



## TECHNICAL MEMORANDUM #3

TO: Gary Jablonski, RIDEM

FROM: Stephen Andrus and Edward Summerly

DATE: January 15, 2010

FILE NO: 32795.36-C

SUBJECT: Remedial Activities Progress Report for Lagoon 5 Remediation and Air Sparge/Soil Vapor Extraction System Expansion

The purpose of this memorandum is to present the progress of remedial activities associated with Lagoon 5 at the former Charbert Manufacturing Facility in Alton, Rhode Island, and to present recommendations for additional investigations and remedial measures to RIDEM. This progress report also addresses the status of the expansion to the air sparge (AS) and soil vapor extraction (SVE) system approved by RIDEM in the Order of Approval Modification, dated September 17, 2009.

As discussed at our meeting of July 2, 2009, GZA on behalf of Charbert has: 1) installed three new monitoring wells between Lagoon 5 and the Wood River; 2) completed sampling of the three new monitoring wells, Lagoon 5 surface water, Lagoon 5 micro-wells, the dredge soil stockpile and the Wood River diffusion bags. The results of this recent work are presented and discussed below. The two new boiler room SVE wells and one air sparge well have also been activated and the oil bunker/former UST area SVE lines and control box have been installed. Each of these items is discussed in more detail below.

### **LAGOON 5 REMEDIATION**

The following sections summarized remedial work task and additional investigations performed between June 1, 2009 and September 30, 2009.

#### **Lagoon 5 Surface Water**

T Ford, Charbert's remediation contractor, completed dredging activities described in GZA's August 22, 2008, Revised Remedial Action Work Plan on December 17, 2008. As reported in GZA's May 12, 2009 *Technical Memorandum #2* the results of the post-remedial surface water analysis identified elevated VOCs, and TPH at greater concentrations than the pre-remedial water characterization results. Metals and SVOC concentrations observed in the post-remedial analysis were similar to pre-remedial concentrations. In response to RIDEM's verbal request on July 2, 2009, Lagoon 5 surface water was sampled on July 9, 2009. The post-remedial VOC contaminant distribution, including the sample collected on July 9, 2009 is as follows:



POST-REMEDIAL SURFACE WATER ANALYSIS SUMMARY							
ANALYTE	UNITS	RIDEM AWQC STANDARDS		Lagoon 5 Sluiceway 12/30/2008	Lagoon 5 Shelf 12/30/2008	Lagoon 5 Sluiceway 1/30/2009	Lagoon 5 Sluiceway 7/9/2009
		Acute	Chronic				
Vinyl Chloride	µg/L	NC	NC	34	24	12	14
trans-1,2-Dichloroethene	µg/L	NC	NC	4.4	3.3	ND	1
cis-1,2-Dichloroethene	µg/L	--	--	380	300	280	99
Trichloroethene	µg/L	1950*	43*	130	97	100	7
Tetrachloroethene	µg/L	240*	5.3*	1,200	940	930	7.5

ND = Not Detected

-- = Parameter is not listed in RIDEM Ambient Water Criteria Regulations.

\* = RIDEM Minimum Database Guidelines

NC = Parameter is Listed in RIDEM Ambient Water Criteria Regulations with no criteria given.

The pre-remedial surface water sample taken on July 23, 2008 detected vinyl chloride at 5 µg/L and cis-1,2-dichloroethene at 22 µg/L, with remaining VOC compounds not detected above the method detection limits. All surface water sampling and analysis from July 23, 2008 to the present have been summarized in the attached Table 1 and sampling locations are shown on the attached Figure 1. Laboratory data sheets for the July 2009 sampling are provided in Attachment A.

The contaminant concentrations in Lagoon 5 have declined significantly since January 2009. The sluiceway sample taken on December 30, 2008 contained 1,748 µg/L total VOCs while the July 2009 sample contained 129 µg/L total VOCs. To stabilize the lagoon bottom following dredging and provide a barrier above the exposed bottom sediments, a 6-ounce geotextile was installed with an approximately 2-foot overlap at panel joints and a 12-inch thick sand barrier placed above the geotextile.

The lagoon bottom stabilization enacted in January 2009 has resulted in significant VOC source removal from Lagoon 5. As discussed below there are other processes that are also believed to contribute to the observed reduction in VOC concentrations in Lagoon 5.

#### **Excavated Sediment Treatment and Disposal Characterization**

Approximately 600 yards of sediment was removed from Lagoon 5, and placed directly into a bermed and lined storage area, and covered with 10-mil polyethylene. The pile was configured to shed stormwater runoff which comes in contact with the 10-mil polyethylene, beyond and outside of the lined containment berm. Two composite samples of the dredged material labeled DRSTPL-1 and DRSTPL-2 were collected on January 5, 2009 to characterize the material for disposal. Analysis included VOCs, via EPA Method 8260, SVOCs, via EPA Method 8270, TPH, via EPA Method 8100, RCRA 8 Metals, and TCLP-RCRA 8 Metals. The detected levels of tetrachloroethene (PCE) in the dredged material exceed the acceptance criteria for disposal at the Rhode Island Resource Recovery's Central Landfill (RIRRC).



To reduce the PCE concentrations to acceptable levels for disposal at Central Landfill, GZA recommended installing a temporary SVE system equipped with a mechanical blower and activated carbon filters to recover volatile organics. The temporary SVE system was approved by RIDEM in the September 17, 2009 Order of Approval Modification. In anticipation of implementing a temporary soil vapor extraction system, four 4-inch diameter perforated SCH-40 PVC lines were installed horizontally within the pile for venting in January 2009. Prior to performing a pilot test to determine the approximate contaminant mass within the air stream for the air registration of the activated carbon vessel, GZA collected a second set of composite sample on September 17, 2009.

Two composite samples, designated STPL-1 and STPL-2, each consisting of 4 aliquots each were collected from approximately 20 to 24 inches below the pile surface with a small diameter soil auger. The results of the September laboratory analysis showed a significant decrease in the levels of chlorinated solvents. The sample taken in January, DRSTPL-1 and DRSTPL-2, had total detected VOC concentrations of 253 mg/kg and 264 mg/kg, respectively, and exceeded the I/CDEC for PCE, while the samples collected in September, STPL-1 and STPL-2, had total detected VOC concentrations of 17 mg/kg and 14 mg/kg, respectively, and no exceedances of the I/CDEC.

The significant decrease was not expected, yet it appears that, given the lack of oxygen within the containment berm combined with the organic carbon content from pond sediments and petroleum, biodegradation of the chlorinated contaminants was occurring enhanced via the abundant organic carbon in those materials. GZA collected a third set of composite samples on October 30, 2009. These two composite samples designated SS-1 and SS-2, each consisting of 8 aliquot grab samples per composite, 4 collected from approximately 20 to 24 inches below the pile surface and 4 collected from approximately 44 to 48 inches below the pile surface, with a small diameter soil auger. The results of the October 2009 laboratory analysis results were similar to the September 2009 results with total detected VOCs in SS-1 and SS-2 of 31.6 mg/kg and 30.0, respectively. The results of the January, September and October sample analysis are summarized in Table 2, attached, and have been compared to the RIDEM's Industrial Commercial Direct Exposure criteria (I/CDEC). Laboratory data sheets are provided in Attachment A.

After reviewing the results of the October 30, 2009 sampling round, GZA prepared a soil acceptance request submittal to Rhode Island Resource Recovery Corporation (RIRRC) in Johnston, Rhode Island. RIRRC notified Charbert and GZA in a letter dated November 30, 2009 that the material would be accepted at Central Landfill in Johnston, Rhode Island to be used as alternative daily cover. Robar Excavation and Offshore Express, both of Richmond, Rhode Island, transported a total of 1,123 tons of dredge material to Central Landfill beginning on December 10, 2009 and finishing on December 16, 2009. Solid waste associated with the dredged material (polyethylene sheeting, PVC pipe and liner material, etc..) were loaded directly into a roll-off dumpster and transported to Central Landfill in Johnston, Rhode Island by RPE Services of Richmond, Rhode Island. The soil acceptance letter from RIRRC and the trucking weight slips are provided in Attachment B.

### **Lagoon 5 Groundwater Investigation**

To further evaluate contaminant distribution in the vicinity of Lagoon 5 and the potential migration of contaminants from Lagoon 5 to the Wood River and surrounding groundwater aquifer, GZA installed three new deep aquifer monitoring wells between Lagoon 5 and the Wood River, resampled the existing micro wells in Lagoon 5 and conducted the third round of diffusion bag sampling in the Wood River. Each of these evaluations is discussed below.

