	2	1	ug/L	<	2.5	<	2.5	<	2.5	<	2.5	<	1.0
	trans-1,2-Dichloroethene	100	50	ug/L	<	2.5	<	2.5	<	2.5	<	2.5	<	1.0
	cis-1,2-Dichloroethene	70	35	ug/L	**11.0**	2.5	**14.0**	2.5	**36**	2.5	**6.4**	2.5	**3.3**	1.0
	Trichloroethene	5	2.5	ug/L	**15**	2.5	**16**	2.5	**35**	2.5	**10**	2.5	**4.8**	1.0
	Tetrachloroethene	5	2.5	ug/L	**220**	2.5	**200**	2.5	**200**	2.5	**130**	2.5	**63**	1.0
	FIELD PARAMETERS													
	Depth to groundwater (top of PVC)	--	--	Feet	2.8		4.9		5.8		6		6	
	pH	NS	NS	SU	6.7		6.3		6.7		6.5		6.3	
	CONDUCTIVITY	NS	NS	mS/cm	0.174		0.153		0.179		0.169		0.227	
	TURBIDITY	NS	NS	NTU	0		3		0		3		2	
	DISSOLVED OXYGEN	NS	NS	mg/L	0.0		0.6		1.36		0.19		1.2	
	TEMPERATURE	NS	NS	°C	14.0		14.3		15.4		16.8		12.7	
	ORP	NS	NS	mV	20		-18		70		23		18	

Notes:
PAL = RIDEM's Preventative Action Limit
RIDEM GA EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED GREEN
PALs EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED BLUE
< = NOT DETECTED
NS = NO STANDARD
NT = NOT TESTED
BGS = BELOW GROUND SURFACE

TABLE 14
MW-GZ-27 DETECTED CONSTITUENTS SUMMARY
Third Annual ICMP
Charbert Facility
Richmond, Rhode Island

GZ-27 Shallow Aquifer Monitoring Well Screen From 3'-15' BGS		RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	Date Baseline 6/17/2010		07/18/2010		10/13/2010		01/05/2011	
					Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS											
EPA 8260	Vinyl Chloride	2	1	ug/L	**11**	1.0	**16**	1.0	**21**	1.0	**88**	2.5
	trans-1,2-Dichloroethene	100	50	ug/L	<	1.0	<	1.0	<	1.0	**4.2**	2.5
	cis-1,2-Dichloroethene	70	35	ug/L	**20**	1.0	**45**	1.0	**44**	1.0	**380**	2.5
	Trichloroethene	5	2.5	ug/L	<	1.0	**1**	1.0	**1.4**	1.0	**45**	2.5
	Tetrachloroethene	5	2.5	ug/L	<	1.0	<	1.0	<	1.0	**12**	2.5
	FIELD PARAMETERS											
	Depth to groundwater (top of PVC)	--	--	Feet	5.1		6.1		6.2		6.2	
	pH	NS	NS	SU	6.5		6.9		6.5		6.8	
	CONDUCTIVITY	NS	NS	mS/cm	0.142		0.209		0.201		0.247	
	TURBIDITY	NS	NS	NTU	2		0		1		2	
	DISSOLVED OXYGEN	NS	NS	mg/L	1.1		1.2		0.2		0.1	
	TEMPERATURE	NS	NS	°C	16.0		17.9		19		10.7	
	ORP	NS	NS	mV	-7		12		-12		-58	

Notes:
PAL = RIDEM's Preventative Action Limit
RIDEM GA EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED GREEN
PALs EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED BLUE
< = NOT DETECTED
NS = NO STANDARD
NT = NOT TESTED
BGS = BELOW GROUND SURFACE

TABLE 15
MW-GZ-26 DETECTED CONSTITUENTS SUMMARY
Third Annual ICMP
Charbert Facility
Richmond, Rhode Island

GZ-26 Deep Aquifer Monitoring Well Screen From 20'-30' BGS		RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	Date Baseline 7/10/2009		06/17/2010		07/08/2010		10/13/2010		01/05/2011	
					Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS													
EPA 8260	Vinyl Chloride	2	1	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	trans-1,2-Dichloroethene	100	50	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	cis-1,2-Dichloroethene	70	35	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	Trichloroethene	5	2.5	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	Tetrachloroethene	5	2.5	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	FIELD PARAMETERS													
	Depth to groundwater (top of PVC)	--	--	Feet	3		5.2		6.1		6.3		6.3	
	pH	NS	NS	SU	5.7		5.5		6.5		6.0		6.1	
	CONDUCTIVITY	NS	NS	mS/cm	0.156		0.135		0.160		0.133		0.120	
	TURBIDITY	NS	NS	NTU	0		4		144		1		1	
	DISSOLVED OXYGEN	NS	NS	mg/L	1.5		1.8		1.2		1		1.1	
	TEMPERATURE	NS	NS	°C	14.0		14.0		15.6		15.1		12.3	
	ORP	NS	NS	mV	175		55		72		140		128	

Notes:
PAL = RIDEM's Preventative Action Limit
RIDEM GA EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED GREEN
PALs EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED BLUE
< = NOT DETECTED
NS = NO STANDARD
NT = NOT TESTED
BGS = BELOW GROUND SURFACE

TABLE 16
MW-GZ-28 DETECTED CONSTITUENTS SUMMARY
Third Annual ICMP
Charbert Facility
Richmond, Rhode Island

GZ-28 Shallow Aquifer Monitoring Well Screen From 3'-15' BGS		RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	Date Baseline 6/17/2010		07/18/2010		10/13/2010		01/05/2011	
					Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS											
EPA 8260	Vinyl Chloride	2	1	ug/L	**26**	2.5	**16**	1.0	**17**	1.0	<	1.0
	trans-1,2-Dichloroethene	100	50	ug/L	<	2.5	**1.2**	1.0	<	1.0	<	1.0
	cis-1,2-Dichloroethene	70	35	ug/L	**210**	2.5	**130**	1.0	**85**	1.0	<	1.0
	Trichloroethene	5	2.5	ug/L	**78**	2.5	**37**	1.0	**8**	1.0	<	1.0
	Tetrachloroethene	5	2.5	ug/L	**52**	2.5	**25**	1.0	<	1.0	<	1.0
	FIELD PARAMETERS											
	Depth to groundwater (top of PVC)	--	--	Feet	5.2		6.2		6.2		6.2	
	pH	NS	NS	SU	6.2		7.2		6.6		7.1	
	CONDUCTIVITY	NS	NS	mS/cm	0.154		0.234		0.206		0.279	
	TURBIDITY	NS	NS	NTU	3		0		4		2	
	DISSOLVED OXYGEN	NS	NS	mg/L	0.0		1.2		0.3		0.2	
	TEMPERATURE	NS	NS	°C	15.0		18.7		18.8		10.3	
	ORP	NS	NS	mV	-30		-24		-50		-72	

Notes:
PAL = RIDEM's Preventative Action Limit
RIDEM GA EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED GREEN
PALs EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED BLUE
< = NOT DETECTED
NS = NO STANDARD
NT = NOT TESTED
BGS = BELOW GROUND SURFACE

TABLE 17
MW-RIZ-13 DETECTED CONSTITUENTS SUMMARY
Third Annual ICMP
Charbert Facility
Richmond, Rhode Island

RIZ-13 Shallow Aquifer Monitoring Well Screen From 14'-24' BGS		RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	Date: Baseline 1/2/2008		04/01/2008		07/07/2008		10/01/2008		01/06/2009		04/01/2009		07/09/2009		10/12/2009	
					Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS																			
EPA 8260	Vinyl Chloride	2	1	ug/L	**4.4**	1.0	<	1.0	<	1.0	<	1.0	**1.1**	1.0	<	1.0	<	1.0	<	1.0
	Tetrahydrofuran	NS	NS	ug/L	<	10.0	<	10.0	<	10.0	<	10.0	<	10.0	<	10.0	**17**	10.0	<	10.0
	cis-1,2-Dichloroethene	70	35	ug/L	**6.6**	1.0	<	1.0	<	1.0	<	1.0	**3.8**	1.0	<	1.0	<	1.0	<	1.0
	Trichloroethene	5	2.5	ug/L	**5.6**	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	Tetrachloroethene	5	2.5	ug/L	**6.9**	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
Mod. EPA 8100	**TOTAL PETROLEUM HYDROCARBON**																			
	Hydrocarbon Content	NS	NS	ug/L	<	200	NT		NT		NT		**1,100**	200	NT		NT		NT	
	FIELD PARAMETERS																			
	pH	NS	NS	SU	5.0		6.0		4.8		6.83		5.8		5.6		4.5		4.8	
	CONDUCTIVITY	NS	NS	mS/cm	0.392		0.900		0.773		0.361		0.875		0.571		0.562		0.910	
	TURBIDITY	NS	NS	NTU	3		5		208		54.8		4		88		22.2		11	
	DISSOLVED OXYGEN	NS	NS	mg/L	1.0		10.0		12.0		7.7		5.7		10.1		8.9		8.8	
	TEMPERATURE	NS	NS	°C	14.8		14.8		15.6		16.2		12.4		9.8		13.3		15.2	
	ORP	NS	NS	mV	28		56		34		-9		176		109		290		-160	

RIZ-13 Shallow Aquifer Monitoring Well Screen From 14'-24' BGS		RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	Date: 01/04/2010		01/05/2011	
					Result	Limit	Result	Limit
	VOLATILE ORGANICS							
EPA 8260	Vinyl Chloride	2	1	ug/L	<	1.0	<	1.0
	Tetrahydrofuran	NS	NS	ug/L	<	10.0	<	10.0
	cis-1,2-Dichloroethene	70	35	ug/L	<	1.0	<	1.0
	Trichloroethene	5	2.5	ug/L	<	1.0	<	1.0
	Tetrachloroethene	5	2.5	ug/L	<	1.0	<	1.0
Mod. EPA 8100	**TOTAL PETROLEUM HYDROCARBON**							
	Hydrocarbon Content	NS	NS	ug/L	**680**	200	<	200
	FIELD PARAMETERS							
	pH	NS	NS	SU	5.2		5.7	
	CONDUCTIVITY	NS	NS	mS/cm	0.822		0.309	
	TURBIDITY	NS	NS	NTU	5		6	
	DISSOLVED OXYGEN	NS	NS	mg/L	0.2		9.7	
	TEMPERATURE	NS	NS	°C	11.4		13.1	
	ORP	NS	NS	mV	193		195	

Notes:
PAL = RIDEM's Preventative Action Limit
RIDEM GA EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED GREEN
NS = NO STANDARD
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NT = NOT TESTED
BGS = BELOW GROUND SURFACE

TABLE 18
MW-RIZ-1 DETECTED CONSTITUENTS SUMMARY
Third Annual ICMP
Charbert Facility
Richmond, Rhode Island

RIZ-1 Shallow Aquifer Monitoring Well Screen From 5'-15' BGS		RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	Date															
					Baseline 1/2/2008		04/01/2008		07/07/2008		10/01/2008		01/06/2009		04/01/2009		07/09/2009		10/12/2009	
					Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS																			
EPA 8260	Vinyl Chloride	2	1	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	cis-1,2-Dichloroethene	70	35	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	Trichloroethene	5	2.5	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	Tetrachloroethene	5	2.5	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
Mod. EPA 8100	**TOTAL PETROLEUM HYDROCARBON**																			
	Hydrocarbon Content	NS	NS	ug/L	<	200	NT		NT		NT		<	200	NT		NT		NT	
	FIELD PARAMETERS																			
	pH	NS	NS	SU	4.0		5.1		4.9		5.42		5.5		5.8		5.3		5.9	
	CONDUCTIVITY	NS	NS	mS/cm	0.912		0.368		0.508		0.199		0.342		0.79		0.962		0.515	
	TURBIDITY	NS	NS	NTU	5		4		3		1		3		5		3.4		1	
	DISSOLVED OXYGEN	NS	NS	mg/L	4.0		5.8		5.2		3		5.6		7.3		7.1		6.0	
	TEMPERATURE	NS	NS	°C	13.5		9.8		13.5		19.2		11.3		9.2		16.1		18.2	
	ORP	NS	NS	mV	256		168		189		248		222		115		222		-22	

RIZ-1 Shallow Aquifer Monitoring Well Screen From 5'-15' BGS		RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	Date			
					01/04/2010		01/05/2011	
					Result	Limit	Result	Limit
	VOLATILE ORGANICS							
EPA 8260	Vinyl Chloride	2	1	ug/L	<	1.0	<	1.0
	cis-1,2-Dichloroethene	70	35	ug/L	<	1.0	<	1.0
	Trichloroethene	5	2.5	ug/L	<	1.0	<	1.0
	Tetrachloroethene	5	2.5	ug/L	<	1.0	<	1.0
Mod. EPA 8100	**TOTAL PETROLEUM HYDROCARBON**							
	Hydrocarbon Content	NS	NS	ug/L	<	200	NT	
	FIELD PARAMETERS							
	pH	NS	NS	SU	6.3		5.6	
	CONDUCTIVITY	NS	NS	mS/cm	0.362		0.420	
	TURBIDITY	NS	NS	NTU	0		1	
	DISSOLVED OXYGEN	NS	NS	mg/L	4.4		3.5	
	TEMPERATURE	NS	NS	°C	11.1		11.5	
	ORP	NS	NS	mV	185		155	

Notes:
PAL = RIDEM's Preventative Action Limit
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PALs EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED BLUE
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TABLE 19
MW-RIZ-6 DETECTED CONSTITUENTS SUMMARY
Third Annual ICMP
Charbert Facility
Richmond, Rhode Island

RIZ-6 Shallow Aquifer Background Screen From 5'-15' BGS		RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	Date Baseline 1/2/2008		01/05/2009		01/04/2010		01/05/2011		01/05/2009	
					Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS													
EPA 8260	Vinyl Chloride	2	1	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	cis-1,2-Dichloroethene	70	35	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	Trichloroethene	5	2.5	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	Tetrachloroethene	5	2.5	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
Mod. EPA 8100	**TOTAL PETROLEUM HYDROCARBON**													
	Hydrocarbon Content	NS	NS	ug/L	<	200	<	200	<	200	<	200	<	200
	FIELD PARAMETERS													
	pH	NS	NS	SU	4.0		6.8		6.54		6.8		6.8	
	CONDUCTIVITY	NS	NS	mS/cm	0.312		0.142		0.302		0.135		0.142	
	TURBIDITY	NS	NS	NTU	5		4		5		2.0		4	
	DISSOLVED OXYGEN	NS	NS	mg/L	0.0		1.9		0.64		0.18		1.9	
	TEMPERATURE	NS	NS	°C	14.1		11.6		11.5		12.2		11.6	
	ORP	NS	NS	mV	-28		19		33		-117		19	

Notes:
PAL = RIDEM's Preventative Action Limit
RIDEM GA EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED GREEN
PALs EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED BLUE
< = NOT DETECTED
NS = NO STANDARD
NT = NOT TESTED
BGS = BELOW GROUND SURFACE

TABLE 20
SVE-1
Summary of Interior Soil Vapor Extraction Monitoring
January 2010 through January 2011

Charbert Facility
Alton, Rhode Island

Date	SVE-1						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	6.80	0.90	1.0	20.0	0.5	0	*Interior SVE system start up*
1/24/2008	8.40	2.00	6.0	19.9	0.2	0	
2/26/2008	6.80	2.00	1.5	20.6	0.1	0	
3/26/2008	7.60	0.60	0.2	20.0	0.1	0	
4/18/2008	6.40	1.00	2.3	20.9	0.1	0	
5/15/2008	7.20	1.30	2.8	20.8	0.1	0	
6/27/2008	7.60	1.70	0.5	20.3	0.0	0	
7/18/2008	7.40	1.70	0.1	20.3	0.0	0	
8/14/2008	7.20	1.50	2.8	20.9	0.0	0	
9/10/2008	7.20	1.70	1.0	20.9	0.0	0	
10/8/2008	7.20	1.60	0.9	20.9	0.1	0	
11/5/2008	7.20	1.90	1.4	19.1	0.0	0	
12/3/2008	-	-	-	-	-	-	*Condensate observed*
1/21/2009	7.70	1.90	8.2	20.7	0.1	0	
2/20/2009	7.20	1.40	10.3	19.2	0.1	0	
3/27/2009	8.40	1.80	2.2	20.9	0.1	0	
4/24/2009	7.60	2.10	2.7	20.6	0.1	0	
5/22/2009	7.60	1.80	1.5	20.0	0.0	0	
6/30/2009	7.80	1.80	--	20.1	0.0	0	
7/23/2009	7.60	1.90	3.9	19.4	0.0	0	
8/19/2009	7.60	1.69	0.8	20.6	0.0	0	
9/29/2009	7.00	1.20	0.3	20.7	0.0	1	
10/28/2009	7.60	1.40	1.5	20.5	0.0	0	
11/25/2009	7.80	1.80	< 0.1	20.7	0.0	0	
12/29/2009	7.40	1.80	< 0.1	20.6	0.0	0	
1/27/2010	6.30	0.74	1.8	20.6	0.1	0	
2/23/2010	6.20	0.12	1.7	20.8	0.1	1	
9/2/2010	5.12	2.40	0.6	20.6	0.1	0	
11/18/2010	5.90	0.97	0.0	20.8	0.1	0	
1/6/2011	4.89	0.99	0.5	20.7	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	7.28	1.52	2.2	20.4	0.1	368
1/22/09 - 12/29/09	7.61	1.72	3.5	20.3	0.0	344
12/30/09 - 1/6/11	5.68	1.04	0.9	20.7	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "--" means not monitored due to monitoring equipment failure, unless otherwise noted.

TABLE 21
SVE-2
Summary of Interior Soil Vapor Extraction Monitoring
January 2010 through January 2011

Charbert Facility
Alton, Rhode Island

Date	SVE-2						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	7.20	0.90	1.0	20.0	0.5	0	*Interior SVE system start up*
1/24/2008	7.60	3.00	3.0	19.9	0.2	0	
2/26/2008	6.80	2.60	2.0	20.6	0.0	0	
3/26/2008	7.20	1.40	<0.1	20.1	0.1	0	
4/18/2008	6.60	2.00	2.0	20.7	0.0	0	
5/15/2008	6.20	1.60	2.8	20.9	0.0	0	
6/27/2008	7.40	2.60	0.5	20.4	0.0	0	
7/18/2008	7.80	2.60	0.1	20.4	0.0	0	
8/14/2008	7.40	2.90	2.6	20.9	0.0	0	
9/10/2008	7.20	2.40	1.1	20.9	0.0	0	
10/8/2008	7.20	2.50	0.7	20.9	0.1	0	
11/5/2008	7.00	2.70	1.6	19.5	0.1	0	
12/3/2008	7.40	2.30	6.6	20.4	0.0	0	
1/21/2009	7.40	2.50	7.8	20.8	0.1	0	
2/20/2009	7.40	2.40	15.2	19.1	0.1	0	
3/27/2009	8.80	2.90	2.6	20.8	0.1	0	
4/24/2009	7.40	2.70	3.4	20.6	0.1	0	
5/22/2009	7.90	1.00	2.0	20.0	0.0	0	
6/30/2009	7.20	2.60	--	20.2	0.0	0	
7/23/2009	7.40	2.83	3.9	19.3	0.0	0	
8/19/2009	7.80	2.70	1.4	20.5	0.0	0	
9/29/2009	5.30	1.20	0.7	20.8	0.0	1	
10/28/2009	5.50	1.40	0.3	20.7	0.0	0	
11/25/2009	7.80	2.20	< 0.1	20.7	0.0	0	
12/29/2009	7.40	2.50	< 0.1	20.7	0.0	0	
1/27/2010	6.80	1.55	1.0	20.7	0.0	0	
2/23/2010	6.00	0.20	1.8	20.7	0.1	1	
9/2/2010	5.12	2.70	0.6	20.7	0.1	0	
11/18/2010	5.90	1.30	0.0	20.8	0.1	0	
1/6/2011	5.22	1.31	0.0	20.9	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	7.17	2.29	2.4	20.5	0.1	368
1/22/09 - 12/29/09	7.28	2.24	4.1	20.4	0.0	344
12/30/09 - 1/6/11	5.81	1.41	0.7	20.8	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "--" means not monitored due to monitoring equipment failure, unless otherwise noted.

TABLE 22
SVE-3
Summary of Interior Soil Vapor Extraction Monitoring
January 2010 through December 2010

Charbert Facility
Alton, Rhode Island

Date	SVE-3						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	6.80	0.30	0.5	20.0	0.5	0	*Interior SVE system start up*
1/24/2008	7.60	2.10	3.0	19.9	0.0	0	
2/26/2008	6.80	1.50	2.3	20.6	0.0	0	
3/26/2008	7.20	1.40	0.2	20.0	0.1	0	
4/18/2008	6.20	1.00	1.6	20.8	0.0	0	
5/15/2008	7.20	1.30	2.3	20.8	0.0	0	
6/27/2008	7.60	1.70	0.4	20.2	0.1	0	
7/18/2008	7.80	1.70	0.2	20.3	0.0	0	
8/14/2008	7.40	1.80	2.3	20.9	0.0	0	
9/10/2008	7.60	1.80	0.9	20.9	0.0	0	
10/8/2008	7.70	1.80	0.5	20.9	0.1	0	
11/5/2008	7.40	1.80	0.2	19.9	0.1	0	
12/3/2008	7.60	1.50	6.8	20.3	0.0	0	
1/21/2009	7.60	1.80	7.9	20.7	0.1	0	
2/20/2009	6.80	1.10	15.7	19.1	0.0	0	
3/27/2009	8.60	1.80	2.3	20.9	0.0	0	
4/24/2009	7.80	1.80	3.0	20.6	0.0	0	
5/22/2009	7.80	1.80	1.9	20.1	0.0	0	
6/30/2009	7.90	2.00	--	20.1	0.0	0	
7/23/2009	7.80	2.10	3.7	19.4	0.0	0	
8/19/2009	7.60	1.70	1.1	20.7	0.0	0	
9/29/2009	7.40	1.20	0.3	20.7	0.0	1	
10/28/2009	7.80	1.45	0.6	20.6	0.1	0	
11/25/2009	7.60	1.56	< 0.1	20.7	0.0	0	
12/29/2009	7.00	1.40	< 0.1	20.8	0.0	0	
1/27/2010	7.00	2.79	1.6	20.7	0.1	0	
2/23/2010	6.40	0.06	1.8	20.7	0.1	1	
9/2/2010	5.50	2.30	0.0	20.7	0.0	0	
11/18/2010	5.90	1.04	0.0	20.8	0.1	0	
1/6/2011	5.22	1.00	0.0	20.8	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	7.32	1.54	2.1	20.4	0.07	368
1/22/09 - 12/29/09	7.65	1.63	3.6	20.3	0.0	344
12/20/09 - 1/6/11	6.00	1.44	0.7	20.7	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "--" means not monitored due to monitoring equipment failure, unless otherwise noted.

TABLE 23
SVE-4
Summary of Interior Soil Vapor Extraction Monitoring
January 2010 through December 2010

Charbert Facility
Alton, Rhode Island

Date	SVE-4						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	6.80	1.30	2.0	19.4	0.6	0	*Interior SVE system start up*
1/24/2008	7.20	1.60	4.0	20.0	0.1	0	
2/26/2008	6.80	1.30	3.0	20.3	0.1	0	
3/26/2008	7.20	1.10	0.2	20.0	0.2	0	
4/18/2008	7.20	0.90	2.3	20.7	0.1	0	
5/15/2008	7.20	0.10	3.2	20.6	0.1	0	
6/27/2008	7.50	2.70	1.1	20.4	0.0	0	
7/18/2008	7.40	1.10	0.3	20.3	0.1	0	
8/14/2008	7.20	1.20	3.7	20.9	0.1	0	
9/10/2008	7.40	1.30	1.0	20.9	0.0	0	
10/8/2008	7.40	1.20	3.0	20.9	0.1	0	
11/5/2008	7.20	1.40	1.3	19.8	0.1	0	
12/3/2008	--	--	--	--	--	--	*Condensate observed*
1/21/2009	--	10.80	--	--	--	--	*Condensate observed*
2/20/2009	--	--	--	--	--	0	*Condensate observed*
3/27/2009	8.40	1.20	2.5	20.8	0.1	0	
4/24/2009	7.00	1.20	3.9	20.6	0.1	0	
5/22/2009	7.40	1.20	1.6	19.8	0.0	0	
6/30/2009	7.60	1.30	--	20.1	0.1	0	
7/23/2009	7.60	1.30	4.7	19.2	0.1	0	
8/19/2009	7.80	2.67	1.1	20.4	0.0	0	
9/29/2009	7.40	0.79	0.7	20.7	0.1	1	
10/28/2009	7.60	1.03	0.6	20.8	0.1	0	
11/25/2009	7.80	2.40	< 0.1	20.6	0.1	0	
12/29/2009	3.50	2.80	< 0.1	20.6	0.1	0	
1/27/2010	7.20	1.03	3.1	20.8	0.1	0	*surging w/ water in-line*
2/23/2010	6.40	0.30	1.8	20.8	0.1	1	
9/2/2010	4.95	2.00	3.0	20.5	0.1	0	
11/18/2010	5.90	0.84	0.5	20.9	0.1	0	
1/6/2011	5.22	0.88	1.0	20.8	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	7.21	2.00	2.1	20.4	0.13	368
1/22/09 - 12/29/09	7.21	2.43	2.2	20.4	0.1	344
12/30/09 - 1/6/11	5.93	1.01	1.9	20.8	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "--" means not monitored due to monitoring equipment failure, unless otherwise noted.

TABLE 24
SVE-5
Summary of Interior Soil Vapor Extraction Monitoring
January 2010 through December 2010

Charbert Facility
Alton, Rhode Island

Date	SVE-5						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	6.00	3.10	0.9	19.4	0.5	0	*Interior SVE system start up*
1/24/2008	7.20	4.20	4.0	19.9	0.1	0	
2/26/2008	7.20	4.10	2.4	20.4	0.1	0	
3/26/2008	7.60	3.50	<0.1	20.1	0.1	0	
4/18/2008	6.50	2.60	2.9	20.8	0.1	0	
5/15/2008	5.20	1.60	3.7	20.7	0.0	0	
6/27/2008	4.20	2.40	0.7	20.3	0.1	0	
7/18/2008	3.90	2.90	0.3	20.3	0.1	0	
8/14/2008	6.10	4.00	4.6	20.9	0.0	0	
9/10/2008	7.00	2.80	0.8	20.9	0.0	0	
10/8/2008	7.40	3.60	2.3	20.9	0.1	0	
11/5/2008	7.20	5.20	1.4	19.9	0.1	0	*Condensate observed*
12/3/2008	7.40	3.50	6.2	20.3	0.0	0	
1/21/2009	7.60	4.30	7.6	20.8	0.1	0	
2/20/2009	7.40	3.90	12.4	19.0	0.1	0	
3/27/2009	8.80	3.90	2.4	20.9	0.1	0	
4/24/2009	5.20	3.00	3.1	20.6	0.1	0	
5/22/2009	6.40	3.50	2.1	20.8	0.0	0	
6/30/2009	3.40	2.90	--	20.0	0.0	0	
7/23/2009	<6.6	3.12	3.9	19.2	0.0	0	
8/19/2009	5.30	3.47	1.4	20.6	0.1	0	
9/29/2009	7.40	1.10	1.0	20.8	0.0	1	
10/28/2009	3.50	1.50	0.3	20.5	0.0	0	
11/25/2009	7.00	3.25	< 0.1	20.5	0.1	0	
12/29/2009	7.00	3.44	< 0.1	20.6	0.1	0	
1/27/2010	6.80	2.91	1.8	20.5	0.0	0	
2/23/2010	6.20	1.70	1.7	20.7	0.1	1	
9/2/2010	5.12	4.40	0.0	20.5	0.1	0	
11/18/2010	5.90	2.10	0.0	20.8	0.1	0	
1/6/2011	5.22	2.19	0.0	20.8	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	6.46	3.41	2.9	20.4	0.10	368
1/22/09 - 12/29/09	6.27	3.12	3.8	20.4	0.1	344
12/30/09 - 1/6/11	5.85	2.66	0.7	20.7	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "--" means not monitored due to monitoring equipment failure, unless otherwise noted.

TABLE 25
SVE-6
Summary of Interior Soil Vapor Extraction Monitoring
January 2010 through December 2010

Charbert Facility
Alton, Rhode Island

Date	SVE-6						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	6.80	2.20	1.2	19.7	0.7	0	*Interior SVE system start up*
1/24/2008	7.60	2.30	3.0	19.9	0.3	0	
2/26/2008	7.20	2.10	3.1	20.5	0.0	0	
3/26/2008	7.60	1.90	0.2	20.0	0.1	0	
4/18/2008	6.60	1.50	3.6	20.8	0.0	0	
5/15/2008	6.90	1.50	3.2	20.7	0.2	0	
6/27/2008	7.60	1.20	0.5	20.4	0.0	0	
7/18/2008	7.40	2.50	0.7	20.4	0.1	0	
8/14/2008	7.60	1.90	3.3	20.9	0.0	0	
9/10/2008	7.20	2.20	0.7	20.9	0.0	0	
10/8/2008	7.20	1.90	1.6	20.9	0.1	0	
11/5/2008	7.50	2.30	1.5	19.7	0.1	0	*Condensate observed*
12/3/2008	7.60	1.90	5.3	20.4	0.0	0	
1/21/2009	7.40	2.00	7.3	20.8	0.1	0	
2/20/2009	7.20	1.70	10.0	18.9	0.1	0	
3/27/2009	8.00	2.90	2.7	20.9	0.0	0	
4/24/2009	7.80	2.20	3.0	20.6	0.0	0	
5/22/2009	7.60	2.20	1.9	19.8	0.0	0	
6/30/2009	7.90	2.40	--	20.1	0.0	0	
7/23/2009	7.60	2.60	4.0	19.3	0.0	0	
8/19/2009	8.00	2.70	1.0	20.4	0.0	0	
9/29/2009	7.00	1.33	0.7	20.6	0.0	0	
10/28/2009	7.40	1.60	0.6	20.6	0.0	0	
11/25/2009	7.40	1.80	< 0.1	20.7	0.1	0	
12/29/2009	7..2	1.90	< 0.1	20.7	0.1	0	
1/27/2010	6.80	2.91	1.8	20.5	0.0	0	
2/23/2010	6.20	1.70	1.7	20.7	0.1	1	
9/2/2010	5.12	4.40	0.0	20.5	0.1	0	
11/18/2010	5.90	2.10	0.0	20.8	0.1	0	
1/6/2011	5.22	1.32	0.0	20.8	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	7.30	1.96	2.5	20.4	0.12	368
1/22/09 - 12/29/09	7.57	2.11	3.5	20.3	0.0	344
12/30/09 - 1/6/11	5.85	2.49	0.7	20.7	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "--" means not monitored due to monitoring equipment failure, unless otherwise noted.

TABLE 26
SVE-7
Summary of Interior Soil Vapor Extraction Monitoring
January 2010 through December 2010

Charbert Facility
Alton, Rhode Island

Date	SVE-7						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	6.80	3.30	0.7	19.2	0.6	0	*Interior SVE system start up*
1/24/2008	6.40	4.50	2.0	20.6	0.2	0	
2/26/2008	7.20	4.10	3.1	20.5	0.1	0	
3/26/2008	6.80	2.60	0.2	19.7	0.3	0	
4/18/2008	3.2*	--	1.3	20.7	0.1	0	*Condensate observed*
5/15/2008	5.80	1.60	1.4	20.8	0.1	0	
6/27/2008	5.60	3.00	0.2	20.2	0.1	0	
7/18/2008	6.30	3.10	0.1	20.0	0.1	0	
8/14/2008	7.00	4.20	1.8	20.9	0.1	0	
9/10/2008	7.40	3.10	0.4	20.9	0.1	0	
10/8/2008	7.40	2.70	0.4	20.9	0.1	0	
11/5/2008	7.20	3.20	0.8	19.6	0.1	0	
12/3/2008	7.60	3.40	11.2	20.3	0.0	0	
1/21/2009	7.40	12.40	5.5	20.8	0.2	0	
2/20/2009	7.20	4.70	14.0	19.1	0.1	0	
3/27/2009	--	--	--	--	--	0	*Condensate observed*
4/24/2009	7.60	3.20	2.8	20.7	0.1	0	
5/22/2009	7.80	2.99	1.2	19.7	0.0	0	
6/30/2009	7.20	3.10	--	20.3	0.0	0	
7/23/2009	7.60	3.34	1.2	19.1	0.0	0	
8/19/2009	7.60	3.60	0.9	20.6	0.0	0	
9/29/2009	4.60	1.50	0.3	20.7	0.0	1	
10/28/2009	6.80	1.70	0.3	20.4	0.1	0	
11/25/2009	7.40	2.41	0.2	20.8	0.0	0	
12/29/2009	7.00	4.30	0.6	20.8	0.0	0	
1/27/2010	8.20	2.6-9.3	0.4	20.5	0.0	0	*Surging with water in the line*
2/23/2010	5.20	1.80	1.4	20.8	0.1	1	
9/2/2010	5.50	15.90	0.0	20.7	0.0	0	
11/18/2010	3.97	25.00	0.0	20.8	0.1	0	*fully open*
1/6/2011	12.40	29.30	0.0	20.8	0.1	0	*mostly shut, flow will not adjust*

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	6.84	3.94	2.1	20.4	0.16	368
1/22/09 - 12/29/09	7.11	3.93	2.7	20.3	0.05	344
12/30/09 - 1/6/11	7.05	18.00	0.4	20.7	0.1	208

Notes:

*Flow rate estimated based on difference between combined flow and measured flow readings.

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "--" means not monitored due to monitoring equipment failure, unless otherwise noted.

TABLE 27
SVE-8
Summary of Interior Soil Vapor Extraction Monitoring
January 2010 through December 2010

Charbert Facility
Alton, Rhode Island

Date	SVE-8						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	6.80	3.30	0.6	18.7	1.1	0	*Interior SVE system start up*
1/24/2008	7.60	3.50	2.0	20.4	0.3	0	
2/26/2008	6.80	3.20	3.8	20.5	0.1	0	
3/26/2008	7.60	2.60	<0.1	19.8	0.3	0	
4/18/2008	6.40	1.80	1.4	20.8	0.2	0	
5/15/2008	5.80	1.60	1.8	20.8	0.2	0	
6/27/2008	7.40	3.00	0.5	20.1	0.0	0	
7/18/2008	7.20	3.10	<0.1	20.2	0.1	0	
8/14/2008	7.40	3.30	2.8	20.9	0.1	0	
9/10/2008	7.20	3.30	0.6	20.9	0.1	0	
10/8/2008	7.40	2.80	0.7	20.9	0.1	0	
11/5/2008	7.20	3.30	0.7	19.8	0.0	0	
12/3/2008	7.70	2.40	10.4	20.3	0.0	0	
1/21/2009	7.70	2.50	6.2	20.8	0.1	0	
2/20/2009	7.40	3.10	12.4	18.9	0.1	0.0	
3/27/2009	8.40	2.90	2.0	20.8	0.1	0	
4/24/2009	7.60	3.20	2.7	20.6	0.1	0	
5/22/2009	7.80	3.00	1.2	19.6	0.0	0	
6/30/2009	7.40	3.00	--	20.1	0.0	0	
7/23/2009	6.60	3.35	2.1	19.2	0.0	0	
8/19/2009	7.80	3.70	0.6	20.7	0.1	0	
9/29/2009	5.00	1.50	0.7	20.8	0.0	1	
10/28/2009	4.30	0.64	0.3	20.6	0.1	0	
11/25/2009	7.80	2.60	0.1	20.8	0.1	0	
12/29/2009	6.80	2.80	0.6	20.8	0.1	0	
1/27/2010	6.80	1.71	0.9	20.5	0.1	0	
2/23/2010	6.00	0.50	1.5	20.7	0.1	1	
9/2/2010	4.95	15.90	0.0	20.6	0.0	0	
11/18/2010	5.90	25.00	0.0	20.8	0.1	0	
1/6/2011	6.2-13.9	28.30	0.0	20.8	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	7.16	2.84	2.6	20.4	0.19	368
1/22/09 - 12/29/09	7.05	2.69	2.6	20.3	0.07	344
12/30/09 - 1/6/11	6.74	14.28	0.5	20.7	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "--" means not monitored due to monitoring equipment failure, unless otherwise noted.

TABLE 28
SVE-9
Summary of Interior Soil Vapor Extraction Monitoring
January 2010 through December 2010

Charbert Facility
Alton, Rhode Island

Date	SVE-9						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	6.80	1.40	1.2	18.6	1.3	0	*Interior SVE system start up*
1/24/2008	7.20	1.70	3.0	20.4	0.3	0	
2/26/2008	7.20	1.80	3.3	20.2	0.1	0	
3/26/2008	-	-	-	-	-	-	*Condensate observed*
4/18/2008	3.2*	-	1.3	20.8	0.2	0	*Condensate observed*
5/15/2008	7.20	0.90	1.4	20.6	0.2	0	
6/27/2008	7.50	1.70	1.5	20.2	0.1	0	
7/18/2008	8.00	1.70	0.3	20.1	0.1	0	
8/14/2008	7.20	1.50	3.2	20.9	0.1	0	
9/10/2008	7.20	1.50	0.7	20.9	0.1	0	
10/8/2008	7.60	1.40	0.9	20.9	0.1	0	
11/5/2008	7.40	6.40	0.8	20.0	0.1	0	
12/3/2008	7.60	2.10	11.8	20.3	0.0	0	
1/21/2009	7.60	11.60	5.9	20.8	0.2	0	
2/20/2009	--	--	--	--	--	--	*Condensate observed*
3/27/2009	--	--	--	--	--	--	*Condensate observed*
4/24/2009	7.60	1.40	3.0	20.6	0.1	0	
5/22/2009	7.80	1.38	1.0	19.7	0.0	0	
6/30/2009	7.40	2.48	--	20.2	0.0	0	
7/23/2009	7.60	1.72	3.2	19.1	0.0	0	
8/19/2009	8.00	1.70	1.0	20.6	0.0	0	
9/29/2009	7.40	1.10	0.3	20.7	0.0	1	
10/28/2009	7.60	1.20	0.3	20.3	0.0	0	
11/25/2009	7.60	3.80	0.1	20.6	0.1	0	
12/29/2009	7.00	5.20	0.6	20.7	0.0	0	
1/27/2010	7.00	4.60	0.5	20.4	0.0	0	
2/23/2010	6.20	1.50	1.4	20.7	0.1	1	
9/2/2010	6.00	15.20	0.0	20.5	0.0	0	*will not adjust any lower*
11/18/2010	5.90	25.00	0.0	20.9	0.1	0	
1/6/2011	12.4-14.7	27.50	0.0	20.9	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	7.38	2.81	2.7	20.4	0.22	368
1/22/09 - 12/29/09	7.56	3.16	1.7	20.3	0.04	344
12/30/09 - 1/6/11	7.73	14.76	0.4	20.7	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "-" means not monitored
4. "--" means not monitored due to monitoring equipment failure, unless otherwise noted.

TABLE 29
SVE-10
Summary of Interior Soil Vapor Extraction Monitoring
January 2010 through December 2010

Charbert Facility
Alton, Rhode Island

Date	SVE-10						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	6.40	1.90	0.7	19.0	1.1	0	*Interior SVE system start up*
1/24/2008	8.00	2.30	7.0	20.2	0.2	0	
2/26/2008	7.20	2.10	1.2	20.7	0.1	0	
3/26/2008	6.80	1.80	0.2	19.8	0.3	0	
4/18/2008	6.20	1.30	2.0	20.4	0.2	0	
5/15/2008	7.40	1.50	1.4	20.7	0.3	0	
6/27/2008	7.50	1.60	0.4	20.3	0.1	0	
7/18/2008	7.60	1.60	0.3	20.2	0.1	0	
8/14/2008	7.80	1.70	1.1	20.9	0.1	0	
9/10/2008	7.20	1.60	0.4	20.9	0.1	0	
10/8/2008	7.40	1.70	0.7	20.9	0.1	0	
11/5/2008	7.40	2.10	0.6	19.8	0.1	0	
12/3/2008	7.60	2.60	6.6	20.3	0.0	0	
1/21/2009	7.70	2.30	5.8	20.8	0.2	0	
2/20/2009	7.20	1.70	10.7	19.0	0.1	0	
3/27/2009	8.60	1.70	1.9	20.9	0.1	0	
4/24/2009	7.60	2.20	2.5	20.8	0.1	0	
5/22/2009	7.80	2.60	1.2	20.7	0.0	0	
6/30/2009	7.20	1.40	--	20.3	0.0	0	
7/23/2009	7.40	2.34	3.3	19.4	0.0	0	
8/19/2009	7.60	1.50	0.5	20.4	0.0	0	
9/29/2009	7.60	1.10	< 0.1	20.8	0.1	1	
10/28/2009	7.00	1.10	0.6	20.5	0.1	0	
11/25/2009	7.60	1.50	0.1	20.6	0.1	0	
12/29/2009	7.20	1.61	0.6	20.7	0.1	0	
1/27/2010	6.80	1.32	0.5	20.5	0.0	0	*water in line*
2/23/2010	6.20	0.30	1.3	20.7	0.1	1	
9/2/2010	5.12	2.10	0.0	20.5	0.1	0	
11/18/2010	5.90	1.36	0.0	20.7	0.2	0	
1/6/2011	4.89	0.93	0.0	20.7	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	7.30	1.86	2.0	20.4	0.21	368
1/22/09 - 12/29/09	7.54	1.75	2.7	20.4	0.08	344
12/30/09 - 1/6/11	5.78	1.20	0.4	20.6	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "--" means not monitored due to monitoring equipment failure, unless otherwise noted.

TABLE 30
SVE-11
Summary of Interior Soil Vapor Extraction Monitoring
January 2010 through December 2010

Charbert Facility
Alton, Rhode Island

Date	SVE-11						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	6.80	2.00	1.2	16.2	3.1	0	*Interior SVE system start up*
1/24/2008	7.60	2.30	8.0	19.9	0.6	0	
2/26/2008	6.80	2.10	1.6	20.3	0.3	0	
3/26/2008	6.40	2.80	1.3	19.6	0.5	0	
4/18/2008	6.90	1.50	1.9	20.2	0.3	0	
5/15/2008	7.40	1.70	1.8	20.5	0.1	0	
6/27/2008	7.50	1.90	<0.1	20.2	0.1	0	
7/18/2008	7.60	1.90	0.1	20.1	0.2	0	
8/14/2008	7.40	1.90	1.5	20.9	0.2	0	
9/10/2008	7.40	2.00	0.6	20.7	0.3	0	
10/8/2008	7.60	1.80	0.8	20.9	0.2	0	
11/5/2008	7.40	2.00	0.6	20.0	0.0	0	
12/3/2008	7.20	3.70	6.4	20.2	0.1	0	
1/21/2009	7.60	2.60	6.2	20.6	0.2	0	
2/20/2009	7.40	2.00	11.4	19.0	0.2	0	
3/27/2009	8.60	1.80	2.0	20.9	0.1	0	
4/24/2009	7.60	2.50	2.7	20.5	0.1	0	
5/22/2009	7.90	2.20	1.3	19.6	0.1	0	
6/30/2009	7.60	3.30	--	20.2	0.1	0	
7/23/2009	7.60	2.54	2.2	19.1	0.0	0	
8/19/2009	7.60	2.14	0.3	20.5	0.1	0	
9/29/2009	7.40	1.76	< 0.1	20.9	0.0	1	
10/28/2009	7.60	1.55	0.6	20.5	0.2	0	
11/25/2009	8.00	1.63	0.4	20.5	0.1	0	
12/29/2009	7.00	1.80	0.9	20.5	0.1	0	
1/27/2010	7.00	1.31	1.0	20.5	0.2	0	
2/23/2010	6.20	0.60	1.4	20.6	0.2	1	
9/2/2010	5.12	2.60	1.2	20.5	0.1	0	
11/18/2010	5.90	1.72	0.0	20.7	0.2	0	
1/6/2011	4.89	1.27	0.0	20.6	0.2	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	7.26	2.16	2.5	20.0	0.44	368
1/22/09 - 12/29/09	7.66	2.15	2.8	20.2	0.11	344
12/30/09 - 1/6/11	5.82	1.50	0.7	20.6	0.2	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "--" means not monitored due to monitoring equipment failure, unless otherwise noted.

TABLE 31
SVE-12
Summary of Interior Soil Vapor Extraction Monitoring
January 2010 through December 2010

Charbert Facility
Alton, Rhode Island

Date	SVE-12						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	6.40	39.00	0.9	17.2	2.8	0	*Interior SVE system start up*
1/24/2008	7.60	4.60	9.0	19.7	0.5	0	
2/26/2008	6.80	4.00	1.8	20.5	0.1	0	
3/26/2008	-	-	-	-	-	-	*Condensate observed*
4/18/2008	7.20	3.00	1.6	20.4	0.1	0	
5/15/2008	6.40	2.50	2.3	20.7	0.0	0	
6/27/2008	7.50	3.40	<0.1	20.3	0.1	0	
7/18/2008	7.60	3.30	0.3	20.2	0.0	0	
8/14/2008	7.20	3.90	1.3	20.9	0.0	0	
9/10/2008	7.40	3.60	0.5	20.9	0.1	0	
10/8/2008	7.40	3.00	0.8	20.9	0.1	0	
11/5/2008	7.20	2.90	0.8	19.9	0.0	0	
12/3/2008	7.70	6.90	4.8	20.3	0.0	0	
1/21/2009	7.70	3.70	6.1	20.7	0.1	0	
2/20/2009	7.40	3.60	9.8	19.0	0.0	0	
3/27/2009	8.40	3.40	2.3	20.8	0.1	0	
4/24/2009	7.90	3.80	2.8	20.7	0.0	0	
5/22/2009	7.80	3.70	1.3	19.7	0.0	0	
6/30/2009	7.40	1.90	--	20.3	0.0	0	
7/23/2009	7.40	3.82	1.9	18.9	0.0	0	
8/19/2009	7.60	3.60	0.8	20.6	0.0	0	
9/29/2009	7.40	1.76	< 0.1	20.9	0.0	1	
10/28/2009	6.60	2.10	0.3	20.6	0.1	0	
11/25/2009	7.20	7.40	0.1	20.7	0.0	0	
12/29/2009	7.00	6.52	0.6	20.7	0.1	0	
1/27/2010	9.80	7.35	0.3	20.6	0.1	0	*valve not working well, lowest possible DP*
2/23/2010	6.40	12.64	1.2	20.7	0.1	1	
9/2/2010	5.12	3.10	0.0	20.6	0.1	0	
11/18/2010	5.90	2.29	0.0	20.7	0.2	0	
1/6/2011	4.89	2.01	0.0	20.6	0.2	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	7.24	6.45	2.5	20.2	0.30	368
1/22/09 - 12/29/09	7.48	3.78	2.6	20.3	0.03	344
12/30/09 - 1/6/11	6.42	5.48	0.3	20.6	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "--" means not monitored due to monitoring equipment failure, unless otherwise noted.

TABLE 32
SVE-13
Summary of Interior Soil Vapor Extraction Monitoring
January 2010 through December 2010

Charbert Facility
Alton, Rhode Island

Date	SVE-13						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	7.20	2.20	0.5	19.9	0.4	0	*Interior SVE system start up*
1/24/2008	8.00	2.30	5.0	20.1	0.1	0	
2/26/2008	7.20	1.70	2.7	20.3	0.1	0	
3/26/2008	7.60	2.10	0.2	20.1	0.1	0	
4/18/2008	6.50	1.80	1.3	20.6	0.0	0	
5/15/2008	6.60	1.40	1.8	20.7	0.0	0	
6/27/2008	8.00	1.70	0.6	20.3	0.2	0	
7/18/2008	7.40	1.50	0.3	20.2	0.0	0	
8/14/2008	7.40	1.80	2.4	20.9	0.0	0	
9/10/2008	7.40	1.60	1.1	20.9	0.0	0	
10/8/2008	7.60	3.80	0.8	20.9	0.1	0	
11/5/2008	7.40	1.00	1.4	19.1	0.0	0	
12/3/2008	7.40	1.10	12.2	20.5	0.0	0	
1/21/2009	7.40	1.60	--	20.8	0.1	0	
2/20/2009	7.20	1.70	5.8	19.2	0.0	0	
3/27/2009	8.80	1.70	2.1	20.9	0.0	0	
4/24/2009	7.60	2.00	3.6	20.7	0.0	0	
5/22/2009	7.80	2.10	0.3	19.4	0.0	0	
6/30/2009	7.40	1.90	--	20.0	0.0	0	
7/23/2009	7.60	1.58	3.0	19.0	0.0	0	
8/19/2009	7.60	1.58	0.8	20.4	0.1	0	
9/29/2009	6.10	1.08	0.3	20.6	0.0	1	
10/28/2009	6.80	1.10	0.3	20.5	0.1	0	
11/25/2009	7.00	1.60	< 0.1	20.8	0.0	0	
12/29/2009	7.00	1.40	< 0.1	20.8	0.0	0	
1/27/2010	7.40	3.02	0.8	20.7	0.1	0	
2/23/2010	6.20	0.30	1.3	20.8	0.1	1	
9/2/2010	4.95	2.60	0.0	20.6	0.1	0	
11/18/2010	5.90	0.70	0.0	20.7	0.1	0	
1/6/2011	4.89	0.80	0.0	20.8	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	7.36	1.83	2.3	20.4	0.08	368
1/22/09 - 12/29/09	7.36	1.61	2.0	20.3	0.03	344
12/30/09 - 1/6/11	5.87	1.48	0.4	20.7	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "--" means not monitored due to monitoring equipment failure, unless otherwise noted.