### New Monitoring Wells

As recommended in GZA's May 12, 2009 *Technical Memorandum #2*, three new deep aquifer groundwater monitoring wells, designated GZ-24, GZ-25 and GZ-26, were installed between Lagoon 5 and the Wood River. Monitoring well GZ 24 is located to the south of Lagoon 5 adjacent to GP-28; GZ-25 is located to the south-southwest of Lagoon 5 between the fence and the Wood River; and monitoring well GZ-26 is located to the west of Lagoon 5 between the fence and the wetland area adjacent to the Wood River, as shown on Figure 1



The wells were drilled using standard wash and drive drilling techniques and 4-inch steel casing. Continuous soil sampling using a 2-inch ID split-spoon sampler employing Standard Penetration Test methods were used during the drilling process to assess the presence of potential confining layers. The soil borings were advanced to till/refusal and a 2-inch ID PVC monitoring well with a 10-foot well screen (0.01-inch slot size) was installed in each boring. Filter sand was installed around the screen section and extended approximately 2 feet above the screen section with a two foot long bentonite seal installed directly above the filter sand. Each monitoring well was developed by purging a volume roughly equal to the volume of wash water utilized to drill the borehole. The purge water was pumped directly into 55-gallon drums for characterization and the results are included in Appendix A. No contaminants were detected above detection limits for boreholes GZ-25 or GZ-26; as such this drilling water and soil cuttings were disposed of on site in the vicinity of the wellheads. The drilling water from GZ-24 had been placed in a storage tank with water from bedrock well GZ-ML-4. That combination of water also contained no detectable VOCs and was released on site.

Each new monitoring well was developed the day after the installation was completed and allowed to stabilize for 10 days (minimum) prior to sampling. The wells were sampled on July 10, 2009 and the sampling results, including field parameters have been summarized in the attached Table 3. Laboratory data sheets are provided in Attachment A and exploration/monitoring well installation logs are included in Appendix C. Groundwater sampling was performed in general accordance with EPA's July 30, 1996 *Low Stress (low flow) Purging and Sampling Procedure* (Low Flow SOP) with VOC sampling receptacles and samples were collected for VOC analysis via EPA Method 8260. Water quality monitoring for stabilization was conducted utilizing a Horiba multi-meter in a flow through cell.

The July 10, 2009 groundwater results have been compared to the applicable groundwater standards for Rhode Island and there are contaminants that exceed the RIDEM GA Groundwater Objectives for VOCs in 2 of the 3 monitoring wells. Four contaminants exceeded the GA Groundwater Objective; vinyl chloride, cis-1,2-dichloroethene, trichloroethene (TCE) and tetrachloroethene (PCE) in the groundwater sample from well GZ-24 and two contaminants exceeded the GA Groundwater Objective; trichloroethene (TCE) and tetrachloroethene (PCE) in the groundwater sample from well GZ-25. The groundwater sample from well GZ-26 had no detectable levels of VOCs.

The following table summarizes the detected VOCs and RIDEM GA Groundwater Objective exceedances in samples collected from the new monitoring wells on July 10, 2009.



Contaminant	RIDEM GA Groundwater Objective (µg/L)	GZ-24 07/10/09 (µg/L)	GZ-25 07/10/09 (µg/L)	GZ-26 07/10/09 (µg/L)
Vinyl Chloride	2	30	ND	ND
cis-1,2-dichloroethene	70	390	ND	ND
trichloroethene	5	22	15	ND
tetrachloroethene	5	150	220	ND

ND = Not Detected

The detected levels of each of these compounds are within historical ranges of analytical data collected from the Site. A comparison of the newly installed monitoring wells with existing deep aquifer monitoring wells sampled quarterly as part of the Interim Compliance Monitoring Plan (ICMP) program shows the same four detected VOCs at similar or higher concentrations. The following table summarizes the VOC results from the July 8, 2009 quarterly ICMP monitoring in adjacent deep overburden aquifer wells. The monitoring well locations are shown on Figure 1.

Contaminant	RIDEM GA Groundwater Objective (µg/L)	GZ-20 07/08/09 (µg/L)	GZ-19 07/08/09 (µg/L)	GZ-7 07/08/09 (µg/L)	GZ-22 07/08/09 (µg/L)
Vinyl Chloride	2	71	ND	2.2	ND
cis-1,2-dichloroethene	70	830	ND	100	ND
trichloroethene	5	520	ND	42	ND
tetrachloroethene	5	1,200	1,300	18	35

ND = Not Detected

### Lagoon 5 Micro Wells

To further evaluate the VOC contaminant distribution below the exposed Lagoon 5 bottom, GZA installed 7-micro wells through the base of the lagoon sluiceway, in pre-remedial topographic low points on January 20, 2009. The micro wells were hand driven ½-inch interior diameter (ID) cast iron pipe with a 2-foot screen section and were installed in three clusters. For each of the three clusters, GZA installed a well screened approximately 3 to 5 feet below the pond bottom and a well screened approximately 8 to 10 feet below the pond bottom. In addition, one well was installed with a screen depth of approximately 13 to 15 feet below the pond bottom. The micro well locations and identifications are shown on Figure 1.

The micro wells were initially sampled on January 20, 2009 and the results showed high levels of chlorinated contaminants located beneath the Lagoon with the highest concentrations at the center cluster, micro wells 1 and 3. As requested by RIDEM on July 2, 2009, the micro wells were resampled by GZA on August 25, 2009. As the Lagoon 5 surface water elevation had exceeded the top of the micro wells, and since subsided, approximately 5 gallons of piezometer water was purged from each well prior to sampling. Samples were collected in general accordance with EPA's July 30, 1996 *Low Stress (low flow) Purging and Sampling Procedure* (Low Flow SOP) although VOC receptacles could not be used in the micro wells. Water quality monitoring for stabilization was conducted utilizing a Horiba multi-meter in a flow through cell. The detected analytes and field parameters have been summarized and compared to RIDEM's Method 1 GA

Groundwater Objectives and Groundwater Quality Preventative Action Limits (PALs) in attached Table 4.



The results of the August groundwater sampling identified significant decreases in the levels of chlorinated solvents from the January analysis in each of the seven wells. The detected levels of total chlorinated solvents in six of the seven well samples range from 3.4 µg/L in the sample from Micro Well 6 (13 to 15 feet below pond bottom) to 15,200 µg/L in the sample from Micro Well-3 (3 to 5 feet below pond bottom). No VOCs were detected in Micro Well-8. Three contaminants still exceeded the GA Groundwater Objectives. In the January sampling round the detected levels of total chlorinated solvents in the seven well samples ranged from 105 µg/L in the sample from Micro Well 6 (13 to 15 feet below pond bottom) to 273,000 µg/L in the sample from Micro Well-1 (8 to 10 feet below pond bottom). Tetrachloroethene concentrations identified at Micro Well-1 were at or slightly above solubility limits (+/-140,000 ppb) for the compound. Tetrachloroethene was detected only in the sample from Micro Well-7 during the August sampling event at 1.6 µg/L.

As the concentrations of chlorinated contaminants were significantly less in August, GZA conducted additional sampling to evaluate the potential of anaerobic biodegradation of the chlorinated organic compounds (enhanced reductive dehalogenation-ERD) on September 9, 2009. The additional sampling included nitrate and sulfate by EPA 300, dissolved iron and manganese by EPA 6010B, methane, ethane and ethene by gas chromatography and total organic carbon by SM-5310B. Samples were collected in general accordance with EPA's July 30, 1996 *Low Stress (low flow) Purging and Sampling Procedure (Low Flow SOP)* and water quality monitoring for stabilization was conducted utilizing a Horiba multi-meter in a flow through cell. The detected analytes and field parameters have been summarized in Table 4.

To evaluate the potential of anaerobic biodegradation of the chlorinated organic compounds, the screening protocol as set forth in the EPA's *Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Groundwater*, September 1998, was used. Results for each micro well were scored based on the laboratory data collected on August 25 and September 9, 2009 and the field data collected on September 9, 2009. The screening results display strong or adequate evidence of anaerobic biodegradation in 5 of the 7 micro wells. The screening scores and scoring interpretations are summarized in the tables below. Full screening sheets are provided as Table 5, attached. It should be noted that analysis was performed for certain indicators, thus our maximum score achievable was 25. If all indicators were analyzed, a maximum score of 40 could be achieved. Hence, scoring results conservatively provide primary and secondary lines of evidence supporting strong or adequate evidence in support of chlorinated VOC natural attenuation via a reductive dechlorination pathway.