TABLE 33
SVE-14
Summary of Interior Soil Vapor Extraction Monitoring
January 2010 through December 2010

Charbert Facility
Alton, Rhode Island

Date	SVE-14						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	6.80	2.30	0.6	19.7	0.6	0	*Interior SVE system start up*
1/24/2008	7.60	2.50	4.0	20.0	0.2	0	
2/26/2008	6.80	1.60	4.5	20.3	0.0	0	
3/26/2008	7.20	2.00	0.2	20.2	0.1	0	
4/18/2008	6.00	1.50	1.4	20.9	0.0	0	
5/15/2008	6.60	1.30	1.8	20.6	0.0	0	
6/27/2008	7.60	2.10	0.5	20.3	0.0	0	
7/18/2008	7.60	2.20	0.3	20.4	0.0	0	
8/14/2008	7.80	1.80	2.2	20.9	0.1	0	
9/10/2008	7.20	1.70	1.4	20.9	0.1	0	
10/8/2008	7.40	1.80	1.3	20.9	0.1	0	
11/5/2008	7.20	1.60	1.6	19.3	0.0	0	
12/3/2008	7.70	1.70	12.8	20.5	0.0	0	
1/21/2009	7.80	2.00	--	20.9	0.1	0	
2/20/2009	6.80	2.00	9.3	19.2	0.1	0	
3/27/2009	8.60	2.00	2.2	20.9	0.1	0	
4/24/2009	7.80	2.00	4.0	20.7	0.0	0	
5/22/2009	7.40	2.10	0.1	19.6	0.1	0	
6/30/2009	7.40	2.30	--	20.1	0.0	0	
7/23/2009	7.40	1.90	2.9	19.5	0.0	0	
8/19/2009	7.80	1.90	1.1	20.5	0.0	0	
9/29/2009	4.30	1.10	0.3	20.5	0.0	1	
10/28/2009	6.10	1.10	0.3	20.4	0.2	0	
11/25/2009	7.20	1.60	< 0.1	20.6	0.0	0	
12/29/2009	7.20	1.70	< 0.1	20.8	0.0	0	
1/27/2010	7.20	1.41	0.8	20.6	0.3	0	
2/23/2010	6.20	0.11	1.5	20.8	0.1	1	
9/2/2010	5.20	3.11	0.6	20.6	0.1	0	
11/18/2010	5.90	1.20	0.0	20.7	0.1	0	
1/6/2011	4.89	1.37	0.6	20.8	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	7.24	1.86	2.5	20.4	0.09	368
1/22/09 - 12/29/09	7.15	1.81	2.5	20.3	0.05	344
12/30/09 - 1/6/11	5.88	1.44	0.7	20.7	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "--" means not monitored due to monitoring equipment failure, unless otherwise noted.

TABLE 34
SVE-15
Summary of Interior Soil Vapor Extraction Monitoring
January 2010 through December 2010

Charbert Facility
Alton, Rhode Island

Date	SVE-15						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	6.80	0.80	0.6	20.1	0.3	0	*Interior SVE system start up*
1/24/2008	8.00	1.00	6.0	20.0	0.2	0	
2/26/2008	7.50	1.10	1.5	20.9	0.1	0	
3/26/2008	7.20	0.90	1.9	19.9	0.1	0	
4/18/2008	7.20	0.90	1.6	20.5	0.1	0	
5/15/2008	7.60	0.70	1.8	20.9	0.0	0	
6/27/2008	7.50	1.10	0.4	20.4	0.0	0	
7/18/2008	7.60	1.20	0.1	20.2	0.0	0	
8/14/2008	7.40	1.00	2.0	20.9	0.0	0	
9/10/2008	7.20	0.80	0.8	20.9	0.1	0	
10/8/2008	7.40	0.80	1.4	20.9	0.1	0	
11/5/2008	7.20	0.70	1.2	19.2	0.0	0	
12/3/2008	7.60	1.50	11.8	20.5	0.0	0	
1/21/2009	7.70	0.80	--	20.8	0.1	0	
2/20/2009	7.20	0.70	12.2	19.1	0.1	0	
3/27/2009	8.00	0.70	2.1	20.9	0.0	0	
4/24/2009	7.40	0.70	3.6	20.7	0.1	0	
5/22/2009	7.40	0.90	1.9	19.7	0.0	0	
6/30/2009	7.60	0.90	--	19.4	0.0	0	
7/23/2009	7.60	0.81	2.5	19.5	0.0	0	
8/19/2009	7.60	1.90	1.1	20.6	0.1	0	
9/29/2009	7.40	0.68	0.3	20.6	0.0	1	
10/28/2009	8.00	0.62	0.2	20.5	0.1	0	
11/25/2009	7.80	0.77	0.2	20.7	0.1	0	
12/29/2009	7.00	0.50	0.6	20.6	0.1	0	
1/27/2010	6.80	0.55	2.2	20.5	0.0	0	
2/23/2010	6.20	0.80	1.5	20.8	0.1	1	
9/2/2010	5.12	1.50	0.6	20.5	0.0	0	
11/18/2010	5.65	0.68	0.0	20.8	0.1	0	
1/6/2011	4.89	0.52	0.4	20.9	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	7.42	0.95	2.4	20.4	0.08	368
1/22/09 - 12/29/09	7.56	0.83	2.5	20.3	0.06	344
12/30/09 - 1/6/11	5.73	0.81	0.9	20.7	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "--" means not monitored due to monitoring equipment failure, unless otherwise noted.

TABLE 35
SVE-16
Summary of Interior Soil Vapor Extraction Monitoring
January 2010 through December 2010

Charbert Facility
Alton, Rhode Island

Date	SVE-16						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	6.80	2.00	0.6	20.1	0.2	0	*Interior SVE system start up*
1/24/2008	8.40	2.50	6.0	20.1	0.2	0	
2/26/2008	6.80	2.20	1.3	20.6	0.1	0	
3/26/2008	6.40	1.80	0.6	19.8	0.1	0	
4/18/2008	6.20	1.90	1.7	20.7	0.1	0	
5/15/2008	7.40	1.80	1.8	20.9	0.1	0	
6/27/2008	7.50	2.00	1.2	20.4	0.1	0	
7/18/2008	7.80	2.10	0.5	20.2	0.0	0	
8/14/2008	7.40	2.00	2.0	20.9	0.0	0	
9/10/2008	7.60	2.10	0.6	20.9	0.0	0	
10/8/2008	7.40	2.00	1.2	20.9	0.1	0	
11/5/2008	7.00	1.50	--	--	--	--	*Condensate observed*
12/3/2008	7.40	1.40	12.2	20.5	0.0	0	
1/21/2009	7.90	2.30	--	20.8	0.1	0	
2/20/2009	7.60	2.00	7.7	19.0	0.1	0	
3/27/2009	8.00	1.80	2.0	20.9	0.0	0	
4/24/2009	7.60	2.50	3.0	20.8	0.0	0	
5/22/2009	7.60	2.00	1.8	20.3	0.0	0	
6/30/2009	7.20	1.90	--	20.0	0.0	0	
7/23/2009	7.40	2.10	2.2	19.4	0.0	0	
8/19/2009	7.60	2.10	1.4	20.4	0.0	0	
9/29/2009	7.40	1.60	0.7	20.8	0.0	1	
10/28/2009	7.60	1.40	0.9	20.7	0.1	0	
11/25/2009	7.40	1.80	0.3	20.8	0.1	0	
12/29/2009	7.60	1.70	0.6	20.7	0.1	0	
1/27/2010	6.80	1.51	1.5	20.8	0.1	0	
2/23/2010	6.20	1.00	1.4	20.7	0.1	1	
9/2/2010	5.12	2.60	0.6	20.6	0.0	0	
11/18/2010	5.90	2.03	0.0	20.8	0.1	0	
1/6/2011	5.22	1.27	0.0	20.8	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	7.29	1.97	2.5	20.5	0.08	368
1/22/09 - 12/29/09	7.58	1.93	2.1	20.4	0.04	344
12/30/09 - 1/6/11	5.85	1.68	0.7	20.7	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "--" means not monitored due to monitoring equipment failure, unless otherwise noted.

TABLE 36
SVE-31
Summary of Interior Soil Vapor Extraction Monitoring
January 2010 through December 2010

Charbert Facility
Alton, Rhode Island

Date	SVE-31						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
10/28/2009	5.30	0.15	0.9	20.5	0.1	0	*New SVE Well Startup*
11/25/2009	5.30	0.65	< 0.1	20.7	0.0	0	
12/29/2009	5.50	1.20	< 0.1	20.6	0.1	0	
1/27/2010	5.30	0.76	2.6	20.6	0.2	0	
2/23/2010	4.20	0.92	1.8	20.6	0.1	1	
9/2/2010	5.12	1.80	0.6	20.6	0.0	0	
11/18/2010	5.90	1.18	0.0	20.6	0.0	0	
1/6/2011	4.89	0.88	0.0	20.9	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
10/28/09-12/12/09	5.37	0.67	0.9	20.6	0.1	62
12/30/09 - 1/6/11	5.08	1.11	1.0	20.7	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "-" means not monitored due to monitoring equipment failure, unless otherwise noted.

TABLE 37
SVE-32
Summary of Interior Soil Vapor Extraction Monitoring
January 2010 through December 2010

Charbert Facility
Alton, Rhode Island

Date	SVE-32						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
10/28/2009	6.10	2.50	0.9	20.3	0.3	0	*New SVE Well Startup*
11/25/2009	5.30	3.80	< 0.1	20.8	0.1	0	
12/29/2009	5.30	2.40	< 0.1	20.6	0.1	0	
1/27/2010	5.30	1.61	1.2	20.7	0.0	0	
2/23/2010	3.80	0.26	1.9	20.6	0.3	1	
9/2/2010	5.12	7.10	0.0	20.4	0.2	0	
11/18/2010	5.90	6.36	0.0	20.8	0.01	0	
1/6/2011	4.89	2.98	0.0	20.7	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
10/28/09-12/12/09	5.57	2.90	0.9	20.6	0.2	62
12/30/09 - 1/6/11	5.00	3.66	0.6	20.6	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "-" means not monitored due to monitoring equipment failure, unless otherwise noted.

*Flow rate estimated based on difference between combined flow and measured flow readings.

TABLE 38
SSVW-1
Summary of Interior Soil Vapor Extraction Monitoring
January 2009 through December 2009

Charbert Facility
Alton, Rhode Island

Date	SSVW-1						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	6.80	1.60	0.1	20.0	0.3	0	*Interior SVE system start up*
1/24/2008	6.40	1.90	2.0	20.0	0.1	0	
2/26/2008	7.20	1.30	1.8	20.4	0.1	0	
3/26/2008	7.60	1.10	<0.1	20.1	0.1	0	
4/18/2008	6.50	0.90	4.5	20.7	0.1	0	
5/15/2008	6.80	1.30	1.4	20.7	0.0	0	
6/27/2008	7.50	2.30	0.8	20.3	0.0	0	
7/18/2008	7.80	2.30	0.3	20.3	0.1	0	
8/14/2008	7.60	2.10	4.6	20.9	0.2	0	
9/10/2008	7.20	2.00	3.4	20.9	0.1	0	
10/8/2008	7.60	1.60	0.4	20.9	0.1	0	
11/5/2008	7.20	1.60	1.7	19.7	0.1	0	
12/3/2008	7.40	2.30	4.7	20.5	0.0	0	
1/21/2009	7.40	0.84	--	20.8	0.1	0	
2/20/2009	6.80	1.60	5.5	19.2	0.1	0	
3/27/2009	8.40	1.70	1.8	20.9	0.0	0	
4/24/2009	7.80	0.80	2.7	20.7	0.0	0	
5/22/2009	7.80	0.80	0.7	20.3	0.0	0	
6/30/2009	7.60	1.00	--	19.9	0.0	0	
7/23/2009	7.60	1.22	3.6	19.6	0.0	0	
8/19/2009	7.60	2.00	1.4	20.5	0.0	0	
9/29/2009	6.30	0.75	0.3	20.6	0.0	1	
10/28/2009	7.60	0.72	0.9	20.4	0.1	0	
11/25/2009	7.80	0.77	< 0.1	20.8	0.1	0	
12/29/2009	7.40	0.72	< 0.1	20.8	0.0	0	
1/27/2010	6.60	1.30	0.3	20.5	0.2	0	
2/23/2010	6.20	0.80	1.4	20.7	0.0	1	
9/2/2010	5.50	2.20	0.0	20.4	0.1	0	
11/18/2010	5.90	0.52	0.0	20.8	0.1	0	
1/6/2011	4.89	0.57	0.0	20.9	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	7.21	1.65	2.1	20.4	0.10	368
1/22/09 - 12/29/09	7.51	1.08	2.1	20.4	0.03	344
12/30/09 - 1/6/11	5.82	1.08	0.3	20.7	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "--" means not monitored due to monitoring equipment failure, unless otherwise noted.

TABLE 39
SSVW-2
Summary of Interior Soil Vapor Extraction Monitoring
January 2009 through December 2009

Charbert Facility
Alton, Rhode Island

Date	SSVW-2						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	6.00	2.80	0.1	20.1	0.3	0	*Interior SVE system start up*
1/24/2008	7.60	2.70	2.5	20.0	0.1	0	
2/26/2008	6.80	1.40	1.2	20.6	0.0	0	
3/26/2008	7.20	1.60	<0.1	20.2	0.1	0	
4/18/2008	6.20	1.30	4.8	20.7	0.0	0	
5/15/2008	6.90	1.30	1.4	20.6	0.0	0	
6/27/2008	7.60	1.90	0.5	20.4	0.0	0	
7/18/2008	7.60	1.90	1.0	20.2	0.0	0	
8/14/2008	7.60	1.80	2.3	20.9	0.1	0	
9/10/2008	7.60	1.60	2.4	20.9	0.1	0	
10/8/2008	7.70	1.70	0.8	20.9	0.1	0	
11/5/2008	7.40	1.60	1.7	19.7	0.1	0	
12/3/2008	7.40	0.80	3.6	20.5	0.1	0	
1/21/2009	7.40	1.11	--	20.8	0.1	0	
2/20/2009	7.20	1.30	6.9	19.1	0.1	0	
3/27/2009	8.60	0.90	--	20.9	0.0	0	
4/24/2009	7.80	1.50	2.7	20.6	0.0	0	
5/22/2009	7.60	1.80	0.3	20.1	0.0	0	
6/30/2009	7.60	2.50	--	19.9	0.0	0	
7/23/2009	7.00	2.70	1.4	19.8	0.0	0	
8/19/2009	8.20	1.45	1.7	20.2	0.0	0	
9/29/2009	7.40	1.16	0.7	20.7	0.0	1	
10/28/2009	5.50	1.38	0.6	20.5	0.0	0	
11/25/2009	8.20	1.90	< 0.1	20.6	0.1	0	
12/29/2009	7.20	1.60	< 0.1	20.7	0.0	0	
1/27/2010	6.80	3.11	0.4	20.6	0.1	0	
2/23/2010	6.20	0.20	1.9	20.8	0.0	1	
9/2/2010	5.12	3.60	0.0	20.7	0.0	0	
11/18/2010	5.90	1.27	0.0	20.8	0.1	0	
1/6/2011	4.89	1.35	0.0	20.9	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	7.21	1.68	1.9	20.5	0.08	368
1/22/09 - 12/29/09	7.48	1.61	2.0	20.3	0.03	344
12/30/09 - 1/6/11	5.78	1.91	0.5	20.8	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "--" means not monitored due to monitoring equipment failure, unless otherwise noted.

TABLE 40
SSVW-3
Summary of Interior Soil Vapor Extraction Monitoring
January 2009 through December 2009

Charbert Facility
Alton, Rhode Island

Date	SSVW-3						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	7.2	1.8	1.2	19.6	0.4	0	*Interior SVE system start up*
1/24/2008	7.2	1.4	2.0	20.2	0.2	0	
2/26/2008	6.8	1.5	1.8	20.5	0.2	0	
3/26/2008	6.8	0.4	0.2	20.0	0.1	0	
4/18/2008	3.2*	0.5	1.6	20.6	0.1	0	*Condensate observed*
5/15/2008	7.2	0.8	1.8	20.7	0.1	0	
6/27/2008	7.5	1.6	0.7	20.2	0.0	0	
7/18/2008	7.2	0.3	0.3	20.3	0.0	0	
8/14/2008	7.4	0.3	3.7	20.9	0.0	0	
9/10/2008	7.2	0.2	0.8	20.9	0.0	0	
10/8/2008	7.7	0.3	0.7	20.9	0.1	0	
11/5/2008	7.4	1.6	1.4	19.6	0.1	0	
12/3/2008	7.4	3.2	11.4	20.4	0.1	0	
1/21/2009	7.4	2.2	6.9	20.8	0.1	0	
2/20/2009	7.2	2.5	6.7	19.0	0.1	0	
3/27/2009	9.0	3.0	1.9	20.9	0.0	0	
4/24/2009	7.6	1.4	2.8	20.6	0.0	0	
5/22/2009	7.8	0.4	1.1	20.1	0.0	0	
6/30/2009	7.8	1.4	--	20.1	0.0	0	
7/23/2009	7.6	1.3	2.4	19.9	0.0	0	
8/19/2009	7.8	1.2	1.0	20.4	0.0	0	
9/29/2009	7.4	0.3	0.3	20.7	0.0	1	
10/28/2009	7.6	0.3	0.6	20.6	0.0	0	
11/25/2009	7.2	0.3	0.2	20.6	0.0	0	
12/29/2009	6.8	0.3	0.6	20.6	0.1	0	
1/27/2010	6.60	0.21	0.7	20.4	0.0	0	
2/23/2010	6.20	1.09	1.9	20.8	0.1	1	
9/2/2010	5.20	1.20	0.0	20.5	0.1	0	
11/18/2010	5.90	0.12	0.3	20.7	0.1	0	
1/6/2011	5.22	0.15	0.0	20.7	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	7.26	1.15	2.5	20.4	0.11	368
1/22/09 - 12/29/09	7.60	1.21	2.2	20.4	0.03	344
12/30/09 - 1/6/11	5.82	0.55	0.6	20.6	0.1	208

Notes:

*Flow rate estimated based on difference between combined flow and measured flow readings.

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "--" means not monitored due to monitoring equipment failure, unless otherwise noted.

TABLE 41
SSVW-4
Summary of Interior Soil Vapor Extraction Monitoring
January 2009 through December 2009

Charbert Facility
Alton, Rhode Island

Date	SSVW-4						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	6.8	1.4	0.3	18.1	1.5	0	*Interior SVE system start up*
1/24/2008	7.6	1.2	5.0	19.8	0.8	0	
2/26/2008	6.8	1.5	5.2	20.1	0.3	0	
3/26/2008	7.2	1.1	0.2	20.1	0.3	0	
4/18/2008	6.6	0.9	1.6	20.7	0.1	0	
5/15/2008	6.9	1.4	1.4	20.7	0.1	0	
6/27/2008	7.6	1.8	0.4	20.1	0.1	0	
7/18/2008	7.4	1.9	0.1	20.1	0.1	0	
8/14/2008	7.6	1.6	3.3	20.9	0.1	0	
9/10/2008	7.4	1.7	0.5	20.9	0.1	0	
10/8/2008	7.2	1.5	0.9	20.9	0.1	0	
11/5/2008	7.2	1.7	1.8	19.7	0.1	0	
12/3/2008	7.4	2.1	3.6	20.3	0.1	0	
1/21/2009	7.7	1.8	8.0	20.8	0.1	0	
2/20/2009	6.8	1.5	6.9	19.0	0.1	0	
3/27/2009	9.0	1.6	2.4	20.8	0.1	0	
4/24/2009	7.8	1.0	2.1	20.6	0.0	0	
5/22/2009	7.8	1.6	0.9	20.2	0.0	0	
6/30/2009	7.8	1.8	--	20.1	0.0	0	
7/23/2009	8.0	1.9	1.1	19.8	0.0	0	
8/19/2009	7.6	1.4	1.2	20.3	0.0	0	
9/29/2009	7.4	1.1	0.3	20.7	0.1	1	
10/28/2009	7.8	1.3	0.3	20.4	0.1	0	
11/25/2009	7.2	1.3	< 0.1	20.6	0.1	0	
12/29/2009	7.2	1.0	< 0.1	20.6	0.0	0	
1/27/2010	7.40	2.28	1.3	20.5	0.0	0	
2/23/2010	6.20	0.64	1.8	20.9	0.1	1	
9/2/2010	5.12	2.00	0.0	20.5	0.2	0	
11/18/2010	5.90	0.58	0.0	20.9	0.1	0	
1/6/2011	4.89	0.59	0.0	20.9	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	7.24	1.54	2.3	20.2	0.28	368
1/22/09 - 12/29/09	7.68	1.44	2.6	20.3	0.05	344
12/30/09 - 1/6/11	5.90	1.22	0.6	20.7	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "--" means not monitored due to monitoring equipment failure, unless otherwise noted.

TABLE 42
SSVW-5
Summary of Interior Soil Vapor Extraction Monitoring
January 2009 through December 2009

Charbert Facility
Alton, Rhode Island

Date	SSVW-5 Flow (cfm)	Vacuum (in H_2O)	TVOC (ppm)	O_2 (%)	CO_2 (%)	LEL (%)	Notes:
1/18/2008	6.8	0.3	1.1	19.7	0.3	0	*Interior SVE system start up*
1/24/2008	7.6	0.1	12.0	20.2	0.2	0	
2/26/2008	6.8	0.3	5.3	20.3	0.2	0	
3/26/2008	6.8	0.2	0.2	20.2	0.1	0	
4/18/2008	6.2	0.2	1.3	20.5	0.2	0	
5/15/2008	7.4	0.2	1.4	20.5	0.2	0	
6/27/2008	7.6	0.2	0.2	20.4	0.1	0	
7/18/2008	7.4	0.2	0.1	20.2	0.1	0	
8/14/2008	7.4	0.2	3.6	20.9	0.0	0	
9/10/2008	7.2	0.2	0.7	20.9	0.1	0	
10/8/2008	7.4	0.3	0.8	20.9	0.1	0	
11/5/2008	7.2	0.9	1.9	19.8	0.1	0	
12/3/2008	7.6	0.2	2.1	20.3	0.1	0	
1/21/2009	7.7	0.3	--	20.8	0.1	0	
2/20/2009	7.6	0.4	6.7	19.0	0.1	0	
3/27/2009	8.6	0.2	1.4	20.9	0.0	0	
4/24/2009	7.4	1.0	1.9	20.7	0.0	0	
5/22/2009	7.8	1.1	0.5	19.7	0.0	0	
6/30/2009	7.4	0.3	--	20.0	0.0	0	
7/23/2009	8.0	0.3	2.7	19.7	0.0	0	
8/19/2009	7.2	0.3	0.8	20.6	0.0	0	
9/29/2009	7.2	0.3	< 0.1	20.6	0.0	1	
10/28/2009	7.4	0.2	0.6	20.4	0.1	0	
11/25/2009	8.0	0.2	< 0.1	20.7	0.1	0	
12/29/2009	7.0	0.1	< 0.1	20.7	0.1	0	
1/27/2010	9.80	0.06	1.2	20.7	0.1	0	*lowest D.P. that could be reached*
2/23/2010	6.20	1.21	1.8	20.8	0.1	1	
9/2/2010	4.95	1.20	0.0	20.5	0.1	0	
11/18/2010	5.90	0.08	0.0	20.7	0.1	0	
1/6/2011	4.89	0.10	0.0	20.9	0.1	0	

Date	Average Flow (cfm)	Vacuum (in H_2O)	TVOC (1) (ppm)	O_2 (%)	CO_2 (%)	Total Run Time (days)
1/18/08 - 1/21/09	7.22	0.27	2.4	20.4	0.14	368
1/22/09 - 12/29/09	7.61	0.39	2.1	20.3	0.04	344
12/30/09 - 1/6/11	6.35	0.53	0.6	20.7	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "--" means not monitored due to monitoring equipment failure, unless otherwise noted.

TABLE 43
SSVW-6
Summary of Interior Soil Vapor Extraction Monitoring
January 2009 through December 2009

Charbert Facility
Alton, Rhode Island

Date	SSVW-6						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	6.8	1.7	1.0	19.9	0.4	0	*Interior SVE system start up*
1/24/2008	7.2	3.2	8.0	19.8	0.2	0	
2/26/2008	7.2	2.7	1.1	20.7	0.1	0	
3/26/2008	6.8	1.5	2.4	19.9	0.2	0	
4/18/2008	6.4	1.4	1.3	20.6	0.2	0	
5/15/2008	7.4	1.2	2.3	20.9	0.0	0	
6/27/2008	7.6	1.6	1.6	20.5	0.1	0	
7/18/2008	7.6	1.3	0.7	20.3	0.1	0	
8/14/2008	7.6	1.3	0.9	20.9	0.1	0	
9/10/2008	7.0	1.3	3.4	20.9	0.1	0	
10/8/2008	7.4	1.4	1.0	20.9	0.1	0	
11/5/2008	7.0	1.6	1.5	19.9	0.1	0	
12/3/2008	7.4	3.1	11.7	20.4	0.1	0	
1/21/2009	7.6	2.9	3.4	20.7	0.1	0	
2/20/2009	6.8	1.7	4.1	19.1	0.1	0	
3/27/2009	8.6	1.4	1.1	20.9	0.0	0	
4/24/2009	7.8	0.2	1.3	20.7	0.0	0	
5/22/2009	7.8	0.2	1.9	19.7	0.0	0	
6/30/2009	7.2	1.3	--	20.4	0.0	0	
7/23/2009	7.6	1.3	5.2	19.3	0.1	0	
8/19/2009	7.6	1.9	1.4	20.4	0.0	0	
9/29/2009	7.6	1.3	0.3	20.9	0.0	1	
10/28/2009	7.8	1.3	< 0.1	20.7	0.1	0	
11/25/2009	7.2	1.3	0.4	20.7	0.1	0	
12/29/2009	7.2	1.4	0.6	20.7	0.1	0	
1/27/2010	6.80	1.01	2.5	20.8	0.0	0	
2/23/2010	6.00	0.20	1.4	20.7	0.1	1	
9/2/2010	5.12	2.30	0.0	20.7	0.1	0	
11/18/2010	5.90	1.39	0.0	20.9	0.1	0	
1/6/2011	4.89	0.96	0.0	20.6	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	7.21	1.87	2.9	20.5	0.14	368
1/22/09 - 12/29/09	7.57	1.34	2.0	20.4	0.05	344
12/30/09 - 1/6/11	5.74	1.17	0.8	20.7	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "--" means not monitored due to monitoring equipment failure, unless otherwise noted.

TABLE 44
SSVW-7
Summary of Interior Soil Vapor Extraction Monitoring
January 2009 through December 2009

Charbert Facility
Alton, Rhode Island

Date	SSVW-7						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	6.8	0.1	0.3	20.2	0.0	0	*Interior SVE system start up*
1/24/2008	8.0	0.1	0.8	20.9	0.1	0	
2/26/2008	7.2	0.8	1.2	20.8	0.0	0	
3/26/2008	7.2	0.1	1.9	20.0	0.1	0	
4/18/2008	6.5	0.1	1.4	20.6	0.0	0	
5/15/2008	7.2	0.1	1.8	20.9	0.1	0	
6/27/2008	7.6	0.1	0.8	20.5	0.0	0	
7/18/2008	7.6	0.1	0.3	20.4	0.0	0	
8/14/2008	7.6	0.1	0.6	20.9	0.0	0	
9/10/2008	7.4	0.5	<0.1	20.9	0.0	0	
10/8/2008	7.4	0.2	<0.1	20.9	0.1	0	
11/5/2008	7.2	0.2	2.5	20.0	0.1	0	
12/3/2008	7.7	0.3	3.3	20.5	0.1	0	
1/21/2009	7.8	0.2	1.1	20.8	0.1	0	
2/20/2009	7.2	0.2	4.8	19.1	0.2	0	
3/27/2009	8.4	0.2	1.9	20.9	0.0	0	
4/24/2009	7.6	1.5	2.9	20.7	0.1	0	
5/22/2009	7.8	0.3	0.8	20.2	0.0	0	
6/30/2009	7.2	0.2	--	20.4	0.0	0	
7/23/2009	7.2	1.3	5.0	19.3	0.1	0	
8/19/2009	7.8	1.8	1.1	20.2	0.0	0	
9/29/2009	7.0	0.2	< 0.1	20.9	0.0	0	
10/28/2009	7.6	0.1	1.5	20.7	0.0	0	
11/25/2009	7.4	0.1	0.8	20.9	0.0	0	
12/29/2009	7.4	0.1	0.6	20.9	0.0	0	
1/27/2010	7.40	0.18	0.0	20.9	0.0	0	
2/23/2010	6.20	1.24	1.2	20.7	0.0	1	
9/2/2010	5.12	1.30	1.2	20.7	0.1	0	
11/18/2010	5.90	0.40	0.0	20.8	0.1	0	
1/6/2011	4.89	0.24	0.0	20.7	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	7.37	0.22	1.3	20.6	0.05	368
1/22/09 - 12/29/09	7.53	0.52	2.1	20.4	0.04	344
12/30/09 - 1/6/11	5.90	0.67	0.5	20.8	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "--" means not monitored due to monitoring equipment failure, unless otherwise noted.

TABLE 45
SVE-17
Summary of Exterior Soil Vapor Extraction Monitoring
January 2010 through January 2011

Charbert Facility
Alton, Rhode Island

Date	SVE-17						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	5.60	2.80	11.4	18.2	1.8	0	*Exterior SVE system start up*
1/24/2008	6.00	1.60	3.0	19.9	0.5	2	
2/26/2008	6.00	2.40	0.9	20.9	0.4	0	
3/26/2008	6.00	2.00	1.5	20.4	0.2	0	
4/18/2008	6.00	1.70	-	19.0	0.2	0	
5/15/2008	5.80	1.30	2.0	20.3	0.3	0	
6/27/2008	-	1.20	1.6	18.7	0.5	0	
7/18/2008	6.30	1.10	6.6	18.6	0.6	0	
8/14/2008	5.80	1.50	7.7	20.9	0.5	0	
9/10/2008	5.80	1.60	0.8	19.8	0.7	0	
10/8/2008	6.10	1.60	2.1	20.4	0.3	0	
11/5/2008	5.80	1.80	2.4	18.7	0.1	0	
12/3/2008	6.10	2.40	13.8	19.8	0.1	0	
1/21/2009	6.10	2.50	--	20.4	0.2	0	
2/20/2009	4.80	1.70	3.6	18.7	0.2	0	
3/27/2009	6.10	1.50	1.2	19.9	0.2	0	
4/24/2009	6.00	--	0.7	20.4	0.1	0	
5/22/2009	5.60	1.70	2.2	20.3	0.2	0	
6/30/2009	5.20	1.90	1.8	18.8	0.3	0	
7/23/2009	7.60	3.13	2.8	20.6	0.1	2	
8/19/2009	5.30	1.10	1.7	20.0	0.1	0	
9/29/2009	4.60	1.40	6.8	20.1	0.6	0	
10/28/2009	5.00	2.50	1.1	20.7	0.2	0	
11/25/2009	5.30	1.20	< 0.1	20.9	0.3	0	
12/29/2009	5.00	1.80	< 0.1	20.8	0.4	0	
1/27/2010	5.30	0.51	0.0	20.4	0.2	0	
2/23/2010	4.20	0.56	2.4	20.5	0.3	1	*Valve Fully Open*
9/2/2010	6.70	2.90	4.1	19.8	0.6	0	
11/18/2010	6.40	2.81	3.9	20.8	0.1	0	*Valve Fully Open*
1/6/2011	0.00	2.81	0.5	20.4	0.2	0	*Valve Fully Open*

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	5.95	1.82	4.5	19.7	0.46	368
1/22/09 - 12/29/09	5.55	1.86	2.4	20.1	0.24	344
12/30/09 - 1/6/11	4.52	1.92	2.2	20.4	0.3	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "-" means not monitored due to monitoring equipment failure, unless otherwise noted.

*Flow rate estimated based on difference between combined flow and measured flow readings.

TABLE 46
SVE-18
Summary of Exterior Soil Vapor Extraction Monitoring
January 2010 through January 2011

Charbert Facility
Alton, Rhode Island

Date	SVE-18						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	<2.00	2.80	1.6	16.1	3.5	0	*Exterior SVE system start up*
1/24/2008	4.20	2.80	1.0	19.2	0.8	0	
2/26/2008	5.00	2.30	1.1	20.9	0.4	0	
3/26/2008	5.60	3.70	3.3	20.3	0.1	0	
4/18/2008	6.10	3.40	-	19.0	0.1	0	
5/15/2008	6.00	3.10	4.4	20.3	0.2	0	
6/27/2008	-	2.90	1.5	18.6	0.4	0	
7/18/2008	6.10	2.90	3.9	18.2	0.7	0	
8/14/2008	5.00	3.40	8.5	20.9	0.6	0	
9/10/2008	4.80	0.50	1.4	19.8	0.8	0	*Condensate observed*
10/8/2008	5.10*	2.70	4.3	20.3	0.3	0	
11/5/2008	5.70*	2.40	2.5	18.9	0.1	0	
12/3/2008	5.00*	2.90	15.7	19.7	0.1	0	
1/21/2009	4.80	4.30	--	20.9	0.2	0	
2/20/2009	<3.60	3.00	5.0	18.8	0.2	0	
3/27/2009	4.00	2.70	1.4	20.0	0.2	0	
4/24/2009	4.00	-	4.5	20.2	0.1	0	
5/22/2009	<5.20	2.70	2.3	19.9	0.2	0	
6/30/2009	4.40	2.40	2.6	18.6	0.4	0	
7/23/2009	6.10	3.50	4.0	20.5	0.0	1	
8/19/2009	3.90	2.20	2.6	20.0	0.0	0	
9/29/2009	4.60	2.10	6.8	20.0	0.7	0	
10/28/2009	5.50	2.50	1.5	20.6	0.4	0	
11/25/2009	5.50	2.20	< 0.1	20.9	0.3	0	
12/29/2009	5.30	1.90	< 0.1	20.8	0.3	0	
1/27/2010	4.60	0.47	0.1	20.4	0.2	0	
2/23/2010	2.80	1.68	3.1	20.3	0.3	1	*Valve Fully Open*
9/2/2010	6.85	3.00	1.9	20.1	0.4	0	
11/18/2010	6.10	6.40	2.6	20.8	0.3	0	*Valve Fully Open*
1/6/2011	0.00	4.88	0.1	20.4	0.2	0	*Valve Fully Open*

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	5.29	2.86	4.1	19.5	0.59	368
1/22/09 - 12/29/09	4.81	2.68	3.4	20.1	0.25	344
12/30/09 - 1/6/11	4.07	3.29	1.6	20.4	0.3	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "-" means not monitored due to monitoring equipment failure, unless otherwise noted.

*Flow rate estimated based on difference between combined flow and measured flow readings.

TABLE 47
SVE-19
Summary of Exterior Soil Vapor Extraction Monitoring
January 2010 through January 2011

Charbert Facility
Alton, Rhode Island

Date	SVE-19						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	5.60	2.80	1.7	11.3	7.3	0	*Exterior SVE system start up*
1/24/2008	5.00	2.80	1.0	18.3	1.5	0	
2/26/2008	4.20	3.70	1.1	20.9	0.7	0	
3/26/2008	4.00	3.60	3.3	20.0	0.3	0	
4/18/2008	6.50	3.20	-	19.0	0.2	0	
5/15/2008	6.20	3.20	5.5	20.1	0.4	0	
6/27/2008	-	2.90	1.2	18.4	0.6	0	
7/18/2008	5.50	2.80	4.6	17.6	0.9	0	
8/14/2008	5.80	3.00	7.8	20.9	0.8	0	
9/10/2008	5.80	3.30	5.5	19.8	0.9	0	
10/8/2008	5.10*	2.80	5.2	20.1	0.5	0	
11/5/2008	5.70*	2.80	0.5	18.8	0.1	0	
12/3/2008	5.00*	3.10	16.8	19.8	0.2	0	
1/21/2009	5.70	4.40	--	20.9	0.3	0	
2/20/2009	4.80	3.00	5.3	18.7	0.2	0	
3/27/2009	4.00	1.70	1.7	20.0	0.2	0	
4/24/2009	<4.00	-	6.8	20.1	0.2	0	
5/22/2009	<5.20	2.60	2.3	19.9	0.3	0	
6/30/2009	3.00	2.40	3.6	18.4	0.6	0	
7/23/2009	<3.50	3.60	5.3	20.4	0.1	1	
8/19/2009	3.00	2.70	4.6	20.1	0.0	0	
9/29/2009	2.50	2.20	6.1	19.9	0.9	0	
10/28/2009	3.00	2.70	1.5	20.3	0.5	0	
11/25/2009	4.30	2.50	< 0.1	20.8	0.4	0	
12/29/2009	3.50	2.30	< 0.1	20.8	0.3	0	
1/27/2010	4.60	1.40	0.3	20.4	0.1	0	
2/23/2010	2.80	1.69	2.6	20.6	0.3	1	*Valve Fully Open*
9/2/2010	4.60	3.10	0.6	20.7	0.0	0	
11/18/2010	5.22	6.60	1.4	20.4	0.5	0	*Valve Fully Open*
1/6/2011	0.00	4.97	0.0	20.4	0.1	0	*Valve Fully Open*

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	5.43	3.17	4.5	19.0	1.05	368
1/22/09 - 12/29/09	3.76	2.74	4.1	20.0	0.33	344
12/30/09 - 1/6/11	3.44	3.55	1.0	20.5	0.2	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "-" means not monitored due to monitoring equipment failure, unless otherwise noted.

*Flow rate estimated based on difference between combined flow and measured flow readings.

TABLE 48
SVE-20
Summary of Exterior Soil Vapor Extraction Monitoring
January 2010 through January 2011

Charbert Facility
Alton, Rhode Island

Date	SVE-20						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	5.20	2.40	1.4	18.1	3.0	0	*Exterior SVE system start up*
1/24/2008	6.00	2.30	1.0	19.7	0.8	0	
2/26/2008	6.00	3.70	0.9	20.9	0.3	0	
3/26/2008	6.00	2.90	2.8	19.8	0.3	0	
4/18/2008	6.60	2.20	-	18.9	0.2	0	
5/15/2008	6.20	2.00	5.0	20.2	0.3	0	
6/27/2008	-	1.80	0.4	19.2	0.4	0	
7/18/2008	6.60	2.70	3.7	18.6	0.5	0	
8/14/2008	6.30	2.50	0.6	20.9	0.4	0	
9/10/2008	6.10	2.00	1.4	19.8	0.7	0	
10/8/2008	6.10	2.30	2.6	20.2	0.3	0	
11/5/2008	5.80	2.70	< 0.1	18.7	0.1	0	
12/3/2008	6.10	2.90	15.2	20.0	0.1	0	
1/21/2009	6.10	4.00	--	20.7	0.2	0	
2/20/2009	5.60	3.10	5.1	18.9	0.2	0	
3/27/2009	6.30	2.40	1.4	19.9	0.1	0	
4/24/2009	6.20	--	4.3	20.0	0.1	0	
5/22/2009	5.60	2.70	2.2	19.8	0.2	0	
6/30/2009	5.60	2.40	1.7	18.8	0.3	0	
7/23/2009	5.50	3.24	2.1	20.5	0.0	0	
8/19/2009	5.30	1.90	2.6	19.9	0.0	0	
9/29/2009	5.30	2.10	2.1	20.0	0.2	0	
10/28/2009	5.80	2.60	1.5	20.6	0.2	0	
11/25/2009	5.50	2.30	< 0.1	20.9	0.2	0	
12/29/2009	5.30	1.90	< 0.1	20.9	0.2	0	
1/27/2010	4.30	0.48	0.4	20.5	0.1	0	*Valve Fully Open*
2/23/2010	3.30	1.75	2.6	20.7	0.2	1	*Valve Fully Open*
9/2/2010	6.85	1.90	0.0	20.8	0.0	0	
11/18/2010	6.80	5.60	0.0	20.8	0.2	0	
1/6/2011	8.4	4.08	0.0	20.6	0.1	0	*valve mostly shut*

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	6.08	2.60	3.2	19.7	0.54	368
1/22/09 - 12/29/09	5.68	2.60	2.6	20.1	0.16	344
12/30/09 - 1/6/11	5.64	2.76	0.6	20.7	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "-" means not monitored due to monitoring equipment failure, unless otherwise noted.

*Flow rate estimated based on difference between combined flow and measured flow readings.

TABLE 49
SVE-21
Summary of Exterior Soil Vapor Extraction Monitoring
January 2010 through January 2011

Charbert Facility
Alton, Rhode Island

Date	SVE-21						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	3.40	2.10	1.1	19.8	2.2	0	*Exterior SVE system start up*
1/24/2008	4.00	2.50	<0.1	20.7	0.1	0	
2/26/2008	4.20	3.10	0.5	20.9	0.1	0	
3/26/2008	5.00	3.20	0.2	19.5	0.1	0	
4/18/2008	8.60	2.60	-	19.4	0.0	0	
5/15/2008	5.80	2.90	3.2	20.2	0.1	0	
6/27/2008	-	2.70	0.2	19.0	0.1	0	
7/18/2008	6.10	2.00	1.0	19.2	0.1	0	
8/14/2008	6.10	2.30	1.3	20.9	0.2	0	
9/10/2008	5.80	2.40	0.8	20.3	0.2	0	
10/8/2008	4.80	2.10	1.1	20.2	0.1	0	
11/5/2008	5.7*	1.60	0.4	18.8	0.0	0	
12/3/2008	5.0*	2.10	13.8	20.1	0.0	0	
1/21/2009	4.00	3.90	--	20.9	0.2	0	
2/20/2009	3.60	2.60	2.0	19.1	0.1	0	
3/27/2009	<4.0	2.20	1.0	20.0	0.1	0	
4/24/2009	<5.0	--	3.6	19.5	0.1	0	
5/22/2009	<5.2	2.40	1.2	19.6	0.1	0	
6/30/2009	5.00	2.10	0.7	18.6	0.2	0	
7/23/2009	3.50	3.00	3.1	20.1	0.1	0	
8/19/2009	3.90	2.10	1.7	20.0	0.0	0	
9/29/2009	4.30	1.80	2.1	20.0	0.0	0	
10/28/2009	<3.0	2.20	0.9	20.7	0.1	1	
11/25/2009	3.00	2.10	< 0.1	20.8	0.1	0	
12/29/2009	1.80	1.75	< 0.1	20.8	0.1	0	
1/27/2010	0.00	0.65	0.5	20.3	0.2	0	*Valve Fully Open*
2/23/2010	2.80	1.64	2.7	20.8	0.2	1	*Valve Fully Open*
9/2/2010	0.00	1.40	0.0	20.5	0.1	0	*Valve Fully Open*
11/18/2010	3.40	4.50	1.7	20.8	0.1	0	*Valve Fully Open*
1/6/2011	0.00	3.30	0.0	20.8	0.1	0	*Valve Fully Open*

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	5.25	2.54	2.1	20.0	0.25	368
1/22/09 - 12/29/09	3.64	2.38	1.8	20.0	0.10	344
12/30/09 - 1/6/11	1.24	2.30	1.0	20.6	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "-" means not monitored due to monitoring equipment failure, unless otherwise noted.

*Flow rate estimated based on difference between combined flow and measured flow readings.

TABLE 50
SVE-22
Summary of Exterior Soil Vapor Extraction Monitoring
January 2010 through January 2011

Charbert Facility
Alton, Rhode Island

Date	SVE-22						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	5.60	1.80	2.8	20.9	0.5	0	*Exterior SVE system start up*
1/24/2008	6.00	1.00	1.0	20.9	0.1	0	
2/26/2008	6.00	2.20	0.7	20.9	0.1	0	
3/26/2008	5.60	1.30	1.1	19.4	0.1	0	
4/18/2008	5.20*	1.30	-	19.6	0.1	0	*Condensate observed*
5/15/2008	6.00	1.50	14.4	20.2	0.2	0	
6/27/2008	-	-	2.4	18.8	0.2	0	
7/18/2008	6.10	1.30	2.8	18.8	0.3	0	
8/14/2008	6.30	1.50	9.5	20.9	0.3	0	
9/10/2008	5.80	3.10	11.1	19.2	0.9	0	
10/8/2008	6.30	2.00	8.2	20.1	0.2	0	
11/5/2008	5.60	1.60	5.3	18.7	0.0	0	
12/3/2008	6.10	2.00	16.1	20.2	0.1	0	
1/21/2009	5.60	2.60	--	20.9	0.4	0	
2/20/2009	5.60	2.40	5.0	18.9	0.2	0	
3/27/2009	6.10	2.10	2.9	20.0	0.2	0	
4/24/2009	4.60	--	9.4	19.6	0.1	0	
5/22/2009	<5.20	2.30	2.2	19.4	0.2	0	
6/30/2009	<3.00	2.00	9.6	18.4	0.3	0	
7/23/2009	4.60	3.13	10.6	20.6	0.1	0	
8/19/2009	3.90	1.90	13.8	20.0	0.0	0	
9/29/2009	3.90	1.61	16.3	20.9	0.5	1	
10/28/2009	<3.00	2.20	2.3	20.3	0.7	0	
11/25/2009	5.30	2.00	< 0.1	20.9	0.2	0	
12/29/2009	2.50	1.80	< 0.1	20.9	0.1	0	
1/27/2010	0.00	0.38	0.6	20.2	0.1	0	*Valve Fully Open*
2/23/2010	2.80	1.53	2.3	20.7	0.1	1	*Valve Fully Open*
9/2/2010	7.00	1.00	5.1	20.0	0.5	0	
11/18/2010	6.62	3.30	3.7	20.7	0.3	0	
1/6/2011	6.96	2.64	0.6	20.5	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	5.92	1.78	6.3	20.0	0.25	368
1/22/09 - 12/29/09	4.68	2.19	8.0	20.1	0.25	344
12/30/09 - 1/6/11	4.68	1.77	2.5	20.4	0.2	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "-" means not monitored due to monitoring equipment failure, unless otherwise noted.

*Flow rate estimated based on difference between combined flow and measured flow readings.

TABLE 51
SVE-23
Summary of Exterior Soil Vapor Extraction Monitoring
January 2010 through January 2011

Charbert Facility
Alton, Rhode Island

Date	SVE-23						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	3.40	2.00	1.8	17.6	2.5	0	*Exterior SVE system start up*
1/24/2008	6.00	1.40	1.0	20.9	0.1	0	
2/26/2008	6.00	2.70	0.5	20.9	0.3	0	
3/26/2008	5.60	1.60	1.9	19.5	0.1	0	
4/18/2008	5.90	1.10	-	19.3	0.1	0	
5/15/2008	5.60	1.50	7.9	19.9	0.2	0	
6/27/2008	-	-	3.1	18.7	0.2	0	
7/18/2008	6.10	1.90	1.9	18.6	0.3	0	
8/14/2008	6.10	1.60	3.5	20.9	0.3	0	
9/10/2008	5.80	1.70	1.6	18.7	1.0	0	
10/8/2008	6.10	1.60	3.0	20.0	0.2	0	
11/5/2008	5.80	1.50	1.9	18.6	0.0	0	
12/3/2008	6.30	1.30	13.6	19.9	0.1	0	
1/21/2009	6.60	0.60	--	20.8	0.6	0	
2/20/2009	4.80	2.80	3.4	19.1	0.2	0	
3/27/2009	6.10	2.10	1.7	19.8	0.2	0	
4/24/2009	5.60	--	5.7	19.7	0.1	0	
5/22/2009	5.60	2.20	2.8	19.4	0.1	0	
6/30/2009	3.90	2.10	2.5	18.4	0.3	0	
7/23/2009	5.30	3.25	3.6	20.3	0.1	0	
8/19/2009	3.00	1.83	3.6	20.1	0.0	0	
9/29/2009	5.00	1.70	4.3	20.4	0.6	2	
10/28/2009	3.90	2.20	2.7	20.3	0.5	0	
11/25/2009	5.00	2.00	< 0.1	20.8	0.3	0	
12/29/2009	5.00	2.80	< 0.1	20.8	0.2	0	
1/27/2010	3.00	0.71	0.8	20.6	0.3	1	*Valve Fully Open*
2/23/2010	3.30	1.61	2.1	20.6	0.3	1	
9/2/2010	3.90	1.40	3.2	19.7	0.6	0	*Valve Fully Open*
11/18/2010	2.81	4.70	4.3	20.2	0.6	0	*Valve Fully Open*
1/6/2011	0.00	2.99	0.5	20.6	0.2	0	*Valve Fully Open*

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	5.79	1.58	3.5	19.6	0.43	368
1/22/09 - 12/29/09	4.98	2.14	3.4	20.0	0.27	344
12/30/09 - 1/6/11	2.60	2.28	2.2	20.3	0.4	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "-" means not monitored due to monitoring equipment failure, unless otherwise noted.

*Flow rate estimated based on difference between combined flow and measured flow readings.

TABLE 52
SVE-24
Summary of Exterior Soil Vapor Extraction Monitoring
January 2010 through January 2011

Charbert Facility
Alton, Rhode Island

Date	SVE-24						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	5.60	1.40	1.5	20.9	0.8	0	*Exterior SVE system start up*
1/24/2008	6.40	1.00	2.0	20.5	0.3	0	
2/26/2008	6.00	1.30	0.5	20.9	0.1	0	
3/26/2008	6.00	1.00	2.8	19.6	0.1	0	
4/18/2008	6.40	0.80	-	19.6	0.1	0	
5/15/2008	5.60	1.00	9.1	19.9	0.1	0	
6/27/2008	-	-	2.6	19.1	0.0	0	
7/18/2008	5.80	0.90	1.7	18.8	0.2	0	
8/14/2008	5.50	1.00	2.6	20.9	0.2	0	
9/10/2008	5.80	1.00	2.4	19.5	0.3	0	
10/8/2008	6.10	0.20	2.7	19.9	0.2	0	
11/5/2008	5.80	1.40	1.5	18.6	0.1	0	
12/3/2008	6.30	1.80	13.4	20.0	0.1	0	
1/21/2009	6.60	2.50	--	20.9	0.1	0	
2/20/2009	5.20	1.40	2.9	19.4	0.1	0	
3/27/2009	6.10	1.30	1.2	19.8	0.0	0	
4/24/2009	6.40	--	4.5	19.9	0.1	0	
5/22/2009	5.20	2.20	2.2	19.2	0.0	0	
6/30/2009	5.00	1.40	2.4	18.5	0.2	0	
7/23/2009	6.60	2.88	3.5	20.5	0.0	0	
8/19/2009	5.30	1.50	4.0	19.9	0.0	0	
9/29/2009	5.00	1.20	2.1	20.3	0.3	1	
10/28/2009	5.80	1.60	0.9	20.5	0.2	0	
11/25/2009	5.30	1.50	< 0.1	20.8	0.2	0	
12/29/2009	5.30	1.70	< 0.1	20.9	0.2	0	
1/27/2010	3.90	0.82	0.6	20.9	0.0	1	*Valve Fully Open*
2/23/2010	2.80	1.58	2.0	20.8	0.2	1	*Valve Fully Open*
9/2/2010	7.40	1.53	0.0	20.3	0.3	0	
11/18/2010	6.80	4.10	3.5	20.8	0.2	0	
1/6/2011	6.76	2.49	0.4	20.5	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	5.99	1.18	3.6	19.9	0.19	368
1/22/09 - 12/29/09	5.65	1.74	2.6	20.1	0.12	344
12/30/09 - 1/6/11	5.53	2.10	1.3	20.7	0.2	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "-" means not monitored due to monitoring equipment failure, unless otherwise noted.