Location	Score	Evidence Level
Micro-Well-1	21	Strong
Micro-Well-3	24	Strong
Micro-Well-4	18	Adequate
Micro-Well-5	18	Adequate
Micro-Well-6	15	Adequate
Micro-Well-7	18	Adequate
Micro-Well-8	18	Adequate



Scoring Interpretation	
0 to 5	Inadequate evidence for anaerobic biodegradation* of chlorinated organics
6 to 14	Limited evidence for anaerobic biodegradation* of chlorinated organics
15 to 20	Adequate evidence for anaerobic biodegradation* of chlorinated organics
>20	Strong evidence for anaerobic biodegradation* of chlorinated organics
*reductive dechlorination	
Values Taken from EPA Document <b>EPA/600/R-98/128</b> , <i>Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water</i> , 1998, Table 2.3 and Table 2.4	

In addition to the scoring results associated with EPA (1998), GZA has the following additional comments about the data set relative to natural attenuation:

- Ethene was detected at concentrations of 520 and 2,100 micrograms per liter ( $\mu\text{g/L}$ ) in baseline groundwater samples collected from Micro Well 1 and Micro Well 3 in September 2009, respectively, but not above method detection limits in baseline samples collected from the other Micro Wells. GZA notes that detected PCE in groundwater samples collected from Micro Wells 1 and 3 were both above 10,000  $\mu\text{g/L}$ , and each of the other Micro Wells had PCE concentrations  $\leq 5,000$   $\mu\text{g/L}$ . The fact that ethene, a gas at standard temperatures and pressure, was only detectable at Micro Wells with the highest detectable PCE is strong evidence that reductive dechlorination is occurring and going to completion. GZA notes that ethene is an innocuous dechlorination product of chlorinated alkenes and is only found in environmental settings as a breakdown product of chlorinated VOCs;
- The September 2009 TOC concentration for Micro Wells 1 and 3<sup>1</sup> (9.3 mg/L and 11 mg/L, respectively) also had the highest reported TOC values for all of the Micro Wells sampled. Hence, there is a positive correlation between elevated TOC (electron donor potentially capable of driving chlorinated VOC transformation) and ethene production, which is consistent with a reductive dechlorination pathway; and
- The September 2009 detected dissolved iron and dissolved manganese concentrations (43 mg/L and 3.6 mg/L, respectively) for Micro Well 1 during baseline sampling had the highest reported values of all the Micro Wells sampled, which is consistent with the ethene and TOC results for that well. Given that oxidized iron and manganese can inhibit reductive dechlorination, the correlation between elevated dissolved iron and manganese concentrations respectively resulting from manganogenic and ferrogenic reduction and elevated TOC suggests that TOC is scavenging oxidized iron and manganese resulting in more optimal conditions for chlorinated VOC dechlorination.

<sup>1</sup> Again, the wells with the highest detected concentrations of ethene, consistent with robust reductive dechlorination.

### **Wood River Diffusion Bag Sampling and Analysis**

In accordance with the December 4, 2007 Interim Compliance Monitoring Plan, on August 19, 2009, 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 3 weeks and removed on September 9, 2009. The manufactures minimum recommended in place time is two weeks. Diffusion bag results summary for the 2009, 2008 and 2007 sampling events are shown in Table 6, attached, and the diffusion bag locations are shown on Figure 1. Note that the locations were approximately the same for 2008 and 2009. The diffusion bag at location 1 (DB-1) was missing on September 9, so a new diffusion bag was set and retrieved on September 30, 2009. Laboratory certificates of analysis are also attached in Appendix A.

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, organic free water. When a passive diffusion bag is placed in a well or buried in a river bottom (as was done 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 water inside the bag. Generally, a minimum of two weeks is required to reach equilibrium. The bags are then retrieved and analyzed. The bags GZA deployed in the bed of the Wood River adjacent to Charbert were deployed for three weeks.

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 those observed in pore water.

A comparison of the 2008 results (post AS/SVE system installation) and the 2007 (pre AS/SVE system installation) results in Table 5 suggested that the air sparge curtain along the Wood River was effectively reducing the mass of contaminants discharging to the river. The 2009 results, also in Table 5, show a moderate increase in contaminant concentrations from 2008, and lower contaminant levels than 2007. The results also indicate that the chlorinated contaminant parent/daughter ratio has remained the same from 2008 to 2009. As previously noted the





parent/daughter ratio changed from 2007 to 2008, likely as the result of the overburden aquifer becoming more oxygenated by the air sparge system. The increase in detected levels of tetrachloroethene and trichloroethene may be the result of the Lagoon 5 dredging which appears to have disturbed contaminants in the lagoon bottom sediments.



#### Piezometric Monitoring

To evaluate the direction of groundwater flow in the vicinity of Lagoon 5 and the rear maintenance yard, GZA collected manual groundwater readings at 46 groundwater monitoring wells and 6 surface water locations on the northern portion of the site on December 18, 2009. The resulting groundwater contours and inferred direction of groundwater flow are shown on Figure 1 and the groundwater elevation data is summarized in Table 7, attached. To date GZA has collected 26 rounds of groundwater elevations across the site and surrounding area and produced multiple sets of groundwater contours. In general the groundwater contours show a similar pattern across the site with groundwater flow generally from the north to the south with the flow moving either east or west to the adjacent rivers as the groundwater moves down the Site peninsula.

The previous groundwater contours developed for the site did not detail the complex groundwater flow patterns in the vicinity of Lagoon 5. The groundwater flow in this area is affected by Alton Pond, Alton Pond Dam, the former canal/raceway located between the building and Church Street, the Wood River and obstructions caused by the facility building foundations. The groundwater flow is generally from Alton pond and the old raceway to former Lagoon 5 and the Wood River. The groundwater elevations in the monitoring wells along the river are at approximately the same elevation as the river. The surface water elevation of former Lagoon 5, 43.5-feet, is slightly higher than the Wood River elevation of 42.4 feet at SW-1. The groundwater flow from former Lagoon 5 appears to be toward the Wood River with a portion passing through the groundwater sparge system in the rear maintenance yard.

#### Summary of Lagoon 5 Groundwater Investigation

The results of groundwater samples taken from the newly installed deep aquifer groundwater monitoring wells have assisted in defining the extent of contamination in the vicinity of Lagoon 5 and expanded the known contaminated zone slightly to the west of the area defined by GZA in the June 2, 2005 *Site Investigation Report*. Monitoring well GZ-24 has VOC contaminant levels similar to both deep and shallow overburden monitoring wells in the vicinity. The groundwater contaminant concentrations are lower in monitoring well GZ-25 and no VOC contaminants were detected in samples collected from monitoring well GZ-26, located on the southwestern corner of Lagoon 5. The July ICMP sampling shows that the contaminant levels in the previously defined zone of elevated VOCs are higher or similar to the levels observed in monitoring well GZ-25, thus the levels seen in the new monitoring wells could be expected.

It appears that the soils beneath Lagoon 5 were a previously unidentified source of chlorinated VOC contamination. The removal of the sediments and soils from Lagoon 5 via the dredging both removed and disturbed this source, as is often the case with earth-moving remedial activities. The chlorinated contaminant levels in both the soil removed from the lagoon and in the groundwater beneath the lagoon have decreased significantly in the months since their discovery. Laboratory results of the soil and the groundwater are consistent with anaerobic biodegradation of the chlorinated organic compounds and the screening analysis of the groundwater confirms that anaerobic biodegradation via a reductive dechlorination pathway is taking place beneath the lagoon, likely driven by the petroleum contamination and/or other source of organic carbon.



The results of the 2009 diffusion bag sampling showed an increase in VOC concentrations relative to the 2008 sampling that may be related to the contaminants that were disturbed in Lagoon 5. The groundwater table map constructed with the piezometric monitoring data show that groundwater in the vicinity of former Lagoon 5 flows toward both the Wood River and the maintenance yard.

### **Proposed Response Actions**

In response to the observed conditions in Lagoon 5, Charbert is proposing three response actions: 1) 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; 2) installation 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 location consistent with other monitoring installations at the Site; and 3) expansion of the existing air-sparge curtain approximately 90 feet by the addition of three new sparge points (designated AS-32, AS-33 and AS-34) to the west.

The recent explorations have redefined the VOC contaminant distribution in the groundwater between Lagoon 5 and the Wood River. The expansion of the ICMP monitoring well network as proposed will provide both shallow and deep aquifer monitoring downgradient of the newly identified Lagoon 5 source area and allow for the assessment of possible VOC contaminant transport to the Wood River. All five of the new wells will be monitored for VOCs (EPA Method 8260) as part of the ICMP program (currently on a quarterly basis).

The 2008 and 2009 diffusion bag samples have shown that the existing air sparge curtain installed along the southern compliance boundary has significantly reduced the migration of VOC contaminants to Wood River. Expanding the air sparge curtain as proposed will further mitigate the migration of VOC contaminants from Lagoon 5 to Wood River.

The proposed air sparge and monitoring wells will be installed by direct push method (Geoprobe). Because GZ-25 and GZ-26 were installed using standard wash and drive drilling techniques and a 4-inch steel casing with continuous soil sampling, no soil samples will be collected during installation of the new wells. The monitoring wells will be 2-inch ID PVC with a 10-foot well screen (0.01-inch slot size) with filter sand installed around the screen section and extending approximately 2 feet above the screen section. A minimum of a two foot long bentonite seal will be installed directly above the filter sand to the ground surface. The wells will be allowed to stabilize for 5 days prior to conducting piezometric measurements and collecting groundwater samples.

The air sparge wells will be 1-inch ID PVC well with a 5-foot well screen (0.01-inch slot size) with filter sand installed around the screen section and extending approximately 2 feet above the screen section. A bentonite seal will be installed directly above the filter sand to the ground surface. The screen will be set to span from 25-30 feet below ground surface, subsurface conditions permitting, which will provide aeration of the entire saturated overburden thickness given that the bedrock is approximately 30 feet below the ground surface in the area.

We estimate that this drilling and sampling program will require 1 to 2 days to complete and the associated connections of the air sparge wells will take approximately 1 week. Figure 1 shows the approximate locations of the proposed groundwater monitoring and air sparge wells. Please note these locations represent our best initial estimate as to the placement of the wells; the locations may be adjusted in the field based on site-specific observations and access considerations. A GZA

geologist/engineer will be present during the field program to collect and screen soil and water samples, and prepare boring/well logs describing subsurface conditions.

At this time GZA is requesting a modification to the Order of Approval dated December 13, 2007, and modified on September 17, 2009, for the air sparge (AS) system at the Charbert facility to include the proposed 3 air sparge wells. We are also requesting a modification to the *December 4, 2007 Interim Compliance Monitoring Plan (ICMP)* to include the 5 proposed new monitoring wells. After the completion of the new monitoring well installation, GZA will perform a baseline sampling of the 5 new ICMP wells consisting of VOCs (EPA Method 8260) prior to the activation of the new air sparge wells.



### **Expanded AS and SVE System**

In a letter to RIDEM dated September 10, 2009, GZA proposed modifications to the existing AS and SVE system to remediate the TPH contamination in the boiler room and the oil bunker/former UST area. These modifications were approved by RIDEM and an Order of Approval Modification was issued by the department on September 17, 2009. The modifications included the 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* and 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 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*.

At this time, the two new SVE wells and the new AS well in the boiler room are operating. GZA notified RIDEM on September 29, 2009 that the two new SVE wells would be activated on October 2, 2009 and again on November 19, 2009 that the new sparge well would begin operation on November 20, 2009. The five new SVE lines and control box have been installed in the oil bunker/former UST area. These lines will be activated after the dredge stockpile has been removed and the exterior blower upgraded from 1-hp to 3-hp. The new SVE lines will be operating within 90 days now that the dredge stockpile has been removed and the 3-hp blower is no longer required as part of that approved remedial system. As you are aware, RIDEM requested three new AS wells to be located in the oil bunker/former UST area. We intend to coordinate the installation of the air sparge wells with next phase of remedial activities associated with Lagoon 5.

Attachments: Figure 1  
Tables 1 to 7  
Attachment A- Laboratory Certificates of Analysis  
Attachment B- RIRRC Soil Acceptance Letter and Weight slips  
Attachment C- Boring logs

## **TABLES**

TABLE 1  
LAGOON 5 REMEDIATION  
SURFACE WATER ANALYTICAL RESULTS SUMMARY

*Charbert Facility  
Alton, Rhode Island*

	RIDEM AWQC STANDARDS		RIDEM GA Groundwater Objectives	UNITS	Lagoon 5 Sluiceway PRE-REMEDIATION		Lagoon 5 Sluiceway POST-REMEDIATION		Lagoon 5 Shelf POST-REMEDIATION		LAG 5 CHNL POST-REMEDIATION		LAG-5 SW POST-REMEDIATION	
	ACUTE	CHRONIC			07/23/2008		12/30/2008		12/30/2008		01/30/2009		07/09/2009	
					Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
<b>EPA 8260 VOLATILE ORGANICS</b>														
Vinyl Chloride	NC	NC	2	µg/L	5	1.0	34	1.0	24	1.0	12	10	14	1.0
trans-1,2-Dichloroethene	NC	NC	100	µg/L	<	1.0	4.4	1.0	3.3	1.0	<	10	1	1.0
cis-1,2-Dichloroethene	--	--	70	µg/L	22	25	380	25	300	25	280	10	99	1.0
Trichloroethene	1950*	43*	5	µg/L	<	25	130	25	97	1.0	100	10	7	1.0
Tetrachloroethene	240*	5.3*	5	µg/L	<	25	1200	25	940	25	930	10	7.5	1.0
<b>EPA 8270 SEMI-VOLATILE ORGANICS</b>														
ACID FRACTION:					<		<		<			NT		NT
BASE-NEUTRAL FRACTION:					<		<		<			NT		NT
<b>Mod. EPA 8100 TOTAL PETROLEUM HYDROCARBON</b>														
Hydrocarbon Content			NS	µg/L	ND	200	510	100	270	200	NT		NT	
<b>EPA 6010B PRIORITY POLLUTANT METALS</b>														
Barium	--	--	2	mg/L	0.016	0.005	0.015	0.015	<	0.015	NT		NT	
Copper	0.005	0.004	NS	mg/L	0.015	0.015	0.015	0.015	<	0.015	NT		NT	
Zinc	0.035	0.032	NS	mg/L	0.059	0.010	0.059	0.010	0.069	0.010	NT		NT	

ND = NOT DETECTED

NT = NOT TESTED

NS = NO STANDARD

**ANALYTE DETECTED ABOVE MDL**

**ANALYTE DETECTED ABOVE RIDEM GA GROUNDWATER STANDARD**

SURFACE WATER STANDARDS NOTES

\* = RIDEM Minimum Database Guidelines

§ = The aquatic life criteria for these compounds were issued in 1980 utilizing the 1980 Guidelines for criteria development. The acute values shown are final acute values which, by the 1980 Guidelines, are instantaneous values as contrasted with a Criteria Maximum Concentration (CMC) which is a one-hour average.

NC = Parameter is Listed in RIDEM Ambient Water Criteria Regulations with no criteria given.

-- = Parameter is not listed in RIDEM Ambient Water Criteria Regulations.

Note: Actual hardness is not known. A hardness of 25 mg/L as CaCO<sub>3</sub> was used for metals criteria calculations.