*Flow rate estimated based on difference between combined flow and measured flow readings.

TABLE 53
SVE-25
Summary of Exterior Soil Vapor Extraction Monitoring
January 2010 through January 2011

Charbert Facility
Alton, Rhode Island

Date	SVE-25						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	5.20	2.00	1.4	20.0	0.5	0	*Exterior SVE system start up*
1/24/2008	5.20	1.80	3.0	19.4	0.4	0	
2/26/2008	6.00	2.60	0.7	20.9	0.1	0	
3/26/2008	6.00	2.50	0.6	19.4	0.0	0	
4/18/2008	6.80	2.00	-	19.6	0.0	0	
5/15/2008	6.20	2.20	6.7	20.2	0.1	0	
6/27/2008	-	-	<0.1	19.0	0.1	0	
7/18/2008	6.60	1.70	0.5	18.9	0.1	0	
8/14/2008	6.10	1.90	<0.1	20.9	0.2	0	
9/10/2008	6.10	1.90	0.6	20.2	0.1	0	
10/8/2008	6.30	1.90	1.3	20.1	0.1	0	
11/5/2008	5.80	1.60	2.0	18.8	0.1	0	
12/3/2008	6.60	1.00	12.9	20.2	0.0	0	
1/21/2009	4.80	3.80	--	20.9	0.1	0	
2/20/2009	4.00	3.10	2.7	19.3	0.1	0	
3/27/2009	4.80	2.20	1.0	20.0	0.1	0	
4/24/2009	4.00	--	2.5	19.9	0.1	0	
5/22/2009	<5.20	0.90	0.1	19.3	0.1	0	
6/30/2009	<3.00	2.10	1.4	18.3	0.2	0	
7/23/2009	3.90	3.20	3.0	20.1	0.0	0	
8/19/2009	3.50	1.80	1.7	20.0	0.0	0	
9/29/2009	5.00	1.80	2.4	20.4	0.1	1	
10/28/2009	5.00	2.30	0.3	20.9	0.1	0	
11/25/2009	4.30	1.95	< 0.1	20.7	0.3	0	
12/29/2009	3.50	2.20	< 0.1	20.8	0.2	0	
1/27/2010	3.90	0.22	0.3	20.9	0.0	0	*fully open with flow*
2/23/2010	3.80	1.66	2.0	20.8	0.2	1	*Valve Fully Open*
9/2/2010	6.00	1.40	0.0	20.4	0.1	0	*Valve Fully Open*
11/18/2010	5.90	4.50	2.5	20.8	0.1	0	*Valve Fully Open*
1/6/2011	0.00	3.22	0.0	20.8	0.1	0	*Valve Fully Open*

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	5.98	2.07	3.0	19.9	0.14	368
1/22/09 - 12/29/09	4.28	2.30	1.7	20.1	0.12	344
12/30/09 - 1/6/11	3.92	2.20	1.0	20.7	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "-" means not monitored due to monitoring equipment failure, unless otherwise noted.

*Flow rate estimated based on difference between combined flow and measured flow readings.

TABLE 54
SVE-26
Summary of Exterior Soil Vapor Extraction Monitoring
January 2010 through January 2011

Charbert Facility
Alton, Rhode Island

Date	SVE-26						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	5.60	0.60	1.1	20.9	0.2	0	*Exterior SVE system start up*
1/24/2008	6.00	0.50	1.0	20.9	0.1	0	
2/26/2008	6.00	0.70	0.7	20.9	0.1	0	
3/26/2008	5.60	0.60	1.1	19.7	0.1	0	
4/18/2008	6.80	0.50	-	19.7	0.1	0	
5/15/2008	6.40	0.70	2.0	19.9	0.1	0	
6/27/2008	-	0.70	<0.1	18.9	0.1	0	
7/18/2008	6.10	1.60	0.7	18.8	0.1	0	
8/14/2008	5.50	0.40	<0.1	20.9	0.2	0	
9/10/2008	5.80	0.60	0.1	19.9	0.3	0	
10/8/2008	6.30	0.60	0.9	19.7	0.2	0	
11/5/2008	5.80	0.40	1.8	18.7	0.0	0	
12/3/2008	6.10	0.80	9.8	20.3	0.0	0	
1/21/2009	6.40	0.50	--	20.9	0.1	0	
2/20/2009	4.80	0.50	3.6	19.4	0.2	0	
3/27/2009	6.10	0.60	1.7	19.9	0.1	0	
4/24/2009	6.00	--	2.1	20.0	0.1	0	
5/22/2009	5.60	0.60	1.2	19.3	0.2	0	
6/30/2009	5.90	0.40	1.7	18.2	0.2	0	
7/23/2009	5.30	1.20	2.3	20.0	0.0	0	
8/19/2009	5.50	0.60	1.6	19.0	0.0	0	
9/29/2009	5.30	0.50	0.7	20.8	0.2	0	
10/28/2009	6.10	0.80	0.9	20.8	0.1	0	
11/25/2009	5.30	0.70	< 0.1	20.8	0.1	0	
12/29/2009	5.00	1.00	< 0.1	20.6	0.1	0	
1/27/2010	4.30	0.44	0.3	20.8	0.1	0	*fully open with flow*
2/23/2010	3.80	1.25	1.9	20.8	0.1	1	
9/2/2010	6.85	0.70	0.0	20.5	0.2	0	
11/18/2010	6.80	2.10	1.2	20.8	0.1	0	
1/6/2011	6.56	1.00	0.0	20.9	0.1	0	*Valve Fully Open*

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	6.03	0.66	1.9	20.0	0.12	368
1/22/09 - 12/29/09	5.61	0.67	1.8	20.0	0.12	344
12/30/09 - 1/6/11	5.66	1.10	0.7	20.8	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "-" means not monitored due to monitoring equipment failure, unless otherwise noted.

*Flow rate estimated based on difference between combined flow and measured flow readings.

TABLE 55
SVE-27
Summary of Exterior Soil Vapor Extraction Monitoring
January 2010 through January 2011

Charbert Facility
Alton, Rhode Island

Date	SVE-27						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	4.60	2.00	1.2	20.8	0.3	0	*Exterior SVE system start up*
1/24/2008	5.60	1.70	1.0	20.9	0.1	0	
2/26/2008	6.40	2.30	0.3	20.9	0.1	0	
3/26/2008	6.00	2.40	0.2	19.7	0.1	0	
4/18/2008	6.40	1.70	-	19.9	0.0	0	
5/15/2008	6.20	2.00	2.6	20.0	0.1	0	
6/27/2008	-	1.80	0.5	18.8	0.1	0	
7/18/2008	6.60	1.80	0.3	18.8	0.1	0	
8/14/2008	5.80	1.70	<0.1	20.9	0.2	0	
9/10/2008	6.30	1.60	<0.1	20.0	0.2	0	
10/8/2008	6.30	1.80	0.6	19.7	0.1	0	
11/5/2008	5.80	1.80	1.4	18.7	0.0	0	
12/3/2008	6.30	0.90	10.0	20.4	0.0	0	
1/21/2009	6.30	0.90	--	20.9	0.1	0	
2/20/2009	4.80	0.90	2.2	19.6	0.1	0	
3/27/2009	6.30	1.30	1.6	20.0	0.1	0	
4/24/2009	6.20	--	3.2	20.1	0.1	0	
5/22/2009	5.60	1.40	1.0	19.3	0.1	0	
6/30/2009	5.60	1.70	1.3	18.1	0.1	0	
7/23/2009	1.80	3.30	2.1	20.1	0.0	0	
8/19/2009	5.50	1.30	1.4	19.9	0.0	0	
9/29/2009	5.00	1.10	0.3	20.8	0.1	0	
10/28/2009	5.50	1.10	0.9	20.9	0.0	0	
11/25/2009	5.00	1.49	< 0.1	20.7	0.0	0	
12/29/2009	5.30	2.20	< 0.1	20.7	0.0	0	
1/27/2010	0.00	0.85	0.3	20.6	0.0	0	*fully open with flow*
2/23/2010	2.80	1.70	2.0	20.7	0.1	1	*Valve Fully Open*
9/2/2010	7.00	1.50	0.0	20.4	0.1	0	
11/18/2010	6.80	1.80	1.2	20.9	0.1	0	
1/6/2011	6.76	2.46	0.0	20.8	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	6.05	1.74	1.8	20.0	0.11	368
1/22/09 - 12/29/09	5.24	1.52	1.6	20.1	0.06	344
12/30/09 - 1/6/11	4.67	1.66	0.7	20.7	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "-" means not monitored due to monitoring equipment failure, unless otherwise noted.

*Flow rate estimated based on difference between combined flow and measured flow readings.

TABLE 56
SVE-28
Summary of Exterior Soil Vapor Extraction Monitoring
January 2010 through January 2011

Charbert Facility
Alton, Rhode Island

Date	SVE-28						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	3.40	2.00	1.1	20.9	0.4	0	*Exterior SVE system start up*
1/24/2008	4.20	1.70	1.0	20.9	0.0	0	
2/26/2008	6.00	3.20	0.3	20.9	0.1	0	
3/26/2008	6.20*	3.20	0.2	19.7	0.0	0	
4/18/2008	3.40	2.60	-	19.9	0.0	0	
5/15/2008	6.30*	2.90	3.2	19.9	0.1	0	
6/27/2008	-	2.80	0.6	18.6	0.1	0	
7/18/2008	4.10*	2.60	0.5	18.9	0.1	0	
8/14/2008	5.20*	2.90	<0.1	20.9	0.1	0	
9/10/2008	5.40*	2.80	<0.1	19.9	0.2	0	
10/8/2008	5.10*	1.90	0.6	19.8	0.1	0	
11/5/2008	5.70*	1.70	0.9	18.6	0.1	0	
12/3/2008	5.00*	2.00	9.8	20.4	0.0	0	
1/21/2009	4.80	4.00	--	20.9	0.0	0	
2/20/2009	4.80	0.60	2.4	19.1	0.2	0	
3/27/2009	<4.00	2.10	1.6	20.0	0.1	0	
4/24/2009	5.60	--	1.9	20.1	0.0	0	
5/22/2009	<5.20	2.00	0.9	19.5	0.1	0	
6/30/2009	5.90	2.10	1.4	18.1	0.1	0	
7/23/2009	3.90	5.40	2.2	20.0	0.0	0	
8/19/2009	<3.00	1.90	1.3	19.8	0.0	0	
9/29/2009	3.90	1.80	0.7	20.8	0.1	1	
10/28/2009	3.00	2.30	0.9	20.9	0.0	0	
11/25/2009	3.00	1.90	< 0.1	20.6	0.0	0	
12/29/2009	<1.80	1.90	< 0.1	20.7	0.0	0	
1/27/2010	0.00	0.67	0.2	20.9	0.1	1	*fully open with flow*
2/23/2010	3.80	0.16	2.0	20.8	0.1	1	*Valve Fully Open*
9/2/2010	6.85	2.10	0.0	20.3	0.1	0	
11/18/2010	7.00	3.50	2.1	20.7	0.1	0	
1/6/2011	6.76	2.82	0.0	20.8	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	4.36	2.59	1.8	20.0	0.09	368
1/22/09 - 12/29/09	4.36	2.36	1.5	20.0	0.05	344
12/30/09 - 1/6/11	5.07	1.85	0.9	20.7	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "-" means not monitored due to monitoring equipment failure, unless otherwise noted.

*Flow rate estimated based on difference between combined flow and measured flow readings.

TABLE 57
SVE-29
Summary of Exterior Soil Vapor Extraction Monitoring
January 2010 through January 2011

Charbert Facility
Alton, Rhode Island

Date	SVE-29						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	3.40	2.00	0.7	20.9	0.4	0	*Exterior SVE system start up*
1/24/2008	4.00	1.60	1.0	20.7	0.1	0	
2/26/2008	4.00	3.10	0.4	20.9	0.0	0	
3/26/2008	6.20*	3.00	0.2	19.7	0.0	0	
4/18/2008	5.20*	1.60	-	19.7	0.0	0	
5/15/2008	6.30*	2.90	2.6	19.9	0.1	0	
6/27/2008	-	2.70	0.5	18.7	0.1	0	
7/18/2008	4.10*	2.60	0.7	18.8	0.1	0	
8/14/2008	5.20*	2.90	<0.1	20.9	0.0	0	
9/10/2008	5.40*	2.80	<0.1	19.4	0.3	0	
10/8/2008	5.10*	2.00	0.8	19.6	0.1	0	
11/5/2008	5.20	1.60	0.3	18.8	0.0	0	
12/3/2008	5.00*	2.00	9.7	20.4	0.0	0	
1/21/2009	6.60	1.70	--	20.9	0.1	0	
2/20/2009	4.40	2.30	3.2	19.6	0.1	0	
3/27/2009	<4.00	2.50	1.7	20.0	0.1	0	
4/24/2009	4.00	--	2.1	20.3	0.1	0	
5/22/2009	<5.20	2.00	0.8	19.4	0.1	0	
6/30/2009	5.20	1.90	1.5	18.1	0.1	0	
7/23/2009	3.50	3.30	7.2	19.9	0.0	0	
8/19/2009	<3.00	1.70	1.6	19.9	0.0	0	
9/29/2009	4.60	1.80	0.3	20.8	0.1	0	
10/28/2009	<3.00	2.20	0.9	20.7	0.0	0	
11/25/2009	1.80	2.00	< 0.1	20.8	0.0	0	
12/29/2009	2.50	2.60	< 0.1	20.7	0.0	0	
1/27/2010	3.00	0.72	0.4	20.7	0.0	1	*fully open with flow*
2/23/2010	4.20	1.98	2.0	20.8	0.1	1	*Valve Fully Open*
9/2/2010	5.50	2.20	0.0	20.4	0.1	0	
11/18/2010	5.90	3.40	1.2	20.9	0.1	0	
1/6/2011	0.00	3.04	0.0	20.7	0.0	0	*Valve Fully Open*

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	4.64	2.32	1.7	20.0	0.09	368
1/22/09 - 12/29/09	4.08	2.18	2.1	20.1	0.06	344
12/30/09 - 1/6/11	3.72	2.27	0.7	20.7	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "-" means not monitored due to monitoring equipment failure, unless otherwise noted.

*Flow rate estimated based on difference between combined flow and measured flow readings.

TABLE 58
SVE-30
Summary of Exterior Soil Vapor Extraction Monitoring
January 2010 through January 2011

Charbert Facility
Alton, Rhode Island

Date	SVE-30						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
1/18/2008	4.20	2.00	0.6	20.9	0.4	0	*Exterior SVE system start up*
1/24/2008	5.20	1.60	2.0	20.6	0.2	0	
2/26/2008	6.00	2.10	0.4	20.9	0.1	0	
3/26/2008	6.20*	3.00	0.2	19.6	0.1	0	
4/18/2008	5.20*	2.40	-	19.7	0.0	0	
5/15/2008	6.30*	2.90	3.2	20.2	0.1	0	
6/27/2008	-	2.70	0.4	18.8	0.1	0	
7/18/2008	4.10*	2.60	0.5	18.7	0.1	0	
8/14/2008	5.20*	2.90	0.1	20.9	0.1	0	
9/10/2008	5.40*	2.80	<0.1	19.9	0.2	0	
10/8/2008	5.10*	1.90	0.8	19.7	0.1	0	
11/5/2008	5.70*	1.70	0.1	18.6	0.2	0	
12/3/2008	5.00*	2.00	9.0	20.4	0.0	0	
1/21/2009	4.80	4.00	--	20.9	0.1	0	
2/20/2009	<3.60	2.80	3.1	19.8	0.1	0	
3/27/2009	<4.00	2.30	2.0	20.1	0.1	0	
4/24/2009	<4.00	--	2.4	20.3	0.1	0	
5/22/2009	<5.20	2.30	0.8	19.5	0.1	0	
6/30/2009	4.40	1.90	1.7	18.0	0.0	0	
7/23/2009	5.00	3.20	2.3	19.8	0.0	0	
8/19/2009	<3.00	1.70	2.0	20.0	0.0	0	
9/29/2009	5.50	1.80	1.0	20.8	0.2	1	
10/28/2009	<3.00	2.30	0.3	20.9	0.0	0	
11/25/2009	<1.80	1.70	< 0.1	20.7	0.0	0	
12/29/2009	<1.80	1.90	< 0.1	20.7	0.0	0	
1/27/2010	3.00	1.53	0.5	20.9	0.0	0	*fully open with flow*
2/23/2010	3.80	1.67	2.0	20.7	0.1	1	*Valve Fully Open*
9/2/2010	7.40	2.00	0.0	20.1	0.2	0	*Valve Fully Open*
11/18/2010	6.80	2.00	1.0	20.8	0.1	0	
1/6/2011	6.56	2.68	0.0	20.7	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
1/18/08 - 1/21/09	5.05	2.47	1.6	20.0	0.13	368
1/22/09 - 12/29/09	4.93	2.35	1.7	20.1	0.06	344
12/30/09 - 1/6/11	5.51	1.98	0.7	20.6	0.1	208

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "-" means not monitored due to monitoring equipment failure, unless otherwise noted.

*Flow rate estimated based on difference between combined flow and measured flow readings.

TABLE 59
SVE-33
Summary of Exterior Soil Vapor Extraction Monitoring
January 2010 through January 2011

Charbert Facility
Alton, Rhode Island

Date	SVE-33						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
9/2/2010	6.85	1.40	0.0	20.0	0.2	0	*New SVE well startup*
11/18/2010	6.60	0.60	1.5	20.8	0.2	0	
1/6/2011	6.56	1.08	0.0	20.8	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
9/8/10-1/6/11	6.67	1.03	0.5	20.5	0.2	133

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "-" means not monitored due to monitoring equipment failure, unless otherwise noted.

*Flow rate estimated based on difference between combined flow and measured flow readings.

TABLE 60
SVE-34
Summary of Exterior Soil Vapor Extraction Monitoring
January 2010 through January 2011

Charbert Facility
Alton, Rhode Island

Date	SVE-34						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
9/2/2010	7.00	1.50	0.0	21.1	0.1	0	*New SVE well start up*
11/18/2010	6.80	0.60	1.7	20.9	0.1	0	
1/6/2011	6.76	1.25	0.0	20.6	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
9/8/10-1/6/11	6.85	1.12	0.6	20.9	0.1	133

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "-" means not monitored due to monitoring equipment failure, unless otherwise noted.

*Flow rate estimated based on difference between combined flow and measured flow readings.

TABLE 61
SVE-35
Summary of Exterior Soil Vapor Extraction Monitoring
January 2010 through January 2011

Charbert Facility
Alton, Rhode Island

Date	SVE-35						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
9/2/2010	3.90	2.60	0.0	21.0	0.1	0	*New SVE well start up, fully open*
11/18/2010	2.81	4.30	1.0	20.6	0.3	0	*fully open*
1/6/2011	4.57	3.36	0.0	20.5	0.1	0	*fully open*

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
9/8/10-1/6/11	3.76	3.42	0.3	20.7	0.2	133

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "-" means not monitored due to monitoring equipment failure, unless otherwise noted.

*Flow rate estimated based on difference between combined flow and measured flow readings.

TABLE 62
SVE-36
Summary of Exterior Soil Vapor Extraction Monitoring
January 2010 through January 2011

Charbert Facility
Alton, Rhode Island

Date	SVE-36						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
9/2/2010	7.40	1.70	0.6	20.7	0.2	0	*New SVE well start up*
11/18/2010	6.62	2.50	1.5	20.7	0.2	0	
1/6/2011	6.56	2.88	0.0	20.8	0.1	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
9/8/10-1/6/11	6.86	2.36	0.7	20.7	0.2	133

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "-" means not monitored due to monitoring equipment failure, unless otherwise noted.

*Flow rate estimated based on difference between combined flow and measured flow readings.

TABLE 63
SVE-37
Summary of Exterior Soil Vapor Extraction Monitoring
January 2010 through January 2011

Charbert Facility
Alton, Rhode Island

Date	SVE-37						
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC** (ppm)	**O_2** (%)	**CO_2** (%)	**LEL** (%)	**Notes:**
9/2/2010	7.00	1.50	0.6	20.5	0.2	0	*New SVE well start up*
11/18/2010	6.80	2.50	2.2	20.9	0.1	0	
1/6/2011	8.4	3.46	0.0	20.8	0.2	0	

Date	Average					Total Run Time (days)
	Flow (cfm)	**Vacuum** (in H_2O)	**TVOC (1)** (ppm)	**O_2** (%)	**CO_2** (%)	
9/8/10-1/6/11	6.59	2.49	0.9	20.7	0.2	133

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using a Pitot Tube DS-300 Flow Sensor.
4. "-" means not monitored due to monitoring equipment failure, unless otherwise noted.

*Flow rate estimated based on difference between combined flow and measured flow readings.

TABLE 64

Summary of Combined Interior Soil Vapor Extraction Monitoring
January 2010 through January 2011

Charbert Facility
Alton, Rhode Island

Date	Total Comb. Flow		Effluent	Notes
	Flow (cfm)	**Vacuum** (in H2O)	**TVOC** (ppmv)	
1/18/2008	155	25.6	<0.1	*Interior SVE system start up*
1/24/2008	174	26.4	<0.1	
2/26/2008	161	27.3	<0.1	
3/26/2008	150	41.4	<0.1	
4/18/2008	140	44.7	2.0	
5/15/2008	158	23.1	<0.1	
6/27/2008	169	26.4	<0.1	
7/18/2008	170	25.9	0.5	
8/14/2008	171	26.9	2.0	
9/10/2008	168	28.8	0.7	
10/8/2008	171	29.1	0.6	
11/5/2008	167	29.3	1.9	
12/3/2008	158	31.7	9.3	
1/21/2009	155	33.3	--	
2/20/2009	140	31.1	14.0	
3/27/2009	140	34.6	2.7	
4/24/2009	155	24.1	3.3	
5/22/2009	155	45.2	6.9	
6/30/2009	155	25.7	--	
7/23/2009	155	25.8	2.3	
8/19/2009	155	25.2	0.5	
9/29/2009	168	15.6	0.3	
10/28/2009	168	16.5	0.9	
11/25/2009	160	29.4	<0.1	
12/29/2009	155	27.7	<0.1	
1/27/2010	150	25.0	1.5	
2/23/2010	140	-	1.2	
9/2/2010	126	28.0	0.0	
11/18/2010	149	25.0	0.0	
1/6/2011	112	34.0	0.0	
2008 Average	162	29.7	2.4	
2009 Average	155	27.4	3.9	
2010 Average	135	28.0	0.5	

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume tovolume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using an inline flow meter.
4. "-" means not monitored due to monitoring equipment failure, unless otherwise noted.

TABLE 65

Summary of Combined Exterior Soil Vapor Extraction Monitoring
January 2010 through January 2011

Charbert Facility
Alton, Rhode Island

Date	Total Comb. Flow		Effluent	Notes
	Flow (cfm)	**Vacuum** (in H2O)	**TVOC** (ppmv)	
1/18/2008	59	13.6	<0.1	*Exterior SVE system start up*
1/24/2008	74	13.3	<0.1	
2/26/2008	82	14.4	<0.1	
3/26/2008	80	18.9	<0.1	
4/18/2008	85	14.3	2.0	
5/15/2008	85	14.8	<0.1	
6/27/2008	-	14.2	<0.1	
7/18/2008	80	13.9	1.9	
8/14/2008	80	14.7	3.9	
9/10/2008	80	14.9	4.1	
10/8/2008	80	14.5	1.1	
11/5/2008	80	14.1	3.0	
12/3/2008	80	14.4	--	
1/21/2009	79	15.3	--	
2/20/2009	65	24.1	8.4	
3/27/2009	80	18.0	2.4	
4/24/2009	80	17.5	1.2	
5/22/2009	80	13.7	5.3	
6/30/2009	80	14.5	1.0	
7/23/2009	80	18.0	3.1	
8/19/2009	80	16.4	3.7	
9/29/2009	75	16.3	0.3	
10/28/2009	80	16.0	<0.1	
11/25/2009	78	16.5	<0.1	
12/29/2009	78	16.7	<0.1	
1/27/2010	78	11.0	1.5	
2/23/2010	62	-	1.1	
9/2/2010	133	17.5	0.6	*New SVE wells started up*
11/18/2010	127	20.0	0.0	
1/6/2011	126	16.0	0.0	
2008 Average	79	14.6	2.7	
2009 Average	78	16.9	3.2	
2010 Average	105	16.1	0.6	

Notes:

1. TVOC means Total Volatile Organic Compounds. Readings are in parts per million on volume to volume basis (ppmv). TVOC concentrations were determined using a Photoionization Detector (PID), equipped with a 10.6 ev lamp.
2. O_2, CO_2, LEL, CH_4 measurements were determined using a LANDTEC GA90 - Infrared gas analyzer.
3. Flow measurements were determined using an inline flow meter.
4. "-" means not monitored due to monitoring equipment failure, unless otherwise noted.

TABLE 66

Summary of Interior Air Sparge Monitoring
January 2010 through January 2011

Charbert Facility
Alton, Rhode Island

Date	AS-1			AS-2			AS-3		
	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)
1/24/2008	6	0.28	0.60	6	0.70	1.20	6	0.44	1.00
2/26/2008	7	1.00	1.40	7	0.95	1.40	7	0.93	1.40
3/26/2008	8	1.18	1.60	8	1.14	1.60	8	1.12	1.60
4/18/2008	10	3.90	3.00	10	3.70	2.90	10	3.30	2.80
5/15/2008	10	3.12	2.70	10	3.19	2.80	10	3.28	2.80
6/27/2008	9	2.74	2.50	9	2.89	2.60	9	2.55	2.40
7/18/2008	9	3.30	2.80	9	3.40	2.80	9	3.20	2.70
8/14/2008	10	3.30	2.90	10	3.10	2.70	10	3.10	2.70
9/10/2008	11	2.90	2.80	11	2.80	2.70	11	2.90	2.80
10/8/2008	12	2.60	2.60	12	2.60	2.60	12	2.60	2.60
11/5/2008	10	2.40	2.40	10	2.50	2.40	10	2.30	2.30
12/3/2008	13	2.30	2.50	13	2.20	2.40	13	2.20	2.40
1/21/2009	14	2.00	2.30	14	2.00	2.30	14	2.20	2.40
2/20/2009	14	1.80	2.20	14	1.70	2.10	14	1.70	2.10
3/27/2009	14	1.70	2.30	14	1.70	2.30	14	1.60	2.10
4/24/2009	15	1.70	2.00	15	1.60	2.10	15	1.80	2.10
5/22/2009	15	--	--	15	--	--	15	--	--
6/30/2009	14	1.30	1.80	14	1.30	1.80	14	1.20	1.80
7/23/2009	12	1.70	2.10	12	1.90	2.20	12	1.60	2.00
8/19/2009	12	1.60	2.00	12	1.80	2.20	12	1.40	1.90
9/29/2009	12	1.90	2.20	12	2.10	2.30	12	1.80	2.20
10/28/2009	10	1.40	1.80	10	1.60	1.90	10	1.60	1.90
11/25/2009	12	1.40	1.90	12	1.30	1.80	12	1.30	1.80
12/29/2009	12	1.70	2.10	12	1.80	2.20	12	1.60	2.00
1/27/2010	12	1.69	2.08	12	1.66	2.06	12	1.62	2.03
2/23/2010	12	1.40	1.90	12	1.70	2.10	12	1.50	1.95
9/2/2010	12	1.80	2.15	12	1.80	2.15	12	1.80	2.15
11/18/2010	10	0.45	1.00	10	0.44	0.99	10	0.45	1.00
1/6/2011	10	0.52	1.13	10	0.52	1.13	10	0.53	1.14

Date	AS-4			AS-5			AS-6		
	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)
1/24/2008	7	0.51	1.00	7	0.52	1.00	7	0.50	1.00
2/26/2008	8	0.92	1.40	8	1.07	1.50	8	0.92	1.40
3/26/2008	10	1.08	1.60	10	1.16	1.70	10	1.24	1.70
4/18/2008	11	3.30	2.90	11	3.70	3.00	11	3.30	2.90
5/15/2008	10	3.11	2.70	10	3.17	2.80	10	3.36	2.80
6/27/2008	10	2.69	2.50	10	2.75	2.50	10	2.70	2.50
7/18/2008	10	3.20	2.80	10	3.60	2.90	10	3.30	2.80
8/14/2008	12	3.10	2.70	10	3.20	2.80	10	3.40	2.80
9/10/2008	12	2.80	2.70	12	2.90	2.80	12	2.90	2.80
10/8/2008	12	2.60	2.60	12	2.70	2.70	12	2.60	2.60
11/5/2008	12	2.40	2.50	12	2.60	2.60	12	2.40	2.50
12/3/2008	12	2.30	2.40	12	2.30	2.40	12	2.30	2.40
1/21/2009	15	2.00	2.40	15	2.30	2.60	15	2.10	2.40
2/20/2009	16	1.70	2.20	16	1.70	2.30	16	1.80	2.30
3/27/2009	15	1.60	2.20	15	1.50	2.10	15	1.60	2.20
4/24/2009	16	1.50	2.10	16	1.50	2.10	16	1.50	2.10
5/22/2009	16	--	--	16	--	--	16	--	--
6/30/2009	14	1.30	1.80	14	1.20	1.80	14	1.40	2.00
7/23/2009	14	1.60	2.10	14	1.80	2.30	14	1.60	2.10
8/19/2009	14	1.60	2.10	14	1.80	2.30	14	1.50	2.00
9/29/2009	12	1.90	2.20	12	1.90	2.20	12	1.80	2.20
10/28/2009	11	1.50	1.90	11	1.60	2.00	11	1.60	2.00
11/25/2009	12	1.30	1.80	12	1.30	1.80	12	1.30	1.80
12/29/2009	12	1.70	2.10	12	1.76	2.20	12	1.60	2.00
1/27/2010	12	1.56	1.99	12	1.67	2.07	12	1.71	2.09
2/23/2010	12	1.70	2.10	12	1.50	1.95	12	1.50	1.95
9/2/2010	12	1.80	2.15	12	1.70	2.09	12	1.70	2.09
11/18/2010	10	0.45	1.00	10	0.45	1.00	10	0.44	0.99
1/6/2011	10	0.53	1.14	10	0.52	1.13	10	0.52	1.13

Date	AS-7			AS-8			AS-9		
	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)
1/24/2008	7	0.57	1.10	7	0.70	1.20	7	0.11	0.30
2/26/2008	8	0.92	1.40	8	1.06	1.50	8	0.97	1.00
3/26/2008	9	1.10	1.60	9	1.28	1.70	9	1.19	1.70
4/18/2008	10	3.40	2.80	10	3.50	2.90	10	3.20	2.70
5/15/2008	10	3.31	2.80	10	3.35	2.80	10	3.11	2.70
6/27/2008	10	2.84	2.60	10	2.60	2.50	10	2.67	2.50
7/18/2008	10	3.20	2.80	10	3.10	2.70	10	3.30	2.80
8/14/2008	10	3.10	2.70	10	3.20	2.80	10	3.40	2.80
9/10/2008	12	2.80	2.70	12	2.90	2.80	12	2.90	2.80
10/8/2008	12	2.60	2.60	12	2.40	2.50	12	2.40	2.50
11/5/2008	12	2.50	2..5	12	2.50	2.50	12	2.40	2.50
12/3/2008	13	2.30	2.50	13	2.10	2.30	13	2.30	2.50
1/21/2009	15	2.10	2.40	15	2.10	2.40	15	2.20	2.50
2/20/2009	16	1.90	2.40	16	1.80	2.30	16	1.70	2.20
3/27/2009	16	1.60	2.30	16	1.70	2.40	16	1.70	2.40
4/24/2009	16	1.60	2.20	16	1.60	2.20	16	1.60	2.20
5/22/2009	16	--	--	16	--	--	16	--	--
6/30/2009	14	1.20	1.80	14	1.20	1.80	14	1.20	1.80
7/23/2009	14	1.50	2.00	14	1.90	2.30	14	1.60	2.10
8/19/2009	14	1.70	2.20	14	1.50	2.00	14	1.80	2.30
9/29/2009	12	1.90	2.20	12	1.90	2.20	12	2.00	2.30
10/28/2009	11	1.40	1.90	11	1.30	1.80	111	1.60	2.00
11/25/2009	12	1.40	1.90	12	1.30	1.80	12	1.40	1.90
12/29/2009	12	1.65	2.10	12	1.70	2.10	12	1.80	2.20
1/27/2010	12	1.61	2.02	12	1.57	2.00	12	1.89	2.20
2/23/2010	12	1.60	2.00	12	1.50	1.95	12	1.60	2.00
9/2/2010	12	1.80	2.15	12	1.80	2.15	12	1.70	2.09
11/18/2010	10	0.45	1.00	10	0.45	1.00	10	0.45	1.00
1/6/2011	10	0.52	1.13	10	0.52	1.13	10	0.52	1.13

Date	AS-10			AS-11			AS-12		
	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)
1/24/2008	6	0.54	1.00	6	0.55	1.00	6	0.10	0.30
2/26/2008	7	1.03	1.40	7	0.87	1.30	7	0.95	1.40
3/26/2008	8	1.24	1.60	8	1.18	1.60	8	1.21	1.60
4/18/2008	9	3.30	2.60	9	3.70	2.90	9	3.20	2.70
5/15/2008	9	3.20	2.70	9	3.25	2.70	9	3.10	2.60
6/27/2008	8	2.69	2.40	8	2.63	2.40	8	2.68	2.40
7/18/2008	8	2.30	2.30	8	3.40	2.80	8	3.30	2.70
8/14/2008	9	3.20	2.70	9	3.40	2.80	9	3.50	2.80
9/10/2008	10	2.27	2.60	10	2.80	2.60	10	2.70	2.60
10/8/2008	11	2.70	2.60	11	2.70	2.60	11	2.60	2.50
11/5/2008	10	2.40	2.40	10	2.50	2.40	10	2.40	2.40
12/3/2008	12	2.20	2.30	12	2.20	2.30	12	2.30	2.40
1/21/2009	14	2.20	2.40	14	2.20	2.40	14	2.10	2.40
2/20/2009	14	1.90	2.30	14	1.70	2.20	14	1.80	2.20
3/27/2009	14	1.60	2.10	14	1.50	2.00	14	1.60	2.10
4/24/2009	15	1.60	2.20	15	1.60	2.20	15	1.80	2.30
5/22/2009	14	--	--	14	--	--	14	--	--
6/30/2009	14	1.10	1.70	14	1.30	1.80	14	1.40	2.00
7/23/2009	14	1.60	2.10	14	1.70	2.20	14	1.70	2.20
8/19/2009	12	1.10	1.60	12	1.60	2.00	12	1.60	2.00
9/29/2009	12	1.80	2.20	12	2.00	2.30	12	2.00	2.30
10/28/2009	10	1.60	1.90	10	1.60	1.90	10	1.20	1.70
11/25/2009	12	1.30	1.80	12	1.40	1.90	12	1.30	1.80
12/29/2009	12	1.70	2.10	12	1.72	2.10	12	1.60	2.00
1/27/2010	12	1.67	2.07	12	1.75	2.10	12	1.65	2.07
2/23/2010	12	1.60	2.00	12	1.60	2.00	12	1.60	2.00
9/2/2010	12	1.80	2.15	12	1.60	2.03	12	1.70	2.09
11/18/2010	10	0.46	1.03	10	0.45	1.00	10	0.45	1.00
1/6/2011	10	0.51	1.11	10	0.52	1.13	10	0.52	1.13

Date	AS-13			AS-14			AS-15		
	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)
1/24/2008	7	0.84	1.40	7	0.64	1.10	6	0.64	1.10
2/26/2008	8	0.51	1.10	8	0.93	1.40	8	0.92	1.40
3/26/2008	9	1.05	1.60	9	0.90	1.40	8	1.13	1.60
4/18/2008	9	2.40	2.30	9	3.60	2.70	10	3.20	2.70
5/15/2008	10	3.19	2.80	10	3.47	2.90	10	3.30	2.80
6/27/2008	9	2.79	2.40	9	2.62	2.50	9	2.72	2.50
7/18/2008	9	3.30	2.70	9	3.40	2.80	10	3.30	2.80
8/14/2008	9	3.10	2.60	9	3.40	2.80	10	3.40	2.80
9/10/2008	9	2.80	2.60	9	2.70	2.50	10	2.80	2.60
10/8/2008	9	2.50	2.40	9	2.50	2.40	11	2.50	2.40
11/5/2008	9	2.40	2.30	9	2.50	2.40	11	2.40	2.40
12/3/2008	9	2.20	2.20	9	2.50	2.30	12	2.20	2.33
1/21/2009	14	2.00	2.30	14	2.30	2.50	15	2.20	2.50
2/20/2009	16	1.80	2.30	16	1.70	2.20	16	1.90	2.40
3/27/2009	16	1.50	2.10	16	1.70	2.40	14	1.70	2.10
4/24/2009	16	1.70	2.20	16	1.60	2.20	16	1.60	2.20
5/22/2009	14	--	--	14	--	--	14	--	--
6/30/2009	16	1.10	1.80	16	1.30	2.00	14	1.20	2.00
7/23/2009	14	1.50	2.00	14	1.60	2.10	12	1.50	1.90
8/19/2009	12	1.70	2.10	12	1.80	2.20	12	1.60	2.00
9/29/2009	12	1.80	2.20	12	1.80	2.20	11	2.00	2.20
10/28/2009	12	1.60	2.00	12	1.60	2.00	10	1.50	1.90
11/25/2009	12	1.30	1.80	12	1.40	1.90	12	1.40	1.90
12/29/2009	12	1.70	2.10	12	1.80	2.20	12	1.60	2.00
1/27/2010	12	1.58	2.02	12	1.62	2.03	12	1.67	2.07
2/23/2010	12	1.70	2.10	12	1.60	2.00	12	1.50	1.95
9/2/2010	12	1.90	2.22	12	1.70	2.09	12	1.80	2.15
11/18/2010	10	0.44	0.99	10	0.44	0.99	10	0.46	1.03
1/6/2011	10	0.52	1.13	10	0.52	1.13	10	0.52	1.13

Date	AS-16			AS-31 *(Independent of other flow)*			Combined		
	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)
1/24/2008	7	0.70	1.20				9	4.00	21.00
2/26/2008	8	0.97	1.00				10	4.87	24.00
3/26/2008	8	1.18	1.60				11	6.40	26.50
4/18/2008	10	3.70	2.90				14	17.00	44.70
5/15/2008	10	3.19	2.70				14	18.40	44.10
6/27/2008	10	2.70	2.50				14	17.50	39.50
7/18/2008	10	3.60	2.90				14	18.60	43.90
8/14/2008	12	3.40	3.00				14	18.20	44.20
9/10/2008	11	2.80	2.70				15	15.80	42.70
10/8/2008	12	2.60	2.60				15	13.20	40.80
11/5/2008	11	2.40	2.40				14	12.60	38.90
12/3/2008	13	2.20	2.40				12	12.30	38.00
1/21/2009	15	2.10	2.40				11	11.40	39.00
2/20/2009	16	1.90	2.40				18	9.00	35.00
3/27/2009	16	1.60	2.30				18	8.50	32.00
4/24/2009	16	1.50	2.10				19	7.70	32.00
5/22/2009	14	--	--				19	7.60	32.00
6/30/2009	14	1.40	2.10				19	6.80	27.00
7/23/2009	12	1.60	2.00				18	6.80	32.00
8/19/2009	12	1.70	2.10				18	8.80	32.00
9/29/2009	11	2.00	2.20				22	33.50	33.50
10/28/2009	10	1.30	1.70				18	5.80	28.50
11/25/2009	12	1.30	1.80				18	5.80	29.20
12/29/2009	12	1.60	2.00	12	1.80	2.20	18	8.08	33.80
1/27/2010	12	1.58	2.02	12	1.48	1.95	18	7.85	32.50
2/23/2010	12	1.70	2.10	12	1.50	1.95	18	8.40	34.00
9/2/2010	12	1.70	2.09	12	1.80	2.15	18	8.00	33.80
11/18/2010	10	0.45	1.00	10	0.44	1.03	20	2.36	16.00
1/6/2011	10	0.52	1.13	10	0.52	1.13	18	2.27	18.10

Notes:
1. Flow measurements were determined using an Oripac Model 5300 orifice plate.
2. "--" means not monitored due to monitoring equipment failure, unless otherwise noted.

TABLE 67

Summary of Exterior Air Sparge Monitoring
January 2010 through January 2011

Charbert Facility
Alton, Rhode Island

Date	AS-17			AS-18			AS-19			AS-20		
	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)
1/24/2008	11	1.30	1.80	11	1.10	1.60	11	1.30	1.80	11	1.20	1.60
2/26/2008	11	1.26	1.80	11	1.21	1.70	11	1.31	1.80	11	1.35	1.80
3/26/2008	12	0.90	1.50	12	0.93	1.50	12	1.03	1.60	12	1.10	1.70
4/18/2008	12	3.00	2.70	12	2.70	2.60	12	2.80	2.70	12	1.60	2.60
5/15/2008	12	2.39	2.50	12	2.42	2.50	12	2.45	2.50	12	2.57	2.60
6/27/2008	-	-	-	-	-	-	-	-	-	-	-	-
7/18/2008	10	2.40	2.40	10	2.60	2.50	10	2.70	2.60	10	2.60	2.50
8/14/2008	12	2.60	2.60	12	2.60	2.60	12	2.80	2.70	12	2.70	2.70
9/10/2008	12	2.50	2.50	12	2.50	2.50	12	2.50	2.50	12	2.50	2.50
10/8/2008	14	2.30	2.50	14	2.20	2.40	14	2.30	2.50	14	2.30	2.50
11/5/2008	12	2.40	2.50	12	2.50	2.50	12	2.60	2.60	12	2.60	2.60
12/3/2008	12	2.70	2.70	12	2.70	2.70	12	2.70	2.70	12	2.70	2.70
1/21/2009	14	3.10	2.90	14	3.00	2.80	14	3.00	2.80	14	3.20	3.00
2/20/2009	14	2.80	2.80	14	2.90	2.80	14	2.80	2.80	14	2.82	2.80
3/27/2009	12	3.00	2.70	12	2.90	2.70	12	3.00	2.70	12	3.00	2.70
4/24/2009	14	1.90	2.30	14	2.00	2.30	14	1.90	2.30	14	2.10	2.40
5/22/2009	14	2.10	2.40	14	2.20	2.40	14	2.00	2.30	14	1.90	2.30
6/30/2009	17	1.70	2.30	17	1.90	2.40	17	1.80	2.40	17	1.80	2.40
7/23/2009	14	1.60	2.10	14	1.50	2.00	14	1.60	2.10	14	1.60	2.10
8/19/2009	16	1.60	2.20	16	1.60	2.20	16	1.50	2.10	16	1.70	2.20
9/29/2009	14	2.30	2.50	14	2.30	2.50	14	2.20	2.50	14	2.20	2.50
10/28/2009	12	3.60	3.10	12	3.50	3.00	12	3.40	2.90	12	3.50	3.00
11/25/2009	12	4.00	3.10	12	4.00	3.10	12	3.90	3.10	12	3.90	3.10
12/29/2009	12	1.30	1.80	12	1.20	1.70	12	1.20	1.70	12	1.20	1.70
1/27/2010	12	2.36	2.45	12	2.23	2.38	12	2.22	2.37	12	2.15	2.40
2/23/2010	12	2.39	2.47	12	2.49	2.52	12	2.40	2.47	12	2.43	2.47
9/2/2010	10	2.10	2.26	10	1.40	1.83	10	2.10	2.26	10	2.20	2.35
11/18/2010	10	3.60	1.91	10	1.50	1.88	10	3.55	2.89	10	1.49	1.86
1/6/2011	11	7.30	4.21	11	1.44	1.89	11	4.42	3.29	11	4.40	3.28

Date	AS-21			AS-22			AS-23			AS-24		
	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)
1/24/2008	9	1.30	1.80	9	0.80	1.40	9	0.60	1.20	9	1.40	1.80
2/26/2008	10	1.26	1.70	10	1.38	1.80	10	1.26	1.70	10	1.38	1.80
3/26/2008	10	0.98	1.50	10	0.91	1.50	10	1.03	1.60	10	1.08	1.60
4/18/2008	10	2.70	2.70	10	2.80	2.60	10	3.00	2.70	10	2.90	2.60
5/15/2008	10	2.49	2.40	10	2.59	2.50	10	2.71	2.50	10	2.60	2.40
6/27/2008	-	-	-	-	-	-	-	-	-	-	-	-
7/18/2008	10	2.80	2.60	10	2.40	2.40	10	2.50	2.60	10	2.50	2.60
8/14/2008	10	2.50	2.50	10	2.60	2.50	10	2.60	2.50	10	2.60	2.50
9/10/2008	11	2.50	2.50	11	2.60	2.60	11	2.50	2.50	11	2.60	2.60
10/8/2008	10	2.40	2.40	10	2.30	2.30	10	2.20	2.30	10	2.40	2.40
11/5/2008	10	2.60	2.50	10	2.60	2.50	10	2.50	2.40	10	2.50	2.40
12/3/2008	10	2.70	2.50	10	2.80	2.60	10	2.70	2.50	10	2.70	2.50
1/21/2009	11	3.00	2.70	11	2.80	2.60	11	3.10	2.80	11	29.00	2.70
2/20/2009	12	2.80	2.70	12	2.90	2.80	12	2.80	2.70	12	2.90	2.80
3/27/2009	10	2.80	2.50	10	2.90	2.60	10	3.10	2.70	10	3.10	2.70
4/24/2009	12	2.00	2.30	12	2.00	2.30	12	2.10	2.30	12	2.20	2.40
5/22/2009	14	1.90	2.30	14	2.20	2.40	14	2.10	2.00	14	2.00	2.30
6/30/2009	12	1.90	2.20	12	2.00	2.30	12	1.70	2.10	12	1.80	2.20
7/23/2009	6	1.60	1.80	6	1.70	1.80	6	1.40	1.70	6	1..4	1.70
8/19/2009	6	1.60	1.80	6	1.50	1.70	6	1.40	1.70	6	1.40	1.70
9/29/2009	12	2.40	2.40	12	2.40	2.40	12	2.40	2.40	12	2.50	2.50
10/28/2009	12	3.60	3.10	12	3.50	3.00	12	3.50	3.00	12	3.40	2.90
11/25/2009	12	3.80	3.00	12	3.90	3.10	12	0.75	1.40	12	3.90	3.00
12/29/2009	12	1.20	1.70	12	1.30	1.80	12	0.60	1.20	12	1.30	1.80
1/27/2010	12	2.32	2.43	12	2.17	2.36	12	2.21	2.36	12	2.42	2.48
2/23/2010	12	2.38	2.47	12	2.35	2.47	12	2.44	2.47	12	2.25	2.42
9/2/2010	10	2.10	2.26	10	2.00	2.17	10	1.90	1.83	10	2.00	2.17
11/18/2010	10	0.59	1.18	10	3.63	2.92	10	3.62	2.92	10	3.59	2.91
1/6/2011	10	0.78	1.37	10	4.56	3.23	10	3.23	2.76	10	4.51	3.26

Date	AS-25			AS-26			AS-27		
	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)
1/24/2008	9	1.00	1.50	9	1.40	1.80	9	1.20	1.60
2/26/2008	10	1.37	1.80	10	0.57	1.20	10	1.30	1.80
3/26/2008	10	1.05	1.60	10	0.29	0.80	10	1.03	1.60
4/18/2008	10	3.00	2.70	10	2.60	2.40	10	2.90	2.60
5/15/2008	10	2.42	2.30	10	2.58	2.40	10	2.57	2.40
6/27/2008	-	-	-	-	-	-	-	-	-
7/18/2008	10	2.80	2.60	10	2.70	2.60	10	2.60	2.50
8/14/2008	10	2.40	2.40	10	2.50	2.50	10	2.70	2.60
9/10/2008	11	2.50	2.50	12	2.50	2.50	12	2.50	2.50
10/8/2008	10	2.40	2.40	11	2.20	2.30	11	2.20	2.30
11/5/2008	10	2.70	2.60	10	2..5	2.40	10	2.50	2.40
12/3/2008	10	2.70	2.50	10	2.70	2.50	10	2.80	2.60
1/21/2009	11	3.20	2.80	12	3.20	2.80	12	2.90	2.70
2/20/2009	12	2.70	2.60	12	2.80	2.70	12	2.80	2.70
3/27/2009	10	2.90	2.60	10	3.00	2.60	10	3.00	2.60
4/24/2009	12	2.10	2.30	13	2.00	2.30	13	2.10	2.30
5/22/2009	14	2.00	2.30	13	2.10	2.30	13	2.00	2.30
6/30/2009	12	1.80	2.20	14	1.80	2.30	14	1.70	2.20
7/23/2009	6	1.50	1.70	13	1.40	1.90	13	1.60	2.00
8/19/2009	6	1.40	1.70	14	1.60	2.10	14	1.50	2.00
9/29/2009	12	2.50	2.50	12	2.60	2.60	12	2.50	2.50
10/28/2009	12	3.50	3.00	11	3.40	2.90	11	3.40	2.90
11/25/2009	12	2.20	2.30	11	4.00	3.10	11	4.00	3.10
12/29/2009	12	0.90	1.50	12	1.30	1.80	12	1.30	1.80
1/27/2010	12	2.23	2.38	12	2.33	2.43	12	2.23	2.37
2/23/2010	12	2.40	2.47	12	2.43	2.47	12	2.38	2.47
9/2/2010	10	2.20	2.35	10	2.00	2.13	9	2.00	2.13
11/18/2010	10	3.59	2.91	10	3.73	2.96	10	3.62	2.92
1/6/2011	10	4.61	3.29	10	5.70	3.66	10	2.38	2.38

Date	AS-28			AS-29			AS-30		
	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)
1/24/2008	9	1.30	1.80	9	1.40	1.80	9	0.70	1.30
2/26/2008	10	1.32	1.80	10	1.22	1.70	10	0.94	1.50
3/26/2008	10	1.07	1.60	10	0.95	1.50	10	0.98	1.50
4/18/2008	10	2.60	2.40	10	2.80	2.60	10	2.70	2.50
5/15/2008	10	2.34	2.30	10	2.52	2.40	10	2.43	2.40
6/27/2008	-	-	-	-	-	-	-	-	-
7/18/2008	10	2.80	2.60	10	2.70	2.60	10	2.60	2.50
8/14/2008	10	2.60	2.50	10	2.70	2.60	10	2.60	2.50
9/10/2008	12	2.60	2.60	12	2.50	2.50	12	2.40	2.50
10/8/2008	11	2.30	2.40	11	2.30	2.40	11	2.30	2.40
11/5/2008	10	2.60	2.50	10	2.70	2.60	10	2.60	2.50
12/3/2008	10	2.70	2.50	10	2.80	2.60	10	2.60	2.40
1/21/2009	12	3.00	2.80	12	3.00	2.80	12	3.00	2.80
2/20/2009	12	2.80	2.70	12	2.80	2.70	12	2.90	2.80
3/27/2009	10	2.90	2.60	10	2.80	2.50	10	2.90	2.60
4/24/2009	13	1.90	2.20	13	2.10	2.30	13	1.90	2.20
5/22/2009	13	2.00	2.30	13	2.10	2.30	13	2.00	2.30
6/30/2009	14	1.80	2.30	14	1.70	2.20	14	1.90	2.30
7/23/2009	13	1.70	2.10	13	1.50	2.00	13	1.60	2.00
8/19/2009	14	1.60	2.10	14	1.40	2.00	14	1.50	2.00
9/29/2009	12	2.50	2.50	12	2.40	2.40	12	2.50	2.50
10/28/2009	11	3.30	2.80	11	3.30	2.80	11	3.60	3.00
11/25/2009	11	4.00	3.10	11	4.00	3.10	11	3.90	3.00
12/29/2009	12	1.20	1.70	12	1.30	1.80	12	1.20	1.70
1/27/2010	12	2.30	2.42	12	2.37	2.45	12	2.23	2.38
2/23/2010	12	2.46	2.52	12	2.31	2.42	12	2.36	2.47
9/2/2010	9	2.00	2.13	9	2.00	2.13	9	2.00	2.13
11/18/2010	10	3.61	2.92	10	3.57	2.90	10	3.62	2.92
1/6/2011	10	2.75	2.55	10	4.13	3.12	10	1.58	1.94

Date	AS-32			AS-33			AS-34			AS-35			AS-36		
	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)
1/24/2008															
2/26/2008															
3/26/2008															
4/18/2008															
5/15/2008															
6/27/2008															
7/18/2008															
8/14/2008															
9/10/2008															
10/8/2008															
11/5/2008															
12/3/2008															
1/21/2009															
2/20/2009															
3/27/2009															
4/24/2009															
5/22/2009															
6/30/2009															
7/23/2009															
8/19/2009															
9/29/2009															
10/28/2009															
11/25/2009															
12/29/2009															
1/27/2010															
2/23/2010															
9/2/2010	9	2.20	2.26	9	2.10	2.20	9	2.20	2.26	9	2.20	2.26	9	2.10	2.20
11/18/2010	10	3.62	2.92	10	3.59	2.91	10	3.57	2.90	10	3.61	2.92	10	3.64	2.93
1/6/2011	11	4.71	3.39	11	4.63	3.37	11	4.73	3.40	10	4.70	3.32	10	4.52	3.26

Date	AS-37			Combined		
	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)	Pressure (psi)	Diff Pressure (in of water)	Flow (ft^3/min)
1/24/2008				12	5.00	24.00
2/26/2008				13	4.74	24.00
3/26/2008				11	3.90	21.00
4/18/2008				16	--	36.40
5/15/2008				16	11.00	34.10
6/27/2008				-	-	-
7/18/2008				16	16.00	35.40
8/14/2008				11	16.00	35.40
9/10/2008				17	--	35.10
10/8/2008				17	11.50	33.50
11/5/2008				16	11.80	35.00
12/3/2008				18	14.60	36.00
1/21/2009				18	13.70	39.00
2/20/2009				18	12.20	37.00
3/27/2009				18	15.10	41.00
4/24/2009				18	10.60	34.00
5/22/2009				18	10.50	34.00
6/30/2009				18	6.40	30.00
7/23/2009				18	6.50	28.00
8/19/2009				18	5.10	24.00
9/29/2009				18	9.60	25.00
10/28/2009				18	12.10	42.00
11/25/2009				18	13.75	44.00
12/29/2009				18	4.07	23.80
1/27/2010				18	7.79	33.50
2/23/2010				18	8.69	34.70
9/2/2010	9	2.10	2.20	16	16.00	45.00
11/18/2010	10	3.70	2.95	18	20.41	57.50
1/6/2011	10	4.55	3.27	20	24.40	59.67

<u>Notes:</u>
1. Flow measurements were determined using an Oripac Model 5300 orifice plate.
2. "--" means not monitored due to monitoring equipment failure, unless otherwise noted.