TABLE 2  
LAGOON 5 REMEDIATION  
DREDGE SOIL STOCKPILE ANALYTICAL RESULTS SUMMARY

Charbert Facility  
Alton, Rhode Island

	RIDEM CRITERIA INDUSTRIAL/ COMMERCIAL	UNITS	DRSTPL-1		DRSTPL-2		STPL-1		STPL-2		SS-1		SS-2	
			01/05/2009		12/30/2008		09/17/2009		09/17/2009		10/30/2009		10/30/2009	
			Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
<b>EPA 8260 VOLATILE ORGANICS</b>														
1,2,4-Trimethylbenzene	NS	mg/kg	0.07	0.03	0.08	0.03	ND	0.11	ND	0.11	ND	0.38	ND	0.32
1,3,5-Trimethylbenzene	NS	mg/kg	0.05	0.03	0.05	0.03	ND	0.11	ND	0.11	ND	0.38	ND	0.32
2-Chlorotoluene	NS	mg/kg	0.12	0.03	0.17	0.03	ND	0.11	ND	0.11	ND	0.38	ND	0.32
cis-1,2-Dichloroethene	10,000	mg/kg	5.4	1.30	5.8	1.30	1.9	0.11	2.1	0.11	5.8	0.38	8.8	0.32
Isopropyl benzene	10,000	mg/kg	0.06	0.03	0.06	0.03	ND	0.11	ND	0.11	ND	0.38	ND	0.32
m,p-Xylene	NS	mg/kg	0.05	0.03	0.07	0.03	ND	0.21	ND	0.21	ND	0.76	ND	0.64
Total Xylene	10,000	mg/kg	0.05	0.03	0.07	0.03	ND	0.11	ND	0.11	ND	0.38	ND	0.32
Naphthalene	NS	mg/kg	0.40	0.03	0.38	0.03	ND	0.21	ND	0.21	ND	0.76	ND	0.64
p-Isopropyl toluene	NS	mg/kg	0.08	0.03	0.09	0.03	ND	0.11	ND	0.11	ND	0.38	ND	0.32
Sec-butylbenzene	NS	mg/kg	0.06	0.03	0.06	0.03	ND	0.11	ND	0.11	ND	0.38	ND	0.32
Tetrachloroethene	110	mg/kg	240	1.30	250	1.30	14	0.11	11	0.11	24	0.38	19	0.32
trans-1,2-Dichloroethylene	10,000	mg/kg	0.10	0.03	0.1	0.03	0.13	0.11	0.13	0.11	ND	0.38	0.44	0.32
Trichloroethene	520	mg/kg	6.2	1.30	6.7	1.30	0.85	0.11	1	0.11	1.8	0.38	1	0.32
Vinyl Chloride	3	mg/kg	0.13	0.026	0.12	0.027	ND	0.11	ND	0.11	ND	0.38	0.74	0.32
<b>EPA 8270 SEMI-VOLATILE ORGANICS</b>														
Benzo(b)fluoranthene	7.8	mg/kg	ND	0.36	0.5	0.38	NT		NT		NT		NT	
Benzo(k)fluoranthene	78	mg/kg	ND	0.36	0.41	0.38	NT		NT		NT		NT	
Benzo(a)pyrene	0.8	mg/kg	ND	0.36	0.44	0.38	NT		NT		NT		NT	
Bis(2-ethylhexyl)phthalate	410	mg/kg	0.38	0.36	0.6	0.38	NT		NT		NT		NT	
Chrysene	780	mg/kg	ND	0.36	0.81	0.38	NT		NT		NT		NT	
Fluoranthene	10,000	mg/kg	0.56	0.36	1.4	0.38	NT		NT		NT		NT	
Phenanthrene	10,000	mg/kg	0.95	0.36	2	0.38	NT		NT		NT		NT	
Pyrene	10,000	mg/kg	0.36	0.36	1.9	0.38	NT		NT		NT		NT	
<b>Mod. EPA 8100 TOTAL PETROLEUM HYDROCARBON</b>														
Hydrocarbon Content	2,500	mg/kg	560	11	1,000	11	NT		NT		NT		NT	
<b>TOTAL 8 RCRA METALS</b>														
Arsenic	7	mg/kg	4.8	1.600	3.7	1.700	NT		NT		NT		NT	
Barium	10,000	mg/kg	32	0.54	49	0.56	NT		NT		NT		NT	
Cadmium	1,000	mg/kg	ND	0.27	ND	0.28	NT		NT		NT		NT	
Chromium	10,000	mg/kg	16	1.6	18	1.7	NT		NT		NT		NT	
Lead	500	mg/kg	38	2.2	55	2.3	NT		NT		NT		NT	
Mercury	610	mg/kg	0.38	0.11	0.38	0.11	NT		NT		NT		NT	
Selenium	10,000	mg/kg	ND	11	ND	11	NT		NT		NT		NT	
Silver	10,000	mg/kg	ND	1	ND	1.1	NT		NT		NT		NT	
<b>TCLP-8 RCRA METALS</b>														
Arsenic	NS	mg/kg	ND	1	ND	1	NT		NT		NT		NT	
Barium	NS	mg/kg	ND	2	ND	2	NT		NT		NT		NT	
Cadmium	NS	mg/kg	ND	0.05	ND	0.05	NT		NT		NT		NT	
Chromium	NS	mg/kg	ND	0.3	ND	0.3	NT		NT		NT		NT	
Lead	NS	mg/kg	ND	0.4	ND	0.4	NT		NT		NT		NT	
Mercury	NS	mg/kg	ND	0.0005	ND	0.0005	NT		NT		NT		NT	
Selenium	NS	mg/kg	ND	1	ND	1	NT		NT		NT		NT	
Silver	NS	mg/kg	ND	0.20	ND	0.20	NT		NT		NT		NT	

ND = NOT DETECTED  
NS = NO STANDARD

**ANALYTE DETECTED ABOVE MDL**  
**ANALYTE DETECTED ABOVE RIDEM INDUSTRIAL/COMMERCIAL DIRECT EXPOSURE CRITERIA**

TABLE 3  
LAGOON 5 REMEDIATION  
NEW MONITORING WELL ANALYTICAL RESULTS SUMMARY

*Charbert Facility  
Alton, Rhode Island*

	UNITS	RIDEM GA Groundwater Objectives	TB		GZ-24 SCREEN 24-34-FT BGS		GZ-25 SCREEN 20-30-FT BGS		GZ-26 SCREEN 20-30-FT BGS	
			07/10/2009		07/10/2009		07/10/2009		07/10/2009	
			Result	RL	Result	RL	Result	RL	Result	RL
<b>VOLATILE ORGANICS EPA 8260</b>										
Vinyl Chloride	µg/L	2	<	1	30	5	<	3	<	1
trans-1,2-Dichloroethene	µg/L	100	<	1	5	5	<	3	<	1
cis-1,2-Dichloroethene	µg/L	70	<	1	390	5	11	3	<	1
Trichloroethene	µg/L	5	<	1	22	5	15	3	<	1
Tetrachloroethene	µg/L	5	<	1	150	5	220	3	<	1
<b>FIELD PARAMETERS</b>										
Depth to groundwater (top of PVC)	Feet	NS	NT		3.28		2.82		3.03	
pH	SU	NS	NT		7.6		6.7		5.7	
Conductivity	mS/cm	NS	NT		0.233		0.174		0.156	
Turbidity	NTU	NS	NT		0.0		0.0		0.0	
Dissolved Oxygen	mg/L	NS	NT		0.0		0.0		1.5	
Temperature	°C	NS	NT		14.0		14		14	
Oxidation reduction Potential	mV	NS	NT		-65		20		175	

BGS = BELOW GROUND SURFACE

ND = NOT DETECTED

NS = NO STANDARD

NT = NOT TESTED

ANALYTE DETECTED ABOVE MDL

ANALYTE DETECTED ABOVE RIDEM GA GROUNDWATER STANDARD

TABLE 4  
LAGOON 5 REMEDIATION  
MICRO-WELL ANALYTICAL RESULTS SUMMARY

Charbert Facility  
Alton, Rhode Island

	RIDEM GA Groundwater Objectives	UNITS	Micro-1						
			SCREEN 8-10-FT BPB						
			01/20/2009		08/25/2009		09/09/2009		
			Result	RL	Result	RL	Result	RL	
<b>VOLATILE ORGANICS EPA 8260</b>									
Vinyl Chloride	2	µg/L	<b>6,000</b>	1,000	<b>3,700</b>	100	NT		
trans-1,2-Dichloroethene	100	µg/L	ND	1,000	<	100	NT		
cis-1,2-Dichloroethene	70	µg/L	<b>85,000</b>	1,000	<b>11,000</b>	100	NT		
Trichloroethene	5	µg/L	<b>12,000</b>	1,000	<	100	NT		
Toluene	1,000	µg/L	<	100	<	100	NT		
Tetrachloroethene	5	µg/L	<b>170,000</b>	1,000	<	100	NT		
m&p-Xylene	*10	µg/L	<	200	<	200	NT		
o-Xylene	*10	µg/L	<	100	<	100	NT		
2-Chlorotoluene	NC	µg/L	<	100	<	100	NT		
<b>EPA 300.0 ANIONS - ION CHROMATOGRAPHY</b>									
Nitrate	NS	mg/L	NT		NT		<	0.1	
Sulfate	NS	mg/L	NT		NT		1.9	0.6	
<b>EPA 6010B DISSOLVED METALS</b>									
Iron	NS	mg/L	NT		NT		43	0.025	
Manganese	NS	mg/L	NT		NT		3.6	0.005	
<b>GC SCREEN VOLATILE ORGANICS BY GC SCREEN</b>									
Methane	NS	µg/L	NT		NT		1600	100	
Ethane	NS	µg/L	NT		NT		460	100	
Ethene	NS	µg/L	NT		NT		2100	100	
<b>TOTAL ORGANIC CARBON SM-5310B</b>									
Total Organic Carbon	NS	mg/L	NT		NT		9.3	5	
<b>FIELD PARAMETERS</b>									
pH	NS	SU	NT		5.7		6.6		
Conductivity	NS	mS/cm	NT		0.692		0.935		
Turbidity	NS	NTU	NT		150		3		
Dissolved Oxygen	NS	mg/L	NT		5.50		0.9		
Temperature	NS	°C	NT		26.40		21.9		
Oxidation Reduction Potential	NS	mV	NT		-71		-196		