File Number 03.0032795.31
3/2/2011

TABLE 68
SOIL VAPOR EXTRACTION & AIR SPARGE OPERATIONS LOG

CHARBERT FACILITY
Alton, Rhode Island

Date	Personnel	Company	Interior SVE System		Exterior SVE System		Interior SVE			Exterior SVE			Combine Pressure AS		SVE Condensate Collection		
			On	Operation	On	Operation	5 Hp hr meter	Vac. (DH)	Flow	1 Hp hr meter	Vac. (DH)	Flow	Interior	Exterior	Interior	Exterior	
		(GZA/Charbert)	(yes/no)	(cont./hr)	(yes/no)	(cont./hr)	(hrs)	in. of H_2O	(scfm)	(hrs)	in. of H_2O	(scfm)	(psi)	(psi)	(yes/no/gal)	(yes/no/gal)	Notes
12/29/2009	SMA	GZA	Y		Y												Interior blower observed to be noisy. Drained lines.
1/27/2010	BM	GZA	Y	Cont.	Y	Cont.	17739.2	25	150	17146.2	11	78	18	18	0 gallons	0 gallons	
2/23/2010	MB	GZA	Y	Cont.	Y	Cont.	18386		140	17793		62	18	18	0 gallons	0 gallons	
2/23/2010	MB	GZA	Y	Cont.	Y	Cont.											Int. AS Pipe Fitting Broken, Shut System Down at 13:20
2/23/2010	SMA	GZA	Y	Cont.	Y	Cont.											Repair Broken Fitting on Int. AS at 9:30 and Turned System Back On.
2/25/2010	SMA	GZA	Y	Cont.	Y	Cont.							18				Balanced Int. AS System
3/9/2010	SMA	GZA	Y	Cont.	N												Exterior Blower Is Down, Made Arrangement for Temp. Replacement
3/9/2010	SMA	GZA	Y	Cont.	Restart												Installed Temp. Exterior Blower
3/12/2010	SMA	GZA	Y	Cont.	Y	Cont.											Checked Temp. Ext. Blower-OK
3/15/2010	SMA	GZA	Y/Shut Down	Cont.	Y/Shut Down	Cont.											Shut Down All Systems Due To Flooding, River Has Reached Boiler Room
7/1/2010	VCB	Charbert	N		N												Installed blowers on Interior and Exterior systems
7/29/2010	SMA	GZA	Y	Restart													Restart and Balance Interior SVE System
8/2/2010	SMA	GZA	Y	Cont.	Y/Restart												Restart and balance Exterior SVE System
8/18/2010	SMA	GZA	Y	Cont.	Y	Cont.	19225.1			17863.8							Restart Interior and Exterior AS Systems
8/26/2010	SMA	GZA	Y	Cont.	Y	Cont.	19225.1			18059.2							Balanced Interior and Exterior AS and SVE Systems-Interior Blower hour meter not working
9/2/2010	SN/MB	GZA	Y	Cont.	Y	Cont.		28	126	182230	17	133	18	15.5	0 gallons	0 gallons	Cleaned both SVE system filters.
10/6/2010	SMA	GZA	Y	Cont.	Y	Cont.									1 gallons	5 gallons	Cleaned both SVE system filters.
11/18/2010	SN/MB	GZA	Y	Cont.	Y	Cont.	192251	25	149	200727	20	127	16	15	0.1 gallons	0 gallons	Cleaned both SVE system filters.
11/18/2010	SN/MB	GZA	Y	Cont.	Y	Cont.	192251	25	149	200727	20	127	16	15	0.1 gallons	0 gallons	Cleaned both SVE system filters.
12/17/2011	SMA	GZA	Y	Cont.	Y	Cont.									0 gallons	8 gallons	Cleaned both SVE system filters. Shut down interior AS prior to January sampling
1/16/2011	SN/MB	GZA	Y	Cont.	Y	Cont.	192252	34	112	211454	16	126	18	20	0 gallons	0 gallons	Cleaned both SVE system filters.

TABLE 69

Product Recovery Trench Data
January 2010 through January 2011

Charbert Facility
Alton, Rhode Island

Date	Location	Depth to Product	Depth to Water (ft)	Thickness of Product (ft)	Volume of Product (cf)	Notes
2/20/2009	North	4.87	4.87	Sheen	0	Air bubbling from AS system.
	South	4.97	4.97	Sheen	0	
3/27/2009	North	5.40	5.40	Sheen	0	Air bubbling from AS system.
	South	5.59	5.59	Sheen	0	
4/24/2009	North	3.63	3.63	Sheen, Scum	0	Cleaned out froth with absorbant rag.
	South	3.78	3.78	Sheen	0	
5/22/2009	North	5.06	5.06	Sheen	0	Air bubbling from AS system.
	South	5.24	5.24	Sheen	0	
6/30/2009	North	5.55	5.56	0.01	0.0079	Cleaned out with absorbent rag.
	South	5.86	5.87	0.01	0.0079	Cleaned out with absorbent rag.
7/23/2009	North	5.43	5.43	Sheen	0	
	South	5.63	5.63	Sheen	0	
8/19/2009	North	5.82	5.82	Sheen	0	
	South	6.18	6.18	Sheen	0	
9/29/2009	North	6.62	6.62	Sheen	0	
	South	6.90	6.90	Sheen	0	
10/28/2009	North	5.09	5.09	Sheen	0	Air bubbling from AS system, cleaned with absorbant rag.
	South	5.75	5.75	Sheen	0	Cleaned out with absorbant rag.
11/26/2009	North	5.52	5.52	Sheen	0	
	South	5.80	5.80	Sheen	0	
12/29/2009	North	3.80	3.80	Sheen	0	Small amount of bubbling observed.
	South	3.90	3.90	Sheen	0	
1/27/2010	North	4.26	4.26	Sheen	0	More sheen than south.
	South	4.40	4.40	Minor Sheen	0	
2/23/2010	North	5.62	5.62	Minor Sheen	0	
	South	5.95	5.95	Minor Sheen	0	
9/2/2010	North	6.82	6.82	Sheen	0	
	South	7.28	7.28	Sheen	0	
11/18/2010	North		6.10	No Sheen	0	
	South	6.40	6.40	Sheen	0	
1/6/2011	North	4.50	4.50	Minor Sheen	0	
	South	4.71	4.71	Minor Sheen	0	

TABLE 70
MW-4A ANALYTICAL RESULTS SUMMARY

Third Annual ICMP
Charbert Facility
Richmond, Rhode Island

MW-4A	RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	UNITS	3/15/2005		6/2/2005		9/1/2005		12/6/2005		2/28/2006		5/31/2006		8/31/2006		12/7/2006	
				Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
VOLATILE ORGANICS:																			
Naphthalene	100	50	ug/L (ppb)	**1.2**	1.0	**1.7**	1	**1.6**	1	<	1	<	1	<	1	<	1	<	1
4-Methyl-2-Pentanone	NS	NS	ug/L (ppb)	<	2.0	<	2	**2.7**	2	<	2	<	2	<	2	<	2	<	25
2-Butanone	NS	NS	ug/L (ppb)	<	25	<	25	<	25	**26**	25	<	25	<	25	<	25	<	25
Dichloromethane	5	2.5	ug/L (ppb)	<	1	<	1	6.2	1	<	1	<	1	<	1	<	1	<	1
TOTAL METALS:																			
Chromium	100	50	ug/L (ppb)	NT		NT		NT		NT		NT		<	5	NT		NT	
DISSOLVED METALS:																			
Chromium	NS	NS	ug/L (ppb)	NT		NT		NT		NT		NT		<	5	NT		NT	

MW-4A	RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	UNITS	3/1/2007		5/31/2007		9/5/2007		12/3/2007		2/21/2008		6/2/2008		9/3/2008		12/2/2008	
				Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
VOLATILE ORGANICS:																			
Naphthalene	100	50	ug/L (ppb)	<	1	<	1	**2.1**	1	<	2	<	2	<	2	<	2	<	2
TOTAL PETROLEUM HYDROCARBONS:																			
Hydrocarbon Content	NS	NS	mg/L (ppm)	NT		NT		NT		**910**	200	**1,900**	200	**3,500**	200	**14,000**	200	**11,000**	200
TOTAL METALS:																			
Chromium	100	50	ug/L (ppb)	NT		NT		NT		**36**	5	**33**	5	**18**	5	**38**	5	**23**	5
Barium	2000	500	ug/L (ppb)	NT		NT		NT		<	5	<	5	NT		<	5	NT	
DISSOLVED METALS:																			
Chromium	NS	NS	ug/L (ppb)	NT		NT		NT		**28**	5	**28**	5	**13**	5	**28**	5	**17**	5

MW-4A	RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	UNITS	3/3/2009		6/1/2009		9/1/2009		12/4/2009		3/2/2010		6/11/2010		10/14/2010		1/5/2011	
				Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
VOLATILE ORGANICS:																			
Tetrachloroethene	5	2.5	ug/L (ppb)	<	1	<	1	<	1	<	1	**1.5**	1	**2.1**	1	**1.7**	1	5.2	1
TOTAL PETROLEUM HYDROCARBONS:																			
Hydrocarbon Content	NS	NS	ug/L (ppb)	**6,400**	200	**2,800**	200	**1,700**	200	**2,200**	200	**950**	200	**1,300**	200	NT	200	NT	200
TOTAL METALS:																			
Chromium	100	50	ug/L (ppb)	**13**	5	**11**	5	**9.8**	5	**12**	5	**9.3**	5	**8.9**	5	NT	5	NT	5
Barium	2000	500	ug/L (ppb)	NT		NT		NT		NT		NT		NT		NT		NT	
DISSOLVED METALS:																			
Chromium	NS	NS	ug/L (ppb)	**9.9**	5	**9.5**	5	**9.1**	5	**9.8**	5	**8.4**	5	**5.3**	5	NT	5	NT	5

DETECTED ANALYTES ARE IN BOLD AND HIGHLIGHTED
PAL = RIDEMs Preventative Action Limit
< = NOT DETECTED
NT = NOT TESTED
NS = NO STANDARD
= Detected Constituents
=RIDEM PAL Exceedance
=RIDEM GA Exceedance

TABLE 71
DIFFUSION BAG ANALYTICAL RESULTS SUMMARY

Yearly ICMP Report
Charbert Facility
Alton, Rhode Island

OCTOBER 2010 DIFFUSION BAG RESULTS SUMMARY						
PARAMETERS	**UNITS**	DB - 1	DB - 2	DB - 3	DB - 4	DB - 5
		10/19/2010	10/19/2010	10/19/2010	10/19/2010	10/19/2010
Volatile Organic Compounds (VOCs)						
Tetrachloroethene	µg/L	ND	2.6	ND	1.3	ND
Trichloroethene	µg/L	ND	23	ND	ND	ND
Acetone	µg/L	15	11	ND	ND	ND
Vinyl Chloride	µg/L	ND	ND	ND	1.2	ND
cis-1,2-Dichloroethene	ug/L	ND	2.2	ND	4.2	ND

AUGUST 2009 DIFFUSION BAG RESULTS SUMMARY						
PARAMETERS	**UNITS**	DB - 1[2]	DB - 2	DB - 3	DB - 4	DB - 5
		9/30/2009	9/9/2009	9/9/2009	9/9/2009	9/9/2009
Volatile Organic Compounds (VOCs)						
Tetrachloroethene	µg/L	3.6	34	3.0	22	ND
Trichloroethene	µg/L	ND	2.0	ND	2.0	ND

AUGUST 2008 DIFFUSION BAG RESULTS SUMMARY						
PARAMETERS	**UNITS**	DB - 1	DB - 2	DB - 3	DB - 4	DB - 5
		8/22/2008	8/22/2008	8/22/2008	8/22/2008	8/22/2008
Volatile Organic Compounds (VOCs)						
Vinyl Chloride	µg/L	ND	ND	ND	1.5	ND
cis-1,2-Dichloroethene	µg/L	ND	ND	ND	7.5	ND
Trichloroethene	µg/L	ND	ND	ND	28	ND
Tetrachloroethene	µg/L	ND	ND	ND	26	ND

AUGUST 2007 DIFFUSION BAG RESULTS SUMMARY										
PARAMETERS	**UNITS**	DB-1	DB-2	DB-3[1]	DB-4	DB-5	DB-5 Duplicate	DB-6	DB-7	DB-8
		08/31/2007	08/31/2007	08/31/2007	08/31/2007	08/31/2007	08/31/2007	08/31/2007	08/31/2007	08/31/2007
Volatile Organic Compounds (VOCs)										
cis-1,2-Dichloroethene	ug/L	ND	1	ND	5	58	63	9	ND	1
Tetrachloroethene	ug/L	ND	3	ND	ND	6	8	1	ND	ND
Trichloroethene	ug/L	ND	2	ND	ND	3	3	11	ND	ND
Vinyl Chloride	ug/L	ND	ND	ND	21	49	35	19	ND	ND
1,1-Dichloroethane	ug/L	ND	ND	ND	ND	1	1	ND	ND	ND
trans-1,2-Dichloroethylene	ug/L	ND	ND	ND	ND	1	ND	ND	ND	ND
Ethylbenzene	ug/L	ND	ND	ND	ND	1	1	ND	ND	ND
o-Xylene	ug/L	ND	ND	ND	ND	1	ND	ND	ND	ND
Benzene	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	1

1. Diffusion bag found floating on water surface and results are most not reflective of pore water concentrations
2. Original diffusion bag lost and was replaced and sampled.

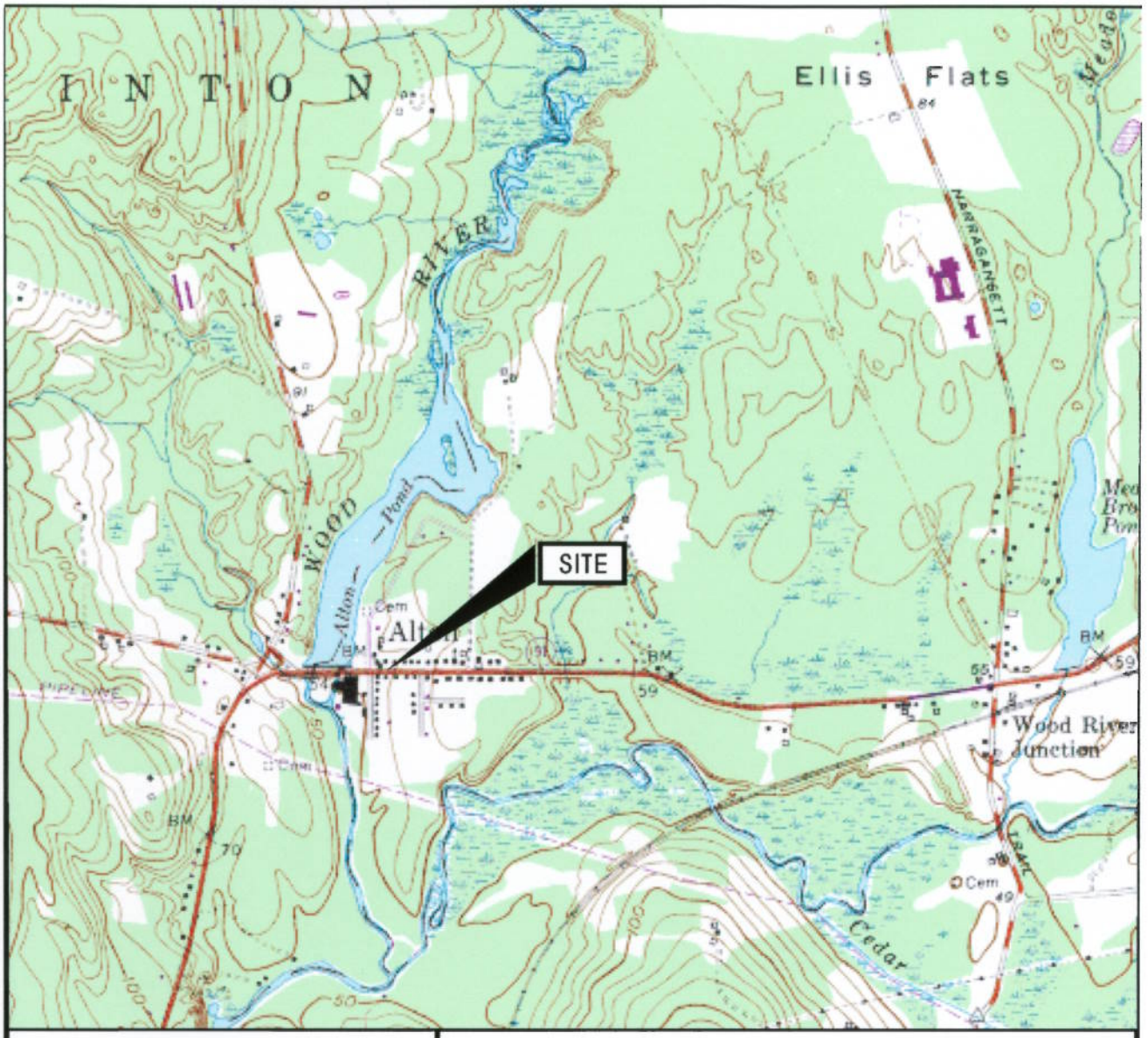
TABLE 72
INTERIOR MONITORING WELLS ANALYTICAL RESULTS SUMMARY

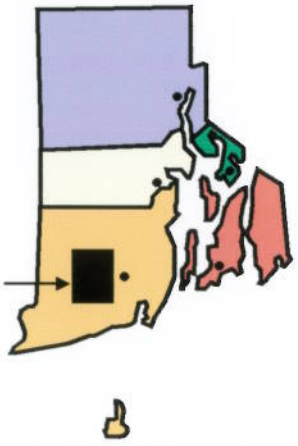
Third Annual ICMP
Charbert Facility
Richmond, Rhode Island

PARAMETERS			RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	WELL IDENTIFICATION & DATE													
						GP-27A 1/4/2011		GP-27B 1/4/2011		A5-3 1/4/2011		A5-12 1/4/2011		A5-13 1/4/2011		A5-16 1/4/2011		GZ-8 1/4/2011	
						Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
	VOLATILE ORGANICS																		
VOLATILE ORGANICS	Vinyl Chloride	75-01-4	2	1	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	cis-1,2-Dichloroethene	156-59-2	70	35	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	Trichloroethene	79-01-6	5	2.5	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	Tetrachloroethene	127-18-4	5	2.5	ug/L	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0	<	1.0
	FIELD PARAMETERS																		
FIELD PARAMETERS	pH		NS	NS	SU	5.9		5.6		6.0		6.0		5.5		6.5		4.9	
	CONDUCTIVITY		NS	NS	mS/cm	0.685		0.305		0.149		0.145		0.331		0.150		0.230	
	TURBIDITY		NS	NS	NTU	0		0		0		0		0		0		0	
	DISSOLVED OXYGEN		NS	NS	mg/L	1.7		0.0		2.0		0.0		0.0		0.0		0.2	
	TEMPERATURE		NS	NS	°C	15.2		14.1		16.1		16.7		12.9		16.5		17.0	
	ORP		NS	NS	mV	230		160		225		207		199		29		229	

Notes:
PAL = RIDEM's Preventative Action Limit
RIDEM GA EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED GREEN
PALs EXCEEDANCES ARE IN BOLD AND HIGHLIGHTED BLUE
ND = NO DETECTS
NS = NO STANDARD
NT = NOT TESTED
BGS = BELOW GROUND SURFACE

FIGURES





FROM USGS WESTERLY, RI QUADRANGLE MAP

(DIGITAL TOPOGRAPHIC MAPS PROVIDED BY MAPTECH, INC.)

(CONTOUR ELEVATIONS ARE IN METERS ABOVE NGVD, AT 3 METER INTERVALS)

APPROXIMATE SCALE IN FEET

0' 1200' 2400' 4800'

CHARBERT FACILITY

ALTON
RHODE ISLAND

LOCUS PLAN

March-2008

FIGURE NO. 1

FILE NO. 32795.16

LEGEND

- 200 FT. RIVER BANK BUFFER
- 50 FT. WETLAND BUFFER
- SS — SEWER LINE
- IWW — INDUSTRIAL WASTEWATER LINE
- E — UNDERGROUND ELECTRICAL LINE
- D — STORM WATER DRAINAGE LINE
- OIL — OIL LINE
- SFM — EXISTING SEWER FORCE MAIN
- OHU — OVERHEAD UTILITY
- FEMA 100 FLOOD LEVEL
- PIV — POST INDICATOR VALVE
- HYD — FIRE HYDRANT
- UTILITY POLE
- CHAIN LINK FENCE
- 60 — EXISTING SURFACE CONTOURS
- EDGE OF RIVER

- DB-5 — 2007 DIFFUSION BAG MONITORING LOCATION
- DB-5 — 2008, 2009 AND 2010 DIFFUSION BAG MONITORING LOCATION
- UIC MW-4A — FORMER UIC PROGRAM GROUNDWATER MONITORING WELL
- GZ-ML-1 — EXISTING MULTI-LEVEL BEDROCK MONITORING WELL
- GZ-21 — ICMP GROUNDWATER MONITORING WELL
- RIZ-21 — PERIMETER GROUNDWATER MONITORING WELL
- RIZ-3 — EXISTING GROUNDWATER MONITORING WELL
- EW-2 — FORMER EXTRACTION WELL
- INFERRED GROUNDWATER FLOW DIRECTION BASED ON SIR GROUNDWATER CONTOUR PLANS

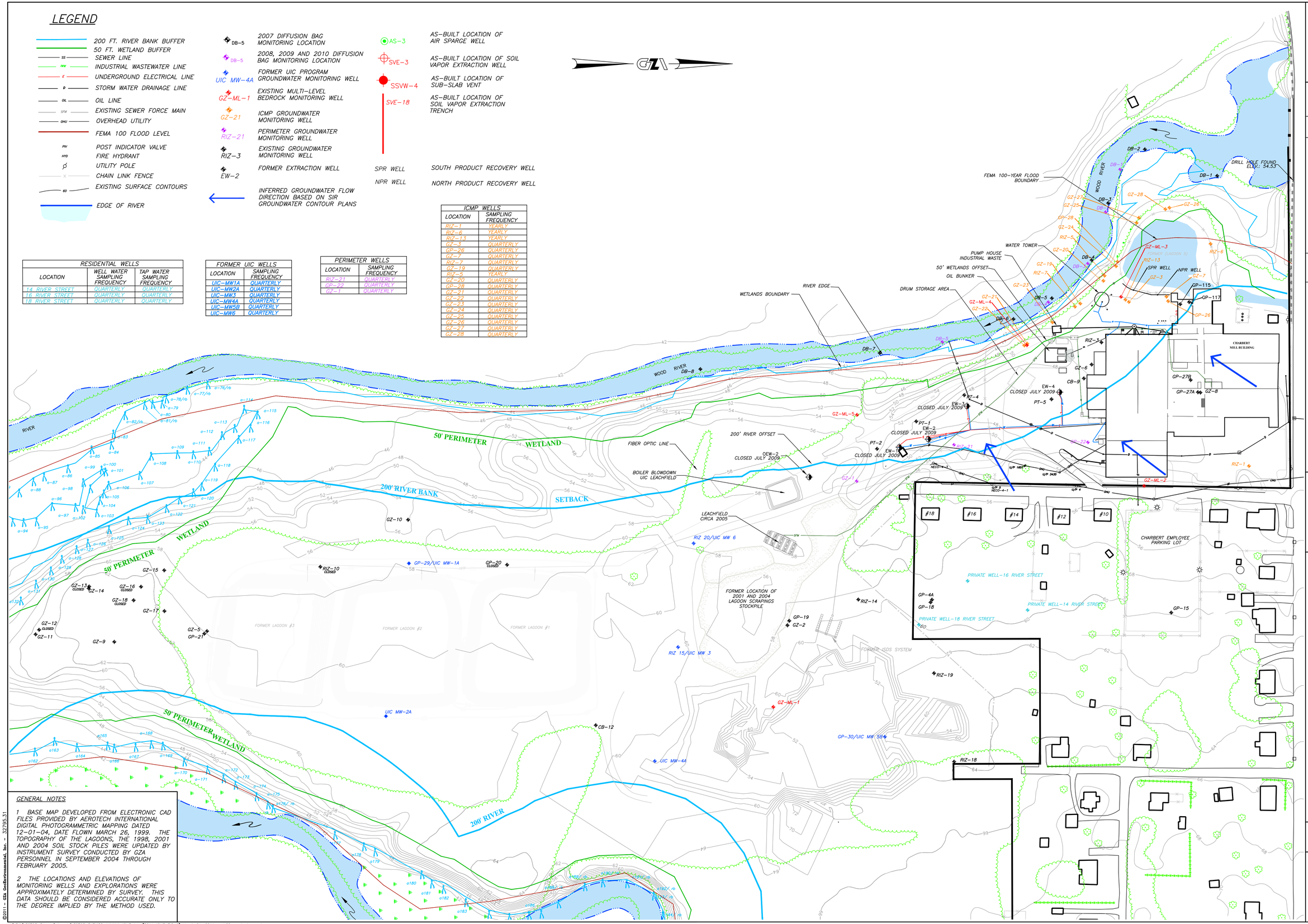
- AS-3 — AS-BUILT LOCATION OF AIR SPARGE WELL
- SVE-3 — AS-BUILT LOCATION OF SOIL VAPOR EXTRACTION WELL
- SSVW-4 — AS-BUILT LOCATION OF SUB-SLAB VENT
- SVE-18 — AS-BUILT LOCATION OF SOIL VAPOR EXTRACTION TRENCH
- SPR WELL — SOUTH PRODUCT RECOVERY WELL
- NPR WELL — NORTH PRODUCT RECOVERY WELL

RESIDENTIAL WELLS		
LOCATION	WELL WATER SAMPLING FREQUENCY	TAP WATER SAMPLING FREQUENCY
14 RIVER STREET	QUARTERLY	QUARTERLY
16 RIVER STREET	QUARTERLY	QUARTERLY
18 RIVER STREET	QUARTERLY	QUARTERLY

FORMER UIC WELLS	
LOCATION	SAMPLING FREQUENCY
UIC-MW1A	QUARTERLY
UIC-MW2A	QUARTERLY
UIC-MW3	QUARTERLY
UIC-MW4A	QUARTERLY
UIC-MW5B	QUARTERLY
UIC-MW6	QUARTERLY

PERIMETER WELLS	
LOCATION	SAMPLING FREQUENCY
RIZ-21	QUARTERLY
GP-22	QUARTERLY
GZ-1	QUARTERLY

ICMP WELLS	
LOCATION	SAMPLING FREQUENCY
RIZ-1	YEARLY
RIZ-6	YEARLY
RIZ-13	YEARLY
GZ-3	QUARTERLY
GP-26	QUARTERLY
GZ-7	QUARTERLY
RIZ-7	QUARTERLY
GZ-19	QUARTERLY
RIZ-5	YEARLY
GZ-20	QUARTERLY
GP-28	QUARTERLY
GZ-21	QUARTERLY
GZ-22	QUARTERLY
GZ-23	QUARTERLY
GZ-24	QUARTERLY
GZ-25	QUARTERLY
GZ-26	QUARTERLY
GZ-27	QUARTERLY
GZ-28	QUARTERLY



GENERAL NOTES

1. BASE MAP DEVELOPED FROM ELECTRONIC CAD FILES PROVIDED BY AEROTECH INTERNATIONAL DIGITAL PHOTOGRAMMETRIC MAPPING DATED 12-01-04, DATE FLOWN MARCH 26, 1999. THE TOPOGRAPHY OF THE LAGOONS, THE 1998, 2001 AND 2004 SOIL STOCK PILES WERE UPDATED BY INSTRUMENT SURVEY CONDUCTED BY GZA PERSONNEL IN SEPTEMBER 2004 THROUGH FEBRUARY 2005.

2. THE LOCATIONS AND ELEVATIONS OF MONITORING WELLS AND EXPLORATIONS WERE APPROXIMATELY DETERMINED BY SURVEY. THIS DATA SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.

J:\ENV\32795-31.sma\Jan 11\32795-31THIRD ANNUAL ICMP.dwg [2011-ICMP FIG-2] March 01, 2011 - 4:22pm stephen.andrus

DATE	BY	DESCRIPTION	REV. NO.

SCALE: 1" = 80'

0 40 80 160

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PROJ MGR: SMA
DESIGNED BY:
REVIEWED BY: EAS
OPERATOR: SMA
CHECKER: ALF
DATE: FEB. 2011

CHARBERT FACILITY
ALTON, RHODE ISLAND

ANNUAL INTERIM COMPLIANCE MONITORING REPORT
SITE PLAN AND MONITORING WELL LOCATIONS

PROJECT NO.
32795.31

FIGURE NO.
2

LEGEND

- 200 FT. RIVER BANK BUFFER
- 50 FT. WETLAND BUFFER
- SEWER LINE
- INDUSTRIAL WASTEWATER LINE
- UNDERGROUND ELECTRICAL LINE
- STORM WATER DRAINAGE LINE
- OIL LINE
- EXISTING SEWER FORCE MAIN
- OVERHEAD UTILITY
- FEMA 100 FLOOD LEVEL
- POST INDICATOR VALVE
- FIRE HYDRANT
- UTILITY POLE
- CHAIN LINK FENCE
- EXISTING SURFACE CONTOURS
- EDGE OF RIVER

- DB-5 — 2007 DIFFUSION BAG MONITORING LOCATION
- DB-5 — 2008, 2009 AND 2010 DIFFUSION BAG MONITORING LOCATION
- UIC MW-4A — FORMER UIC PROGRAM GROUNDWATER MONITORING WELL
- GZ-ML-1 — EXISTING MULTI-LEVEL BEDROCK MONITORING WELL
- GZ-21 — ICMP GROUNDWATER MONITORING WELL
- RIZ-14 — PERIMETER GROUNDWATER MONITORING WELL
- RIZ-3 — EXISTING GROUNDWATER MONITORING WELL
- EW-2 — EXISTING EXTRACTION WELL
- INFERRED GROUNDWATER FLOW DIRECTION BASED ON SIR GROUNDWATER CONTOUR PLANS

- AS-3 — AS-BUILT LOCATION OF AIR SPARGE WELL
- SVE-3 — AS-BUILT LOCATION OF SOIL VAPOR EXTRACTION WELL
- SSVW-4 — AS-BUILT LOCATION OF SUB-SLAB VENT
- SVE-18 — AS-BUILT LOCATION OF SOIL VAPOR EXTRACTION TRENCH
- SPR WELL — SOUTH PRODUCT RECOVERY WELL
- NPR WELL — NORTH PRODUCT RECOVERY WELL

GZA

GENERAL NOTES

1 BASE MAP DEVELOPED FROM ELECTRONIC CAD FILES PROVIDED BY AEROTECH INTERNATIONAL DIGITAL PHOTOGRAMMETRIC MAPPING DATED 12-01-04, DATE FLOWN MARCH 26, 1999. THE TOPOGRAPHY OF THE LAGOONS, THE 1998, 2001 AND 2004 SOIL STOCK PILES WERE UPDATED BY INSTRUMENT SURVEY CONDUCTED BY GZA PERSONNEL IN SEPTEMBER 2004 THROUGH FEBRUARY 2005.

2 THE LOCATIONS AND ELEVATIONS OF MONITORING WELLS AND EXPLORATIONS WERE APPROXIMATELY DETERMINED BY SURVEY. THIS DATA SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.

J:\ENV\32795-31.sma\Jan 11\32795-31THIRD ANNUAL ICMP.dwg [2011-ICMP FIG-3] March 01, 2011 - 4:23pm stephen.andrus

REV. NO.	DESCRIPTION	BY	DATE

SCALE: 1" = 40'

GZA GeoEnvironmental, Inc.
Engineers and Scientists
530 BROADWAY
PROVIDENCE, RHODE ISLAND 02909
(401) 421-4140
(401) 751-8613

PROJ MGR: SMA
DESIGNED BY:
REVIEWED BY: EAS
OPERATOR: SMA
CHECKER: ALF
DATE: FEB. 2011

CHARBERT FACILITY
ALTON, RHODE ISLAND

ANNUAL INTERUM COMPLIANCE MONITOING REPORT
AIR SPARGE AND SOIL VAPOR EXTRACTION WELL LOCATIONS

PROJECT NO.
32795.31

FIGURE NO.
3

APPENDIX A

LIMITATIONS

GEOHYDROLOGICAL LIMITATIONS

1. The conclusions and recommendations submitted in this report are based in part upon the data obtained from a limited number of soil samples from widely spaced subsurface explorations. The nature and extent of variations between these explorations may not become evident until further investigation. If variations or other latent conditions then appear evident, it will be necessary to reevaluate the recommendations of this report.

2. 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.

3. Water level 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.

4. The conclusions and recommendations 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. As indicated within the report, some of these data are preliminary "screening" level data, and should be confirmed with quantitative analyses if more specific information is necessary. 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 therein modified accordingly.

5. Chemical analyses have been performed for specific parameters during the course of this study, as detailed in the text. It must be noted that additional constituents not searched for during the current study may be present in soil and groundwater at the site.

6. It is recommended that this firm be retained to provide further engineering services during design, implementation, and/or construction of any remedial measures, if necessary. This is to observe compliance with the concepts and recommendations contained herein and to allow design changes in the event that subsurface conditions differ from those anticipated.

APPENDIX B

LABORATORY CERTIFICATES OF ANALYSIS

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748
(781) 278-4700

Laboratory Identification Numbers:
MA and ME: **MA092** NH: **2028**
CT: **PH0579** RI: **LAO00236**
NELAC - NYS DOH: **11063**

ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
530 Broadway
Providence, RI 02909

Project No.: **03.0032795.31**
Work Order No.: **1101-00015**
Date Received: **01/06/2011**
Date Reported: **01/12/2011**

SAMPLE INFORMATION

Date Sampled	Matrix	Laboratory ID	Sample ID
01/05/2011	Aqueous	1101-00015 001	RIZ-1
01/04/2011	Aqueous	1101-00015 002	RIZ-6
01/05/2011	Aqueous	1101-00015 003	RIZ-13
01/05/2011	Aqueous	1101-00015 004	GZ-3
01/04/2011	Aqueous	1101-00015 005	GZ-7
01/04/2011	Aqueous	1101-00015 006	GP-26
01/05/2011	Aqueous	1101-00015 007	RIZ-7
01/05/2011	Aqueous	1101-00015 008	GZ-19
01/05/2011	Aqueous	1101-00015 009	RIZ-5
01/05/2011	Aqueous	1101-00015 010	GZ-20
01/05/2011	Aqueous	1101-00015 011	GP-28
01/05/2011	Aqueous	1101-00015 012	GZ-21
01/05/2011	Aqueous	1101-00015 013	GZ-22
01/05/2011	Aqueous	1101-00015 014	GZ-23
01/05/2011	Aqueous	1101-00015 015	GZ-24
01/05/2011	Aqueous	1101-00015 016	GZ-25
01/04/2011	Aqueous	1101-00015 017	GZ-26
01/05/2011	Aqueous	1101-00015 018	GZ-27
01/05/2011	Aqueous	1101-00015 019	GZ-28
01/04/2011	Aqueous	1101-00015 020	Trip Blank

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A N A L Y T I C A L R E P O R T

GZA GeoEnvironmental, Inc.
530 Broadway
Providence, RI 02909

Project Name.:	**Charbert**	Date Received:	**01/06/2011**
Project No.:	**03.0032795.31**	Date Reported:	**01/12/2011**
		Work Order No.:	**1101-00015**

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 01/06/11 via _x_GZA courier, __EC, __FEDEX, or ___hand delivered. The temperature of the _x_temperature blank/__cooler air, was 1.4 degrees C. The temperature requirement for most analyses is above freezing to 6 degrees C. The samples were received intact for all requested analyses.

The chain of custody indicates that the samples, when required, were chemically preserved in accordance with the method they reference.

2. EPA Method 8260 - VOCs

The elevated reporting limits for samples GZ-3 (1101-00015-004), GZ-19 (1101-00015-008), GZ-20 (1101-00015-010), GZ-24 (1101-00015-015), and GZ-27 (1101-00015-018) are due to initial dilution of the sample in order to get target compounds within the calibration range of the instrument. The dilution was based upon screening data for the sample.

Attach QC 8260 1/10/2011 (1) "S" - Aqueous
Attach QC 8260 1/10/2011 (2) "S" - Aqueous

3. Total Petroleum Hydrocarbons

Attach QC TPH 01/07/11 – Aqueous

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Providence, RI 02909

Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Data Authorized By: _____

NELAC certification, as indicated by the NELAC Lab ID Number, is per analyte. For a complete list of NELAC validated analytes, please contact the laboratory.

Abbreviations:
% R = % Recovery
DF = Dilution Factor
DFS = Dilution Factor Solids
CF = Calculation Factor
DO = Diluted Out

Method Key:
Method 8260: The current version of the method is 8260B.
Method 8270: The current version of the method is 8270D.
Method 6010: The current version of the method is 6010C.
Method 8081: The current version of the method is 8081B.
Method 8082: The current version of the method is 8082A.
Method 7471: The current version of the method is 7471B.

The current Metals preparation methods are: 3010A (aqueous) and 3051 (solid).

Please note that the laboratory signed copy of the chain of custody record is an integral part of the data report.

Soil data is reported on a dry weight basis unless otherwise specified.
Matrix Spike / Matrix Spike Duplicate sets are performed as per method and are reported at the end of the analytical report if assigned on the Chain of Custody.

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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **RIZ-1**
Sample No.: **001**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	01/10/2011
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Diethylether	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Acetone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Butanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
cis-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
4-Methyl-2-Pentanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Toluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Hexanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011

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A N A L Y T I C A L R E P O R T

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Providence, RI 02909

Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **RIZ-1**
Sample No.: **001**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	116	70-130	% R	MQS	01/10/2011
***Toluene-D8	EPA 8260	110	70-130	% R	MQS	01/10/2011

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Providence, RI 02909

Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **RIZ-1**
Sample No.: **001**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	107	70-130	% R	MQS	01/10/2011
Preparation	EPA 5030B	1.0		CF	MQS	01/10/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **RIZ-6** Sample No.: **002**
Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	01/10/2011
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Diethylether	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Acetone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Butanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
cis-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
4-Methyl-2-Pentanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Toluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Hexanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011

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A N A L Y T I C A L R E P O R T

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Providence, RI 02909

Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **RIZ-6**
Sample No.: **002**
Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	119	70-130	% R	MQS	01/10/2011
***Toluene-D8	EPA 8260	115	70-130	% R	MQS	01/10/2011

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A N A L Y T I C A L R E P O R T

GZA GeoEnvironmental, Inc.
530 Broadway
Providence, RI 02909

Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **RIZ-6**
Sample No.: **002**
Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	104	70-130	% R	MQS	01/10/2011
Preparation	EPA 5030B	1.0		CF	MQS	01/10/2011
TOTAL PETROLEUM HYDROCARBON	Mod. EPA 8100				KEF	01/07/2011
Hydrocarbon Content		<200	200	ug/L	KEF	01/07/2011
Surrogate:						
***o-Terphenyl		42.7	40-130	% R	KEF	01/07/2011
Extraction	EPA 3510C	1.0		DF	JKC	01/07/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **RIZ-13** Sample No.: **003**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	01/10/2011
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Diethylether	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Acetone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Butanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
cis-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
4-Methyl-2-Pentanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Toluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Hexanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011

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A N A L Y T I C A L R E P O R T

GZA GeoEnvironmental, Inc.
530 Broadway
Providence, RI 02909

Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **RIZ-13**
Sample No.: **003**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	114	70-130	% R	MQS	01/10/2011
***Toluene-D8	EPA 8260	115	70-130	% R	MQS	01/10/2011

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A N A L Y T I C A L R E P O R T

GZA GeoEnvironmental, Inc.
530 Broadway
Providence, RI 02909

Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **RIZ-13**
Sample No.: **003**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	105	70-130	% R	MQS	01/10/2011
Preparation	EPA 5030B	1.0		CF	MQS	01/10/2011
TOTAL PETROLEUM HYDROCARBON	Mod. EPA 8100				KEF	01/07/2011
Hydrocarbon Content		<200	200	ug/L	KEF	01/07/2011
Surrogate:						
***o-Terphenyl		47.0	40-130	% R	KEF	01/07/2011
Extraction	EPA 3510C	1.0		DF	JKC	01/07/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-3** Sample No.: **004**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	01/10/2011
Dichlorodifluoromethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Chloromethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Vinyl Chloride	EPA 8260	71	2.5	ug/L	MQS	01/10/2011
Bromomethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Chloroethane	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
Trichlorofluoromethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Diethylether	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Acetone	EPA 8260	<25	25	ug/L	MQS	01/10/2011
1,1-Dichloroethene	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
Dichloromethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
trans-1,2-Dichloroethene	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
1,1-Dichloroethane	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
2-Butanone	EPA 8260	<25	25	ug/L	MQS	01/10/2011
2,2-Dichloropropane	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
cis-1,2-Dichloroethene	EPA 8260	250	2.5	ug/L	MQS	01/10/2011
Chloroform	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
Bromochloromethane	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
Tetrahydrofuran	EPA 8260	<25	25	ug/L	MQS	01/10/2011
1,1,1-Trichloroethane	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
1,1-Dichloropropene	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
Carbon Tetrachloride	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
1,2-Dichloroethane	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
Benzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
Trichloroethene	EPA 8260	130	2.5	ug/L	MQS	01/10/2011
1,2-Dichloropropane	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
Bromodichloromethane	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
Dibromomethane	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
4-Methyl-2-Pentanone	EPA 8260	<25	25	ug/L	MQS	01/10/2011
cis-1,3-Dichloropropene	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
Toluene	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
trans-1,3-Dichloropropene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,1,2-Trichloroethane	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
2-Hexanone	EPA 8260	<25	25	ug/L	MQS	01/10/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-3** Sample No.: **004**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
Tetrachloroethene	EPA 8260	230	2.5	ug/L	MQS	01/10/2011
Dibromochloromethane	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
1,2-Dibromoethane (EDB)	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Chlorobenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
Ethylbenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
m&p-Xylene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
o-Xylene	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
Styrene	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
Bromoform	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Isopropylbenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
1,2,3-Trichloropropane	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
Bromobenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
N-Propylbenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
2-Chlorotoluene	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
1,3,5-Trimethylbenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
4-Chlorotoluene	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
tert-Butylbenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
1,2,4-Trimethylbenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
sec-Butylbenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
p-Isopropyltoluene	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
1,3-Dichlorobenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
1,4-Dichlorobenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
n-Butylbenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
1,2-Dichlorobenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,2,4-Trichlorobenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
Hexachlorobutadiene	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
Naphthalene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,2,3-Trichlorobenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/10/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	107	70-130	% R	MQS	01/10/2011
***Toluene-D8	EPA 8260	114	70-130	% R	MQS	01/10/2011

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A N A L Y T I C A L R E P O R T

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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-3** Sample No.: **004**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	103	70-130	% R	MQS	01/10/2011
Preparation	EPA 5030B	2.5		CF	MQS	01/10/2011

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ANALYTICAL REPORT

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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-7** Sample No.: **005**
Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	01/10/2011
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Diethylether	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Acetone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Butanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
cis-1,2-Dichloroethene	EPA 8260	16	1.0	ug/L	MQS	01/10/2011
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Trichloroethene	EPA 8260	17	1.0	ug/L	MQS	01/10/2011
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
4-Methyl-2-Pentanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Toluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Hexanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-7** Sample No.: **005**
Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Tetrachloroethene	EPA 8260	5.1	1.0	ug/L	MQS	01/10/2011
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	109	70-130	% R	MQS	01/10/2011
***Toluene-D8	EPA 8260	110	70-130	% R	MQS	01/10/2011

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A N A L Y T I C A L R E P O R T

GZA GeoEnvironmental, Inc.
530 Broadway
Providence, RI 02909

Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-7**
Sample No.: **005**
Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	101	70-130	% R	MQS	01/10/2011
Preparation	EPA 5030B	1.0		CF	MQS	01/10/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GP-26** Sample No.: **006**
Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	01/10/2011
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Diethylether	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Acetone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Butanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
cis-1,2-Dichloroethene	EPA 8260	1.2	1.0	ug/L	MQS	01/10/2011
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
4-Methyl-2-Pentanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Toluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Hexanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GP-26** Sample No.: **006**
Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	114	70-130	% R	MQS	01/10/2011
***Toluene-D8	EPA 8260	112	70-130	% R	MQS	01/10/2011

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A N A L Y T I C A L R E P O R T

GZA GeoEnvironmental, Inc.
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GP-26**
Sample No.: **006**
Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	103	70-130	% R	MQS	01/10/2011
Preparation	EPA 5030B	1.0		CF	MQS	01/10/2011
TOTAL PETROLEUM HYDROCARBON	Mod. EPA 8100				KEF	01/07/2011
Hydrocarbon Content		<200	200	ug/L	KEF	01/07/2011
Surrogate:						
***o-Terphenyl		54.6	40-130	% R	KEF	01/07/2011
Extraction	EPA 3510C	1.0		DF	JKC	01/07/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **RIZ-7** Sample No.: **007**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	01/10/2011
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Vinyl Chloride	EPA 8260	69	1.0	ug/L	MQS	01/10/2011
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Diethylether	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Acetone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
trans-1,2-Dichloroethene	EPA 8260	2.1	1.0	ug/L	MQS	01/10/2011
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Butanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
cis-1,2-Dichloroethene	EPA 8260	46	1.0	ug/L	MQS	01/10/2011
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
4-Methyl-2-Pentanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Toluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Hexanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
530 Broadway
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **RIZ-7** Sample No.: **007**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	106	70-130	% R	MQS	01/10/2011
***Toluene-D8	EPA 8260	115	70-130	% R	MQS	01/10/2011

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A N A L Y T I C A L R E P O R T

GZA GeoEnvironmental, Inc.
530 Broadway
Providence, RI 02909

Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **RIZ-7** Sample No.: **007**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	102	70-130	% R	MQS	01/10/2011
Preparation	EPA 5030B	1.0		CF	MQS	01/10/2011
TOTAL PETROLEUM HYDROCARBON	Mod. EPA 8100				KEF	01/07/2011
Hydrocarbon Content		230	200	ug/L	KEF	01/07/2011
Surrogate:						
***o-Terphenyl		58.5	40-130	% R	KEF	01/07/2011
Extraction	EPA 3510C	1.0		DF	JKC	01/07/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-19** Sample No.: **008**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	01/10/2011
Dichlorodifluoromethane	EPA 8260	<10	10	ug/L	MQS	01/10/2011
Chloromethane	EPA 8260	<10	10	ug/L	MQS	01/10/2011
Vinyl Chloride	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Bromomethane	EPA 8260	<10	10	ug/L	MQS	01/10/2011
Chloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Trichlorofluoromethane	EPA 8260	<10	10	ug/L	MQS	01/10/2011
Diethylether	EPA 8260	<10	10	ug/L	MQS	01/10/2011
Acetone	EPA 8260	<50	50	ug/L	MQS	01/10/2011
1,1-Dichloroethene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Dichloromethane	EPA 8260	<10	10	ug/L	MQS	01/10/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
trans-1,2-Dichloroethene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,1-Dichloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
2-Butanone	EPA 8260	<50	50	ug/L	MQS	01/10/2011
2,2-Dichloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
cis-1,2-Dichloroethene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Chloroform	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Bromochloromethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Tetrahydrofuran	EPA 8260	<50	50	ug/L	MQS	01/10/2011
1,1,1-Trichloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,1-Dichloropropene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Carbon Tetrachloride	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,2-Dichloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Benzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Trichloroethene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,2-Dichloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Bromodichloromethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Dibromomethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
4-Methyl-2-Pentanone	EPA 8260	<50	50	ug/L	MQS	01/10/2011
cis-1,3-Dichloropropene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Toluene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
trans-1,3-Dichloropropene	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,1,2-Trichloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
2-Hexanone	EPA 8260	<50	50	ug/L	MQS	01/10/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-19** Sample No.: **008**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Tetrachloroethene	EPA 8260	480	5.0	ug/L	MQS	01/10/2011
Dibromochloromethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,2-Dibromoethane (EDB)	EPA 8260	<10	10	ug/L	MQS	01/10/2011
Chlorobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Ethylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
m&p-Xylene	EPA 8260	<10	10	ug/L	MQS	01/10/2011
o-Xylene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Styrene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Bromoform	EPA 8260	<10	10	ug/L	MQS	01/10/2011
Isopropylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,2,3-Trichloropropane	EPA 8260	29	5.0	ug/L	MQS	01/10/2011
Bromobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
N-Propylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
2-Chlorotoluene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,3,5-Trimethylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
4-Chlorotoluene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
tert-Butylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,2,4-Trimethylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
sec-Butylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
p-Isopropyltoluene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,3-Dichlorobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,4-Dichlorobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
n-Butylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,2-Dichlorobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,2,4-Trichlorobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Hexachlorobutadiene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Naphthalene	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,2,3-Trichlorobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	103	70-130	% R	MQS	01/10/2011
***Toluene-D8	EPA 8260	111	70-130	% R	MQS	01/10/2011

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A N A L Y T I C A L R E P O R T

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Providence, RI 02909

Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-19** Sample No.: **008**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	102	70-130	% R	MQS	01/10/2011
Preparation	EPA 5030B	5.0		CF	MQS	01/10/2011

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ANALYTICAL REPORT

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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **RIZ-5**
Sample No.: **009**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	01/10/2011
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Diethylether	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Acetone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Butanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
cis-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
4-Methyl-2-Pentanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Toluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Hexanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011

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A N A L Y T I C A L R E P O R T

GZA GeoEnvironmental, Inc.
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **RIZ-5**
Sample No.: **009**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	111	70-130	% R	MQS	01/10/2011
***Toluene-D8	EPA 8260	118	70-130	% R	MQS	01/10/2011

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A N A L Y T I C A L R E P O R T

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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **RIZ-5** Sample No.: **009**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	101	70-130	% R	MQS	01/10/2011
Preparation	EPA 5030B	1.0		CF	MQS	01/10/2011
TOTAL PETROLEUM HYDROCARBON	Mod. EPA 8100				KEF	01/07/2011
Hydrocarbon Content		<200	200	ug/L	KEF	01/07/2011
Surrogate:						
***o-Terphenyl		48.6	40-130	% R	KEF	01/07/2011
Extraction	EPA 3510C	1.0		DF	JKC	01/07/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-20**
Sample No.: **010**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	01/10/2011
Dichlorodifluoromethane	EPA 8260	<50	50	ug/L	MQS	01/10/2011
Chloromethane	EPA 8260	<50	50	ug/L	MQS	01/10/2011
Vinyl Chloride	EPA 8260	69	25	ug/L	MQS	01/10/2011
Bromomethane	EPA 8260	<50	50	ug/L	MQS	01/10/2011
Chloroethane	EPA 8260	<25	25	ug/L	MQS	01/10/2011
Trichlorofluoromethane	EPA 8260	<50	50	ug/L	MQS	01/10/2011
Diethylether	EPA 8260	<50	50	ug/L	MQS	01/10/2011
Acetone	EPA 8260	<250	250	ug/L	MQS	01/10/2011
1,1-Dichloroethene	EPA 8260	<25	25	ug/L	MQS	01/10/2011
Dichloromethane	EPA 8260	<50	50	ug/L	MQS	01/10/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<25	25	ug/L	MQS	01/10/2011
trans-1,2-Dichloroethene	EPA 8260	<25	25	ug/L	MQS	01/10/2011
1,1-Dichloroethane	EPA 8260	<25	25	ug/L	MQS	01/10/2011
2-Butanone	EPA 8260	<250	250	ug/L	MQS	01/10/2011
2,2-Dichloropropane	EPA 8260	<25	25	ug/L	MQS	01/10/2011
cis-1,2-Dichloroethene	EPA 8260	630	25	ug/L	MQS	01/10/2011
Chloroform	EPA 8260	<25	25	ug/L	MQS	01/10/2011
Bromochloromethane	EPA 8260	<25	25	ug/L	MQS	01/10/2011
Tetrahydrofuran	EPA 8260	<250	250	ug/L	MQS	01/10/2011
1,1,1-Trichloroethane	EPA 8260	<25	25	ug/L	MQS	01/10/2011
1,1-Dichloropropene	EPA 8260	<25	25	ug/L	MQS	01/10/2011
Carbon Tetrachloride	EPA 8260	<25	25	ug/L	MQS	01/10/2011
1,2-Dichloroethane	EPA 8260	<25	25	ug/L	MQS	01/10/2011
Benzene	EPA 8260	<25	25	ug/L	MQS	01/10/2011
Trichloroethene	EPA 8260	1500	25	ug/L	MQS	01/10/2011
1,2-Dichloropropane	EPA 8260	<25	25	ug/L	MQS	01/10/2011
Bromodichloromethane	EPA 8260	<25	25	ug/L	MQS	01/10/2011
Dibromomethane	EPA 8260	<25	25	ug/L	MQS	01/10/2011
4-Methyl-2-Pentanone	EPA 8260	<250	250	ug/L	MQS	01/10/2011
cis-1,3-Dichloropropene	EPA 8260	<25	25	ug/L	MQS	01/10/2011
Toluene	EPA 8260	<25	25	ug/L	MQS	01/10/2011
trans-1,3-Dichloropropene	EPA 8260	<50	50	ug/L	MQS	01/10/2011
1,1,2-Trichloroethane	EPA 8260	<25	25	ug/L	MQS	01/10/2011
2-Hexanone	EPA 8260	<250	250	ug/L	MQS	01/10/2011

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ANALYTICAL REPORT

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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-20** Sample No.: **010**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<25	25	ug/L	MQS	01/10/2011
Tetrachloroethene	EPA 8260	2900	25	ug/L	MQS	01/10/2011
Dibromochloromethane	EPA 8260	<25	25	ug/L	MQS	01/10/2011
1,2-Dibromoethane (EDB)	EPA 8260	<50	50	ug/L	MQS	01/10/2011
Chlorobenzene	EPA 8260	<25	25	ug/L	MQS	01/10/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<25	25	ug/L	MQS	01/10/2011
Ethylbenzene	EPA 8260	<25	25	ug/L	MQS	01/10/2011
m&p-Xylene	EPA 8260	<50	50	ug/L	MQS	01/10/2011
o-Xylene	EPA 8260	<25	25	ug/L	MQS	01/10/2011
Styrene	EPA 8260	<25	25	ug/L	MQS	01/10/2011
Bromoform	EPA 8260	<50	50	ug/L	MQS	01/10/2011
Isopropylbenzene	EPA 8260	<25	25	ug/L	MQS	01/10/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<25	25	ug/L	MQS	01/10/2011
1,2,3-Trichloropropane	EPA 8260	<25	25	ug/L	MQS	01/10/2011
Bromobenzene	EPA 8260	<25	25	ug/L	MQS	01/10/2011
N-Propylbenzene	EPA 8260	<25	25	ug/L	MQS	01/10/2011
2-Chlorotoluene	EPA 8260	<25	25	ug/L	MQS	01/10/2011
1,3,5-Trimethylbenzene	EPA 8260	<25	25	ug/L	MQS	01/10/2011
4-Chlorotoluene	EPA 8260	<25	25	ug/L	MQS	01/10/2011
tert-Butylbenzene	EPA 8260	<25	25	ug/L	MQS	01/10/2011
1,2,4-Trimethylbenzene	EPA 8260	<25	25	ug/L	MQS	01/10/2011
sec-Butylbenzene	EPA 8260	<25	25	ug/L	MQS	01/10/2011
p-Isopropyltoluene	EPA 8260	<25	25	ug/L	MQS	01/10/2011
1,3-Dichlorobenzene	EPA 8260	<25	25	ug/L	MQS	01/10/2011
1,4-Dichlorobenzene	EPA 8260	<25	25	ug/L	MQS	01/10/2011
n-Butylbenzene	EPA 8260	<25	25	ug/L	MQS	01/10/2011
1,2-Dichlorobenzene	EPA 8260	<25	25	ug/L	MQS	01/10/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<50	50	ug/L	MQS	01/10/2011
1,2,4-Trichlorobenzene	EPA 8260	<25	25	ug/L	MQS	01/10/2011
Hexachlorobutadiene	EPA 8260	<25	25	ug/L	MQS	01/10/2011
Naphthalene	EPA 8260	<50	50	ug/L	MQS	01/10/2011
1,2,3-Trichlorobenzene	EPA 8260	<25	25	ug/L	MQS	01/10/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	104	70-130	% R	MQS	01/10/2011
***Toluene-D8	EPA 8260	112	70-130	% R	MQS	01/10/2011

GZA GeoEnvironmental, Inc.
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A N A L Y T I C A L R E P O R T

GZA GeoEnvironmental, Inc.
530 Broadway
Providence, RI 02909

Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-20** Sample No.: **010**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	102	70-130	% R	MQS	01/10/2011
Preparation	EPA 5030B	25		CF	MQS	01/10/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GP-28**
Sample No.: **011**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	01/10/2011
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Vinyl Chloride	EPA 8260	26	1.0	ug/L	MQS	01/10/2011
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Diethylether	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Acetone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
trans-1,2-Dichloroethene	EPA 8260	1.7	1.0	ug/L	MQS	01/10/2011
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Butanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
cis-1,2-Dichloroethene	EPA 8260	180	1.0	ug/L	MQS	01/10/2011
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Trichloroethene	EPA 8260	19	1.0	ug/L	MQS	01/10/2011
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
4-Methyl-2-Pentanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Toluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Hexanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011

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A N A L Y T I C A L R E P O R T

GZA GeoEnvironmental, Inc.
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GP-28**
Sample No.: **011**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Tetrachloroethene	EPA 8260	2.9	1.0	ug/L	MQS	01/10/2011
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	114	70-130	% R	MQS	01/10/2011
***Toluene-D8	EPA 8260	113	70-130	% R	MQS	01/10/2011

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A N A L Y T I C A L R E P O R T

GZA GeoEnvironmental, Inc.
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GP-28** Sample No.: **011**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	103	70-130	% R	MQS	01/10/2011
Preparation	EPA 5030B	1.0		CF	MQS	01/10/2011
TOTAL PETROLEUM HYDROCARBON	Mod. EPA 8100				KEF	01/07/2011
Hydrocarbon Content		<200	200	ug/L	KEF	01/07/2011
Surrogate:						
***o-Terphenyl		57.6	40-130	% R	KEF	01/07/2011
Extraction	EPA 3510C	1.0		DF	JKC	01/07/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-21**
Sample No.: **012**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	01/10/2011
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Diethylether	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Acetone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Butanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
cis-1,2-Dichloroethene	EPA 8260	1.5	1.0	ug/L	MQS	01/10/2011
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Trichloroethene	EPA 8260	3.5	1.0	ug/L	MQS	01/10/2011
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
4-Methyl-2-Pentanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Toluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Hexanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
530 Broadway
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-21** Sample No.: **012**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Tetrachloroethene	EPA 8260	2.8	1.0	ug/L	MQS	01/10/2011
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	108	70-130	% R	MQS	01/10/2011
***Toluene-D8	EPA 8260	113	70-130	% R	MQS	01/10/2011

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A N A L Y T I C A L R E P O R T

GZA GeoEnvironmental, Inc.
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Providence, RI 02909

Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-21**
Sample No.: **012**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	104	70-130	% R	MQS	01/10/2011
Preparation	EPA 5030B	1.0		CF	MQS	01/10/2011
TOTAL PETROLEUM HYDROCARBON	Mod. EPA 8100				KEF	01/07/2011
Hydrocarbon Content		<200	200	ug/L	KEF	01/07/2011
Surrogate:						
***o-Terphenyl		52.2	40-130	% R	KEF	01/07/2011
Extraction	EPA 3510C	1.0		DF	JKC	01/07/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
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Providence, RI 02909

Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-22** Sample No.: **013**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	01/10/2011
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Diethylether	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Acetone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Butanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
cis-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Trichloroethene	EPA 8260	1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
4-Methyl-2-Pentanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Toluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Hexanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011

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106 South Street
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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
530 Broadway
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-22** Sample No.: **013**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Tetrachloroethene	EPA 8260	39	1.0	ug/L	MQS	01/10/2011
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	104	70-130	% R	MQS	01/10/2011
***Toluene-D8	EPA 8260	109	70-130	% R	MQS	01/10/2011

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A N A L Y T I C A L R E P O R T

GZA GeoEnvironmental, Inc.
530 Broadway
Providence, RI 02909

Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-22**
Sample No.: **013**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	100	70-130	% R	MQS	01/10/2011
Preparation	EPA 5030B	1.0		CF	MQS	01/10/2011

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ANALYTICAL REPORT

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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-23** Sample No.: **014**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	01/10/2011
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Diethylether	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Acetone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Butanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
cis-1,2-Dichloroethene	EPA 8260	1.1	1.0	ug/L	MQS	01/10/2011
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Trichloroethene	EPA 8260	2.1	1.0	ug/L	MQS	01/10/2011
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
4-Methyl-2-Pentanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Toluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Hexanone	EPA 8260	<10	10	ug/L	MQS	01/10/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
530 Broadway
Providence, RI 02909

Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-23** Sample No.: **014**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	01/10/2011
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/10/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	117	70-130	% R	MQS	01/10/2011
***Toluene-D8	EPA 8260	114	70-130	% R	MQS	01/10/2011

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A N A L Y T I C A L R E P O R T

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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-23** Sample No.: **014**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	103	70-130	% R	MQS	01/10/2011
Preparation	EPA 5030B	1.0		CF	MQS	01/10/2011
TOTAL PETROLEUM HYDROCARBON	Mod. EPA 8100				KEF	01/07/2011
Hydrocarbon Content		<200	200	ug/L	KEF	01/07/2011
Surrogate:						
***o-Terphenyl		45.6	40-130	% R	KEF	01/07/2011
Extraction	EPA 3510C	1.0		DF	JKC	01/07/2011

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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-24** Sample No.: **015**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	01/10/2011
Dichlorodifluoromethane	EPA 8260	<10	10	ug/L	MQS	01/10/2011
Chloromethane	EPA 8260	<10	10	ug/L	MQS	01/10/2011
Vinyl Chloride	EPA 8260	250	5.0	ug/L	MQS	01/10/2011
Bromomethane	EPA 8260	<10	10	ug/L	MQS	01/10/2011
Chloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Trichlorofluoromethane	EPA 8260	<10	10	ug/L	MQS	01/10/2011
Diethylether	EPA 8260	<10	10	ug/L	MQS	01/10/2011
Acetone	EPA 8260	<50	50	ug/L	MQS	01/10/2011
1,1-Dichloroethene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Dichloromethane	EPA 8260	<10	10	ug/L	MQS	01/10/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
trans-1,2-Dichloroethene	EPA 8260	9.0	5.0	ug/L	MQS	01/10/2011
1,1-Dichloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
2-Butanone	EPA 8260	<50	50	ug/L	MQS	01/10/2011
2,2-Dichloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
cis-1,2-Dichloroethene	EPA 8260	740	5.0	ug/L	MQS	01/10/2011
Chloroform	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Bromochloromethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Tetrahydrofuran	EPA 8260	<50	50	ug/L	MQS	01/10/2011
1,1,1-Trichloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,1-Dichloropropene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Carbon Tetrachloride	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,2-Dichloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Benzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Trichloroethene	EPA 8260	24	5.0	ug/L	MQS	01/10/2011
1,2-Dichloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Bromodichloromethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Dibromomethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
4-Methyl-2-Pentanone	EPA 8260	<50	50	ug/L	MQS	01/10/2011
cis-1,3-Dichloropropene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Toluene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
trans-1,3-Dichloropropene	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,1,2-Trichloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
2-Hexanone	EPA 8260	<50	50	ug/L	MQS	01/10/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-24** Sample No.: **015**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Tetrachloroethene	EPA 8260	65	5.0	ug/L	MQS	01/10/2011
Dibromochloromethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,2-Dibromoethane (EDB)	EPA 8260	<10	10	ug/L	MQS	01/10/2011
Chlorobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Ethylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
m&p-Xylene	EPA 8260	<10	10	ug/L	MQS	01/10/2011
o-Xylene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Styrene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Bromoform	EPA 8260	<10	10	ug/L	MQS	01/10/2011
Isopropylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,2,3-Trichloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Bromobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
N-Propylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
2-Chlorotoluene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,3,5-Trimethylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
4-Chlorotoluene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
tert-Butylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,2,4-Trimethylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
sec-Butylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
p-Isopropyltoluene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,3-Dichlorobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,4-Dichlorobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
n-Butylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,2-Dichlorobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,2,4-Trichlorobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Hexachlorobutadiene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Naphthalene	EPA 8260	<10	10	ug/L	MQS	01/10/2011
1,2,3-Trichlorobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	01/10/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	111	70-130	% R	MQS	01/10/2011
***Toluene-D8	EPA 8260	113	70-130	% R	MQS	01/10/2011

GZA GeoEnvironmental, Inc.
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A N A L Y T I C A L R E P O R T

GZA GeoEnvironmental, Inc.
530 Broadway
Providence, RI 02909

Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-24** Sample No.: **015**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	99.4	70-130	% R	MQS	01/10/2011
Preparation	EPA 5030B	5.0		CF	MQS	01/10/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-25** Sample No.: **016**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	01/11/2011
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Diethylether	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Acetone	EPA 8260	<10	10	ug/L	MQS	01/11/2011
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
2-Butanone	EPA 8260	<10	10	ug/L	MQS	01/11/2011
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
cis-1,2-Dichloroethene	EPA 8260	3.3	1.0	ug/L	MQS	01/11/2011
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	01/11/2011
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Trichloroethene	EPA 8260	4.8	1.0	ug/L	MQS	01/11/2011
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
4-Methyl-2-Pentanone	EPA 8260	<10	10	ug/L	MQS	01/11/2011
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Toluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
2-Hexanone	EPA 8260	<10	10	ug/L	MQS	01/11/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
530 Broadway
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-25** Sample No.: **016**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Tetrachloroethene	EPA 8260	63	1.0	ug/L	MQS	01/11/2011
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	111	70-130	% R	MQS	01/11/2011
***Toluene-D8	EPA 8260	112	70-130	% R	MQS	01/11/2011

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A N A L Y T I C A L R E P O R T

GZA GeoEnvironmental, Inc.
530 Broadway
Providence, RI 02909

Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-25**
Sample No.: **016**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	99.8	70-130	% R	MQS	01/11/2011
Preparation	EPA 5030B	1.0		CF	MQS	01/10/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
530 Broadway
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-26** Sample No.: **017**
Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	01/11/2011
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Diethylether	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Acetone	EPA 8260	<10	10	ug/L	MQS	01/11/2011
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
2-Butanone	EPA 8260	<10	10	ug/L	MQS	01/11/2011
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
cis-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	01/11/2011
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
4-Methyl-2-Pentanone	EPA 8260	<10	10	ug/L	MQS	01/11/2011
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Toluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
2-Hexanone	EPA 8260	<10	10	ug/L	MQS	01/11/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
530 Broadway
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-26** Sample No.: **017**
Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	108	70-130	% R	MQS	01/11/2011
***Toluene-D8	EPA 8260	112	70-130	% R	MQS	01/11/2011

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A N A L Y T I C A L R E P O R T

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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-26** Sample No.: **017**
Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	102	70-130	% R	MQS	01/11/2011
Preparation	EPA 5030B	1.0		CF	MQS	01/10/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-27** Sample No.: **018**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	01/11/2011
Dichlorodifluoromethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/11/2011
Chloromethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/11/2011
Vinyl Chloride	EPA 8260	88	2.5	ug/L	MQS	01/11/2011
Bromomethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/11/2011
Chloroethane	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
Trichlorofluoromethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/11/2011
Diethylether	EPA 8260	<5.0	5.0	ug/L	MQS	01/11/2011
Acetone	EPA 8260	<25	25	ug/L	MQS	01/11/2011
1,1-Dichloroethene	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
Dichloromethane	EPA 8260	<5.0	5.0	ug/L	MQS	01/11/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
trans-1,2-Dichloroethene	EPA 8260	4.2	2.5	ug/L	MQS	01/11/2011
1,1-Dichloroethane	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
2-Butanone	EPA 8260	<25	25	ug/L	MQS	01/11/2011
2,2-Dichloropropane	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
cis-1,2-Dichloroethene	EPA 8260	380	2.5	ug/L	MQS	01/11/2011
Chloroform	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
Bromochloromethane	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
Tetrahydrofuran	EPA 8260	<25	25	ug/L	MQS	01/11/2011
1,1,1-Trichloroethane	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
1,1-Dichloropropene	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
Carbon Tetrachloride	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
1,2-Dichloroethane	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
Benzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
Trichloroethene	EPA 8260	45	2.5	ug/L	MQS	01/11/2011
1,2-Dichloropropane	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
Bromodichloromethane	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
Dibromomethane	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
4-Methyl-2-Pentanone	EPA 8260	<25	25	ug/L	MQS	01/11/2011
cis-1,3-Dichloropropene	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
Toluene	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
trans-1,3-Dichloropropene	EPA 8260	<5.0	5.0	ug/L	MQS	01/11/2011
1,1,2-Trichloroethane	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
2-Hexanone	EPA 8260	<25	25	ug/L	MQS	01/11/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
530 Broadway
Providence, RI 02909

Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-27** Sample No.: **018**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
Tetrachloroethene	EPA 8260	12	2.5	ug/L	MQS	01/11/2011
Dibromochloromethane	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
1,2-Dibromoethane (EDB)	EPA 8260	<5.0	5.0	ug/L	MQS	01/11/2011
Chlorobenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
Ethylbenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
m&p-Xylene	EPA 8260	<5.0	5.0	ug/L	MQS	01/11/2011
o-Xylene	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
Styrene	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
Bromoform	EPA 8260	<5.0	5.0	ug/L	MQS	01/11/2011
Isopropylbenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
1,2,3-Trichloropropane	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
Bromobenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
N-Propylbenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
2-Chlorotoluene	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
1,3,5-Trimethylbenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
4-Chlorotoluene	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
tert-Butylbenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
1,2,4-Trimethylbenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
sec-Butylbenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
p-Isopropyltoluene	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
1,3-Dichlorobenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
1,4-Dichlorobenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
n-Butylbenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
1,2-Dichlorobenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	01/11/2011
1,2,4-Trichlorobenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
Hexachlorobutadiene	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
Naphthalene	EPA 8260	<5.0	5.0	ug/L	MQS	01/11/2011
1,2,3-Trichlorobenzene	EPA 8260	<2.5	2.5	ug/L	MQS	01/11/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	106	70-130	% R	MQS	01/11/2011
***Toluene-D8	EPA 8260	107	70-130	% R	MQS	01/11/2011

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A N A L Y T I C A L R E P O R T

GZA GeoEnvironmental, Inc.
530 Broadway
Providence, RI 02909

Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-27** Sample No.: **018**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	102	70-130	% R	MQS	01/11/2011
Preparation	EPA 5030B	2.5		CF	MQS	01/10/2011
TOTAL PETROLEUM HYDROCARBON	Mod. EPA 8100				KEF	01/07/2011
Hydrocarbon Content		<200	200	ug/L	KEF	01/07/2011
Surrogate:						
***o-Terphenyl		40.7	40-130	% R	KEF	01/07/2011
Extraction	EPA 3510C	1.0		DF	JKC	01/07/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-28** Sample No.: **019**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	01/11/2011
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Vinyl Chloride	EPA 8260	24	1.0	ug/L	MQS	01/11/2011
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Diethylether	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Acetone	EPA 8260	<10	10	ug/L	MQS	01/11/2011
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
trans-1,2-Dichloroethene	EPA 8260	1.8	1.0	ug/L	MQS	01/11/2011
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
2-Butanone	EPA 8260	<10	10	ug/L	MQS	01/11/2011
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
cis-1,2-Dichloroethene	EPA 8260	160	1.0	ug/L	MQS	01/11/2011
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	01/11/2011
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Trichloroethene	EPA 8260	23	1.0	ug/L	MQS	01/11/2011
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
4-Methyl-2-Pentanone	EPA 8260	<10	10	ug/L	MQS	01/11/2011
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Toluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
2-Hexanone	EPA 8260	<10	10	ug/L	MQS	01/11/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
530 Broadway
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-28** Sample No.: **019**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Tetrachloroethene	EPA 8260	2.6	1.0	ug/L	MQS	01/11/2011
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	107	70-130	% R	MQS	01/11/2011
***Toluene-D8	EPA 8260	107	70-130	% R	MQS	01/11/2011

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A N A L Y T I C A L R E P O R T

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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **GZ-28** Sample No.: **019**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	98.6	70-130	% R	MQS	01/11/2011
Preparation	EPA 5030B	1.0		CF	MQS	01/10/2011
TOTAL PETROLEUM HYDROCARBON	Mod. EPA 8100				KEF	01/08/2011
Hydrocarbon Content		<200	200	ug/L	KEF	01/08/2011
Surrogate:						
***o-Terphenyl		49.0	40-130	% R	KEF	01/08/2011
Extraction	EPA 3510C	1.0		DF	JKC	01/07/2011

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ANALYTICAL REPORT

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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **Trip Blank** Sample No.: **020**
Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	01/11/2011
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Diethylether	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Acetone	EPA 8260	<10	10	ug/L	MQS	01/11/2011
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
2-Butanone	EPA 8260	<10	10	ug/L	MQS	01/11/2011
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
cis-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	01/11/2011
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
4-Methyl-2-Pentanone	EPA 8260	<10	10	ug/L	MQS	01/11/2011
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Toluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
2-Hexanone	EPA 8260	<10	10	ug/L	MQS	01/11/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
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Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **Trip Blank**
Sample No.: **020**
Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	01/11/2011
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	01/11/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	105	70-130	% R	MQS	01/11/2011
***Toluene-D8	EPA 8260	110	70-130	% R	MQS	01/11/2011

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530 Broadway
Providence, RI 02909

Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/06/2011**
Date Reported: **01/12/2011**
Work Order No.: **1101-00015**

Sample ID: **Trip Blank** Sample No.: **020**
Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	100	70-130	% R	MQS	01/11/2011
Preparation	EPA 5030B	1.0		CF	MQS	01/10/2011

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748

EPA Method 8260 / 524.2 Aqueous Method Blank (MB) and Laboratory Control Sample/Duplicate (LCS/LCSD) Data

Method Blank			Laboratory Control Sample				Laboratory Control Sample Duplicate					
Date Analyzed:	**1/10/2011**		**Date Analyzed:**	**1/10/2011**			**1/10/2011**					
Volatile Organics	**Conc. ug/L**	**Acceptance Limit**	**Spike Concentration = 20ug/L**	**% Recovery**	**Acceptance Limits**	**Verdict**	**% Recovery**	**Acceptance Limits**	**Verdict**	**RPD**	**Limit**	**Verdict**
dichlorodifluoromethane	< 1.0	< 1.0	dichlorodifluoromethane	115	70-130	ok	118	70-130	ok	2.58	<25	ok
chloromethane	< 1.0	< 1.0	chloromethane	115	70-130	ok	118	70-130	ok	2.67	<25	ok
vinyl chloride	< 0.5	< 0.5	vinyl chloride	111	80-120	ok	114	70-130	ok	2.04	<25	ok
bromomethane	< 1.0	< 1.0	bromomethane	97.2	70-130	ok	98.0	70-130	ok	0.74	<25	ok
chloroethane	< 0.5	< 0.5	chloroethane	115	70-130	ok	112	70-130	ok	1.77	<25	ok
trichlorofluoromethane	< 1.0	< 1.0	trichlorofluoromethane	106	70-130	ok	104	70-130	ok	1.86	<25	ok
diethyl ether	< 2.5	< 2.5	diethyl ether	103	70-130	ok	95.5	70-130	ok	7.40	<25	ok
acetone	< 10	< 10	acetone	101	70-130	ok	103	70-130	ok	1.69	<25	ok
1,1-dichloroethene	< 0.5	< 0.5	1,1-dichloroethene	108	80-120	ok	105	70-130	ok	2.35	<25	ok
carbon disulfide	< 5.0	< 5.0	carbon disulfide	103	70-130	ok	102	70-130	ok	1.05	<25	ok
dichloromethane	< 1.0	< 1.0	dichloromethane	97.2	70-130	ok	98.6	70-130	ok	1.47	<25	ok
methyl-tert-butyl-ether	< 0.5	< 0.5	methyl-tert-butyl-ether	102	70-130	ok	101	70-130	ok	0.83	<25	ok
trans-1,2-dichloroethene	< 0.5	< 0.5	trans-1,2-dichloroethene	108	70-130	ok	104	70-130	ok	3.81	<25	ok
1,1-dichloroethane	< 0.5	< 0.5	1,1-dichloroethane	108	70-130	ok	105	70-130	ok	2.70	<25	ok
2-butanone	< 10	< 10	2-butanone	106	70-130	ok	105	70-130	ok	0.86	<25	ok
2,2-dichloropropane	< 0.5	< 0.5	2,2-dichloropropane	113	70-130	ok	106	70-130	ok	6.39	<25	ok
cis-1,2-dichloroethene	< 0.5	< 0.5	cis-1,2-dichloroethene	106	70-130	ok	103	70-130	ok	2.72	<25	ok
chloroform	< 0.5	< 0.5	chloroform	104	80-120	ok	102	70-130	ok	1.97	<25	ok
bromochloromethane	< 0.5	< 0.5	bromochloromethane	104	70-130	ok	103	70-130	ok	0.82	<25	ok
tetrahydrofuran	< 5.0	< 5.0	tetrahydrofuran	121	70-130	ok	115	70-130	ok	4.79	<25	ok
1,1,1-trichloroethane	< 0.5	< 0.5	1,1,1-trichloroethane	105	70-130	ok	100	70-130	ok	4.68	<25	ok
1,1-dichloropropene	< 0.5	< 0.5	1,1-dichloropropene	107	70-130	ok	102	70-130	ok	5.06	<25	ok
carbon tetrachloride	< 0.5	< 0.5	carbon tetrachloride	109	70-130	ok	106	70-130	ok	2.22	<25	ok
1,2-dichloroethane	< 0.5	< 0.5	1,2-dichloroethane	99.6	70-130	ok	99.1	70-130	ok	0.50	<25	ok
benzene	< 0.5	< 0.5	benzene	106	70-130	ok	104	70-130	ok	2.06	<25	ok
trichloroethene	< 0.5	< 0.5	trichloroethene	104	70-130	ok	101	70-130	ok	3.14	<25	ok
1,2-dichloropropane	< 0.5	< 0.5	1,2-dichloropropane	106	80-120	ok	103	70-130	ok	2.92	<25	ok
bromodichloromethane	< 0.5	< 0.5	bromodichloromethane	102	70-130	ok	101	70-130	ok	1.11	<25	ok
dibromomethane	< 0.5	< 0.5	dibromomethane	100	70-130	ok	102	70-130	ok	1.97	<25	ok
4-methyl-2-pentanone	< 10	< 10	4-methyl-2-pentanone	103	70-130	ok	106	70-130	ok	3.20	<25	ok
cis-1,3-dichloropropene	< 0.5	< 0.5	cis-1,3-dichloropropene	108	70-130	ok	105	70-130	ok	2.82	<25	ok
toluene	< 0.5	< 0.5	toluene	103	80-120	ok	103	70-130	ok	0.21	<25	ok
trans-1,3-dichloropropene	< 1.0	< 1.0	trans-1,3-dichloropropene	102	70-130	ok	99.9	70-130	ok	1.64	<25	ok
1,1,2-trichloroethane	< 0.5	< 0.5	1,1,2-trichloroethane	99.0	70-130	ok	98.0	70-130	ok	0.95	<25	ok
2-hexanone	< 10	< 10	2-hexanone	104	70-130	ok	101	70-130	ok	2.58	<25	ok
1,3-dichloropropane	< 0.5	< 0.5	1,3-dichloropropane	99.3	70-130	ok	96.1	70-130	ok	3.25	<25	ok
tetrachloroethene	< 0.5	< 0.5	tetrachloroethene	98.2	70-130	ok	94.6	70-130	ok	3.68	<25	ok
dibromochloromethane	< 0.5	< 0.5	dibromochloromethane	99.9	70-130	ok	98.8	70-130	ok	1.20	<25	ok
1,2-dibromoethane (EDB)	< 1.0	< 1.0	1,2-dibromoethane (EDB)	99.4	70-130	ok	98.0	70-130	ok	1.37	<25	ok
chlorobenzene	< 0.5	< 0.5	chlorobenzene	99.6	70-130	ok	97.7	70-130	ok	1.99	<25	ok
1,1,1,2-tetrachloroethane	< 0.5	< 0.5	1,1,1,2-tetrachloroethane	94.2	70-130	ok	94.6	70-130	ok	0.52	<25	ok
ethylbenzene	< 0.5	< 0.5	ethylbenzene	99.2	80-120	ok	96.5	70-130	ok	2.80	<25	ok
1,1,2,2-tetrachloroethane	< 0.5	< 0.5	1,1,2,2-tetrachloroethane	95.6	70-130	ok	95.1	70-130	ok	0.51	<25	ok
m&p-xylene	< 1.0	< 1.0	m&p-xylene	99.7	70-130	ok	95.9	70-130	ok	3.92	<25	ok
o-xylene	< 0.5	< 0.5	o-xylene	103	70-130	ok	99.0	70-130	ok	3.91	<25	ok
styrene	< 0.5	< 0.5	styrene	103	70-130	ok	96.5	70-130	ok	6.98	<25	ok
bromoform	< 1.0	< 1.0	bromoform	99.3	70-130	ok	98.4	70-130	ok	0.84	<25	ok
isopropylbenzene	< 0.5	< 0.5	isopropylbenzene	102	70-130	ok	98.2	70-130	ok	4.00	<25	ok
1,2,3-trichloropropane	< 0.5	< 0.5	1,2,3-trichloropropane	95.7	70-130	ok	96.1	70-130	ok	0.45	<25	ok
bromobenzene	< 0.5	< 0.5	bromobenzene	101	70-130	ok	96.9	70-130	ok	4.05	<25	ok
n-propylbenzene	< 0.5	< 0.5	n-propylbenzene	107	70-130	ok	102	70-130	ok	4.20	<25	ok
2-chlorotoluene	< 0.5	< 0.5	2-chlorotoluene	102	70-130	ok	98.3	70-130	ok	4.10	<25	ok
1,3,5-trimethylbenzene	< 0.5	< 0.5	1,3,5-trimethylbenzene	105	70-130	ok	99.6	70-130	ok	5.14	<25	ok
4-chlorotoluene	< 0.5	< 0.5	4-chlorotoluene	106	70-130	ok	99.3	70-130	ok	6.41	<25	ok
tert-butyl-benzene	< 0.5	< 0.5	tert-butyl-benzene	102	70-130	ok	98.2	70-130	ok	3.27	<25	ok
1,2,4-trimethylbenzene	< 0.5	< 0.5	1,2,4-trimethylbenzene	104	70-130	ok	99.5	70-130	ok	4.87	<25	ok
sec-butyl-benzene	< 0.5	< 0.5	sec-butyl-benzene	103	70-130	ok	101	70-130	ok	2.38	<25	ok
p-isopropyltoluene	< 0.5	< 0.5	p-isopropyltoluene	103	70-130	ok	99.3	70-130	ok	4.02	<25	ok
1,3-dichlorobenzene	< 0.5	< 0.5	1,3-dichlorobenzene	100	70-130	ok	98.7	70-130	ok	1.67	<25	ok
1,4-dichlorobenzene	< 0.5	< 0.5	1,4-dichlorobenzene	102	70-130	ok	96.7	70-130	ok	5.11	<25	ok
n-butylbenzene	< 0.5	< 0.5	n-butylbenzene	106	70-130	ok	102	70-130	ok	4.25	<25	ok
1,2-dichlorobenzene	< 0.5	< 0.5	1,2-dichlorobenzene	97.5	70-130	ok	94.7	70-130	ok	2.85	<25	ok
1,2-dibromo-3-chloropropane	< 2.5	< 2.5	1,2-dibromo-3-chloropropane	98.9	70-130	ok	99.8	70-130	ok	0.89	<25	ok
1,2,4-trichlorobenzene	< 0.5	< 0.5	1,2,4-trichlorobenzene	100.0	70-130	ok	99.6	70-130	ok	0.37	<25	ok
hexachlorobutadiene	< 0.5	< 0.5	hexachlorobutadiene	99.4	70-130	ok	97.6	70-130	ok	1.81	<25	ok
naphthalene	< 1.0	< 1.0	naphthalene	94.7	70-130	ok	96.1	70-130	ok	1.47	<25	ok

Surrogates:	**Recovery (%)**	**Acceptance Limits**	**Surrogates:**	**Recovery (%)**	**Acceptance Limits**	**Verdict**	**Recovery (%)**	**Acceptance Limits**	**Verdict**	**RPD**	**Acceptance Limits**	**Verdict**
DIBROMOFLUOROMETHANE	112	70-130	DIBROMOFLUOROMETHANE	112	70-130	ok	112	70-130	ok	0.01	<25	ok
1,2-DICHLOROETHANE-D4	114	70-130	1,2-DICHLOROETHANE-D4	113	70-130	ok	118	70-130	ok	4.35	<25	ok
TOLUENE-D8	108	70-130	TOLUENE-D8	110	70-130	ok	109	70-130	ok	0.54	<25	ok
4-BROMOFLUOROBENZENE	104	70-130	4-BROMOFLUOROBENZENE	110	70-130	ok	109	70-130	ok	1.53	<25	ok
1,2-DICHLOROBENZENE-D4	102	70-130	1,2-DICHLOROBENZENE-D4	110	70-130	ok	106	70-130	ok	3.88	<25	ok

Instrument: HP GC/MS "S"

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748

EPA Method 8260 / 524.2 Aqueous Method Blank (MB) and Laboratory Control Sample/Duplicate (LCS/LCSD) Data

Method Blank			Laboratory Control Sample				Laboratory Control Sample Duplicate					
Date Analyzed:	**1/10/2011 2**		**Date Analyzed:**	**1/10/2011 2**			**1/10/2011 2**					
Volatile Organics	**Conc. ug/L**	**Acceptance Limit**	**Spike Concentration = 20ug/L**	**% Recovery**	**Acceptance Limits**	**Verdict**	**% Recovery**	**Acceptance Limits**	**Verdict**	**RPD**	**Limit**	**Verdict**
dichlorodifluoromethane	< 1.0	< 1.0	dichlorodifluoromethane	119	70-130	ok	121	70-130	ok	1.59	<25	ok
chloromethane	< 1.0	< 1.0	chloromethane	121	70-130	ok	123	70-130	ok	0.95	<25	ok
vinyl chloride	< 0.5	< 0.5	vinyl chloride	118	80-120	ok	120	70-130	ok	1.24	<25	ok
bromomethane	< 1.0	< 1.0	bromomethane	98.7	70-130	ok	103	70-130	ok	4.08	<25	ok
chloroethane	< 0.5	< 0.5	chloroethane	116	70-130	ok	117	70-130	ok	0.80	<25	ok
trichlorofluoromethane	< 1.0	< 1.0	trichlorofluoromethane	107	70-130	ok	109	70-130	ok	1.42	<25	ok
diethyl ether	< 2.5	< 2.5	diethyl ether	96.3	70-130	ok	90.8	70-130	ok	5.90	<25	ok
acetone	< 10	< 10	acetone	99.2	70-130	ok	93.2	70-130	ok	6.27	<25	ok
1,1-dichloroethene	< 0.5	< 0.5	1,1-dichloroethene	108	80-120	ok	108	70-130	ok	0.84	<25	ok
carbon disulfide	< 5.0	< 5.0	carbon disulfide	104	70-130	ok	107	70-130	ok	2.39	<25	ok
dichloromethane	< 1.0	< 1.0	dichloromethane	101	70-130	ok	97.3	70-130	ok	3.45	<25	ok
methyl-tert-butyl-ether	< 0.5	< 0.5	methyl-tert-butyl-ether	99.2	70-130	ok	92.5	70-130	ok	6.95	<25	ok
trans-1,2-dichloroethene	< 0.5	< 0.5	trans-1,2-dichloroethene	110	70-130	ok	107	70-130	ok	2.74	<25	ok
1,1-dichloroethane	< 0.5	< 0.5	1,1-dichloroethane	107	70-130	ok	106	70-130	ok	1.08	<25	ok
2-butanone	< 10	< 10	2-butanone	102	70-130	ok	91.7	70-130	ok	10.9	<25	ok
2,2-dichloropropane	< 0.5	< 0.5	2,2-dichloropropane	89.0	70-130	ok	89.5	70-130	ok	0.57	<25	ok
cis-1,2-dichloroethene	< 0.5	< 0.5	cis-1,2-dichloroethene	105	70-130	ok	104	70-130	ok	1.27	<25	ok
chloroform	< 0.5	< 0.5	chloroform	104	80-120	ok	101	70-130	ok	3.30	<25	ok
bromochloromethane	< 0.5	< 0.5	bromochloromethane	105	70-130	ok	102	70-130	ok	2.84	<25	ok
tetrahydrofuran	< 5.0	< 5.0	tetrahydrofuran	108	70-130	ok	97.8	70-130	ok	10.1	<25	ok
1,1,1-trichloroethane	< 0.5	< 0.5	1,1,1-trichloroethane	104	70-130	ok	101	70-130	ok	3.09	<25	ok
1,1-dichloropropene	< 0.5	< 0.5	1,1-dichloropropene	108	70-130	ok	106	70-130	ok	1.59	<25	ok
carbon tetrachloride	< 0.5	< 0.5	carbon tetrachloride	107	70-130	ok	106	70-130	ok	1.78	<25	ok
1,2-dichloroethane	< 0.5	< 0.5	1,2-dichloroethane	101	70-130	ok	94.8	70-130	ok	6.31	<25	ok
benzene	< 0.5	< 0.5	benzene	107	70-130	ok	105	70-130	ok	1.93	<25	ok
trichloroethene	< 0.5	< 0.5	trichloroethene	105	70-130	ok	104	70-130	ok	0.78	<25	ok
1,2-dichloropropane	< 0.5	< 0.5	1,2-dichloropropane	108	80-120	ok	106	70-130	ok	1.81	<25	ok
bromodichloromethane	< 0.5	< 0.5	bromodichloromethane	101	70-130	ok	97.9	70-130	ok	3.39	<25	ok
dibromomethane	< 0.5	< 0.5	dibromomethane	96.6	70-130	ok	92.2	70-130	ok	4.60	<25	ok
4-methyl-2-pentanone	< 10	< 10	4-methyl-2-pentanone	102	70-130	ok	91.7	70-130	ok	10.6	<25	ok
cis-1,3-dichloropropene	< 0.5	< 0.5	cis-1,3-dichloropropene	101	70-130	ok	96.4	70-130	ok	4.75	<25	ok
toluene	< 0.5	< 0.5	toluene	105	80-120	ok	103	70-130	ok	1.27	<25	ok
trans-1,3-dichloropropene	< 1.0	< 1.0	trans-1,3-dichloropropene	93.8	70-130	ok	90.1	70-130	ok	3.97	<25	ok
1,1,2-trichloroethane	< 0.5	< 0.5	1,1,2-trichloroethane	97.6	70-130	ok	99.0	70-130	ok	1.49	<25	ok
2-hexanone	< 10	< 10	2-hexanone	102	70-130	ok	98.3	70-130	ok	3.82	<25	ok
1,3-dichloropropane	< 0.5	< 0.5	1,3-dichloropropane	98.9	70-130	ok	99.0	70-130	ok	0.11	<25	ok
tetrachloroethene	< 0.5	< 0.5	tetrachloroethene	96.9	70-130	ok	105	70-130	ok	8.28	<25	ok
dibromochloromethane	< 0.5	< 0.5	dibromochloromethane	99.0	70-130	ok	98.1	70-130	ok	0.89	<25	ok
1,2-dibromoethane (EDB)	< 1.0	< 1.0	1,2-dibromoethane (EDB)	99.6	70-130	ok	98.5	70-130	ok	1.04	<25	ok
chlorobenzene	< 0.5	< 0.5	chlorobenzene	102	70-130	ok	106	70-130	ok	3.87	<25	ok
1,1,1,2-tetrachloroethane	< 0.5	< 0.5	1,1,1,2-tetrachloroethane	98.8	70-130	ok	100.0	70-130	ok	1.19	<25	ok
ethylbenzene	< 0.5	< 0.5	ethylbenzene	104	80-120	ok	109	70-130	ok	4.32	<25	ok
1,1,2,2-tetrachloroethane	< 0.5	< 0.5	1,1,2,2-tetrachloroethane	96.0	70-130	ok	93.3	70-130	ok	2.89	<25	ok
m&p-xylene	< 1.0	< 1.0	m&p-xylene	98.5	70-130	ok	106	70-130	ok	7.18	<25	ok
o-xylene	< 0.5	< 0.5	o-xylene	101	70-130	ok	106	70-130	ok	5.24	<25	ok
styrene	< 0.5	< 0.5	styrene	100	70-130	ok	106	70-130	ok	5.17	<25	ok
bromoform	< 1.0	< 1.0	bromoform	89.3	70-130	ok	89.6	70-130	ok	0.32	<25	ok
isopropylbenzene	< 0.5	< 0.5	isopropylbenzene	103	70-130	ok	109	70-130	ok	6.16	<25	ok
1,2,3-trichloropropane	< 0.5	< 0.5	1,2,3-trichloropropane	97.2	70-130	ok	88.7	70-130	ok	9.15	<25	ok
bromobenzene	< 0.5	< 0.5	bromobenzene	97.8	70-130	ok	97.7	70-130	ok	0.08	<25	ok
n-propylbenzene	< 0.5	< 0.5	n-propylbenzene	103	70-130	ok	108	70-130	ok	4.45	<25	ok
2-chlorotoluene	< 0.5	< 0.5	2-chlorotoluene	102	70-130	ok	105	70-130	ok	3.21	<25	ok
1,3,5-trimethylbenzene	< 0.5	< 0.5	1,3,5-trimethylbenzene	103	70-130	ok	108	70-130	ok	4.41	<25	ok
4-chlorotoluene	< 0.5	< 0.5	4-chlorotoluene	103	70-130	ok	106	70-130	ok	3.58	<25	ok
tert-butyl-benzene	< 0.5	< 0.5	tert-butyl-benzene	104	70-130	ok	108	70-130	ok	4.50	<25	ok
1,2,4-trimethylbenzene	< 0.5	< 0.5	1,2,4-trimethylbenzene	102	70-130	ok	107	70-130	ok	4.48	<25	ok
sec-butyl-benzene	< 0.5	< 0.5	sec-butyl-benzene	103	70-130	ok	109	70-130	ok	6.35	<25	ok
p-isopropyltoluene	< 0.5	< 0.5	p-isopropyltoluene	103	70-130	ok	107	70-130	ok	4.15	<25	ok
1,3-dichlorobenzene	< 0.5	< 0.5	1,3-dichlorobenzene	98.6	70-130	ok	102	70-130	ok	3.20	<25	ok
1,4-dichlorobenzene	< 0.5	< 0.5	1,4-dichlorobenzene	97.8	70-130	ok	100.0	70-130	ok	2.15	<25	ok
n-butylbenzene	< 0.5	< 0.5	n-butylbenzene	102	70-130	ok	110	70-130	ok	7.37	<25	ok
1,2-dichlorobenzene	< 0.5	< 0.5	1,2-dichlorobenzene	94.5	70-130	ok	97.1	70-130	ok	2.66	<25	ok
1,2-dibromo-3-chloropropane	< 2.5	< 2.5	1,2-dibromo-3-chloropropane	94.3	70-130	ok	90.3	70-130	ok	4.27	<25	ok
1,2,4-trichlorobenzene	< 0.5	< 0.5	1,2,4-trichlorobenzene	94.8	70-130	ok	96.7	70-130	ok	1.99	<25	ok
hexachlorobutadiene	< 0.5	< 0.5	hexachlorobutadiene	98.5	70-130	ok	103	70-130	ok	4.71	<25	ok
naphthalene	< 1.0	< 1.0	naphthalene	93.2	70-130	ok	93.9	70-130	ok	0.83	<25	ok

Surrogates:	**Recovery (%)**	**Acceptance Limits**	**Surrogates:**	**Recovery (%)**	**Acceptance Limits**	**Verdict**	**Recovery (%)**	**Acceptance Limits**	**Verdict**	**RPD**	**Acceptance Limits**	**Verdict**
DIBROMOFLUOROMETHANE	113	70-130	DIBROMOFLUOROMETHANE	112	70-130	ok	109	70-130	ok	2.32	<25	ok
1,2-DICHLOROETHANE-D4	106	70-130	1,2-DICHLOROETHANE-D4	105	70-130	ok	99.1	70-130	ok	6.15	<25	ok
TOLUENE-D8	110	70-130	TOLUENE-D8	112	70-130	ok	108	70-130	ok	4.29	<25	ok
4-BROMOFLUOROBENZENE	104	70-130	4-BROMOFLUOROBENZENE	105	70-130	ok	103	70-130	ok	1.78	<25	ok
1,2-DICHLOROBENZENE-D4	101	70-130	1,2-DICHLOROBENZENE-D4	102	70-130	ok	102	70-130	ok	0.06	<25	ok

Instrument: HP GC/MS "S"

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ENVIRONMENTAL CHEMISTRY LABORATORY
106 SOUTH STREET, HOPKINTON, MA 01748 (508)435-9244
MASSACHUSETTS LABORATORY I.D. NO. MA092

TPH
TOTAL PETROLEUM HYDROCARBONS IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

EXT. DATE: 1/7/2011 Aqueous

METHOD BLANK	**AQUEOUS** ug/L-PPB	**SOLID** mg/kg - PPM	
TPH	<200	<10	
Surrogate:	**Recovery (%)**	**Limits-Aqueous**	**Limits-Solid**
***p-Terphenyl	48.8	40-130	40-130

LABORATORY CONTROL SAMPLE / DUPLICATE LCS	**LCS Recovery (%)**	**LCSD Recovery (%)**	**Limits**	**RPD**	**Limits**
TPH	60.9	53.5	**40-150**	**13**	**<30**
Surrogate:					
***p-Terphenyl	53.6	44.8			

*Matrix Spike / Duplicate Spike performed as per method and reported if assigned on the Chain of Custody.