NT = NOT TESTED

NS = NO STANDARD

BPB = BELOW POND BOTTOM

**ANALYTE DETECTED ABOVE MDL**

**ANALYTE DETECTED ABOVE RIDEM GA GROUNDWATER STANDARD**



TABLE 4  
LAGOON 5 REMEDIATION  
MICRO-WELL ANALYTICAL RESULTS SUMMARY

Charbert Facility  
Alton, Rhode Island

	RIDEM GA Groundwater Objectives	UNITS	Micro-3 SCREEN 3-5-FT BPB					
			1/20/2009		8/25/2009		9/9/2009	
			Result	RL	Result	RL	Result	RL
<b>VOLATILE ORGANICS EPA 8260</b>								
Vinyl Chloride	2	µg/L	<b>3,200</b>	500	<b>5,200</b>	100	NT	
trans-1,2-Dichloroethene	100	µg/L	<b>530</b>	500	<	100	NT	
cis-1,2-Dichloroethene	70	µg/L	<b>38,000</b>	500	<b>10,000</b>	100	NT	
Trichloroethene	5	µg/L	<b>16,000</b>	500	<	100	NT	
Toluene	1,000	µg/L	<	100	<	100	NT	
Tetrachloroethene	5	µg/L	<b>11,000</b>	500	<	100	NT	
m&p-Xylene	*10	µg/L	<	200	<	200	NT	
o-Xylene	*10	µg/L	<	100	<	100	NT	
2-Chlorotoluene	NC	µg/L	<	100	<	100	NT	
<b>EPA 300.0 ANIONS - ION CHROMATOGRAPHY</b>								
Nitrate	NS	mg/L	NT		NT		<	0.1
Sulfate	NS	mg/L	NT		NT		<	0.6
<b>EPA 6010B DISSOLVED METALS</b>								
Iron	NS	mg/L	NT		NT		13	0.025
Manganese	NS	mg/L	NT		NT		0.22	0.005
<b>GC SCREEN VOLATILE ORGANICS BY GC SCREEN</b>								
Methane	NS	µg/L	NT		NT		660	100
Ethane	NS	µg/L	NT		NT		<	100
Ethene	NS	µg/L	NT		NT		520	100
<b>TOTAL ORGANIC CARBON SM-5310B</b>								
Total Organic Carbon	NS	mg/L	NT		NT		11	5
<b>FIELD PARAMETERS</b>								
pH	NS	SU	NT		5.1		6.5	
Conductivity	NS	mS/cm	NT		0.450		0.434	
Turbidity	NS	NTU	NT		85.1		1	
Dissolved Oxygen	NS	mg/L	NT		4.46		0.2	
Temperature	NS	°C	NT		24.62		22.2	
Oxidation Reduction Potential	NS	mV	NT		-20		-208	

NT = NOT TESTED

NS = NO STANDARD

BPB = BELOW POND BOTTOM

**ANALYTE DETECTED ABOVE MDL**

**ANALYTE DETECTED ABOVE RIDEM GA GROUNDWATER STANDARD**

TABLE 4  
LAGOON 5 REMEDIATION  
MICRO-WELL ANALYTICAL RESULTS SUMMARY

Charbert Facility  
Alton, Rhode Island

	RIDEM GA Groundwater Objectives	UNITS	Micro-4 SCREEN 8-10-FT BPB					
			01/20/2009		08/25/2009		09/09/2009	
			Result	RL	Result	RL		
<b>VOLATILE ORGANICS EPA 8260</b>								
Vinyl Chloride	2	µg/L	<b>220</b>	50	<b>22</b>	1.0	NT	
trans-1,2-Dichloroethene	100	µg/L	ND	50	<	1.0	NT	
cis-1,2-Dichloroethene	70	µg/L	<b>1,000</b>	50	<b>70</b>	1.0	NT	
Trichloroethene	5	µg/L	<b>370</b>	50	<b>1.2</b>	1.0	NT	
Toluene	1,000	µg/L	<	1.0	<	1.0	NT	
Tetrachloroethene	5	µg/L	<b>2,000</b>	50	<	1.0	NT	
m&p-Xylene	*10	µg/L	<	200	<	2.0	NT	
o-Xylene	*10	µg/L	<	100	<	1.0	NT	
2-Chlorotoluene	NC	µg/L	<	100	<	1.0	NT	
<b>EPA 300.0 ANIONS - ION CHROMATOGRAPHY</b>								
Nitrate	NS	mg/L	NT		NT		<	0.1
Sulfate	NS	mg/L	NT		NT		21	0.6
<b>EPA 6010B DISSOLVED METALS</b>								
Iron	NS	mg/L	NT		NT		10	0.025
Manganese	NS	mg/L	NT		NT		0.48	0.005
<b>GC SCREEN VOLATILE ORGANICS BY GC SCREEN</b>								
Methane	NS	µg/L	NT		NT		670	100
Ethane	NS	µg/L	NT		NT		<	100
Ethene	NS	µg/L	NT		NT		<	100
<b>TOTAL ORGANIC CARBON SM-5310B</b>								
Total Organic Carbon	NS	mg/L	NT		NT		5.8	5
<b>FIELD PARAMETERS</b>								
pH	NS	SU	NT		5.5		6.5	
Conductivity	NS	mS/cm	NT		0.265		0.531	
Turbidity	NS	NTU	NT		57.3		0	
Dissolved Oxygen	NS	mg/L	NT		6.64		0.3	
Temperature	NS	°C	NT		25.18		18.7	
Oxidation Reduction Potential	NS	mV	NT		-56		-210	

NT = NOT TESTED

NS = NO STANDARD

BPB = BELOW POND BOTTOM

**ANALYTE DETECTED ABOVE MDL**

**ANALYTE DETECTED ABOVE RIDEM GA GROUNDWATER STANDARD**

TABLE 4  
LAGOON 5 REMEDIATION  
MICRO-WELL ANALYTICAL RESULTS SUMMARY

Charbert Facility  
Alton, Rhode Island

	RIDEM GA Groundwater Objectives	UNITS	Micro-5 SCREEN 4-6-FT BPB					
			01/20/2009		08/25/2009		9/9/2009	
			Result	RL	Result	RL		
<b>VOLATILE ORGANICS EPA 8260</b>								
Vinyl Chloride	2	µg/L	190	25	13	1.0	NT	
trans-1,2-Dichloroethene	100	µg/L	ND	25	1.5	1.0	NT	
cis-1,2-Dichloroethene	70	µg/L	1,400	25	10	1.0	NT	
Trichloroethene	5	µg/L	580	25	<	1.0	NT	
Toluene	1,000	µg/L	<	1.0	1.1	1.0	NT	
Tetrachloroethene	5	µg/L	1,000	25	<	1.0	NT	
m&p-Xylene	*10	µg/L	<	200	2.7	2.0	NT	
o-Xylene	*10	µg/L	<	100	1.5	1.0	NT	
2-Chlorotoluene	NC	µg/L	<	100	3.3	1.0	NT	
<b>EPA 300.0 ANIONS - ION CHROMATOGRAPHY</b>								
Nitrate	NS	mg/L	NT		NT		<	0.1
Sulfate	NS	mg/L	NT		NT		<	0.6
<b>EPA 6010B DISSOLVED METALS</b>								
Iron	NS	mg/L	NT		NT		19	0.025
Manganese	NS	mg/L	NT		NT		1.9	0.005
<b>GC SCREEN VOLATILE ORGANICS BY GC SCREEN</b>								
Methane	NS	µg/L	NT		NT		4,000	100
Ethane	NS	µg/L	NT		NT		<	100
Ethene	NS	µg/L	NT		NT		<	100
<b>TOTAL ORGANIC CARBON SM-5310B</b>								
Total Organic Carbon	NS	mg/L	NT		NT		6	5
<b>FIELD PARAMETERS</b>								
pH	NS	SU	NT		5.4		6.7	
Conductivity	NS	mS/cm	NT		0.338		0.616	
Turbidity	NS	NTU	NT		96.3		0	
Dissolved Oxygen	NS	mg/L	NT		3.11		2.21	
Temperature	NS	°C	NT		23.78		20.7	
Oxidation Reduction Potential	NS	mV	NT		-55		-206	

NT = NOT TESTED

NS = NO STANDARD

BPB = BELOW POND BOTTOM

ANALYTE DETECTED ABOVE MDL

ANALYTE DETECTED ABOVE RIDEM GA GROUNDWATER STANDARD

TABLE 4  
LAGOON 5 REMEDIATION  
MICRO-WELL ANALYTICAL RESULTS SUMMARY

Charbert Facility  
Alton, Rhode Island

	RIDEM GA Groundwater Objectives	UNITS	Micro-6 SCREEN 13-15-FT BPB					
			01/20/2009		08/25/2009		9/9/2009	
			Result	RL	Result	RL	Result	RL
<b>VOLATILE ORGANICS EPA 8260</b>								
Vinyl Chloride	2	µg/L	ND	1	<	1.0	NT	
trans-1,2-Dichloroethene	100	µg/L	ND	1	<	1.0	NT	
cis-1,2-Dichloroethene	70	µg/L	5	1	3.4	1.0	NT	
Trichloroethene	5	µg/L	6	1	<	1.0	NT	
Toluene	1,000	µg/L	<	1.0	<	1.0	NT	
Tetrachloroethene	5	µg/L	94	1	<	1.0	NT	
m&p-Xylene	*10	µg/L	<	200	<	2.0	NT	
o-Xylene	*10	µg/L	<	100	<	1.0	NT	
2-Chlorotoluene	NC	µg/L	<	100	<	1.0	NT	
<b>EPA 300.0 ANIONS - ION CHROMATOGRAPHY</b>								
Nitrate	NS	mg/L	NT		NT		<	0.1
Sulfate	NS	mg/L	NT		NT		8.6	0.6
<b>EPA 6010B DISSOLVED METALS</b>								
Iron	NS	mg/L	NT		NT		7.3	0.025
Manganese	NS	mg/L	NT		NT		0.59	0.005
<b>GC SCREEN VOLATILE ORGANICS BY GC SCREEN</b>								
Methane	NS	µg/L	NT		NT		110	100
Ethane	NS	µg/L	NT		NT		<	100
Ethene	NS	µg/L	NT		NT		<	100
<b>TOTAL ORGANIC CARBON SM-5310B</b>								
Total Organic Carbon	NS	mg/L	NT		NT		<	5
<b>FIELD PARAMETERS</b>								
pH	NS	SU	NT		5.3		6.7	
Conductivity	NS	mS/cm	NT		0.351		0.552	
Turbidity	NS	NTU	NT		112		2	
Dissolved Oxygen	NS	mg/L	NT		0.48		0.3	
Temperature	NS	°C	NT		21.08		18.9	
Oxidation Reduction Potential	NS	mV	NT		6		-174	

NT = NOT TESTED

NS = NO STANDARD

BPB = BELOW POND BOTTOM

ANALYTE DETECTED ABOVE MDL

ANALYTE DETECTED ABOVE RIDEM GA GROUNDWATER STANDARD

TABLE 4  
LAGOON 5 REMEDIATION  
MICRO-WELL ANALYTICAL RESULTS SUMMARY

Charbert Facility  
Alton, Rhode Island

	RIDEM GA Groundwater Objectives	UNITS	Micro-7 SCREEN 8-10-FT BPB					
			01/20/2009		08/25/2009		9/9/2009	
			Result	RL	Result	RL		
<b>VOLATILE ORGANICS EPA 8260</b>								
Vinyl Chloride	2	µg/L	<b>1,800</b>	100	<b>9</b>	1.0	NT	
trans-1,2-Dichloroethene	100	µg/L	ND	100	<	1.0	NT	
cis-1,2-Dichloroethene	70	µg/L	<b>6,700</b>	100	<b>37</b>	1.0	NT	
Trichloroethene	5	µg/L	<b>440</b>	100	<b>6</b>	1.0	NT	
Toluene	1,000	µg/L	<	1.0	<	1.0	NT	
Tetrachloroethene	5	µg/L	<b>710</b>	100	<b>1.6</b>	1.0	NT	
m&p-Xylene	*10	µg/L	<	200	<	2.0	NT	
o-Xylene	*10	µg/L	<	100	<	1.0	NT	
2-Chlorotoluene	NC	µg/L	<	100	<	1.0	NT	
<b>EPA 300.0 ANIONS - ION CHROMATOGRAPHY</b>								
Nitrate	NS	mg/L	NT		NT		<	0.1
Sulfate	NS	mg/L	NT		NT		0.81	0.6
<b>EPA 6010B DISSOLVED METALS</b>								
Iron	NS	mg/L	NT		NT		17	0.025
Manganese	NS	mg/L	NT		NT		1.1	0.005
<b>GC SCREEN VOLATILE ORGANICS BY GC SCREEN</b>								
Methane	NS	µg/L	NT		NT		180	100
Ethane	NS	µg/L	NT		NT		<	100
Ethene	NS	µg/L	NT		NT		<	100
<b>TOTAL ORGANIC CARBON SM-5310B</b>								
Total Organic Carbon	NS	mg/L	NT		NT		<	5
<b>FIELD PARAMETERS</b>								
pH	NS	SU	NT		5.6		7.2	
Conductivity	NS	mS/cm	NT		0.206		0.311	
Turbidity	NS	NTU	NT		200		0	
Dissolved Oxygen	NS	mg/L	NT		0.95		0.1	
Temperature	NS	°C	NT		18.5		22.3	
Oxidation Reduction Potential	NS	mV	NT		-116		-252	

NT = NOT TESTED

NS = NO STANDARD

BPB = BELOW POND BOTTOM

**ANALYTE DETECTED ABOVE MDL**

**ANALYTE DETECTED ABOVE RIDEM GA GROUNDWATER STANDARD**

TABLE 4  
LAGOON 5 REMEDIATION  
MICRO-WELL ANALYTICAL RESULTS SUMMARY

Charbert Facility  
Alton, Rhode Island

	RIDEM GA Groundwater Objectives	UNITS	Micro-8 SCREEN 3-5-FT BPB					
			01/20/2009		08/25/2009		9/9/2009	
			Result	RL	Result	RL	Result	RL
<b>VOLATILE ORGANICS EPA 8260</b>								
Vinyl Chloride	2	µg/L	2,200	100	<	1.0	NT	
trans-1,2-Dichloroethene	100	µg/L	ND	100	<	1.0	NT	
cis-1,2-Dichloroethene	70	µg/L	7,600	100	<	1.0	NT	
Trichloroethene	5	µg/L	1,300	100	<	1.0	NT	
Toluene	1,000	µg/L	<	1.0	<	1.0	NT	
Tetrachloroethene	5	µg/L	5,000	100	<	1.0	NT	
m&p-Xylene	*10	µg/L	<	200	<	2.0	NT	
o-Xylene	*10	µg/L	<	100	<	1.0	NT	
2-Chlorotoluene	NC	µg/L	<	100	<	1.0	NT	
<b>EPA 300.0 ANIONS - ION CHROMATOGRAPHY</b>								
Nitrate	NS	mg/L	NT		NT		<	0.1
Sulfate	NS	mg/L	NT		NT		0.66	0.6
<b>EPA 6010B DISSOLVED METALS</b>								
Iron	NS	mg/L	NT		NT		14	0.025
Manganese	NS	mg/L	NT		NT		1.2	0.005
<b>GC SCREEN VOLATILE ORGANICS BY GC SCREEN</b>								
Methane	NS	µg/L	NT		NT		140	100
Ethane	NS	µg/L	NT		NT		<	100
Ethene	NS	µg/L	NT		NT		<	100
<b>TOTAL ORGANIC CARBON SM-5310B</b>								
Total Organic Carbon	NS	mg/L	NT		NT		<	5
<b>FIELD PARAMETERS</b>								
pH	NS	SU	NT		5.6		7.02	
Conductivity	NS	mS/cm	NT		0.245		0.334	
Turbidity	NS	NTU	NT		115		0	
Dissolved Oxygen	NS	mg/L	NT		0.34		0.1	
Temperature	NS	°C	NT		20.65		23.9	
Oxidation Reduction Potential	NS	mV	NT		-112		-249	