W.O. # 1101-00015
(for lab use only)

CHAIN-OF-CUSTODY RECORD

Sample I.D.	Date/Time Sampled	Matrix (A=Air, S=Soil, GW=Ground W., SW=Surface W., WW=Waste W., DW=Drinking W., P=Product, Other (specify))	ANALYSIS REQUIRED: ☐ pH ☐ Cond.	GC Methane, Ethane, Ethene	EPA 8260	EPA 8260-8010 List (Chlor.)	EPA 8260-8021 list	EPA 8021-8020 List (BTEX)	EPA 524.2 DW VOCs	EPA 624 WW VOCs	☐ 601 ☐ 602 WW VOCs	EPA 8270 FULL SVOCs	EPA 8270 ☐ PAH ☐ A ☐ BN	EPA 625 WW SVOCs	EPA 8082-PCBs	EPA 8081-Pest	TPH-GC (Mod. 8100)	TPH-GC w/FING.	EPH (MA DEP)	VPH (MA DEP)	Metals ☐ PPM-13 ☐ R-8	MCP 14 Metals	Metals (List Below) **	TCLP - Specify Below	SPLP - Specify Below	EPA 300 ☐ Cl ☐ SO4	EPA 300 ☐ NO2 ☐ NO3	Total No. of Cont.	Note #
R12-1	1-5-11 1455	GW			X												X	(4c)		1/6/11			(1)					4 3	
R12-6	1-4-11 11:00				X												X											4	
R12-13	1-5-11 9:40				X												X											4	
GZ-3	1-5-11 10:20				X																							3	
GZ-7	1-4-11 16:32				X																							3	
GP-26	1-4-11 11:10				X												X											4	
R12-7	1-5-11 12:20				X												X											4	
GZ-19	1-5-11 12:52				X												X		m3C									3	
R12-5	1-5-11 10:30				X												X											4	
GZ-20	1-5-11 12:00				X																							3	
GP-38	1-5-11 10:00				X												X											4	
GZ-21	1-5-11 14:21				X												X											4	
GZ-22	1-5-11 13:45				X																							3	
PRESERVATIVE (CI-HCI, M-Methanol, N-HNO3, S-H2SO4, Na-NaOH, O-Other) *					Ci												—												
CONTAINER TYPE (P-Plastic, G-Glass, V-Vial, T-Teflon, O-Other)*					V												G												

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:
MML	1-5-11 1530	CS
RELINQUISHED BY:	DATE/TIME	RECEIVED BY:
CS	1/6/11 1130	Bill Bureau
RELINQUISHED BY:	DATE/TIME	RECEIVED BY:
Bill Bureau	1/6/11 1220	1/6/11 1300

NOTES: (Unless otherwise noted, all samples have been refrigerated to 4 +/- 2°C)
*Specify "Other" preservatives and container types in this space.
(1) Did not receive TPH bottle 1/6/11 (4c) - notified PM

Project Manager: Steve Nadeau

GZA GEOENVIRONMENTAL, INC.
Laboratory Division

106 South Street
Hopkinton, MA 01748
(781) 278-4700
FAX (508)435-9912

LAB USE: Temp Blank 10.2

TURNAROUND TIME: (Standard) Rush _____ Days, Approved by: _____ TEMP. OF COOLER 1.4 °C Cooler Air _____

GZA FILE NO: 03.00 32795.09 TASK NO: _____ P.O. NO. _____ 1/6/11 1436

PROJECT Yearly ICMP Monitoring checklist

LOCATION Alton RI

COLLECTOR(S) M. Bergen S. Wartkiewicz SHEET 1 OF 2

W.O. # 1161-00015
(for lab use only)

CHAIN-OF-CUSTODY RECORD

Sample I.D.	Date/Time Sampled	Matrix (A=Air, S=Soil, GW=Ground W., SW=Surface W., WW=Waste W., DW=Drinking W., P=Product, Other (specify))	ANALYSIS REQUIRED: ☐ pH ☐ Cond.	GC Methane, Ethane, Ethene	EPA 8260	EPA 8260-8010 List (Chlor.)	EPA 8260-8021 list	EPA 8021-8020 List (BTEX)	EPA 524.2 DW VOCs	EPA 624 WW VOCs	☐ 601 ☐ 602 WW VOCs	EPA 8270 FULL SVOCs	EPA 8270 ☐ PAH ☐ A ☐ BN	EPA 625 WW SVOCs	EPA 8082-PCBs	EPA 8081-Pest	TPH-GC (Mod. 8100)	TPH-GC w/FING.	EPH (MA DEP)	VPH (MA DEP)	Metals ☐ PPM-13 ☐ R-8	MCP 14 Metals	Metals (List Below) **	TCLP - Specify Below	SPLP - Specify Below	EPA 300 ☐ Cl ☐ SO4	EPA 300 ☐ NO2 ☐ NO3	Total No. of Cont.	Note #
GZ 23	1-5-11 13:22	GW			X												X											4	
GZ 24	1-5-11 11:35				X																							3	
GZ 25	1-5-11 11:45				X																							3	
GZ 26	1-4-11 10:30				X																							3	
GZ 27	1-5-11 11:19				X												X											4	
GZ 28	1-5-11 10:35				X												X											4	
TRIP BLANK	1/4/11				X																							3	
PRESERVATIVE (Cl-HCl, M-Methanol, N-HNO3, S-H2SO4, Na-NaOH, O-Other) *					Cl												-												
CONTAINER TYPE (P-Plastic, G-Glass, V-Vial, T-Teflon, O-Other)*					V												G												

RELINQUISHED BY: [illegible] DATE/TIME: 1-5-11 15?? RECEIVED BY: [illegible]

RELINQUISHED BY: CS 1/6/11 1130 DATE/TIME: Bill Bergan RECEIVED BY:

RELINQUISHED BY: Bill Bergan 1/6/11 1220 DATE/TIME: [illegible] 1/6/11 1300 RECEIVED BY:

Project Manager: Steve Anglin

NOTES: (Unless otherwise noted, all samples have been refrigerated to 4 +/- 2°C)
*Specify "Other" preservatives and container types in this space.

TURNAROUND TIME: Standard (4W) Rush _____ Days, Approved by: _____

LAB USE: TEMP. OF COOLER 1.4 °C Temp Blank 1412 Cooler Air _____

GZA FILE NO: 03 00 32795.29 TASK NO: _____ P.O. NO. _____ 1/6/11 1130

PROJECT Yearly Icing Monitoring, Chartpak

LOCATION Aiken RI

COLLECTOR(S) M. Bergan S. Markiewicz SHEET 2 OF 2

GZA GEOENVIRONMENTAL, INC.
Laboratory Division

106 South Street
Hopkinton, MA 01748
(781) 278-4700
FAX (508)435-9912

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748
(781) 278-4700

Laboratory Identification Numbers:
MA and ME: **MA092** NH: **2028**
CT: **PH0579** RI: **LAO00236**
NELAC - NYS DOH: **11063**

ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
530 Broadway
Providence, RI 02909

Project No.: **03.0032795.31**
Work Order No.: **1101-00028**
Date Received: **01/07/2011**
Date Reported: **01/13/2011**

SAMPLE INFORMATION

Date Sampled	Matrix	Laboratory ID	Sample ID
01/06/2011	Aqueous	1101-00028 001	RIZ-1

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748
(781) 278-4700

A N A L Y T I C A L R E P O R T

GZA GeoEnvironmental, Inc.
530 Broadway
Providence, RI 02909

Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/07/2011**
Date Reported: **01/13/2011**
Work Order No.: **1101-00028**

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 01/07/11 via _x_GZA courier, __EC, __FEDEX, or ___hand delivered. The temperature of the __temperature blank/_x_cooler air, was 0.8 degrees C. The temperature requirement for most analyses is above freezing to 6 degrees C. The samples were received intact for all requested analyses.

The chain of custody indicates that the samples, when required, were chemically preserved in accordance with the method they reference.

2. Total Petroleum Hydrocarbons

Attach QC TPH 01/11/11 - Aqueous

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748
(781) 278-4700

ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
530 Broadway
Providence, RI 02909

Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/07/2011**
Date Reported: **01/13/2011**
Work Order No.: **1101-00028**

Data Authorized By: _____

NELAC certification, as indicated by the NELAC Lab ID Number, is per analyte. For a complete list of NELAC validated analytes, please contact the laboratory.

Abbreviations:
% R = % Recovery
DF = Dilution Factor
DFS = Dilution Factor Solids
CF = Calculation Factor
DO = Diluted Out

Method Key:
Method 8260: The current version of the method is 8260B.
Method 8270: The current version of the method is 8270D.
Method 6010: The current version of the method is 6010C.
Method 8081: The current version of the method is 8081B.
Method 8082: The current version of the method is 8082A.
Method 7471: The current version of the method is 7471B.

The current Metals preparation methods are: 3010A (aqueous) and 3051 (solid).

Please note that the laboratory signed copy of the chain of custody record is an integral part of the data report.

Soil data is reported on a dry weight basis unless otherwise specified.
Matrix Spike / Matrix Spike Duplicate sets are performed as per method and are reported at the end of the analytical report if assigned on the Chain of Custody.

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106 South Street
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(781) 278-4700

A N A L Y T I C A L R E P O R T

GZA GeoEnvironmental, Inc.
530 Broadway
Providence, RI 02909

Project Name.: **Charbert**
Project No.: **03.0032795.31**

Date Received: **01/07/2011**
Date Reported: **01/13/2011**
Work Order No.: **1101-00028**

Sample ID: **RIZ-1** Sample No.: **001**
Sample Date: **01/06/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
TOTAL PETROLEUM HYDROCARBON	Mod. EPA 8100				KEF	01/12/2011
Hydrocarbon Content		<200	200	ug/L	KEF	01/12/2011
Surrogate:						
***p-Terphenyl		41.1	40-130	% R	KEF	01/12/2011
Extraction	EPA 3510C	1.0		DF	LRB	01/11/2011

GZA GEOENVIRONMENTAL, INC.
ENVIRONMENTAL CHEMISTRY LABORATORY
106 SOUTH STREET, HOPKINTON, MA 01748 (508)435-9244
MASSACHUSETTS LABORATORY I.D. NO. MA092

TPH
TOTAL PETROLEUM HYDROCARBONS IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

EXT. DATE: 1/11/2011 Aqueous

METHOD BLANK	**AQUEOUS** ug/L-PPB	**SOLID** mg/kg - PPM	
TPH	<200	<10	
Surrogate:	**Recovery (%)**	**Limits-Aqueous**	**Limits-Solid**
***p-Terphenyl	42.0	40-130	40-130

LABORATORY CONTROL SAMPLE / DUPLICATE LCS	**LCS Recovery (%)**	**LCSD Recovery (%)**	**Limits**	**RPD**	**Limits**
TPH	53.0	46.4	**40-150**	**13**	**<30**
Surrogate:					
***p-Terphenyl	47.0	48.4			

*Matrix Spike / Duplicate Spike performed as per method and reported if assigned on the Chain of Custody.

W.O. # 1101 - 00028
(for lab use only)

CHAIN-OF-CUSTODY RECORD

Sample I.D.	Date/Time Sampled	Matrix (A=Air, S=Soil, GW=Ground W., SW=Surface W., WW=Waste W., DW=Drinking W., P=Product, Other (specify))	ANALYSIS REQUIRED: ☐ pH ☐ Cond.	GC Methane, Ethane, Ethene	EPA 8260	EPA 8260-8010 List (Chlor.)	EPA 8260-8021 list	EPA 8021-8020 List (BTEX)	EPA 524.2 DW VOCs	EPA 624 WW VOCs	☐ 601 ☐ 602 WW VOCs	EPA 8270 FULL SVOCs	EPA 8270 ☐ PAH ☐ A ☐ BN	EPA 625 WW SVOCs	EPA 8082-PCBs	EPA 8081-Pest	TPH-GC (Mod. 8100)	TPH-GC w/FING.	EPH (MA DEP)	VPH (MA DEP)	Metals ☐ PPM-13 ☐ R-8	MCP 14 Metals	Metals (List Below) **	TCLP - Specify Below	SPLP - Specify Below	EPA 300 ☐ Cl ☐ SO4	EPA 300 ☐ NO2 ☐ NO3	Total No. of Cont.	Note #
A12	1-6-11 1730	GW																X										2	
PRESERVATIVE (Cl-HCl, M-Methanol, N-HNO3, S-H2SO4, Na-NaOH, O-Other) *																													
CONTAINER TYPE (P-Plastic, G-Glass, V-Vial, T-Teflon, O-Other)*																													

NOTES: (Unless otherwise noted, all samples have been refrigerated to 4 +/- 2°C)
*Specify "Other" preservatives and container types in this space.

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:
Mer	1/7/11 0800	CS
CS	1/7/11 0830	Bill Bucon
Bill Bucon	1/7/11 1015	[illegible] 1/7/11 1530

Project Manager: Steve Andrus

GZA GEOENVIRONMENTAL, INC.
Laboratory Division

106 South Street
Hopkinton, MA 01748
(781) 278-4700
FAX (508)435-9912

TURNAROUND TIME: Standard Rush ____ Days, Approved by: ____

LAB USE: TEMP. OF COOLER 0.7 °C Temp Blank Cooler Air 10/3

GZA FILE NO. 31.0032795.54 TASK NO: ____ P.O. NO. ____ 1/7/11 10:30

PROJECT Temp Groundwater Monitoring Network

LOCATION Albion RI

COLLECTOR(S) MJ Bergen SHEET 1 OF 1

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748
(781) 278-4700

Laboratory Identification Numbers:
MA and ME: **MA092** NH: **2028**
CT: **PH0579** RI: **LAO00236**
NELAC - NYS DOH: **11063**

ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
140 Broadway
Providence, RI 02903

Stephen Andrus

Project No.: **03.0032795.29**
Work Order No.: **1101-00011**
Date Received: **01/05/2011**
Date Reported: **01/10/2011**

SAMPLE INFORMATION

Date Sampled	Matrix	Laboratory ID	Sample ID
01/04/2011	Aqueous	1101-00011 001	GP-27A
01/04/2011	Aqueous	1101-00011 002	GP-27B
01/04/2011	Aqueous	1101-00011 003	A5-3
01/04/2011	Aqueous	1101-00011 004	A5-12
01/04/2011	Aqueous	1101-00011 005	A5-13
01/04/2011	Aqueous	1101-00011 006	A5-16
01/04/2011	Aqueous	1101-00011 007	Trip Blank
01/04/2011	Aqueous	1101-00011 008	GZ-8

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748
(781) 278-4700

A N A L Y T I C A L R E P O R T

GZA GeoEnvironmental, Inc.
140 Broadway
Providence, RI 02903

Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/05/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00011**

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 01/05/2011 via _x_GZA courier, __EC, __FEDEX, or ___hand delivered. The temperature of the __temperature blank/_x_cooler air, was degrees 2.1 C. The temperature requirement for most analyses is above freezing to 6 degrees C. The samples were received intact for all requested analyses.

2. EPA Method 8260 - VOCs

Attach QC 8260 1/7/2011 "S" - Aqueous

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748
(781) 278-4700

A N A L Y T I C A L R E P O R T

GZA GeoEnvironmental, Inc.
140 Broadway
Providence, RI 02903

Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/05/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00011**

Data Authorized By: _____

NELAC certification, as indicated by the NELAC Lab ID Number, is per analyte. For a complete list of NELAC validated analytes, please contact the laboratory.

Abbreviations:
% R = % Recovery
DF = Dilution Factor
DFS = Dilution Factor Solids
CF = Calculation Factor
DO = Diluted Out

Method Key:
Method 8260: The current version of the method is 8260B.
Method 8270: The current version of the method is 8270D.
Method 6010: The current version of the method is 6010C.
Method 8081: The current version of the method is 8081B.
Method 8082: The current version of the method is 8082A.
Method 7471: The current version of the method is 7471B.

Please note that the laboratory signed copy of the chain of custody record is an integral part of the data report.

Soil data is reported on a dry weight basis unless otherwise specified.
Matrix Spike / Matrix Spike Duplicate sets are performed as per method and are reported at the end of the analytical report if assigned on the Chain of Custody.

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748
(781) 278-4700

A N A L Y T I C A L R E P O R T

GZA GeoEnvironmental, Inc.
140 Broadway
Providence, RI 02903

Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/05/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00011**

Sample ID: **GP-27A** Sample No.: **001**

Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				KAC	01/07/2011
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chloromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromomethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Diethylether	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Acetone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Butanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
cis-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Chloroform	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Tetrahydrofuran	EPA 8260	<10	10	ug/L	KAC	01/07/2011
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Benzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
4-Methyl-2-Pentanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Toluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Hexanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748
(781) 278-4700

ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
140 Broadway
Providence, RI 02903

Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/05/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00011**

Sample ID: **GP-27A** Sample No.: **001**

Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
o-Xylene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Styrene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromoform	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Naphthalene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	113	70-130	% R	KAC	01/07/2011
***Toluene-D8	EPA 8260	111	70-130	% R	KAC	01/07/2011

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A N A L Y T I C A L R E P O R T

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Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/05/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00011**

Sample ID: **GP-27A** Sample No.: **001**
Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	104	70-130	% R	KAC	01/07/2011
Preparation	EPA 5030B	1.0		CF	KAC	01/07/2011

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ANALYTICAL REPORT

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Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/05/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00011**

Sample ID: **GP-27B** Sample No.: **002**

Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				KAC	01/07/2011
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chloromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromomethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Diethylether	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Acetone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Butanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
cis-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Chloroform	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Tetrahydrofuran	EPA 8260	<10	10	ug/L	KAC	01/07/2011
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Benzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
4-Methyl-2-Pentanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Toluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Hexanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011

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Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/05/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00011**

Sample ID: **GP-27B** Sample No.: **002**
Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
o-Xylene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Styrene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromoform	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Naphthalene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	110	70-130	% R	KAC	01/07/2011
***Toluene-D8	EPA 8260	116	70-130	% R	KAC	01/07/2011

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A N A L Y T I C A L R E P O R T

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Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/05/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00011**

Sample ID: **GP-27B** Sample No.: **002**

Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	105	70-130	% R	KAC	01/07/2011
Preparation	EPA 5030B	1.0		CF	KAC	01/07/2011

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ANALYTICAL REPORT

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Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/05/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00011**

Sample ID: **A5-3** Sample No.: **003**

Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				KAC	01/07/2011
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chloromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromomethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Diethylether	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Acetone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Butanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
cis-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Chloroform	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Tetrahydrofuran	EPA 8260	<10	10	ug/L	KAC	01/07/2011
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Benzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
4-Methyl-2-Pentanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Toluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Hexanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011

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Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/05/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00011**

Sample ID: **A5-3** Sample No.: **003**

Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
o-Xylene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Styrene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromoform	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Naphthalene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	110	70-130	% R	KAC	01/07/2011
***Toluene-D8	EPA 8260	112	70-130	% R	KAC	01/07/2011

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Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/05/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00011**

Sample ID: **A5-3** Sample No.: **003**

Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	103	70-130	% R	KAC	01/07/2011
Preparation	EPA 5030B	1.0		CF	KAC	01/07/2011

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ANALYTICAL REPORT

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Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/05/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00011**

Sample ID: **A5-12** Sample No.: **004**

Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				KAC	01/07/2011
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chloromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromomethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Diethylether	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Acetone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Butanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
cis-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Chloroform	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Tetrahydrofuran	EPA 8260	<10	10	ug/L	KAC	01/07/2011
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Benzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
4-Methyl-2-Pentanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Toluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Hexanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011

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Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/05/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00011**

Sample ID: **A5-12** Sample No.: **004**

Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
o-Xylene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Styrene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromoform	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Naphthalene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	115	70-130	% R	KAC	01/07/2011
***Toluene-D8	EPA 8260	113	70-130	% R	KAC	01/07/2011

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A N A L Y T I C A L R E P O R T

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Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/05/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00011**

Sample ID: **A5-12** Sample No.: **004**

Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	103	70-130	% R	KAC	01/07/2011
Preparation	EPA 5030B	1.0		CF	KAC	01/07/2011

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Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/05/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00011**

Sample ID: **A5-13** Sample No.: **005**

Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				KAC	01/07/2011
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chloromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromomethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Diethylether	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Acetone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Butanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
cis-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Chloroform	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Tetrahydrofuran	EPA 8260	<10	10	ug/L	KAC	01/07/2011
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Benzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
4-Methyl-2-Pentanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Toluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Hexanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011

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Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/05/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00011**

Sample ID: **A5-13** Sample No.: **005**

Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
o-Xylene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Styrene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromoform	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Naphthalene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	112	70-130	% R	KAC	01/07/2011
***Toluene-D8	EPA 8260	112	70-130	% R	KAC	01/07/2011

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A N A L Y T I C A L R E P O R T

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Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/05/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00011**

Sample ID: **A5-13** Sample No.: **005**

Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	101	70-130	% R	KAC	01/07/2011
Preparation	EPA 5030B	1.0		CF	KAC	01/07/2011

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Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/05/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00011**

Sample ID: **A5-16** Sample No.: **006**

Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				KAC	01/07/2011
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chloromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromomethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Diethylether	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Acetone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Butanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
cis-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Chloroform	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Tetrahydrofuran	EPA 8260	<10	10	ug/L	KAC	01/07/2011
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Benzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
4-Methyl-2-Pentanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Toluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Hexanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011

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Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/05/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00011**

Sample ID: **A5-16** Sample No.: **006**

Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
o-Xylene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Styrene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromoform	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Naphthalene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	112	70-130	% R	KAC	01/07/2011
***Toluene-D8	EPA 8260	114	70-130	% R	KAC	01/07/2011

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A N A L Y T I C A L R E P O R T

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140 Broadway
Providence, RI 02903

Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/05/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00011**

Sample ID: **A5-16** Sample No.: **006**

Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	105	70-130	% R	KAC	01/07/2011
Preparation	EPA 5030B	1.0		CF	KAC	01/07/2011

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Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/05/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00011**

Sample ID: **Trip Blank** Sample No.: **007**

Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				KAC	01/07/2011
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chloromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromomethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Diethylether	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Acetone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Butanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
cis-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Chloroform	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Tetrahydrofuran	EPA 8260	<10	10	ug/L	KAC	01/07/2011
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Benzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
4-Methyl-2-Pentanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Toluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Hexanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011

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Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/05/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00011**

Sample ID: **Trip Blank** Sample No.: **007**

Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
o-Xylene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Styrene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromoform	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Naphthalene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	111	70-130	% R	KAC	01/07/2011
***Toluene-D8	EPA 8260	111	70-130	% R	KAC	01/07/2011

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Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/05/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00011**

Sample ID: **Trip Blank** Sample No.: **007**
Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	100	70-130	% R	KAC	01/07/2011
Preparation	EPA 5030B	1.0		CF	KAC	01/07/2011

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Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/05/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00011**

Sample ID: **GZ-8** Sample No.: **008**

Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				KAC	01/07/2011
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chloromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromomethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Diethylether	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Acetone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Butanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
cis-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Chloroform	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Tetrahydrofuran	EPA 8260	<10	10	ug/L	KAC	01/07/2011
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Benzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
4-Methyl-2-Pentanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Toluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Hexanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011

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Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/05/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00011**

Sample ID: **GZ-8** Sample No.: **008**

Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
o-Xylene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Styrene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromoform	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Naphthalene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	107	70-130	% R	KAC	01/07/2011
***Toluene-D8	EPA 8260	115	70-130	% R	KAC	01/07/2011

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Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/05/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00011**

Sample ID: **GZ-8** Sample No.: **008**

Sample Date: **01/04/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	100	70-130	% R	KAC	01/07/2011
Preparation	EPA 5030B	1.0		CF	KAC	01/07/2011

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EPA Method 8260 / 524.2 Aqueous Method Blank (MB) and Laboratory Control Sample/Duplicate (LCS/LCSD) Data

Method Blank			Laboratory Control Sample				Laboratory Control Sample Duplicate					
Date Analyzed:	**1/7/2011 1**		**Date Analyzed:**	**1/7/2011 1**			**1/7/2011 1**					
Volatile Organics	**Conc. ug/L**	**Acceptance Limit**	**Spike Concentration = 20ug/L**	**% Recovery**	**Acceptance Limits**	**Verdict**	**% Recovery**	**Acceptance Limits**	**Verdict**	**RPD**	**Limit**	**Verdict**
dichlorodifluoromethane	< 1.0	< 1.0	dichlorodifluoromethane	113	70-130	ok	116	70-130	ok	2.87	<25	ok
chloromethane	< 1.0	< 1.0	chloromethane	113	70-130	ok	111	70-130	ok	1.35	<25	ok
vinyl chloride	< 0.5	< 0.5	vinyl chloride	109	80-120	ok	111	70-130	ok	2.00	<25	ok
bromomethane	< 1.0	< 1.0	bromomethane	96.5	70-130	ok	97.3	70-130	ok	0.82	<25	ok
chloroethane	< 0.5	< 0.5	chloroethane	110	70-130	ok	106	70-130	ok	3.75	<25	ok
trichlorofluoromethane	< 1.0	< 1.0	trichlorofluoromethane	102	70-130	ok	104	70-130	ok	2.29	<25	ok
diethyl ether	< 2.5	< 2.5	diethyl ether	96.6	70-130	ok	103	70-130	ok	6.60	<25	ok
acetone	< 10	< 10	acetone	91.3	70-130	ok	97.2	70-130	ok	6.25	<25	ok
1,1-dichloroethene	< 0.5	< 0.5	1,1-dichloroethene	100	80-120	ok	103	70-130	ok	3.01	<25	ok
carbon disulfide	< 5.0	< 5.0	carbon disulfide	98.1	70-130	ok	104	70-130	ok	5.64	<25	ok
dichloromethane	< 1.0	< 1.0	dichloromethane	95.1	70-130	ok	95.5	70-130	ok	0.38	<25	ok
methyl-tert-butyl-ether	< 0.5	< 0.5	methyl-tert-butyl-ether	100	70-130	ok	99.3	70-130	ok	0.90	<25	ok
trans-1,2-dichloroethene	< 0.5	< 0.5	trans-1,2-dichloroethene	104	70-130	ok	103	70-130	ok	1.38	<25	ok
1,1-dichloroethane	< 0.5	< 0.5	1,1-dichloroethane	98.9	70-130	ok	101	70-130	ok	2.31	<25	ok
2-butanone	< 10	< 10	2-butanone	99.1	70-130	ok	102	70-130	ok	2.82	<25	ok
2,2-dichloropropane	< 0.5	< 0.5	2,2-dichloropropane	105	70-130	ok	104	70-130	ok	1.77	<25	ok
cis-1,2-dichloroethene	< 0.5	< 0.5	cis-1,2-dichloroethene	103	70-130	ok	100	70-130	ok	2.08	<25	ok
chloroform	< 0.5	< 0.5	chloroform	98.1	80-120	ok	97.8	70-130	ok	0.39	<25	ok
bromochloromethane	< 0.5	< 0.5	bromochloromethane	99.9	70-130	ok	102	70-130	ok	2.41	<25	ok
tetrahydrofuran	< 5.0	< 5.0	tetrahydrofuran	105	70-130	ok	111	70-130	ok	5.55	<25	ok
1,1,1-trichloroethane	< 0.5	< 0.5	1,1,1-trichloroethane	97.2	70-130	ok	98.8	70-130	ok	1.65	<25	ok
1,1-dichloropropene	< 0.5	< 0.5	1,1-dichloropropene	102	70-130	ok	102	70-130	ok	0.35	<25	ok
carbon tetrachloride	< 0.5	< 0.5	carbon tetrachloride	95.8	70-130	ok	97.8	70-130	ok	2.14	<25	ok
1,2-dichloroethane	< 0.5	< 0.5	1,2-dichloroethane	94.1	70-130	ok	96.7	70-130	ok	2.74	<25	ok
benzene	< 0.5	< 0.5	benzene	99.4	70-130	ok	102	70-130	ok	2.92	<25	ok
trichloroethene	< 0.5	< 0.5	trichloroethene	99.3	70-130	ok	101	70-130	ok	1.90	<25	ok
1,2-dichloropropane	< 0.5	< 0.5	1,2-dichloropropane	99.4	80-120	ok	102	70-130	ok	3.08	<25	ok
bromodichloromethane	< 0.5	< 0.5	bromodichloromethane	98.1	70-130	ok	96.8	70-130	ok	1.29	<25	ok
dibromomethane	< 0.5	< 0.5	dibromomethane	100	70-130	ok	99.8	70-130	ok	0.66	<25	ok
4-methyl-2-pentanone	< 10	< 10	4-methyl-2-pentanone	102	70-130	ok	103	70-130	ok	0.60	<25	ok
cis-1,3-dichloropropene	< 0.5	< 0.5	cis-1,3-dichloropropene	105	70-130	ok	102	70-130	ok	2.45	<25	ok
toluene	< 0.5	< 0.5	toluene	99.4	80-120	ok	100	70-130	ok	0.70	<25	ok
trans-1,3-dichloropropene	< 1.0	< 1.0	trans-1,3-dichloropropene	97.5	70-130	ok	98.4	70-130	ok	0.91	<25	ok
1,1,2-trichloroethane	< 0.5	< 0.5	1,1,2-trichloroethane	100	70-130	ok	94.6	70-130	ok	5.65	<25	ok
2-hexanone	< 10	< 10	2-hexanone	103	70-130	ok	101	70-130	ok	1.67	<25	ok
1,3-dichloropropane	< 0.5	< 0.5	1,3-dichloropropane	100	70-130	ok	91.5	70-130	ok	9.42	<25	ok
tetrachloroethene	< 0.5	< 0.5	tetrachloroethene	98.8	70-130	ok	94.9	70-130	ok	4.06	<25	ok
dibromochloromethane	< 0.5	< 0.5	dibromochloromethane	99.9	70-130	ok	93.7	70-130	ok	6.42	<25	ok
1,2-dibromoethane (EDB)	< 1.0	< 1.0	1,2-dibromoethane (EDB)	101	70-130	ok	94.6	70-130	ok	6.08	<25	ok
chlorobenzene	< 0.5	< 0.5	chlorobenzene	100	70-130	ok	95.5	70-130	ok	4.70	<25	ok
1,1,1,2-tetrachloroethane	< 0.5	< 0.5	1,1,1,2-tetrachloroethane	97.2	70-130	ok	92.9	70-130	ok	4.49	<25	ok
ethylbenzene	< 0.5	< 0.5	ethylbenzene	100.0	80-120	ok	95.6	70-130	ok	4.50	<25	ok
1,1,2,2-tetrachloroethane	< 0.5	< 0.5	1,1,2,2-tetrachloroethane	98.1	70-130	ok	91.8	70-130	ok	6.61	<25	ok
m&p-xylene	< 1.0	< 1.0	m&p-xylene	99.2	70-130	ok	94.0	70-130	ok	5.34	<25	ok
o-xylene	< 0.5	< 0.5	o-xylene	98.0	70-130	ok	97.8	70-130	ok	0.27	<25	ok
styrene	< 0.5	< 0.5	styrene	100	70-130	ok	99.4	70-130	ok	0.68	<25	ok
bromoform	< 1.0	< 1.0	bromoform	96.8	70-130	ok	94.5	70-130	ok	2.39	<25	ok
isopropylbenzene	< 0.5	< 0.5	isopropylbenzene	98.1	70-130	ok	99.2	70-130	ok	1.16	<25	ok
1,2,3-trichloropropane	< 0.5	< 0.5	1,2,3-trichloropropane	93.2	70-130	ok	95.3	70-130	ok	2.21	<25	ok
bromobenzene	< 0.5	< 0.5	bromobenzene	96.6	70-130	ok	97.9	70-130	ok	1.38	<25	ok
n-propylbenzene	< 0.5	< 0.5	n-propylbenzene	99.9	70-130	ok	101	70-130	ok	0.90	<25	ok
2-chlorotoluene	< 0.5	< 0.5	2-chlorotoluene	99.6	70-130	ok	98.7	70-130	ok	0.84	<25	ok
1,3,5-trimethylbenzene	< 0.5	< 0.5	1,3,5-trimethylbenzene	99.6	70-130	ok	101	70-130	ok	1.12	<25	ok
4-chlorotoluene	< 0.5	< 0.5	4-chlorotoluene	100	70-130	ok	101	70-130	ok	1.10	<25	ok
tert-butyl-benzene	< 0.5	< 0.5	tert-butyl-benzene	98.4	70-130	ok	98.1	70-130	ok	0.28	<25	ok
1,2,4-trimethylbenzene	< 0.5	< 0.5	1,2,4-trimethylbenzene	99.7	70-130	ok	99.9	70-130	ok	0.19	<25	ok
sec-butyl-benzene	< 0.5	< 0.5	sec-butyl-benzene	99.2	70-130	ok	100	70-130	ok	0.82	<25	ok
p-isopropyltoluene	< 0.5	< 0.5	p-isopropyltoluene	99.9	70-130	ok	99.6	70-130	ok	0.24	<25	ok
1,3-dichlorobenzene	< 0.5	< 0.5	1,3-dichlorobenzene	97.7	70-130	ok	98.7	70-130	ok	1.09	<25	ok
1,4-dichlorobenzene	< 0.5	< 0.5	1,4-dichlorobenzene	97.4	70-130	ok	96.8	70-130	ok	0.60	<25	ok
n-butylbenzene	< 0.5	< 0.5	n-butylbenzene	102	70-130	ok	102	70-130	ok	0.09	<25	ok
1,2-dichlorobenzene	< 0.5	< 0.5	1,2-dichlorobenzene	94.9	70-130	ok	95.3	70-130	ok	0.40	<25	ok
1,2-dibromo-3-chloropropane	< 2.5	< 2.5	1,2-dibromo-3-chloropropane	97.7	70-130	ok	101	70-130	ok	3.70	<25	ok
1,2,4-trichlorobenzene	< 0.5	< 0.5	1,2,4-trichlorobenzene	98.4	70-130	ok	99.8	70-130	ok	1.32	<25	ok
hexachlorobutadiene	< 0.5	< 0.5	hexachlorobutadiene	96.5	70-130	ok	97.1	70-130	ok	0.64	<25	ok
naphthalene	< 1.0	< 1.0	naphthalene	94.3	70-130	ok	94.5	70-130	ok	0.22	<25	ok

Surrogates:	**Recovery (%)**	**Acceptance Limits**	**Surrogates:**	**Recovery (%)**	**Acceptance Limits**	**Verdict**	**Recovery (%)**	**Acceptance Limits**	**Verdict**	**RPD**	**Acceptance Limits**	**Verdict**
DIBROMOFLUOROMETHANE	114	70-130	DIBROMOFLUOROMETHANE	111	70-130	ok	113	70-130	ok	2.24	<25	ok
1,2-DICHLOROETHANE-D4	112	70-130	1,2-DICHLOROETHANE-D4	109	70-130	ok	112	70-130	ok	2.99	<25	ok
TOLUENE-D8	110	70-130	TOLUENE-D8	108	70-130	ok	110	70-130	ok	1.13	<25	ok
4-BROMOFLUOROBENZENE	106	70-130	4-BROMOFLUOROBENZENE	108	70-130	ok	108	70-130	ok	0.36	<25	ok
1,2-DICHLOROBENZENE-D4	105	70-130	1,2-DICHLOROBENZENE-D4	107	70-130	ok	109	70-130	ok	1.92	<25	ok

Instrument: HP GC/MS "S"

W.O. # 1101-CC011
(for lab use only)

CHAIN-OF-CUSTODY RECORD

Sample I.D.	Date/Time Sampled	Matrix (A=Air, S=Soil, GW=Ground W., SW=Surface W., WW=Waste W., DW=Drinking W., P=Product, Other (specify))	ANALYSIS REQUIRED: pH ☐ Cond. ☐	GC Methane, Ethane, Ethene	EPA 8260	EPA 8260-8010 List (Chlor.)	EPA 8260-8021 list	EPA 8021-8020 List (BTEX)	EPA 524.2 DW VOCs	EPA 624 WW VOCs	☐ 601 ☐ 602 WW VOCs	EPA 8270 FULL SVOCs	EPA 8270 ☐ PAH ☐ A ☐ BN	EPA 625 WW SVOCs	EPA 8082-PCBs	EPA 8081-Pest	TPH-GC (Mod. 8100)	TPH-GC w/FING.	EPH (MA DEP)	VPH (MA DEP)	Metals ☐ PPM-13 ☐ R-8	MCP 14 Metals	Metals (List Below) **	TCLP - Specify Below	SPLP - Specify Below	EPA 300 ☐ Cl ☐ SO4	EPA 300 ☐ NO2 ☐ NO3	Total No. of Cont.	Note #
GP-37A	1/4/11	13:34	GW			4																						5	
GP-37B		14:30																											
AS-3		14:50																											
AS-12		13:50																											
AS-13		15:17																											
AS-16		15:55	GW																										
TRIP BLANK		13:00																											
GZ-90		13:09	GW																										
PRESERVATIVE (Cl-HCl, M-Methanol, N-HNO3, S-H2SO4, Na-NaOH, O-Other) *					Cl																								
CONTAINER TYPE (P-Plastic, G-Glass, V-Vial, T-Teflon, O-Other)*					V																								

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:
[illegible]	1/4/11	
RELINQUISHED BY:	DATE/TIME	RECEIVED BY:
CS 1/5/11 0930		Bill Biscan
RELINQUISHED BY:	DATE/TIME	RECEIVED BY:
Bill Biscan	1/5/11 1200	[illegible] 1/5/11 1400

NOTES: (Unless otherwise noted, all samples have been refrigerated to 4 +/- 2°C)
*Specify "Other" preservatives and container types in this space.

Project Manager: Steve Andrus

GZA GeoEnvironmental, Inc.
Laboratory Division

106 South Street
Hopkinton, MA 01748
(781) 278-4700
FAX (508)435-9912

TURNAROUND TIME: Standard (EC) Rush 0 Days, Approved by: _____

LAB USE: TEMP. OF COOLER 2.1 °C

Temp Blank: Cooler Air 10/2

GZA FILE NO: 03.CC 32795.29 TASK NO: _____ P.O. NO. _____ 1/5/11 1215

PROJECT Chatham Interior Monitoring Wells (EC)

LOCATION Alton Rd

COLLECTOR(S) M Bergen / S. Narkiewicz SHEET 1 OF 1

APPENDIX C

PROPOSED ENVIRONMENTAL MONITORING PLAN

1.00 MONITORING PROGRAM OVERVIEW

This document describes the "Environmental Monitoring Plan" (EMP) for the former Charbert Manufacturing Facility site located at 299 Church Street in Richmond, Rhode Island. This plan describes the performance monitoring for the remedial systems and presents a site-wide long term environmental compliance monitoring program. GZA has developed this EMP to address the requirements established by Section 9.00 of the Rhode Island Department of Environmental Management's (RIDEM) Rules and Regulations for the Investigation and Remediation of Hazardous Materials Releases (DEM-DSR-01-93 Remediation Regulations).

This plan was developed based on the results of the Interim Compliance Monitoring Program (ICMP), which was conducted at the Site for the past 12 quarters. It also addresses the natural attenuation monitoring of the bedrock aquifer as recommended in GZA's December 16, 2010 *Bedrock Site Investigation Report.*

This plan includes the location of proposed monitoring points; a sampling schedule; the methods of sample collection, preservation and analysis; data reduction; statistical interpretation; and reporting requirements.

1.10 SITE DESCRIPTION

The ±113.9 acre Charbert property (consisting of Plat 11A, Lot 6) is located at the confluence of the Wood and Pawcatuck Rivers, at 299 Church Street, in the Town of Richmond, in an area referred to as the Village of Alton, Rhode Island (see Figure 1, Site *Locus Map* and Figure 2, *Existing Conditions Site Plan*). The North American Datum (NAD) 1983 Rhode Island State Plane coordinates at the approximate center of the property are 129,015 feet north, and 267,645 feet east (latitude 41° 26'14.0" north, longitude 070° 43' 14.0" west). The facility ceased operations in February 2008. The facility's standard industrial classification (SIC) code was 2259 (Knitting Mills).

The northwestern portion of the Site is currently developed with twelve inter-connected buildings, forming one, 2-story manufacturing facility. The building was originally constructed in approximately 1860 with various renovations occurring throughout the years and the last building was constructed in 1979. The subsequent additions to the main building have resulted in approximately 107,500 square feet of manufacturing, storage, and office space. In addition to the main manufacturing building, the northern portion of the Site is also developed with a wastewater pump house, a potable well pump house, a fire water tower, three bunkered oil storage areas and two outdoor storage areas. There are two paved areas; one is located immediately east of the manufacturing area and was used for employee and visitor parking. The second employee parking lot is located to the east of the manufacturing building, across River Street.

The southern portion of the Site consists of undeveloped wetlands, forested areas, and a gravel burrow area. Three wastewater lagoons and an inactive holding pond were located on the southern portion of the property. The three wastewater lagoons had an approximate total leaching area of 142,835 square feet (3.29 acres), and the holding pond had an approximate leaching area of 22,600 square feet (0.51 acres). The Charbert facility utilized Lagoons 1, 2 and 3 to dispose of industrial wastewater produced during textile operations formerly conducted at facility.

On October 29, 2008 GZA certified that the closure of the former holding pond was conducted in accordance with the RIDEM approved *Underground Injection Control (UIC) Closure Assessment Report* prepared by GZA, dated February 8, 2008 and met the wetland restoration requirements in Section C(4)(0) of the Consent Agreement. On behalf of Charbert, GZA submitted a UIC Closure Application for the former industrial wastewater lagoons and associated collection piping to the RIDEM on December 15, 2008. GZA submitted the UIC Closure Assessment Report to RIDEM on August 13, 2010.

At this time an air sparge and soil vapor extraction remedial system is operating at the former Charbert Manufacturing Facility. The system was designed and installed by GZA between December of 2007 and January of 2008 and issued an Order of Approval (OA) from RIDEM on December 18, 2007. The system began full scale operation on January 24, 2008 and is currently monitored on a bi-monthly basis. Air sparge and soil vapor extraction locations are shown on Figure 3, attached.

On September 17, 2009 RIDEM issued an Order of Approval Modification to include additional air sparge and soil vapor extraction wells proposed to address oily soils associated with the oil line leak in the boiler room as reported in GZA's March 20, 2009 *Boiler Room Oil Line Leak.* The September 17, 2009, OA modification also approved additional air sparge and soil vapor extraction wells for an area of contaminated soils associated with the oil line leak and the chlorinated solvents reported in GZA's January 9, 2006 *Supplemental Site Investigation Report*, and petroleum impacted soils reported in GZA's May 12, 2009 *Technical Memorandum #2*. On February 17, 2010 RIDEM issued a second Order of Approval Modification to include three additional air sparge wells along the bank of the Wood River to address the chlorinated solvents reported in GZA's January 15, 2010 *Lagoon 5 Remediation Technical Memorandum #3.*

The air sparge system (AS) is designed to inject air into the soil aquifer and groundwater using a grid pattern of 1-inch diameter sparge wells. The purpose of the air injection is to introduce oxygen to enhance bioremediation and expedite the volatization of contaminants. The soil vapor extraction (SVE) system currently uses two blowers to apply vacuum to a series of 2-inch wells and/or trenches installed primarily above the groundwater table. The system collects the vapors from the natural breakdown and volatization of the contaminants generated by the air sparge system and also helps circulate oxygen rich air through unsaturated contaminated soils stimulating bioremediation of contaminants (bioventing). The air collected by the SVE system is then filtered through activated carbon to collect the contaminants. The treated air is then discharged to the atmosphere.

The remedial system consists of an interior AS/SVE system located under the concrete floor in the approximate center of the mill building and an exterior AS/SVE system, primarily located under the rear maintenance area parking lot on the west side of the mill building. The system controls, SVE blowers, and carbon filters are located in the west end of the facility, near the boiler room. The air is supplied by a central air compressor system located in the eastern side of the mill building (see Figure 3).

1.20 CLOSURE & POST-CLOSURE MONITORING PROGRAM

This EMP provides written guidelines to facilitate the assessment of the effectiveness of the air sparge and soil vapor extraction systems as well as any significant changes in groundwater and soil conditions in the vicinity of the former Charbert Manufacturing Facility. The EMP also incorporates monitoring of the natural attenuation (MNA) of groundwater contaminants in the bedrock aquifer, consistent with the December 16, 2010 *Bedrock Site Investigation Report*.

1.21 Groundwater Monitoring

Groundwater monitoring well locations were selected based on our review of historical groundwater sampling results, piezometric monitoring of the Site and adjacent area to provide both upgradient and downgradient groundwater monitoring in the uppermost groundwater aquifer, lower overburden aquifer and bedrock aquifer. Monitoring well spacing and screen depths were selected, within physical site constraints, to detect groundwater contamination, if present.

Based on review of the current Interim Compliance Monitoring Program (ICMP), past analytical data and site hydrogeology, we propose the following monitoring locations which consist of two existing upgradient monitoring wells, 17 existing ICMP monitoring Wells, 3 existing Perimeter Monitoring Wells, 1 former UIC Monitoring Well and 5 bedrock wells. Qualified environmental personnel will visit the site on approximately a semiannual basis to conduct field screening and sampling activities. The proposed sampling locations are shown on Figure 2, attached, and are summarized in the table below:

TABLE 1 SUMMARY OF GROUNDWATER WATER MONITORING LOCATIONS		
Monitoring Location ID	**Rational**	**Screened Interval (ft bgs)**
GZ-ML-1-Z-1	Bedrock Well Zone-MNA	122 to 132
GZ-ML-1-Z-3	Bedrock Well Zone-MNA	170 to 182
GZ-ML-2-Z-1	Bedrock Well Zone-MNA	98 to 110
GZ-ML-2-Z-3	Bedrock Well Zone-MNA	191 to 201
GZ-ML-3-Z-1	Bedrock Well Zone-MNA	49 to 65
GZ-ML-3-Z-3	Bedrock Well Zone-MNA	97 to 115
GZ-ML-4-Z-1	Bedrock Well Zone-MNA	45 to 62
GZ-ML-4-Z-3	Bedrock Well Zone-MNA	187 to 200
GZ-ML-5-Z-2	Bedrock Well Zone-MNA	80 to 95
GZ-ML-5-Z-3	Bedrock Well Zone-MNA	120 to 140
GZ-22	Down Gradient Compliance Monitoring Well	25 to 30
GZ-21	Down Gradient Compliance Monitoring Well	10 to 20
GZ-20	Down Gradient Compliance Monitoring Well	25 to 30
RIZ-5	Down Gradient Compliance Monitoring Well	9.5 to 19.5
GZ-19	Down Gradient Compliance Monitoring Well	25 to 30
RIZ-7	Down Gradient Compliance Monitoring Well	5 to 15
GZ-24	Down Gradient Compliance Monitoring Well	24 to 34
GP-28	Down Gradient Compliance Monitoring Well	3 to 15
GZ-25	Down Gradient Compliance Monitoring Well	20 to 30
GZ-27	Down Gradient Compliance Monitoring Well	3 to 15
GZ-26	Down Gradient Compliance Monitoring Well	20 to 30
GZ-28	Down Gradient Compliance Monitoring Well	3 to 15
GZ-3	Source Area Compliance Monitoring Well	30 to 40
RIZ-13	Source Area Compliance Monitoring Well	14 to 34
GZ-7	Source Area Compliance Monitoring Well	33 to 43
GP-26	Source Area Compliance Monitoring Well	4 to 16
GZ-23	Down Gradient Compliance Monitoring Well	10 to 20
RIZ-1	Upgradient Background Monitoring Well	5 to 15
RIZ-6	Upgradient Background Monitoring Well	5 to 15
GP-22	Perimeter Compliance Monitoring Well	3 to 15
RIZ-21	Perimeter Compliance Monitoring Well	9 to 19
GZ-1	Perimeter Compliance Monitoring Well	44 to 54
UIC MW 4A	Former UIC Compliance Monitoring Well	5 to 15

The remaining on-site wells not being used for post-closure or piezometric monitoring will be decommissioned in compliance with Appendix A of RIDEM's Rules and Regulations for Groundwater Quality. Both previously closed monitoring wells and monitoring wells proposed for closure are summarized in the table below. Monitoring well locations are shown on Figure 2 and Figure 4. The details for the decommissioning of obsolete wells can be found in Section 2.20.

TABLE 2 SUMMARY OF MONITORING WELL CLOSURES		
Location	**Former Use**	**Status**
UIC-MW-1A	Former UIC Monitoring Well	To Be Closed Under UIC Program
UIC-MW-2A	Former UIC Monitoring Well	To Be Closed Under UIC Program
UIC –MW-3	Former UIC Monitoring Well	To Be Closed Under UIC Program
UIC-MW-5B	Former UIC Monitoring Well	To Be Closed Under UIC Program
UIC-MW-6	Former UIC Monitoring Well	To Be Closed Under UIC Program
RIZ-10 (UIC-MW-1)	Former UIC Monitoring Well	Closed in February 2010
CB-12	Former SI Monitoring Well	Destroyed in December 2007
GP-20	Former SI Monitoring Well	Closed in February 2010
GZ-12	Infiltration Study Monitoring Well	Closed in February 2010
GZ-13	Infiltration Study Monitoring Well	Closed in February 2010
GZ-16	Infiltration Study Monitoring Well	Closed in February 2010
GZ-18	Infiltration Study Monitoring Well	Closed in February 2010
GZ-9	Infiltration Study Monitoring Well	Recommend For Closure in 2011
GZ-10	Infiltration Study Monitoring Well	Recommend For Closure in 2011
GZ-11	Infiltration Study Monitoring Well	Recommend For Closure in 2011
GZ-14	Infiltration Study Monitoring Well	Recommend For Closure in 2011
GZ-15	Infiltration Study Monitoring Well	Recommend For Closure in 2011
GZ-17	Infiltration Study Monitoring Well	Recommend For Closure in 2011
GZ-4A	Former SI Monitoring Well	Recommend For Closure in 2011
GP-15	Former SI Monitoring Well	Recommend For Closure in 2011
GP-16	Former SI Monitoring Well	Recommend For Closure in 2011
GP-17	Former SI Monitoring Well	Recommend For Closure in 2011
GP-18	Former SI Monitoring Well	Recommend For Closure in 2011
PT-1	Former SI Monitoring Well	Recommend For Closure in 2011
PT-2	Former SI Monitoring Well	Recommend For Closure in 2011
PT-4	Former SI Monitoring Well	Recommend For Closure in 2011

1.22 Soil Monitoring Locations

To evaluate the effectiveness of the proposed remediation in the facility rear maintenance area and demonstrate compliance with the proposed remedial objectives, we propose to verify compliance by using a geometric grid pattern for collecting soil samples in the former source area. A 25-foot offset grid approximately 100-feet by 75-feet will be laid out in the rear facility yard and a total of 20 TPH samples will be collected from this area. Additionally, a 25-foot offset grid approximately 50-feet by 50-feet will be laid out in the vicinity of the oil bunkers and a total of 9 TPH samples will be collected and analyzed. For proposed sampling grid locations, see Figure 3, attached. Sampling and statistical analysis will be performed as described in section 8.10 of the RIDEM's Rules and Regulations for the Investigation and Remediation of Hazardous Materials Releases.

1.23 Groundwater Monitoring Via Diffusion Bags

Diffusion bag samplers will be placed in the bed of the Wood River adjacent to the Charbert Facility. The purpose of this monitoring is to evaluate the VOC levels of groundwater seepage to the river. Five proposed diffusion bag monitoring locations are shown on Figure 2.

2.00 FIELD SAMPLING PROGRAM

The following paragraphs describe the proposed field sampling program at the former Charbert Manufacturing Facility. This section includes sampling frequencies, well decommissioning DETAILS, and sampling and analysis protocols.

2.10 FIELD SAMPLING SCHEDULE

2.11 Groundwater Sampling Schedule

The Charbert facility will continue to implement this monitoring plan until it has been demonstrated that there no longer exist an environmental hazard. At this time, we feel it is appropriate to reduce the sampling frequency to semi-annual corresponding to periods of seasonal high and low groundwater (e.g., April and October). We recommend semi-annual sampling for volatile organic compounds (VOCs) via EPA Method 8260 for 22 of the wells identified above with annual sampling for VOCs at all 33 locations. Additionally, we recommend annual sampling for total petroleum hydrocarbons (TPH) via EPA Method 8100M for 9 shallow overburden wells located in the source area. The table below summaries the propose sampling schedule for each location.

TABLE 3
SAMPLING SCHEDULE AND LABORATORY ANALYSIS SUMMARY

Date	Location	Analysis
April	GZ-ML-3-Z-1, GZ-ML-4-Z-1, GZ-ML-5-Z-2, GZ-22, GZ-21, GZ-20, GZ-19, RIZ-7, GZ-24, GP-28, GZ-25, GZ-27, GZ-26, GZ-28, GZ-3, GZ-7, GP-26, GZ-23, GP-22, RIZ-21, GZ-1, MW-4A	VOCs
October (Annual Round)	GZ-ML-1-Z-1 and Z-3, GZ-ML-2-Z-1 and Z-3, GZ-ML-3-Z-1 and Z-3, GZ-ML-4-Z-1 and Z-3, GZ-ML-5-Z-2 and Z-3, GZ-22, GZ-21, GZ-20, RIZ-5, GZ-19, RIZ-7, GZ-24, GP-28, GZ-25, GZ-27, GZ-26, GZ-28, GZ-3, RIZ-13, GZ-7, GP-26, GZ-23, GP-22, RIZ-21, GZ-1, MW-4A, RIZ-1, RIZ-6	VOCs
October	GZ-21, RIZ-5, RIZ-7, GP-28, RIZ-13, GZ-23, GP-26, RIZ-1, RIZ-6	TPH

2.12 Soil Sampling Schedule

As the effects of the proposed remediation will not be immediate, we propose that the first round of soil compliance sampling take place 4 years after the initial start of the

soil vapor extraction system, spring/summer of 2012. After the initial round of compliance sampling we recommend selecting a sampling frequency based on the results of the initial sampling.

2.13 Diffusion Bag Sampling Schedule

GZA has performed yearly diffusion bag sampling in the Wood River since 2007 and proposes to continue the yearly sampling and reporting for two more years (through 2012). At that time the need to continue the diffusion bag sampling will be evaluated.

2.20 MONITORING WELL DECOMISSIONING PROGRAM

After a re-evaluation of the site and past groundwater monitoring data, we recommend that the monitoring wells listed in the Table 2, above, be closed in general accordance with the requirements set forth in Appendix A of the RIDEM's Rules and Regulations for Groundwater Quality. These wells include monitoring wells: GZ-4A, 9, 10, 11, 14, 15, 17; GP-15, 16, 17, 18 and PT-1, 2, 4. The decommissioning method is as follows:

- The wells are to be inspected from the land surface through their entire depth to evaluate if any obstructions that would interfere with sealing operations are present. If they are, the well must be drilled out and grouted. If there are no obstructions proceed to the next step.
- The wells are to be abandoned by cutting off the casing at approximately 4 feet below ground surface (or to the practical reach of PVC cutting tools).
- The well screen and casing are to be completely filled with a cement/bentonite grout, tremied into place by a grout tube from the bottom of the well up.
- The flush mounted road boxes or steel guard pipes are to be removed.
- A neat cement plug is to be placed at the ground surface at each location.

2.30 GROUNDWATER SAMPLING PROCEDURES

As described above, groundwater will be sampled and analyzed on a semi-annual basis (anticipated to be April and October) for the next two years (through 2012), following which the frequency for future monitoring will be assessed. Sample analysis will consist of six field screening parameters (temperature, pH, oxidation/reduction potential, specific conductivity, turbidity, and dissolved oxygen) and volatile organic compounds (VOCs) via EPA Method 8260B.

Static water level readings will be recorded from each observation well prior to well purging. Water level readings will be recorded in all standpipe wells by use of an electronic measuring device (e.g., Slope water level meter) capable of providing $\pm$0.01 foot accuracy. Bedrock zone water levels will be recorded from the pressure transducers installed in each zone.

Various well specific measurements will be made and recorded in field data books. Where applicable, such information will include: the total depth of well, depth to standing water from top of riser pipe, depth to standing water from top of protective casing, distance between top of protective casing and riser pipe, and observations regarding tampering or damage.

Groundwater sampling will be performed in accordance with EPA's January 19, 2010 *Low Stress (low flow) Purging and Sampling Procedure* (Low Flow SOP). Low flow sampling equipment (exclusive of tubing which will be dedicated) will be decontaminated prior to use on-site and between each location following EPA's required protocols. Water quality monitoring for stabilization will be conducted utilizing a Horiba multi-meter (or equivalent) in a flow through cell. The Horiba records temperature, pH, specific conductance, dissolved oxygen, and turbidity simultaneously, and is one of the few meters which include turbidity in a flow through system improving reproducibility and reducing sampling time. Field equipment used to perform the testing will be calibrated according to the manufacturer's instructions before each sampling day, and confirmatory readings will be taken at the end of each sampling day.

Low flow well evacuation will be performed using a portable pump for overburden wells (i.e., stainless-steel submersible such as the Grundfos Redi-flow 2 or a peristaltic pump) and dedicated double valve pumps located in each bedrock well zones, capable of a low flow steady withdrawal rate (i.e., 100 to 500 ml/minute) that will minimize the introduction of particulate matter from the aquifer. This purging and sampling method generally reduces the concentrations of total suspended solids (TSS) in a well, thus yielding a more representative groundwater sample.

2.40 SOIL SAMPLING PROCEDURE

As described above, soil will be sampled and analyzed starting 4 years after the initiation of the remediation systems (i.e., spring/summer of 2012). Based on the 2012 results, a future sampling frequency, if needed, will be determined. Sample analysis will consist of total petroleum hydrocarbons (TPH) via EPA Method 8100M and volatile organic compounds (VOCs) via EPA Method 8260B.

A 25-foot geometric grid will be clearly marked and surveyed prior to the start of sample collection. The samples will be collected using a truck mounted geoprobe which utilizes a 4–foot polycarbonate liner tube inside a steel drive pipe. Continuous soil samples will be collected to a depth of 2-feet below the groundwater table during each Geoprobe. Full sample tubes will be opened and observed on-site for visual and olfactory evidence of contamination.

Samples will be field screened for total volatile organic compounds (TVOCs) with a ThermoEnvironmental Instruments 580B photoionization detector (PID). Soil samples for laboratory analysis will be selected based on field TVOC screening results (PID), visual or olfactory observations, location within the borehole (e.g., at the water table, at the base of

borehole, etc.), and sample volume recovered. A minimum of one sample for TPH and VOCs will be collected from each exploration.

2.50 WOOD RIVER DIFFUSION BAG SAMPLING AND ANALYSIS

The following is a brief description of the passive diffusion bag sampling methodology. Please refer to the following two references for a more comprehensive description of the sampling methodology.

- "Distribution of Selected Volatile Organic Compounds Determined with Water to Vapor Diffusion Samplers at the Interface between Ground Water and Surface Water", Centredale Manor Site, North Providence, Rhode Island, September 1999-OFR 00-276. (United States Geological Survey Document prepared in cooperation with the Environmental Protection Agency). Church and others.
- "User's Guide for Polyethylene-Based Passive Diffusion Bag Samplers to Obtain Volatile Organic Compound Concentrations in Wells". U.S. Geological Survey, Water-Resources Investigation Report 01-4060, 2001. Vroblesky, Don A.

Passive diffusion bag samplers are low density polyethylene (LDPE) bags filled with deionized water. When a passive diffusion bag is placed in a well or buried in a river bottom (as is performed at Charbert), volatile organic compounds (VOCs), excluding certain ketones, ethers, and alcohols diffuse through the semi-permeable LDPE bag. Equilibrium is reached between the VOC concentration in the groundwater outside and the deionized water inside the bag. Generally, a minimum of two weeks is required to reach equilibrium to form. The bags are then retrieved and analyzed. The bags GZA deploys in the bed of the Wood River adjacent to Charbert will be deployed for three to four weeks. Samplers were buried approximately 8 to 12 inches deep in river sediments, approximately one half of the way between the Charbert bank and the mid-point of the river.

As noted in the above references, analytical results from diffusion bag samplers buried in a river bottom are indicative of pore water quality (groundwater seeping into the river) not surface water quality. Dilution, volatilization and other attenuation mechanisms greatly reduce the concentration of constituents detected in the river from that observed in pore water.

2.60 LABORATORY ANALYSIS

A laboratory appropriately licensed in the State of Rhode Island (certified by Rhode Island Department of Health (RIDOH)) will be retained for all analytical testing.

All sample collection, handling, storage, transportation, and analyses will be conducted in accordance with a rigorous quality assurance and quality control (QA/QC) program (described in detail in Section 3) to ensure that results are accurate and representative. Analytical results will be evaluated using a modified Tier II approach following the

USEPA Region I "Laboratory Data Validation Functional Guidelines for Organic and Inorganic Analyses."

2.70 SVE/AS SYSTEM PERFORMANCE MONITORING

The following subsections describe the bi-monthly performance monitoring for the soil vapor extraction/air sparge system.

2.71 Soil Vapor Extraction System

Qualified environmental personnel will visit the site on approximately a bi-monthly basis to monitor the SVE system. During each visit, the following will be measured at each of the vent wells:

1. Air flow rates;
2. Vacuum response in inches of water column (IW);
3. TVOC measurements using a PID equipped with a 10.6 eV lamp, and
4. O_2, CO_2 and Lower Explosive Limit (LEL) measurements will be collected utilizing a Land-Tech infrared gas meter.

2.72 Air Sparge System

Qualified environmental personnel will visit the site on approximately a bi-monthly basis to monitor the air sparge system. During each visit, the following will be measured at each of the sparge points:

1. Air flow rates;
2. Air pressures.

2.73 Reporting

The results of the monitoring and maintenance work described above will be reviewed with respect to:

- SVE TVOC (PID), O_2 and CO_2 Levels;
- SVE flows and radius of influence;
- Air sparging flows and pressures;
- Oxygen introduction and consumption, and carbon dioxide generation; and estimated rates of hydrocarbon removal via biodegradation and physical venting to the GAC unit; and
- GAC unit maintenance.

As required in the RIDEM Remediation Regulations, a bi-monthly report of the remedial system monitoring will be provided to RIDEM, including any required system adjustments or modifications, with the semiannual reports.

3.00 QUALITY ASSURANCE/QUALITY CONTROL PROGRAM

The sample collection and handling procedures, field screening methods, quality control mechanisms and record keeping are described in this section. The program is intended to provide written guidelines to achieve data reliability/reproducibility and reduce data error. The overall purpose of the QA/QC program is to define the procedures for providing accurate and reliable environmental measurements. This requires that quality control procedures be carried out during both the collection and analysis portions of sampling. Although these tasks are interrelated, a separate discussion follows to clarify the individual tasks required.

The quality assurance (QA) program described herein provides a set of procedures designed to assess the quality of data generated for the project. Quality control (QC) measures are also specified to ensure that the responsible individuals take appropriate actions to ensure the collection of valid data.

It will be the responsibility of all project personnel to abide by the quality control measures established for the project. The QA officer will have overall responsibility for project QA/QC. This individual will perform periodic inspections of field operations to evaluate equipment operation and calibration procedures, record-keeping, chain-of-custody documents, and field data for accuracy and completeness. In an effort to avoid potential laboratory reporting errors, the QA/QC officer will also review laboratory test data as it is received to evaluate reporting format, dilutions, and completeness and laboratory methods.

3.10 EXTERNAL (FIELD) PROGRAM

To provide a uniform basis for the collection of samples and related field measurements Standard Operating Procedures (SOPs) will be followed. To evaluate the effectiveness of these procedures, several checks in the form of duplicate samples and sample blanks will be prepared. The following subsections provide general procedures to be followed for the collection, handling and analysis of field quality control samples.

Specific record keeping and site documentation procedures will be followed during the field program. These procedures will include the use of field notebooks, field sampling data sheets and, when necessary, new boring/monitoring well installation logs. The following paragraphs discuss the procedures to be followed.

3.11 Field Notebooks

Field observations and site activities will be recorded in permanently bound, waterproof notebooks by on-site personnel. All entries shall be made with indelible ink. These notebooks will document personnel present on-site, activities conducted, samples collected and other information deemed necessary by field personnel to achieve project objectives. Field notebooks will be maintained by the project geologist or engineer, and upon project completion, will be maintained in the project files.

During environmental sampling, data will be recorded in a permanently bound waterproof field notebook and on Field Sampling Data Sheets. In addition to the media specific data identified in previous sections of this plan, recorded information will include the following:

- Sampling Location
- Collection Date
- Sample Description
- Name of Collector(s)
- Weather Conditions
- Sampling Time
- Changes/Modifications to Sampling Procedures
- Names/Affiliations of Others Present

3.12 Boring/Well Installation

Field observations during the drilling of any new or replacement boreholes, or any other subsequent sub-surface investigations, will be recorded on an exploration log (i.e., borehole/well installation logs). Recorded information will include the following:

- Date and time of boring execution.
- Engineer, Contractor, and Inspector.
- Location and designation (identifying number) of test boring and reference to survey data. Survey data will include the top of well pipe elevation for monitoring wells and ground surface for soil borings.
- Soil screening results (e.g., PID screening)
- Results of boring data from each hole arranged in tabular form giving full information on the vertical arrangement, thickness, and classification of the materials penetrated.
- Depth to bottom, type, and number of each sample taken.
- Height of drop and weight of drop hammer for taking drive samples and driving casing.
- Number of blows required for each six-inch (6") penetration of split-spoon sampler and for each twelve-inch (12") penetration of the casing.
- Size, length, and elevation of bottom of casing used in each borehole.

• Depth to groundwater table, and time of observation.
• Description of samples (e.g., Burmister Soil Classification System).
• Sample recovery.

3.13 Trip Blanks

In order to assess the degree and nature of inadvertent contamination associated with sample handling, storage and transportation, VOC analysis will be performed on laboratory prepared samples. The trip blanks consist of a volatile organic compounds (VOCs) sample container (vial) filled with deionized, organic-free water, which is maintained with the other sample containers, prior to and following sample collection. One trip blank will be prepared for each cooler containing VOC samples on everyday of sampling. The trip blank will be analyzed for VOCs only. Trip blanks will accompany the sampler, and subsequently the samples, throughout the sampling effort, transportation, and delivery to the analytical testing laboratory.

3.14 Equipment Decontamination

All non-dedicated, non-new sampling equipment (e.g., bailers, cables, pumps, fittings, tubing, etc.) will be decontaminated prior to use and between samples by the following process.

- a potable water rinse and scrub,
- a non-phosphate detergent (Alconox or Liquinox) wash and scrub,
- a deionized water rinse, and
- air dry.

Down hole measuring equipment (e.g., water level meters, measuring tapes, etc.) which contacts formation water will be rinsed prior to and between uses with potable water and wiped dry with a clean cloth or paper towel.

3.20 INTERNAL (LABORATORY) QA/QC PROGRAM

A laboratory licensed in the State of Rhode Island (by RIDOH) will be retained for all analyses. Analytical laboratories will be required to submit a project specific Quality Assurance Plan (QAP) to Charbert for their review and approval prior to performing any analyses. The QAP details procedures routinely employed by the laboratory for the purposes of producing reliable data, and ensuring that generated data conforms to specific requirements for accuracy, precision, and completeness.

Data from laboratory QC samples is used as a measure of laboratory performance or as an indicator of potential sources of cross-contamination. This data will be used to qualify results when appropriate.

3.21 Laboratory Quality Control Samples

The types of internal QC checks and samples performed by laboratory include method and reagent blanks, internal duplicates and replicates, surrogate spikes and calibration check

standards. QC samples will be project specific and reported with the analytical results. The QA program requires that laboratory QC samples be performed by "batch" at a minimum of one for every twenty target samples or smaller sample delivery groups (SDG's).

3.22 Sample Preservation and Handling

All sample containers will be provided by the analytical testing laboratory and will be free of contaminants. Samples requiring specific preservations will be prepared by the analytical testing laboratory, where appropriate.

Soil samples collected will be placed in a 40-ml methanol preserved VOA vial and an 8-ounce jar with a Teflon-lined lid and labeled. Groundwater samples collected will be placed in a 40-mil hydrochloric acid preserved VOA vial and labeled. All samples will immediately be place in an ice filled cooler and transported to the analytical laboratory under chain-of-custody.

3.23 Sample Custody Procedures

The logging of a sample (accountability) begins when the sample is taken from its media. Sample labels, chain-of-custody forms and field data records must be completed in full at the time of sample collection. Sample custody is the responsibility of the field personnel.

Each sample will be assigned a unique identification number which will be used consistently during all sampling rounds and on all documents associated with the project. The sample identification number will be used to track samples through all subsequent handling, analysis and data reduction procedures. Groundwater sample identification will be based on the well numbering system and the date of collection. Example: a sample collected from well GZ-2 on September 15, 2007 would be designated GZ02091507.

Completed labels will be placed on all sample containers following collection. The labels will be consistent for all samples collected and between sampling rounds. At a minimum the label will contain the following information: (1) type of sample (groundwater); (2) sample location (GZ-2); (3) sampling date (mm/dd/yy); and (4) collectors initials (GZA).

The chain-of-custody form will contain information to distinguish individual samples, sampling locations and sampling personnel. Upon sample collection, the completed chain-of-custody record must accompany the samples at all times after collection. When samples are transferred in possession, the individuals relinquishing and receiving (including receiving

laboratory) will sign, date and note the time the transfer occurred on the chain-of-custody record.

4.00 DATA EVALUATION AND REPORTING

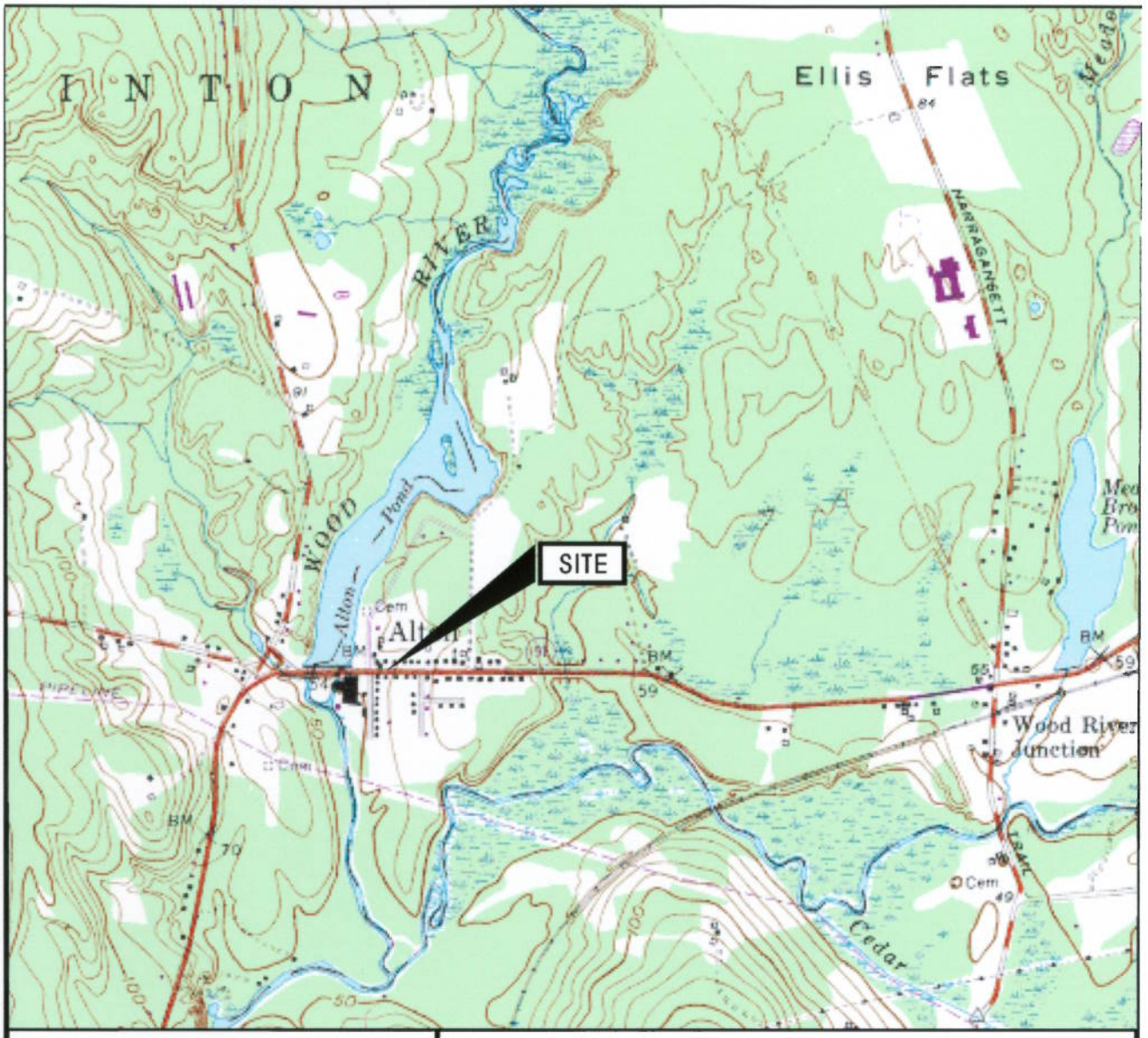
This section describes the data evaluation to be employed and the reporting procedures to be used. Reports of groundwater water sampling events will be submitted by Charbert to the RIDEM within 45 days of sample collection as set forth in Rule 12 of the RIDEM Groundwater Regulations.

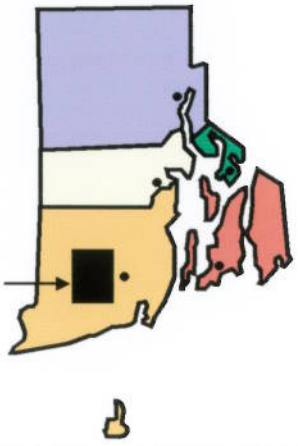
In accordance with these requirements, each report will include:

-1- A cover letter with a narrative summary of contraventions of water quality standards, sampling dates, sampling observations, and sampling techniques. A table showing the location designation (e.g., well number), the sample collection dates, the sample number, the analytical results, designation of upgradient and compliance wells, applicable water quality standards, and method detection limits (MDLs).

-2- A plan depicting groundwater elevations and inferred flow directions based on current measurements in all wells sampled.

-3- Tables and/or graphical representations comparing current water quality data to previous water quality data and upgradient water quality data based on appropriate statistical evaluations.





FROM USGS WESTERLY, RI QUADRANGLE MAP

(DIGITAL TOPOGRAPHIC MAPS PROVIDED BY MAPTECH, INC.)

(CONTOUR ELEVATIONS ARE IN METERS ABOVE NGVD, AT 3 METER INTERVALS)

APPROXIMATE SCALE IN FEET

0' 1200' 2400' 4800'

CHARBERT FACILITY

ALTON
RHODE ISLAND

LOCUS PLAN

March-2008

FIGURE NO. 1

FILE NO. 32795.16

LEGEND

- 200 FT. RIVER BANK BUFFER
- 50 FT. WETLAND BUFFER
- SS — SEWER LINE
- IWW — INDUSTRIAL WASTEWATER LINE
- E — UNDERGROUND ELECTRICAL LINE
- D — STORM WATER DRAINAGE LINE
- OIL — OIL LINE
- SFM — EXISTING SEWER FORCE MAIN
- OHU — OVERHEAD UTILITY
- FEMA 100 FLOOD LEVEL
- PIV — POST INDICATOR VALVE
- HYD — FIRE HYDRANT
- UTILITY POLE
- CHAIN LINK FENCE
- 60 — EXISTING SURFACE CONTOURS
- EDGE OF RIVER

- DB-5 — 2007 DIFFUSION BAG MONITORING LOCATION
- DB-5 — 2008, 2009 AND 2010 DIFFUSION BAG MONITORING LOCATION
- UIC MW-4A — FORMER UIC PROGRAM GROUNDWATER MONITORING WELL
- GZ-ML-1 — EXISTING MULTI-LEVEL BEDROCK MONITORING WELL
- GZ-21 — EMP GROUNDWATER MONITORING WELL
- RIZ-3 — EXISTING GROUNDWATER MONITORING WELL
- EW-2 — FORMER EXTRACTION WELL
- INFERRED GROUNDWATER FLOW DIRECTION BASED ON SIR GROUNDWATER CONTOUR PLANS
- GZ-13 (CLOSED) — FORMER MONITORING WELL CLOSED BY GZA

- AS-3 — AS-BUILT LOCATION OF AIR SPARGE WELL
- SVE-3 — AS-BUILT LOCATION OF SOIL VAPOR EXTRACTION WELL
- SSVW-4 — AS-BUILT LOCATION OF SUB-SLAB VENT
- SVE-18 — AS-BUILT LOCATION OF SOIL VAPOR EXTRACTION TRENCH
- SPR WELL — SOUTH PRODUCT RECOVERY WELL
- NPR WELL — NORTH PRODUCT RECOVERY WELL

GZA

PROPOSED EMP OVERBURDEN WELLS	
LOCATION	SAMPLING FREQUENCY
RIZ-1	ANNUAL
RIZ-6	ANNUAL
RIZ-13	ANNUAL
GZ-3	SEMI-ANNUAL
GP-26	SEMI-ANNUAL
GZ-7	SEMI-ANNUAL
RIZ-7	SEMI-ANNUAL
GZ-19	SEMI-ANNUAL
RIZ-5	ANNUAL
GZ-20	SEMI-ANNUAL
GP-28	SEMI-ANNUAL
GZ-21	SEMI-ANNUAL
GZ-22	SEMI-ANNUAL
GZ-23	SEMI-ANNUAL
GZ-24	SEMI-ANNUAL
GZ-25	SEMI-ANNUAL
GZ-26	SEMI-ANNUAL
GZ-27	SEMI-ANNUAL
GZ-28	SEMI-ANNUAL
RIZ-21	SEMI-ANNUAL
GP-22	SEMI-ANNUAL
GZ-1	SEMI-ANNUAL
UIC MW-4A	SEMI-ANNUAL

PROPOSED EMP BEDROCK WELLS		
LOCATION	ZONE	SAMPLING FREQUENCY
GZ-ML-1	ZONE 1	ANNUAL
	ZONE 3	ANNUAL
GZ-ML-2	ZONE 1	ANNUAL
	ZONE 3	ANNUAL
GZ-ML-3	ZONE 1	SEMI-ANNUAL
	ZONE 3	ANNUAL
GZ-ML-4	ZONE 1	SEMI-ANNUAL
	ZONE 3	ANNUAL
GZ-ML-5	ZONE 2	SEMI-ANNUAL
	ZONE 3	ANNUAL

GENERAL NOTES

1 BASE MAP DEVELOPED FROM ELECTRONIC CAD FILES PROVIDED BY AEROTECH INTERNATIONAL DIGITAL PHOTOGRAMMETRIC MAPPING DATED 12-01-04. DATE FLOWN MARCH 26, 1999. THE TOPOGRAPHY OF THE LAGOONS, THE 1998, 2001 AND 2004 SOIL STOCK PILES WERE UPDATED BY INSTRUMENT SURVEY CONDUCTED BY GZA PERSONNEL IN SEPTEMBER 2004 THROUGH FEBRUARY 2005.

2 THE LOCATIONS AND ELEVATIONS OF MONITORING WELLS AND EXPLORATIONS WERE APPROXIMATELY DETERMINED BY SURVEY. THIS DATA SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.

J:\ENV\32795-31.sma\Jon 11\DRAFT EMP\32795-31 DRAFT EMP.dwg [EMP FIG-2-100SC] March 02, 2011 - 12:42pm stephen.andrus

REV. NO.	DESCRIPTION	BY	DATE

SCALE: 1" = 100'

0 50' 100' 200'

GZA GeoEnvironmental, Inc.
Engineers and Scientists
530 BROADWAY
PROVIDENCE, RHODE ISLAND 02909
(401) 421-4140
(401) 751-8613

PROJ MGR: SMA
DESIGNED BY:
REVIEWED BY: EAS
OPERATOR: SMA
CHECKER: ALF
DATE: FEB. 2011

CHARBERT FACILITY
ALTON, RHODE ISLAND

PROPOSED ENVIRONMENTAL MONITORING PLAN
SITE PLAN AND MONITORING WELL LOCATIONS

PROJECT NO.
32795.31

FIGURE NO.
2

LEGEND

- 200 FT. RIVER BANK BUFFER
- 50 FT. WETLAND BUFFER
- SEWER LINE
- INDUSTRIAL WASTEWATER LINE
- UNDERGROUND ELECTRICAL LINE
- STORM WATER DRAINAGE LINE
- OIL LINE
- EXISTING SEWER FORCE MAIN
- OVERHEAD UTILITY
- FEMA 100 FLOOD LEVEL
- POST INDICATOR VALVE
- FIRE HYDRANT
- UTILITY POLE
- CHAIN LINK FENCE
- EXISTING SURFACE CONTOURS
- EDGE OF RIVER

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- GZ-21 — EMP GROUNDWATER MONITORING WELL
- RIZ-3 — EXISTING GROUNDWATER MONITORING WELL
- EW-2 — FORMER EXTRACTION WELL
- INFERRED GROUNDWATER FLOW DIRECTION BASED ON SIR GROUNDWATER CONTOUR PLANS

- AS-3 — AS-BUILT LOCATION OF AIR SPARGE WELL
- SVE-3 — AS-BUILT LOCATION OF SOIL VAPOR EXTRACTION WELL
- SSVW-4 — AS-BUILT LOCATION OF SUB-SLAB VENT
- SVE-18 — AS-BUILT LOCATION OF SOIL VAPOR EXTRACTION TRENCH
- SPR WELL — SOUTH PRODUCT RECOVERY WELL
- NPR WELL — NORTH PRODUCT RECOVERY WELL

WATER TOWER
INDUSTRIAL WASTE PUMP HOUSE
50' WETLANDS OFFSET
OIL BUNKER
RIVER EDGE
WETLANDS BOUNDARY
DRUM STORAGE AREA
FEMA 100-YEAR FLOOD BOUNDARY
200' RIVER OFFSET
DRILL HOLE FOUND ELEV.: 54.53
FORMER (LAGOON 5)
LOCATION OF BLOWERS, AIR DRYERS AND CARBON DRUMS FOR INTERIOR AND EXTERIOR SOIL VAPOR EXTRACTION SYSTEMS
CHARBERT MILL BUILDING
PROPOSED SOIL SAMPLING GRID
LOCATION OF AIR COMPRESSOR FOR INTERIOR AND EXTERIOR SPARGE SYSTEMS
AS-BUILT LOCATION OF NEW LEACHING SYSTEM
CHARBERT EMPLOYEE PARKING LOT
PRIVATE WELL-16 RIVER STREET
PRIVATE WELL-14 RIVER STREET
CLOSED JULY 2009
U/P 1657
U/P 3435
U/P 5
U/P 4
NECO-4-3
NECO-4-1
#18
#16
#14
#12
#10

GENERAL NOTES

1. BASE MAP DEVELOPED FROM ELECTRONIC CAD FILES PROVIDED BY AEROTECH INTERNATIONAL DIGITAL PHOTOGRAMMETRIC MAPPING DATED 12-01-04, DATE FLOWN MARCH 26, 1999. THE TOPOGRAPHY OF THE LAGOONS, THE 1998, 2001 AND 2004 SOIL STOCK PILES WERE UPDATED BY INSTRUMENT SURVEY CONDUCTED BY GZA PERSONNEL IN SEPTEMBER 2004 THROUGH FEBRUARY 2005.

2. THE LOCATIONS AND ELEVATIONS OF MONITORING WELLS AND EXPLORATIONS WERE APPROXIMATELY DETERMINED BY SURVEY. THIS DATA SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.

J:\ENV\32795-31.sms\Jan 11\DRAFT EMP\32795-31 DRAFT EMP.dwg [EMP FIG-3] March 02, 2011 - 1:54pm stephen.andrus

REV. NO.	DESCRIPTION	BY	DATE

SCALE: 1" = 40'
0 20 40 80

GZA GeoEnvironmental, Inc.
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PROJ MGR: SMA
DESIGNED BY:
REVIEWED BY: EAS
OPERATOR: SMA
CHECKER: ALF
DATE: FEB. 2011

CHARBERT FACILITY
ALTON, RHODE ISLAND

PROPOSED ENVIRONMENTAL MONITORING PLAN
AIR SPARGE AND SOIL VAPOR EXTRACTION WELL LOCATIONS

PROJECT NO.
32795.31

FIGURE NO.
3

APPENDIX D

HYDROCARBON DEGRADATION CALCULATIONS

EXTERIOR SOIL VAPOR EXTRACTION SYSTEM
BIODEGRADATION CALCULATIONS

Charbert Facility
Alton, Rhode Island

Biological degradation of PCE based on Carbon Dioxide Levels in Soil Vapor
December 29, 2009 to January 6, 2011

Well I.D.	Average Flow (CFM)	Average O_2 %	Average CO_2 %	% Below 21	Respiration Quot. %
SVE-17	4.5	20.4	0.3	-0.6	50.00
SVE-18	4.1	20.4	0.3	-0.6	50.00
SVE-19	3.4	20.5	0.2	-0.5	40.00
SVE-20	5.1	20.7	0.1	-0.3	33.33
SVE-21	1.2	20.6	0.1	-0.4	25.00
SVE-22	4.7	20.4	0.2	-0.6	33.33
SVE-23	2.6	20.3	0.4	-0.7	57.14
SVE-24	5.5	20.7	0.2	-0.3	66.67
SVE-25	3.9	20.7	0.1	-0.3	33.33
SVE-26	5.7	20.8	0.1	-0.2	50.00
SVE-27	4.7	20.7	0.1	-0.3	33.33
SVE-28	4.7	20.7	0.1	-0.3	33.33
SVE-29	3.7	20.7	0.1	-0.3	33.33
SVE-30	5.5	20.6	0.1	-0.4	25.00
SVE-33	6.7	20.5	0.2	-0.5	40.00
SVE-34	6.9	20.9	0.1	-0.1	100.00
SVE-35	3.8	20.7	0.2	-0.3	66.67
SVE-36	6.9	20.7	0.2	-0.3	66.67
SVE-37	6.0	20.8	0.2	-0.2	100.00

Well I.D.	Mass of CO_2 (lb/day)	Biodegradation (lb of Hex./day)
SVE-17	1.21	0.78
SVE-18	1.09	0.70
SVE-19	0.61	0.40
SVE-20	0.45	0.29
SVE-21	0.11	0.07
SVE-22	0.83	0.54
SVE-23	0.93	0.60
SVE-24	0.99	0.64
SVE-25	0.35	0.23
SVE-26	0.50	0.33
SVE-27	0.42	0.27
SVE-28	0.42	0.27
SVE-29	0.33	0.21
SVE-30	0.49	0.32
SVE-33	1.19	0.77
SVE-34	0.62	0.40
SVE-35	0.68	0.44
SVE-36	1.23	0.79
SVE-37	1.07	0.69

Total lb of Hex. Removed	**8.7 lb of Hex. / Day**	**1173 lb of Hex. In 208 Operating Days** (SVE 17 to 30)	**411 lb of Hex. In 133 Operating Days** (SVE 33 to 37)	**1583 Total lb of Hex. Removed**

Notes:

1. The theoretical degradation of hexane = (3.1 lb of CO_2 / 1 lb of Hexane)
2. The calculated value given above, assumes 1.6 lbs of CO_2 are measured when 1 lb of hexane is degraded due to CO_2 use in bacterial cell growth (approximation).
3. Average values for Air flow, CO_2 and O_2 were used for each monitoring well to detremine the biodegradation rates.
4. SVE Wells 33 through 37 were activated in August, 2010.

EXTERIOR SOIL VAPOR EXTRACTION SYSTEM
BIODEGRADATION CALCULATIONS

Charbert Facility
Alton, Rhode Island

Biological degradation of PCE based on Oxygen Level in Soil Vapor
December 29, 2009 to January 6, 2011

Well I.D.	Average Flow (CFM)	% Below 21	Mass of O_2 Consumed (lb/Day)	Biodegardation (lb of Hex./Day)
SVE-17	4.5	-0.6	1.76	0.57
SVE-18	4.1	-0.6	1.59	0.51
SVE-19	3.4	-0.5	1.12	0.36
SVE-20	5.1	-0.3	0.99	0.32
SVE-21	1.2	-0.4	0.32	0.10
SVE-22	4.7	-0.6	1.83	0.59
SVE-23	2.6	-0.7	1.18	0.38
SVE-24	5.5	-0.3	1.08	0.35
SVE-25	3.9	-0.3	0.76	0.25
SVE-26	5.7	-0.2	0.74	0.24
SVE-27	4.7	-0.3	0.91	0.29
SVE-28	4.7	-0.3	0.92	0.30
SVE-29	3.7	-0.3	0.73	0.23
SVE-30	5.5	-0.4	1.43	0.46
SVE-33	6.7	-0.5	2.18	0.70
SVE-34	6.9	-0.1	0.45	0.14
SVE-35	3.8	-0.3	0.74	0.24
SVE-36	6.9	-0.3	1.35	0.43
SVE-37	6.0	-0.2	0.78	0.25

Total lbs of Hex. Removed	**6.7**
	lb of Hex / Day

1031	**236**
	lb of Hex. In 133 Operating Days
lb of Hex. In 208 Operating Days	
(SVE 17 to 30)	(SVE 33 to 37)

1266
Total lb of Hex. Removed

1. SVE Wells 33 through 37 were activated in August, 2010.

EXTERIOR SOIL VAPOR EXTRACTION SYSTEM
BIODEGRADATION CALCULATIONS

Charbert Facility
Alton, Rhode Island

Soil Vapor Extraction TVOC Mass Removal Rate
December 29, 2009 to January 6, 2011

	SVE-17	SVE-18	SVE-19	SVE-20	SVE-21	SVE-22	SVE-23	SVE-24	SVE-25	SVE-26
Average Combined Venting Flow Rate (CFM) =	4.5	4.1	3.4	5.1	1.2	4.7	2.6	5.5	3.9	5.7
Average Combined TVOC Concentration (ppmv) =	2.2	1.6	1.0	0.6	1.0	2.5	2.2	1.3	1.0	0.7
Total Vent System Run Time (days) =	208	208	208	208	208	208	208	208	208	208
Total Volume of Air Treated (ft^3) =	1,353,830	1,219,046	1,030,349	1,524,557	371,405	1,401,754	778,752	1,656,346	1,174,118	1,695,283
Total Volume of TVOC (ft^3 of TVOC) =	3.0	2.0	1.0	0.9	0.4	3.5	1.7	2.2	1.2	1.2
Molecular weight of PCE (g/mole) =	166	166	166	166	166	166	166	166	166	166
lb / ft^3 of PCE =	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lb's of PCE Removed =	1.4	0.9	0.5	0.4	0.2	1.6	0.8	1.0	0.5	0.6
Lbs of PCE / 24-hour daily cycle Removed =	0.007	0.004	0.002	0.002	0.001	0.008	0.004	0.005	0.003	0.003

	SVE-27	SVE-28	SVE-29	SVE-30	SVE-33	SVE-34	SVE-35	SVE-36	SVE-37
Average Combined Venting Flow Rate (CFM) =	4.7	4.7	3.7	5.5	6.7	6.9	3.8	6.9	6.0
Average Combined TVOC Concentration (ppmv) =	0.7	0.9	0.7	0.7	0.5	0.6	0.3	0.7	0.9
Total Vent System Run Time (days) =	208	208	208	208	133	133	133	133	133
Total Volume of Air Treated (ft^3) =	1,398,758	1,416,730	1,114,214	1,650,355	1,283,184	1,321,488	727,776	1,321,488	1,149,120
Total Volume of TVOC (ft^3 of TVOC) =	1.0	1.3	0.8	1.2	0.6	0.8	0.2	0.9	1.0
Molecular weight of PCE (g/mole) =	166	166	166	166	166	166	166	166	166
lb / ft^3 of PCE =	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lb's of PCE Removed =	0.5	0.6	0.4	0.5	0.3	0.4	0.1	0.4	0.5
Lbs of PCE / 24-hour daily cycle Removed =	0.002	0.003	0.002	0.003	0.002	0.003	0.001	0.003	0.004

TOTAL
(pounds) **11**
(pounds/24-hour cycle) **0.06**

SUMMARY OF EXTERIOR SOIL VAPOR EXTRACTION REMOVAL RATES
December 29, 2009 to January 6, 2011

Charbert Facility
Alton, Rhode Island

Summary of PCE Removed by Bio-Venting

		January 18, 2008 through January 21, 2009	January 22, 2009 through December 29, 2009	December 29, 2009 through January 6, 2011	BIO-VENTING TOTAL 12/29/09 to 01/06/11
Total lbs of PCE Removed by Soil Vapor Extraction		**55**	**31**	**11**	**97**
Total lbs of PCE (approximated by utilizing biodegradation values for hexane) Removed by Biodegradation Values are based on Carbon Dioxide generated in soil vapor.		**5,017**	**2,346**	**1,583**	**8,946**
Total lbs of PCE (approximated by utilizing biodegradation values for hexane) Removed by Biodegradation Values are based on depleted oxygen levels observed in soil vapor.		**6,747**	**4,591**	**1,266**	**12,604**
Average total lbs of PCE removed by biodegradation		**5,882**	**3,468**	**1,425**	**10,775**
Total lbs of PCE remediated		**5,937**	**3,499**	**1,436**	**10,872**
Total gallons of PCE remediated		**440**	**259**	**106**	**805**
Average Rate of PCE Hydrocarbons Removal in #/day[4]	**Vent**	**0.16**	**0.09**	**0.06**	**0.10**
(biodegradation approximated by utilizing biodegradation	**Biological**	**17.0**	**10.1**	**6.8**	**11.3**
values for hexane)	**Total**	**17.2**	**10.2**	**6.9**	**11.4**

Notes:
1. Calculations assume PCE concentrations approximately equivalent to TVOC PID readings in samples of extracted soil vapor.
2. Actual run time in days from 1/18/08 to 1/21/09 = 368; 1/22/09 to 12/29/09 = 344; 12/29/09 to 01/06/11 = 208.
3. For calculations assumed all PCE. Actual compounds include PCE, TCE, DCE, VC and TPH.
4. 208 days used for average daily removal rate calculations.

INTERIOR SOIL VAPOR EXTRACTION SYSTEM
BIODEGRADATION CALCULATIONS

Charbert Facility
Alton, Rhode Island

Biological degradation of PCE based on Carbon Dioxide Levels in Soil Vapor
December 29, 2009 to January 6, 2011

Well I.D.	Average Flow (CFM)	Average O_2 %	Average CO_2 %	% Below 21	Respiration Quot. %
SVE-1	5.7	20.7	0.1	-0.30	33.33
SVE-2	5.8	20.8	0.1	-0.20	50.00
SVE-3	6.0	20.7	0.1	-0.30	33.33
SVE-4	5.9	20.8	0.1	-0.20	50.00
SVE-5	5.9	20.7	0.1	-0.30	33.33
SVE-6	5.9	20.7	0.1	-0.30	33.33
SVE-7	7.1	20.7	0.0	-0.30	0.00
SVE-8	6.7	20.7	0.1	-0.30	33.33
SVE-9	7.7	20.7	0.0	-0.30	0.00
SVE-10	5.8	20.6	0.1	-0.40	25.00
SVE-11	5.8	20.6	0.1	-0.40	25.00
SVE-12	6.4	20.6	0.1	-0.40	25.00
SVE-13	5.9	20.7	0.1	-0.30	33.33
SVE-14	5.9	20.7	0.1	-0.30	33.33
SVE-15	5.7	20.7	0.0	-0.30	0.00
SVE-16	5.9	20.7	0.1	-0.30	33.33
SVE-31	5.1	20.7	0.1	-0.30	33.33
SVE-32	5.0	20.6	0.1	-0.40	25.00
SSVW-1	5.8	20.7	0.1	-0.30	33.33
SSVW-2	5.8	20.8	0.0	-0.20	0.00
SSVW-3	5.8	20.6	0.1	-0.40	25.00
SSVW-4	5.9	20.7	0.1	-0.30	33.33
SSVW-5	6.4	20.7	0.1	-0.30	33.33
SSVW-6	5.7	20.7	0.1	-0.30	33.33
SSVW-7	5.9	20.8	0.0	-0.20	0.00

Well I.D.	Mass of CO_2 (lb/day)	Biodegradation (lb of Hex./day)
SVE-1	0.51	0.33
SVE-2	0.52	0.33
SVE-3	0.53	0.35
SVE-4	0.53	0.34
SVE-5	0.52	0.34
SVE-6	0.52	0.34
SVE-7	0.00	0.00
SVE-8	0.60	0.39
SVE-9	0.00	0.00
SVE-10	0.52	0.33
SVE-11	0.52	0.33
SVE-12	0.57	0.37
SVE-13	0.52	0.34
SVE-14	0.52	0.34
SVE-15	0.00	0.00
SVE-16	0.52	0.34
SVE-31	0.45	0.29
SVE-32	0.45	0.29
SSVW-1	0.52	0.33
SSVW-2	0.00	0.00
SSVW-3	0.52	0.33
SSVW-4	0.53	0.34
SSVW-5	0.57	0.37
SSVW-6	0.51	0.33
SSVW-7	0.00	0.00

Total lb of Hex. Removed	**6.7** **lb of Hex. / Day**	**1402** **lb of Hex. In 208 Operating Days**

Notes:

1. The theoretical degradation of hexane = (3.1 lb of CO_2 / 1 lb of Hexane)
2. The calculated value given above, assumes 1.6 lbs of CO_2 are measured when 1 lb of hexane is degraded due to CO_2 use in bacterial cell growth (approximation).
3. Average values for Air flow, CO_2 and O_2 were used for each monitoring well to detremine the biodegradation rates.

INTERIOR SOIL VAPOR EXTRACTION SYSTEM
BIODEGRADATION CALCULATIONS

Charbert Facility
Alton, Rhode Island

Biological degradation of PCE based on Oxygen Level in Soil Vapor
December 29, 2009 to January 6, 2011

Well I.D.	Average Flow (CFM)	% Below 21	Mass of O_2 Consumed (lb/Day)	Biodegardation (lb of Hex./Day)
SVE-1	5.7	-0.30	1.11	0.36
SVE-2	5.8	-0.20	0.76	0.24
SVE-3	6.0	-0.30	1.17	0.38
SVE-4	5.9	-0.20	0.77	0.25
SVE-5	5.9	-0.30	1.14	0.37
SVE-6	5.9	-0.30	1.14	0.37
SVE-7	7.1	-0.30	1.37	0.44
SVE-8	6.7	-0.30	1.31	0.42
SVE-9	7.7	-0.30	1.51	0.49
SVE-10	5.8	-0.40	1.50	0.48
SVE-11	5.8	-0.40	1.51	0.49
SVE-12	6.4	-0.40	1.67	0.54
SVE-13	5.9	-0.30	1.14	0.37
SVE-14	5.9	-0.30	1.15	0.37
SVE-15	5.7	-0.30	1.12	0.36
SVE-16	5.9	-0.30	1.14	0.37
SVE-31	5.1	-0.30	0.99	0.32
SVE-32	5.0	-0.40	1.30	0.42
SSVW-1	5.8	-0.30	1.13	0.37
SSVW-2	5.8	-0.20	0.75	0.24
SSVW-3	5.8	-0.40	1.51	0.49
SSVW-4	5.9	-0.30	1.15	0.37
SSVW-5	6.4	-0.30	1.24	0.40
SSVW-6	5.7	-0.30	1.12	0.36
SSVW-7	5.9	-0.20	0.77	0.25

Total lbs of Hex. Removed = 9.5
lb of Hex / Day

1978

lb of Hex. In 208 Operating Days

INTERIOR SOIL VAPOR EXTRACTION SYSTEM
BIODEGRADATION CALCULATIONS

Charbert Facility
Alton, Rhode Island

Soil Vapor Extraction TVOC Mass Removal Rate
December 29, 2009 to January 6, 2011

	SVE-1	SVE-2	SVE-3	SVE-4	SVE-5	SVE-6	SVE-7	SVE-8	SVE-9	SVE-10	SVE-11	SVE-12
Average Combined Venting Flow Rate (CFM) =	5.7	5.8	6.0	5.9	5.9	5.9	7.1	6.7	7.7	5.8	5.8	6.4
Average Combined TVOC Concentration (ppmv) =	0.9	0.7	0.7	1.9	0.7	0.7	0.4	0.5	0.4	0.4	0.7	0.3
Total Vent System Run Time (days) =	208	208	208	208	208	208	208	208	208	208	208	208
Total Volume of Air Treated (ft^3) =	1,701,274	1,740,211	1,797,120	1,776,154	1,752,192	1,752,192	2,111,616	2,018,765	2,315,290	1,731,226	1,743,206	1,922,918
Total Volume of TVOC (ft^3 of TVOC) =	1.5	1.2	1.3	3.4	1.2	1.2	0.8	1.0	0.9	0.7	1.2	0.6
Molecular weight of PCE (g/mole) =	166	166	166	166	166	166	166	166	166	166	166	166
lb / ft^3 of PCE =	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lb's of PCE Removed =	0.7	0.6	0.6	1.6	0.6	0.6	0.4	0.5	0.4	0.3	0.6	0.3
Lbs of PCE / 24-hour daily cycle Removed =	0.003	0.003	0.003	0.008	0.003	0.003	0.002	0.002	0.002	0.002	0.003	0.001

	SVE-13	SVE-14	SVE-15	SVE-16	SVE-31	SVE-32	SSVW-1	SSVW-2	SSVW-3	SSVW-4	SSVW-5	SSVW-6	SSVW-7	
Average Combined Venting Flow Rate (CFM) =	5.9	5.9	5.7	5.9	4.9	5.0	5.8	5.8	5.8	5.9	3.4	5.7	5.9	
Average Combined TVOC Concentration (ppmv) =	0.4	0.7	0.9	0.7	1.0	0.6	0.3	0.5	0.6	0.6	0.6	0.8	0.5	
Total Vent System Run Time (days) =	208	208	208	208	208	208	208	208	208	208	208	208	208	
Total Volume of Air Treated (ft^3) =	1,758,182	1,761,178	1,716,250	1,752,192	1,464,653	1,497,600	1,743,206	1,731,226	1,743,206	1,767,168	1,003,392	1,719,245	1,767,168	
Total Volume of TVOC (ft^3 of TVOC) =	0.7	1.2	1.5	1.2	1.5	0.9	0.5	0.9	1.0	1.1	0.6	1.4	0.9	
Molecular weight of PCE (g/mole) =	166	166	166	166	166	166	166	166	166	166	166	112	112	
lb / ft^3 of PCE =	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.3	0.3	**TOTAL**
Lb's of PCE Removed =	0.3	0.6	0.7	0.6	0.7	0.4	0.2	0.4	0.5	0.5	0.3	0.4	0.3	(pounds) **13**
Lbs of PCE / 24-hour daily cycle Removed =	0.002	0.003	0.003	0.003	0.003	0.002	0.001	0.002	0.002	0.002	0.001	0.002	0.001	(pounds/24-hour cycle) **0.06**

SUMMARY OF INTERIOR SOIL VAPOR EXTRACTION REMOVAL RATES
December 29, 2009 to January 6, 2011

Charbert Facility
Alton, Rhode Island

Summary of PCE Removed by Bio-Venting

		January 18, 2008 through January 21, 2009	January 22, 2009 through December 29, 2009	December 29, 2009 through January 6, 2011	BIO-VENTING TOTAL 1/18/08 to 01/06/11
Total lbs of PCE Removed by Soil Vapor Extraction		**93**	**87**	**13**	**193**
Total lbs of PCE (approximated by utilizing biodegradation values for hexane) Removed by Biodegradation Values are based on Carbon Dioxide generated in soil vapor.		**5,189**	**1,307**	**1,402**	**7,898**
Total lbs of PCE (approximated by utilizing biodegradation values for hexane) Removed by Biodegradation Values are based on depleted oxygen levels observed in soil vapor.		**7,802**	**8,153**	**1,978**	**17,933**
Average total lbs of PCE removed by biodegradation		**6,496**	**4,730**	**1,690**	**12,916**
Total lbs of PCE remediated		**6,589**	**4,817**	**1,703**	**13,109**
Total gallons of PCE remediated		**488**	**357**	**126**	**971**
Average Rate of PCE Hydrocarbons Removal in #/day	**Vent**	**0.25**	**0.25**	**0.06**	**0.19**
(biodegradation approximated by utilizing biodegradation	**Biological**	**17.7**	**13.8**	**8.1**	**13.2**
values for hexane)	**Total**	**18.0**	**14.1**	**8.2**	**13.4**

Notes:
1. Calculations assume PCE concentrations approximately equivalent to TVOC PID readings in samples of extracted soil vapor.
2. Actual run time in days from 1/18/08 to 1/21/09 = 368; 1/22/09 to 12/29/09 = 344; 12/29/09 to 01/06/11 = 208.
3. For calculations assumed all PCE. Actual compounds include PCE, TCE, DCE, VC and TPH.

APPENDIX E

RESIDENTIAL WELLS ANALYTICAL SUMMARY

TABLE 1
UNTREATED WATER ANALYTICAL SUMMARY

14 River Street
Alton, Rhode Island

14 RIVER STREET								
PARAMETERS	**UNITS**	**RIDEM GA GROUND WATER OBJECTIVE**	**RIDEM GA GROUND WATER PREVENTATIVE ACTION LIMIT**	**SAMPLED BY AND DATE**				
				RIDEM 6/10/2003	**RIDEM 11/18/2003**	**GZA 11/5/2004**	**GZA 2/11/2005**	**GZA 2/01/2008**
Volitile Organic Compounds								
Methyl Tertiary-Butyl Ether (MTBE)	ug/L	40	20	6.8	ND	ND	ND	ND
1,1,1-Trichloroethane	ug/L	200	100	ND	4.8	3.7	ND	ND
1,1-Dichloroethene	ug/L	7	3.5	ND	0.6	0.5	ND	ND
Cis-1,2-Dichloroethene (Cis-1,2-DCE)	ug/L	70	35	ND	ND	0.73	ND	ND
Tetrachloroethene (PCE)	ug/L	5	2.5	ND	0.8	0.53	ND	ND
Trichloroethene (TCE)	ug/L	5	2.5	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	ug/L			ND	ND	ND	ND	ND
Tentatively Identified Compounds								
Volatile TICs	ug/L	NS	NS	NT	NT	ND	ND	ND
PARAMETERS	**UNITS**	**RIDEM GA GROUND WATER OBJECTIVE**	**RIDEM GA GROUND WATER PREVENTATIVE ACTION LIMIT**	**SAMPLED BY AND DATE**				
				GZA 2/02/2009	**GZA 2/1/2010**	**GZA 5/3/2010**	**GZA 8/2/2010**	**GZA 11/01/2010**
Volitile Organic Compounds								
Methyl Tertiary-Butyl Ether (MTBE)	ug/L	40	20	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ug/L	200	100	ND	ND	ND	ND	ND
1,1-Dichloroethene	ug/L	7	3.5	ND	ND	ND	ND	ND
Cis-1,2-Dichloroethene (Cis-1,2-DCE)	ug/L	70	35	ND	ND	ND	ND	ND
Tetrachloroethene (PCE)	ug/L	5	2.5	ND	ND	ND	ND	ND
Trichloroethene (TCE)	ug/L	5	2.5	0.87	ND	0.89	1.2	0.71
bis(2-Ethylhexyl)phthalate	ug/L	6	3	ND	ND	ND	ND	1.00
Tentatively Identified Compounds								
Volatile TICs	ug/L	NS	NS	ND	ND	ND	ND	ND

Notes:
1. Highlighted results indicate a detected parameter.
2. Highlighted and bold results indicate a detected parameter that exceeds a regulatory limit.
3. NS = No Standard
4. NT = Not Tested
5. ND = Not Detcted

TABLE 2
UNTREATED WATER ANALYTICAL SUMMARY

16 River Street
Alton, Rhode Island

16 RIVER STREET

PARAMETERS	UNITS	RIDEM GA GROUND WATER OBJECTIVE	RIDEM GA GROUND WATER PREVENTATIVE ACTION LIMIT	SAMPLED BY AND DATE						
				RIDEM 6/10/2003	Clayton 11/12/2003	RIDEM 11/18/2003	Richmond 8/11/2004	GZA 11/5/2004	GZA 2/11/2005	GZA 2/01/2008
Volitile Organic Compounds										
1,1,1-Trichloroethane	ug/L	200	100	ND	2.1	5.3	ND	13	ND	5.2
1,1-Dichloroethane	ug/L	5	2.5	ND	0.2	ND	0.41	ND	ND	ND
1,1-Dichloroethene	ug/L	7	3.5	ND	0.36	0.8	0.95	2.2	ND	ND
Acetone	ug/L	---	---	ND	2.4	ND	ND	ND	ND	ND
Benzene	ug/L	5	2.5	ND	0.98	1.1	ND	1	ND	1.1
bis(2-Ethylhexyl)phthalate	ug/L	---	---	ND	ND	ND	1.7	ND	ND	ND
Cis-1,2-Dichloroethene (Cis-1,2-DCE)	ug/L	70	35	ND	2.2	2.7	3.1	4.6	ND	2.7
2 Chlorotoluene	ug/L	---	---	ND	ND	ND	ND	0.53	ND	ND
Di-N-Butyl phthalate	ug/L	---	---	ND	ND	ND	4.2	ND	ND	ND
Tetrachloroethene (PCE)	ug/L	5	2.5	ND	0.24	0.8	ND	2.3	ND	1.1
Trichloroethene (TCE)	ug/L	5	5	ND	0.45	0.6	ND	0.73	ND	ND
Tentatively Identified Compounds										
Volatile TICs	ug/L	---	---	NT	16.35	NT	NT	1.3	ND	ND

PARAMETERS	UNITS	RIDEM GA GROUND WATER OBJECTIVE	RIDEM GA GROUND WATER PREVENTATIVE ACTION LIMIT	SAMPLED BY AND DATE					
				GZA 9/09/2008	GZA 02/02/09	GZA 2/1/2010	GZA 5/3/2010	GZA 8/2/2010	GZA 11/01/10
Volitile Organic Compounds									
1,1,1-Trichloroethane	ug/L	200	100	3.3	1.5	ND	1.2	0.61	ND
1,1-Dichloroethane	ug/L	5	2.5	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ug/L	7	3.5	ND	ND	ND	ND	ND	ND
Acetone	ug/L	---	---	ND	ND	ND	ND	ND	ND
Benzene	ug/L	5	2.5	ND	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	ug/L	---	---	ND	ND	ND	ND	ND	ND
Cis-1,2-Dichloroethene (Cis-1,2-DCE)	ug/L	70	35	1.4	0.66	ND	0.58	ND	ND
2 Chlorotoluene	ug/L	---	---	ND	ND	ND	ND	ND	ND
Di-N-Butyl phthalate	ug/L	---	---	ND	ND	ND	ND	ND	ND
Tetrachloroethene (PCE)	ug/L	5	2.5	0.7	ND	ND	ND	ND	ND
Trichloroethene (TCE)	ug/L	5	5	ND	ND	ND	ND	ND	ND
Tentatively Identified Compounds									
Volatile TICs	ug/L	---	---	2.5	ND	ND	ND	ND	ND

Notes:
1. Highlighted results indicate a detected parameter.
2. Highlighted and bold results indicate a detected parameter that exceeds a regulatory limit.
3. NS = No Standard
4. NT = Not Tested
5. ND = Not Detcted

TABLE 3
UNTREATED WATER ANALYTICAL SUMMARY

18 River Street
Alton, Rhode Island

18 RIVER STREET								
PARAMETERS	**UNITS**	**RIDEM GA GROUND WATER OBJECTIVE**	**RIDEM GA GROUND WATER PREVENTATIVE ACTION LIMIT**	**SAMPLED BY AND DATE**				
				RIDEM 6/10/2003	**Clayton 11/12/2003**	**RIDEM 11/18/2003**	**Richmond 8/11/2004**	**GZA 11/5/2004**
Volitile Organic Compounds								
Chloroform	ug/L	NS	NS	ND	ND	5.6	0.4	0.96
Tentatively Identified Compounds								
Volatile TICs	ug/L	NS	NS	NT	5.93	NT	NT	4.6
PARAMETERS	**UNITS**	**RIDEM GA GROUND WATER OBJECTIVE**	**RIDEM GA GROUND WATER PREVENTATIVE**	**SAMPLED BY AND DATE**				
				GZA 2/11/2005	**GZA 2/01/2008**	**GZA 8/01/2008**	**GZA 02/02/2009**	**GZA 08/19/2009**
Volitile Organic Compounds								
Chloroform	ug/L	NS	NS	ND	ND	ND	ND	ND
Tentatively Identified Compounds								
Volatile TICs	ug/L	NS	NS	ND	ND	ND	1.0*	ND
Total Coliform Bacteria				Absent	Absent	Absent	Absent	Absent
PARAMETERS	**UNITS**	**RIDEM GA GROUND WATER OBJECTIVE**	**RIDEM GA GROUND WATER PREVENTATIVE ACTION LIMIT**	**SAMPLED BY AND DATE**				
				GZA 2/1/2010	**GZA 2/1/2010**	**GZA 8/2/2010**	**GZA 11/1/2010**	**GZA 11/5/2010**
Volitile Organic Compounds								
Chloroform	ug/L	NS	NS	ND	ND	ND	ND	ND
Tentatively Identified Compounds								
Volatile TICs	ug/L	NS	NS	ND	ND	ND	ND	ND
Total Coliform Bacteria				Absent	Absent	Absent	**Present**	Absent

Notes:
1. Highlighted results indicate a detected parameter.
2. Highlighted and bold results indicate a detected parameter that exceeds a regulatory limit.
3. NS= No Standard
4. NT = Not Tested
5. ND = Not Detcted

* = Compound also detected in trip blank

APPENDIX F

PERIMETER WELL MONITORING RESULTS MEMORANDUM

GZA
GeoEnvironmental, Inc.

Engineers and
Scientists

March 3, 2011
File No. 32795.29

Mr. Gary Jablonski
Rhode Island Department of Environmental Management
Office of Waste Management
235 Promenade Street
Providence, Rhode Island 02908

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

Re: Twelfth Quarterly (October through December 2010)
Perimeter Well Monitoring Report
Charbert Division of NFA
Richmond, Rhode Island
RIDEM Case # 99-037

Dear Mr. Jablonski:

This letter with attachments serves as the twelfth quarterly Perimeter Well Monitoring Report for the Charbert facility located at 299 Church Street in Richmond (Alton), Rhode Island. It was prepared by GZA GeoEnvironmental, Inc., on behalf of our client Charbert Division of NFA.

In accordance with discussions during the conference call on April 23, 2008 between RIDEM and Charbert, it was agreed that, as part of the environmental monitoring, additional groundwater samples would be collected from perimeter wells located between the Charbert facility and nearby private wells and analyzed for VOCs, see Figure 1, attached. Perimeter monitoring wells included RIZ-1, RIZ-14, RIZ-21, GP-22 and GZ-1. Based on previous results and the results of the Piezometric Monitoring Report dated May 2, 2008, RIDEM concurred with Charbert's recommendation (received via email 5/9/08) to sample these wells for a total of eight quarters and include the data as an attachment to the quarterly Interim Compliance Monitoring Plan reports. After the eight quarters the need for future monitoring was assessed and it was recommended by GZA that two of the monitoring wells (RIZ-1 and RIZ-14) be removed from the quarterly monitoring program. The recommendation was approved by RIDEM in a letter dated April 26, 2010.

Groundwater Sampling

GZA personnel were on site on January 5, 2010 and collected samples from three monitoring wells, RIZ-21, GP-22 and GZ-1. Groundwater sampling was performed in general accordance with EPA's January 2010 *Low Stress (low flow) Purging and Sampling*

Procedure (Low Flow SOP). Low flow sampling equipment (exclusive of tubing which was dedicated to the wells) was decontaminated prior to use on-site and between each location following EPA protocols. Water quality monitoring for stabilization was conducted utilizing a Horiba multi-meter in a flow through cell.

Analysis

As agreed upon, groundwater was analyzed for volatile organic compounds (VOCs) via EPA Method 8260B in samples from the three monitoring wells. The detected analytes have been summarized and compared to RIDEM's Method 1 GA Groundwater Objectives and Groundwater Preventative Action Limits (PALs) in the attached Table 1. The low flow field screening results are provided in Table 2, attached, and the laboratory certificates of analysis are provided in Attachment A.

Results

The January 5, 2011 groundwater results have been compared to the applicable groundwater standards for Rhode Island and there are GA Groundwater Objective exceedances for VOCs in one of the three wells. Monitoring wells GP-22 and RIZ-21did not have VOCs detected above the method detection limits.

Five VOCs were detected in the sample from monitoring well GZ-1 has with cis-1,2-dichloroethene present at 48 µg/L, (above the PAL of 35 µg/L), and trichloroethene present at 10 µg/L, (above the GA Groundwater Objective of 5 µg/L). The three other detects were tetrachloroethene at 2.1 µg/L, 1,1-dichloroethane at 2.0 µg/L, and 1,2,4-trichlorobenzene at 3.9 µg/L. These results are consistent with prior contaminant levels observed in samples from monitoring well GZ-1. For reference, all previous analytical testing results for the three wells tested on January 5, 2011 have been included in Table 1.

At this time, we do not see any significant change in the pattern of migration of contaminants from the previously delineated areas of concern. Given that wells GP-22, RIZ-21 and GZ-1 are sentinel wells between the release area at the mill and the adjacent residences, we recommend that monitoring of these wells continue semiannually as part of the proposed site wide Environmental Monitoring Plan submitted by GZA with the Third Annual ICMP report.

Please feel free to call Ed or Steve (401) 421-4140 (or via email at *esummerly@gza.com* *or* *stephen.andrus@gza.com*) with any questions or comments.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

Stephen Andrus, P.E.
Assistant Project Manager

Edward A. Summerly, P.G.
Principal

SA/EAS:blm

CC: Tracy Nelson Hay, Richmond Town Clerk (CD)
Clark Memorial Library – Charbert Repository (CD)

Attachments: Tables: Table 1 - Detected Constituents
Table 2 - Low Flow Field Screening Readings
Figure 1: Monitoring Well Locations
Attachment A - Laboratory Certification Sheets

TABLES

TABLE 1
DETECTED CONSTITUENTS SUMMARY

Forth Quarter 2010 Perimeter Wells
Charbert Facility
Richmond, Rhode Island

GZ-1	UNITS	RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	DATE																							
				8/6/2004		2/15/2005		4/25/2008		7/7/2008		10/3/2008		1/6/2009		4/1/2009		7/9/2009		10/12/2009		1/4/2010		4/30/2010		7/13/2010		10/12/2010		1/5/2011	
				Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
VOLATILE ORGANICS																													
1,2,4-Trimethylbenzene	ug/L (ppb)	NS	NS	<	1	<	1	<	1	4.2	1	4.2	1	3.9	1	<	1	<	1	<	1	<	1	<	1	<	1		1	<	1
1,1-Dichloroethane	ug/L (ppb)	---	---	2.2	1	2.0	1	1.0	1	<	1	1.5	1	1.8	1	1.8	1	2.3	1	2.2	1	2.2	1	2.6	1	2.4	1	2.4	1	2.0	1
1,2,3-Trichlorobenzene	ug/L (ppb)	---	---	<	1	8.3	1	<	1	<	1	<	1	<	1	<	1	<	1	<	1	<	1	<	1	<	1		1	<	1
1,2,4-Trichlorobenzene	ug/L (ppb)	70	35	9.5	1	<	1	3.0	1	<	1	<	1	<	1	3.6	1	4.3	1	3.4	1	2.4	1	3.7	1	3.8	1	3.0	1	3.9	1
cis-1,2-Dichloroethene	ug/L (ppb)	70	35	73	1	68	1	29	1	20	1	39	1	45	1	41	1	50	1	49	1	46	1	64	1	53	1	56	1	48	1
Tetrachloroethene	ug/L (ppb)	5	2.5	2.2	1	2.0	1	<	1	1.2	1	1.6	1	2.0	1	2.1	1	2.1	1	1.8	1	1.9	1	2.5	1	2.5	1	2.2	1	2.1	1
trans-1,2-Dichloroethene	ug/L (ppb)	100	50	<	1	1.0	1	<	1	<	1	<	1	<	1	<	1	<	1	<	1	<	1	<	1	<	1		1	<	1
Trichloroethene	ug/L (ppb)	5	2.5	12	1	8.6	1	5.0	1	4.2	1	8.0	1	10	1	9.6	1	10	1	11	1	9.8	1	13	1	11	1	12	1	10	1
Vinyl Chloride	ug/L (ppb)	2	1	1.1	1	1.4	1	<	1	<	1	<	1	<	1	<	1	<	1	<	1	<	1	<	1	<	1		1	<	1

RIZ-21	UNITS	RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	DATE																					
				4/25/2008		7/7/2008		10/3/2008		1/6/2009		4/1/2009		7/9/2009		10/12/2009		1/4/2010		4/30/2010		7/13/2010		10/12/2010		1/5/2011	
				Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
Methyl-Tert-Butyl-Ether	ug/L (ppb)	40	20	<	1	<	1	<	1	<	1	<	1	<	1	<	1	<	1	<	1	<	1	1.6	1	<	1

GP-22	UNITS	RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	DATE																							
				2/15/2005		4/25/2008		7/7/2008		10/3/2008		10/28/2008		1/6/2009		4/1/2009		7/9/2009		10/12/2009		1/4/2010		4/30/2010		7/13/2010		10/12/2010		1/5/2011	
				Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
VOLATILE ORGANICS																													
Tetrachloroethene	ug/L (ppb)	5	2.5	<	1	<	1	<	1	12	1	<	1	<	1	<	1	<	1	<	1	<	1	<	1	<	1	<	1	<	1

Notes:
1. Cells shaded yellow have results above the method detection limit.
2. Cells shaded green are above RIDEM GA Groundwater Objective.
3. Cells shaded blueare above RIDEM Preventative Action Limit.

TABLE 2
LOW FLOW SCREENING RESULTS

Forth *Quarter 2010 Perimeter Wells*
Charbert Facility
Richmond, RI

JANUARY 2011 GROUNDWATER SAMPLING FIELD DATA								
WELL ID	pH	CONDUCTIVITY	TURBIDITY	DISSOLVED OXYGEN	TEMPERATURE	ORP	DEPTH TO GWT	GW ELEV.
	SU	mS/cm	NTU	mg/l	^{o}C	mV	FT	FT
RIZ-21	5.7	0.258	1	9.5	11.4	222.8	11.5	41.4
GZ-1	7.5	0.433	2	1.7	11.7	-116	15.4	41.1
GP-22	5.7	0.175	0.2	6.8	9.6	152	17.3	31.3

Notes:
1. Field screening parameters were collected using a Horiba Model U-10 Water Quality Monitor.

FIGURES

GENERAL NOTES

1 BASE MAP DEVELOPED FROM ELECTRONIC CAD FILES PROVIDED BY AEROTECH INTERNATIONAL DIGITAL PHOTOGRAMMETRIC MAPPING DATED 12-01-04, DATE FLOWN MARCH 26, 1999. THE TOPOGRAPHY OF THE LAGOONS, THE 1998, 2001 AND 2004 SOIL STOCK PILES WERE UPDATED BY INSTRUMENT SURVEY CONDUCTED BY GZA PERSONNEL IN SEPTEMBER 2004 THROUGH FEBRUARY 2005.

2 THE LOCATIONS AND ELEVATIONS OF MONITORING WELLS AND EXPLORATIONS WERE APPROXIMATELY DETERMINED BY SURVEY. THIS DATA SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.

INDUSTRIAL WASTE PUMP HOUSE
OIL BUNKER
DRUM STORAGE AREA
FORMER (LAGOON 5)
INTERIOR SVE/AS AREA
CHARBERT MILL BUILDING
INTERIOR SVE/AS AREA
WETLANDS BOUNDARY
RIVER EDGE
RIVER STREET
CHARBERT EMPLOYEE PARKING LOT
PRIVATE WELL-16 RIVER STREET
PRIVATE WELL-14 RIVER STREET
PRIVATE WELL-18 RIVER STREET
#18
#16
#14
#12
#10
CATION SYSTEM
PSFM
IWW
SFM

GZ-19
GZ-23
GZ-21
GZ-22
GZ-ML-3
RIZ-13
GZ-3
GZ-7
GP-26
RIZ-6
GP-25
RIZ-3
GZ-6
CB-9
EW-4
PT-4
PT-5
EW-3
PT-1
EW-2
EW-1
RIZ-21
GP-22
GP-27B
GP-27A
GZ-8
RIZ-1
PT-2
GZ-1
GZ-ML-2
RIZ-14
GZ-4A
GP-18
GP-19
GZ-2
GP-15
IC-MW6

50 52 54 56 58 60 62 42 44 46 48

GZA
GeoEnvironmental, Inc.
Engineers and Scientists
530 BROADWAY
PROVIDENCE, RI 02909
(401) 421-4140
(401) 751-8613

REV. NO.	DESCRIPTION	BY	DATE

PROJ MGR: SMA
DESIGNED BY: SMA
REVIEWED BY: EAS
OPERATOR: DL
DATE: MAY, 2008

1 INCH = 80 FEET
0 40 80 160

CHARBERT FACILITY
ALTON, RHODE ISLAND

SUPPLEMENTAL GROUNDWATER SAMPLING LOCATIONS

JOB NO.
32795.29

FIGURE NO.
1

APPENDIX A

LABORATORY CERTIFICATES OF ANALYSIS

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748
(781) 278-4700

Laboratory Identification Numbers:
MA and ME: **MA092** NH: **2028**
CT: **PH0579** RI: **LAO00236**
NELAC - NYS DOH: **11063**

ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
140 Broadway
Providence, RI 02903

Stephen Andrus

Project No.: **03.0032795.29**
Work Order No.: **1101-00017**
Date Received: **01/06/2011**
Date Reported: **01/10/2011**

SAMPLE INFORMATION

Date Sampled	Matrix	Laboratory ID	Sample ID
01/05/2011	Aqueous	1101-00017 001	GP-22
01/05/2011	Aqueous	1101-00017 002	RIZ-21
01/05/2011	Aqueous	1101-00017 003	GZ-1
01/05/2011	Aqueous	1101-00017 004	Trip Blank

GZA GeoEnvironmental, Inc.
106 South Street
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(781) 278-4700

A N A L Y T I C A L R E P O R T

GZA GeoEnvironmental, Inc.
140 Broadway
Providence, RI 02903

Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/06/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00017**

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 01/06/11 via _x_GZA courier, __EC, __FEDEX, or ___hand delivered. The temperature of the _x_temperature blank/__cooler air, was 1.4 degrees C. The temperature requirement for most analyses is above freezing to 6 degrees C. The samples were received intact for all requested analyses.

The chain of custody indicates that the samples, when required, were chemically preserved in accordance with the method they reference.

2. EPA Method 8260 - VOCs

Attach QC 8260 1/7/2011 "S" - Aqueous

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748
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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
140 Broadway
Providence, RI 02903

Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/06/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00017**

Data Authorized By: _____

NELAC certification, as indicated by the NELAC Lab ID Number, is per analyte. For a complete list of NELAC validated analytes, please contact the laboratory.

Abbreviations:
% R = % Recovery
DF = Dilution Factor
DFS = Dilution Factor Solids
CF = Calculation Factor
DO = Diluted Out

Method Key:
Method 8260: The current version of the method is 8260B.
Method 8270: The current version of the method is 8270D.
Method 6010: The current version of the method is 6010C.
Method 8081: The current version of the method is 8081B.
Method 8082: The current version of the method is 8082A.
Method 7471: The current version of the method is 7471B.

Please note that the laboratory signed copy of the chain of custody record is an integral part of the data report.

Soil data is reported on a dry weight basis unless otherwise specified.
Matrix Spike / Matrix Spike Duplicate sets are performed as per method and are reported at the end of the analytical report if assigned on the Chain of Custody.

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A N A L Y T I C A L R E P O R T

GZA GeoEnvironmental, Inc.
140 Broadway
Providence, RI 02903

Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/06/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00017**

Sample ID: **GP-22** Sample No.: **001**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				KAC	01/07/2011
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chloromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromomethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Diethylether	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Acetone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Butanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
cis-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Chloroform	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Tetrahydrofuran	EPA 8260	<10	10	ug/L	KAC	01/07/2011
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Benzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
4-Methyl-2-Pentanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Toluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Hexanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
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Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/06/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00017**

Sample ID: **GP-22** Sample No.: **001**

Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
o-Xylene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Styrene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromoform	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Naphthalene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	104	70-130	% R	KAC	01/07/2011
***Toluene-D8	EPA 8260	112	70-130	% R	KAC	01/07/2011

GZA GeoEnvironmental, Inc.
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A N A L Y T I C A L R E P O R T

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Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/06/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00017**

Sample ID: **GP-22** Sample No.: **001**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	104	70-130	% R	KAC	01/07/2011
Preparation	EPA 5030B	1.0		CF	KAC	01/07/2011

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ANALYTICAL REPORT

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Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/06/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00017**

Sample ID: **RIZ-21** Sample No.: **002**

Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				KAC	01/07/2011
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chloromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromomethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Diethylether	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Acetone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Butanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
cis-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Chloroform	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Tetrahydrofuran	EPA 8260	<10	10	ug/L	KAC	01/07/2011
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Benzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
4-Methyl-2-Pentanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Toluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Hexanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011

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ANALYTICAL REPORT

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Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/06/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00017**

Sample ID: **RIZ-21** Sample No.: **002**

Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
o-Xylene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Styrene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromoform	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Naphthalene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	111	70-130	% R	KAC	01/07/2011
***Toluene-D8	EPA 8260	112	70-130	% R	KAC	01/07/2011

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A N A L Y T I C A L R E P O R T

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Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/06/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00017**

Sample ID: **RIZ-21** Sample No.: **002**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	104	70-130	% R	KAC	01/07/2011
Preparation	EPA 5030B	1.0		CF	KAC	01/07/2011

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ANALYTICAL REPORT

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Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/06/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00017**

Sample ID: **GZ-1** Sample No.: **003**

Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				KAC	01/07/2011
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chloromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromomethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Diethylether	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Acetone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1-Dichloroethane	EPA 8260	2.0	1.0	ug/L	KAC	01/07/2011
2-Butanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
cis-1,2-Dichloroethene	EPA 8260	48	1.0	ug/L	KAC	01/07/2011
Chloroform	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Tetrahydrofuran	EPA 8260	<10	10	ug/L	KAC	01/07/2011
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Benzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Trichloroethene	EPA 8260	10	1.0	ug/L	KAC	01/07/2011
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
4-Methyl-2-Pentanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Toluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Hexanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011

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Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/06/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00017**

Sample ID: **GZ-1** Sample No.: **003**

Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Tetrachloroethene	EPA 8260	2.1	1.0	ug/L	KAC	01/07/2011
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
o-Xylene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Styrene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromoform	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,2,4-Trichlorobenzene	EPA 8260	3.9	1.0	ug/L	KAC	01/07/2011
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Naphthalene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	114	70-130	% R	KAC	01/07/2011
***Toluene-D8	EPA 8260	116	70-130	% R	KAC	01/07/2011

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A N A L Y T I C A L R E P O R T

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Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/06/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00017**

Sample ID: **GZ-1** Sample No.: **003**

Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	102	70-130	% R	KAC	01/07/2011
Preparation	EPA 5030B	1.0		CF	KAC	01/07/2011

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ANALYTICAL REPORT

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Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/06/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00017**

Sample ID: **Trip Blank** Sample No.: **004**

Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				KAC	01/07/2011
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chloromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromomethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Diethylether	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Acetone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Butanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
cis-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Chloroform	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Tetrahydrofuran	EPA 8260	<10	10	ug/L	KAC	01/07/2011
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Benzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
4-Methyl-2-Pentanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Toluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Hexanone	EPA 8260	<10	10	ug/L	KAC	01/07/2011

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748
(781) 278-4700

A N A L Y T I C A L R E P O R T

GZA GeoEnvironmental, Inc.
140 Broadway
Providence, RI 02903

Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/06/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00017**

Sample ID: **Trip Blank** Sample No.: **004**

Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
o-Xylene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Styrene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromoform	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
1,2-Dibromo-3-Chloropropane	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Naphthalene	EPA 8260	<2.0	2.0	ug/L	KAC	01/07/2011
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	KAC	01/07/2011
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	107	70-130	% R	KAC	01/07/2011
***Toluene-D8	EPA 8260	110	70-130	% R	KAC	01/07/2011

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Stephen Andrus

Project Name.: **Charbert ICMP**
Project No.: **03.0032795.29**

Date Received: **01/06/2011**
Date Reported: **01/10/2011**
Work Order No.: **1101-00017**

Sample ID: **Trip Blank** Sample No.: **004**
Sample Date: **01/05/2011**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	102	70-130	% R	KAC	01/07/2011
Preparation	EPA 5030B	1.0		CF	KAC	01/07/2011

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748

EPA Method 8260 / 524.2 Aqueous Method Blank (MB) and Laboratory Control Sample/Duplicate (LCS/LCSD) Data

Method Blank			Laboratory Control Sample				Laboratory Control Sample Duplicate					
Date Analyzed:	**1/7/2011 1**		**Date Analyzed:**	**1/7/2011 1**			**1/7/2011 1**					
Volatile Organics	**Conc. ug/L**	**Acceptance Limit**	**Spike Concentration = 20ug/L**	**% Recovery**	**Acceptance Limits**	**Verdict**	**% Recovery**	**Acceptance Limits**	**Verdict**	**RPD**	**Limit**	**Verdict**
dichlorodifluoromethane	< 1.0	< 1.0	dichlorodifluoromethane	113	70-130	ok	116	70-130	ok	2.87	<25	ok
chloromethane	< 1.0	< 1.0	chloromethane	113	70-130	ok	111	70-130	ok	1.35	<25	ok
vinyl chloride	< 0.5	< 0.5	vinyl chloride	109	80-120	ok	111	70-130	ok	2.00	<25	ok
bromomethane	< 1.0	< 1.0	bromomethane	96.5	70-130	ok	97.3	70-130	ok	0.82	<25	ok
chloroethane	< 0.5	< 0.5	chloroethane	110	70-130	ok	106	70-130	ok	3.75	<25	ok
trichlorofluoromethane	< 1.0	< 1.0	trichlorofluoromethane	102	70-130	ok	104	70-130	ok	2.29	<25	ok
diethyl ether	< 2.5	< 2.5	diethyl ether	96.6	70-130	ok	103	70-130	ok	6.60	<25	ok
acetone	< 10	< 10	acetone	91.3	70-130	ok	97.2	70-130	ok	6.25	<25	ok
1,1-dichloroethene	< 0.5	< 0.5	1,1-dichloroethene	100	80-120	ok	103	70-130	ok	3.01	<25	ok
carbon disulfide	< 5.0	< 5.0	carbon disulfide	98.1	70-130	ok	104	70-130	ok	5.64	<25	ok
dichloromethane	< 1.0	< 1.0	dichloromethane	95.1	70-130	ok	95.5	70-130	ok	0.38	<25	ok
methyl-tert-butyl-ether	< 0.5	< 0.5	methyl-tert-butyl-ether	100	70-130	ok	99.3	70-130	ok	0.90	<25	ok
trans-1,2-dichloroethene	< 0.5	< 0.5	trans-1,2-dichloroethene	104	70-130	ok	103	70-130	ok	1.38	<25	ok
1,1-dichloroethane	< 0.5	< 0.5	1,1-dichloroethane	98.9	70-130	ok	101	70-130	ok	2.31	<25	ok
2-butanone	< 10	< 10	2-butanone	99.1	70-130	ok	102	70-130	ok	2.82	<25	ok
2,2-dichloropropane	< 0.5	< 0.5	2,2-dichloropropane	105	70-130	ok	104	70-130	ok	1.77	<25	ok
cis-1,2-dichloroethene	< 0.5	< 0.5	cis-1,2-dichloroethene	103	70-130	ok	100	70-130	ok	2.08	<25	ok
chloroform	< 0.5	< 0.5	chloroform	98.1	80-120	ok	97.8	70-130	ok	0.39	<25	ok
bromochloromethane	< 0.5	< 0.5	bromochloromethane	99.9	70-130	ok	102	70-130	ok	2.41	<25	ok
tetrahydrofuran	< 5.0	< 5.0	tetrahydrofuran	105	70-130	ok	111	70-130	ok	5.55	<25	ok
1,1,1-trichloroethane	< 0.5	< 0.5	1,1,1-trichloroethane	97.2	70-130	ok	98.8	70-130	ok	1.65	<25	ok
1,1-dichloropropene	< 0.5	< 0.5	1,1-dichloropropene	102	70-130	ok	102	70-130	ok	0.35	<25	ok
carbon tetrachloride	< 0.5	< 0.5	carbon tetrachloride	95.8	70-130	ok	97.8	70-130	ok	2.14	<25	ok
1,2-dichloroethane	< 0.5	< 0.5	1,2-dichloroethane	94.1	70-130	ok	96.7	70-130	ok	2.74	<25	ok
benzene	< 0.5	< 0.5	benzene	99.4	70-130	ok	102	70-130	ok	2.92	<25	ok
trichloroethene	< 0.5	< 0.5	trichloroethene	99.3	70-130	ok	101	70-130	ok	1.90	<25	ok
1,2-dichloropropane	< 0.5	< 0.5	1,2-dichloropropane	99.4	80-120	ok	102	70-130	ok	3.08	<25	ok
bromodichloromethane	< 0.5	< 0.5	bromodichloromethane	98.1	70-130	ok	96.8	70-130	ok	1.29	<25	ok
dibromomethane	< 0.5	< 0.5	dibromomethane	100	70-130	ok	99.8	70-130	ok	0.66	<25	ok
4-methyl-2-pentanone	< 10	< 10	4-methyl-2-pentanone	102	70-130	ok	103	70-130	ok	0.60	<25	ok
cis-1,3-dichloropropene	< 0.5	< 0.5	cis-1,3-dichloropropene	105	70-130	ok	102	70-130	ok	2.45	<25	ok
toluene	< 0.5	< 0.5	toluene	99.4	80-120	ok	100	70-130	ok	0.70	<25	ok
trans-1,3-dichloropropene	< 1.0	< 1.0	trans-1,3-dichloropropene	97.5	70-130	ok	98.4	70-130	ok	0.91	<25	ok
1,1,2-trichloroethane	< 0.5	< 0.5	1,1,2-trichloroethane	100	70-130	ok	94.6	70-130	ok	5.65	<25	ok
2-hexanone	< 10	< 10	2-hexanone	103	70-130	ok	101	70-130	ok	1.67	<25	ok
1,3-dichloropropane	< 0.5	< 0.5	1,3-dichloropropane	100	70-130	ok	91.5	70-130	ok	9.42	<25	ok
tetrachloroethene	< 0.5	< 0.5	tetrachloroethene	98.8	70-130	ok	94.9	70-130	ok	4.06	<25	ok
dibromochloromethane	< 0.5	< 0.5	dibromochloromethane	99.9	70-130	ok	93.7	70-130	ok	6.42	<25	ok
1,2-dibromoethane (EDB)	< 1.0	< 1.0	1,2-dibromoethane (EDB)	101	70-130	ok	94.6	70-130	ok	6.08	<25	ok
chlorobenzene	< 0.5	< 0.5	chlorobenzene	100	70-130	ok	95.5	70-130	ok	4.70	<25	ok
1,1,1,2-tetrachloroethane	< 0.5	< 0.5	1,1,1,2-tetrachloroethane	97.2	70-130	ok	92.9	70-130	ok	4.49	<25	ok
ethylbenzene	< 0.5	< 0.5	ethylbenzene	100.0	80-120	ok	95.6	70-130	ok	4.50	<25	ok
1,1,2,2-tetrachloroethane	< 0.5	< 0.5	1,1,2,2-tetrachloroethane	98.1	70-130	ok	91.8	70-130	ok	6.61	<25	ok
m&p-xylene	< 1.0	< 1.0	m&p-xylene	99.2	70-130	ok	94.0	70-130	ok	5.34	<25	ok
o-xylene	< 0.5	< 0.5	o-xylene	98.0	70-130	ok	97.8	70-130	ok	0.27	<25	ok
styrene	< 0.5	< 0.5	styrene	100	70-130	ok	99.4	70-130	ok	0.68	<25	ok
bromoform	< 1.0	< 1.0	bromoform	96.8	70-130	ok	94.5	70-130	ok	2.39	<25	ok
isopropylbenzene	< 0.5	< 0.5	isopropylbenzene	98.1	70-130	ok	99.2	70-130	ok	1.16	<25	ok
1,2,3-trichloropropane	< 0.5	< 0.5	1,2,3-trichloropropane	93.2	70-130	ok	95.3	70-130	ok	2.21	<25	ok
bromobenzene	< 0.5	< 0.5	bromobenzene	96.6	70-130	ok	97.9	70-130	ok	1.38	<25	ok
n-propylbenzene	< 0.5	< 0.5	n-propylbenzene	99.9	70-130	ok	101	70-130	ok	0.90	<25	ok
2-chlorotoluene	< 0.5	< 0.5	2-chlorotoluene	99.6	70-130	ok	98.7	70-130	ok	0.84	<25	ok
1,3,5-trimethylbenzene	< 0.5	< 0.5	1,3,5-trimethylbenzene	99.6	70-130	ok	101	70-130	ok	1.12	<25	ok
4-chlorotoluene	< 0.5	< 0.5	4-chlorotoluene	100	70-130	ok	101	70-130	ok	1.10	<25	ok
tert-butyl-benzene	< 0.5	< 0.5	tert-butyl-benzene	98.4	70-130	ok	98.1	70-130	ok	0.28	<25	ok
1,2,4-trimethylbenzene	< 0.5	< 0.5	1,2,4-trimethylbenzene	99.7	70-130	ok	99.9	70-130	ok	0.19	<25	ok
sec-butyl-benzene	< 0.5	< 0.5	sec-butyl-benzene	99.2	70-130	ok	100	70-130	ok	0.82	<25	ok
p-isopropyltoluene	< 0.5	< 0.5	p-isopropyltoluene	99.9	70-130	ok	99.6	70-130	ok	0.24	<25	ok
1,3-dichlorobenzene	< 0.5	< 0.5	1,3-dichlorobenzene	97.7	70-130	ok	98.7	70-130	ok	1.09	<25	ok
1,4-dichlorobenzene	< 0.5	< 0.5	1,4-dichlorobenzene	97.4	70-130	ok	96.8	70-130	ok	0.60	<25	ok
n-butylbenzene	< 0.5	< 0.5	n-butylbenzene	102	70-130	ok	102	70-130	ok	0.09	<25	ok
1,2-dichlorobenzene	< 0.5	< 0.5	1,2-dichlorobenzene	94.9	70-130	ok	95.3	70-130	ok	0.40	<25	ok
1,2-dibromo-3-chloropropane	< 2.5	< 2.5	1,2-dibromo-3-chloropropane	97.7	70-130	ok	101	70-130	ok	3.70	<25	ok
1,2,4-trichlorobenzene	< 0.5	< 0.5	1,2,4-trichlorobenzene	98.4	70-130	ok	99.8	70-130	ok	1.32	<25	ok
hexachlorobutadiene	< 0.5	< 0.5	hexachlorobutadiene	96.5	70-130	ok	97.1	70-130	ok	0.64	<25	ok
naphthalene	< 1.0	< 1.0	naphthalene	94.3	70-130	ok	94.5	70-130	ok	0.22	<25	ok

Surrogates:	**Recovery (%)**	**Acceptance Limits**	**Surrogates:**	**Recovery (%)**	**Acceptance Limits**	**Verdict**	**Recovery (%)**	**Acceptance Limits**	**Verdict**	**RPD**	**Acceptance Limits**	**Verdict**
DIBROMOFLUOROMETHANE	114	70-130	DIBROMOFLUOROMETHANE	111	70-130	ok	113	70-130	ok	2.24	<25	ok
1,2-DICHLOROETHANE-D4	112	70-130	1,2-DICHLOROETHANE-D4	109	70-130	ok	112	70-130	ok	2.99	<25	ok
TOLUENE-D8	110	70-130	TOLUENE-D8	108	70-130	ok	110	70-130	ok	1.13	<25	ok
4-BROMOFLUOROBENZENE	106	70-130	4-BROMOFLUOROBENZENE	108	70-130	ok	108	70-130	ok	0.36	<25	ok
1,2-DICHLOROBENZENE-D4	105	70-130	1,2-DICHLOROBENZENE-D4	107	70-130	ok	109	70-130	ok	1.92	<25	ok

Instrument: HP GC/MS "S"

W.O. # 1101-0017
(for lab use only)

CHAIN-OF-CUSTODY RECORD

Sample I.D.	Date/Time Sampled	Matrix (A=Air, S=Soil, GW=Ground W., SW=Surface W., WW=Waste W., DW=Drinking W., P=Product, Other (specify))	ANALYSIS REQUIRED: ☐ pH ☐ Cond.	GC Methane, Ethane, Ethene	EPA 8260	EPA 8260-8010 List (Chlor.)	EPA 8260-8021 list	EPA 8021-8020 List (BTEX)	EPA 524.2 DW VOCs	EPA 624 WW VOCs	☐ 601 ☐ 602 WW VOCs	EPA 8270 FULL SVOCs	EPA 8270 ☐ PAH ☐ A ☐ BN	EPA 625 WW SVOCs	EPA 8082-PCBs	EPA 8081-Pest	TPH-GC (Mod. 8100)	TPH-GC w/FING.	EPH (MA DEP)	VPH (MA DEP)	Metals ☐ PPM-13 ☐ R-8	MCP 14 Metals	Metals (List Below) **	TCLP - Specify Below	SPLP - Specify Below	EPA 300 ☐ Cl ☐ SO4	EPA 300 ☐ NO2 ☐ NO3	Total No. of Cont.	Note #
GP-22	1-5-11 1446	GW			X																							3	
R12-21	1-5-11 1327																												
G2-1	1-5-11 1250																												
TRIP BLANK	1-5-11 1230																												
PRESERVATIVE (Cl-HCl, M-Methanol, N-HNO3, S-H2SO4, Na-NaOH, O-Other) *					C1																								
CONTAINER TYPE (P-Plastic, G-Glass, V-Vial, T-Teflon, O-Other)*					V																								

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:
[illegible]	1-5-11 1530	CS
RELINQUISHED BY:	DATE/TIME	RECEIVED BY:
CS	1/6/11 1130	BWE Burcom
RELINQUISHED BY:	DATE/TIME	RECEIVED BY:
BWE Burcom	1/6/11 1220	[illegible] 1/6/11 1325

NOTES: (Unless otherwise noted, all samples have been refrigerated to 4 +/- 2°C)
*Specify "Other" preservatives and container types in this space.

Project Manager: Steve Andrus

GZA GeoEnvironmental, Inc.
Laboratory Division

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Hopkinton, MA 01748
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TURNAROUND TIME: Standard (10d) Rush _____ Days, Approved by: _____

LAB USE: TEMP. OF COOLER 1.4 °C Temp Blank 1012 Cooler Air _____

GZA FILE NO: 03.0037345.24 TASK NO: _____ P.O. NO. _____ 1/6/11 1230

PROJECT Perimeter Wells Checked (10d)

LOCATION Alton ES

COLLECTOR(S) M. Brown S. Markiewicz SHEET 1 OF 1