NT = NOT TESTED

NS = NO STANDARD

BPB = BELOW POND BOTTOM

ANALYTE DETECTED ABOVE MDL

ANALYTE DETECTED ABOVE RIDEM GA GROUNDWATER STANDARD

**TABLE 5  
ANAEROBIC BIODEGRADATION SCREENING  
MICRO-WELL-1**

*Charbert Facility  
Alton, Rhode Island*

Analysis	Concentration in Most Contaminated Zone	Value	Laboratory or Field Analysis Value (mg/L)	Score
DO	<0.5 mg/L	3	0.9	0
DO	>5 mg/l	-3		
Nitrate	<1 mg/L	2	<0.1	2
Iron II	>1 mg/l	2	43	2
Sulfate	<20 mg/L	2	1.9	2
Sulfide	>1 mg/L	3		
Methane	<0.5 mg/L	0		
Methane	>0.5 mg/L	3	1.6	3
ORP	<50 mV	1		
ORP	<-100 mV	2	-196	2
pH	5< pH <9	0	6.6	0
pH	5> pH >10	-2		
TOC	>20 mg/L	2	9.3	0
Temp	> 20°C	1	21.9	1
Carbon Dioxide	>2 times background	1		
Alkalinity	>2 times background	1		
Chloride	>2 times background	2		
Hydrogen	>1 nM	3		
Hydrogen	<1nM	0		
Volatile Fatty Acids	>0.1 mg/L	2		
BTEX	>0.1 mg/L	2		
PCE		0		
TCE	If Daughter Product	2	12,000 ppb	2
DCE	If Daughter Product	2	11,000 ppb	2
VC	If Daughter Product	2	3,700 ppb	2
1,1,1-TCA		0		
DCA	If Daughter Product	2		
Carbon Tetrachloride		0		
Chloroethane	If Daughter Product	2		
Ethene/Ethane	>0.01 mg/L or	2		
	>0.1 mg/L	3	2.56	3
Chloroform	If Daughter Product	2		
Dichloromethane	If Daughter Product	2		
			Total Score	21
<b>Scoring Interpretation</b>				
0 to 5	Inadequate evidence for anaerobic biodegradation* of chlorinated organics			
6 to 14	Limited evidence for anaerobic biodegradation* of chlorinated organics			
15 to 20	Adequate evidence for anaerobic biodegradation* of chlorinated organics			
>20	Strong evidence for anaerobic biodegradation* of chlorinated organics			
*reductive dechlorination				
Values Taken from EPA Document <b>EPA/600/R-98/128</b> , <i>Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water</i> , 1998, Table 2.3 and Table 2.4				

**TABLE 5  
ANAEROBIC BIODEGRADATION SCREENING  
MICRO-WELL-3**

*Charbert Facility  
Alton, Rhode Island*

Analysis	Concentration in Most Contaminated Zone	Value	Laboratory or Field Analysis Value (mg/L)	Score
DO	<0.5 mg/L	3	0.2	3
DO	>5 mg/l	-3		
Nitrate	<1 mg/L	2	<0.1	2
Iron II	>1 mg/l	2	13	2
Sulfate	<20 mg/L	2	<0.6	2
Sulfide	>1 mg/L	3		
Methane	<0.5 mg/L	0		
Methane	>0.5 mg/L	3	0.66	3
ORP	<50 mV	1		
ORP	<-100 mV	2	-208	2
pH	5< pH <9	0	6.5	0
pH	5> pH >10	-2		
TOC	>20 mg/L	2	11	0
Temp	> 20°C	1	22.2	1
Carbon Dioxide	>2 times background	1		
Alkalinity	>2 times background	1		
Chloride	>2 times background	2		
Hydrogen	>1 nM	3		
Hydrogen	<1nM	0		
Volatile Fatty Acids	>0.1 mg/L	2		
BTEX	>0.1 mg/L	2		
PCE		0		
TCE	If Daughter Product	2	16,000 ppb	2
DCE	If Daughter Product	2	10,000 ppb	2
VC	If Daughter Product	2	5,200 ppb	2
1,1,1-TCA		0		
DCA	If Daughter Product	2		
Carbon Tetrachloride		0		
Chloroethane	If Daughter Product	2		
Ethene/Ethane	>0.01 mg/L or	2		
	>0.1 mg/L	3	0.52	3
Chloroform	If Daughter Product	2		
Dichloromethane	If Daughter Product	2		
			Total Score	24
<b>Scoring Interpretation</b>				
0 to 5	Inadequate evidence for anaerobic biodegradation* of chlorinated organics			
6 to 14	Limited evidence for anaerobic biodegradation* of chlorinated organics			
15 to 20	Adequate evidence for anaerobic biodegradation* of chlorinated organics			
>20	Strong evidence for anaerobic biodegradation* of chlorinated organics			
*reductive dechlorination				
Values Taken from EPA Document <b>EPA/600/R-98/128</b> , <i>Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water</i> , 1998, Table 2.3 and Table 2.4				



**TABLE 5  
ANAEROBIC BIODEGRADATION SCREENING  
MICRO-WELL-4**

*Charbert Facility  
Alton, Rhode Island*

Analysis	Concentration in Most Contaminated Zone	Value	Laboratory or Field Analysis Value (mg/L)	Score
DO	<0.5 mg/L	3	0.3	3
DO	>5 mg/l	-3		
Nitrate	<1 mg/L	2	<0.1	2
Iron II	>1 mg/l	2	10	2
Sulfate	<20 mg/L	2	21	0
Sulfide	>1 mg/L	3		
Methane	<0.5 mg/L	0		
Methane	>0.5 mg/L	3	0.67	3
ORP	<50 mV	1		
ORP	<-100 mV	2	-210	2
pH	5< pH <9	0	6.5	0
pH	5> pH >10	-2		
TOC	>20 mg/L	2	5.8	0
Temp	> 20°C	1	18.7	0
Carbon Dioxide	>2 times background	1		
Alkalinity	>2 times background	1		
Chloride	>2 times background	2		
Hydrogen	>1 nM	3		
Hydrogen	<1nM	0		
Volatile Fatty Acids	>0.1 mg/L	2		
BTEX	>0.1 mg/L	2		
PCE		0		
TCE	If Daughter Product	2	1.2 ppb	2
DCE	If Daughter Product	2	70 ppb	2
VC	If Daughter Product	2	22 ppb	2
1,1,1-TCA		0		
DCA	If Daughter Product	2		
Carbon Tetrachloride		0		
Chloroethane	If Daughter Product	2		
Ethene/Ethane	>0.01 mg/L or	2		
	>0.1 mg/L	3	<0.1	0
Chloroform	If Daughter Product	2		
Dichloromethane	If Daughter Product	2		
			Total Score	18
<b>Scoring Interpretation</b>				
0 to 5	Inadequate evidence for anaerobic biodegradation* of chlorinated organics			
6 to 14	Limited evidence for anaerobic biodegradation* of chlorinated organics			
15 to 20	Adequate evidence for anaerobic biodegradation* of chlorinated organics			
>20	Strong evidence for anaerobic biodegradation* of chlorinated organics			
*reductive dechlorination				
Values Taken from EPA Document <b>EPA/600/R-98/128</b> , <i>Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water</i> , 1998, Table 2.3 and Table 2.4				

**TABLE 5  
ANAEROBIC BIODEGRADATION SCREENING  
MICRO-WELL-5**

*Charbert Facility  
Alton, Rhode Island*

Analysis	Concentration in Most Contaminated Zone	Value	Laboratory or Field Analysis Value (mg/L)	Score
DO	<0.5 mg/L	3	2.21	0
DO	>5 mg/l	-3		
Nitrate	<1 mg/L	2	<0.1	2
Iron II	>1 mg/l	2	19	2
Sulfate	<20 mg/L	2	<0.6	2
Sulfide	>1 mg/L	3		
Methane	<0.5 mg/L	0		
Methane	>0.5 mg/L	3	4	3
ORP	<50 mV	1		
ORP	<-100 mV	2	-206	2
pH	5< pH <9	0	6.7	0
pH	5> pH >10	-2		
TOC	>20 mg/L	2	6	0
Temp	> 20°C	1	20.7	1
Carbon Dioxide	>2 times background	1		
Alkalinity	>2 times background	1		
Chloride	>2 times background	2		
Hydrogen	>1 nM	3		
Hydrogen	<1nM	0		
Volatile Fatty Acids	>0.1 mg/L	2		
BTEX	>0.1 mg/L	2	0.005	0
PCE		0		
TCE	If Daughter Product	2	1.1 ppb	2
DCE	If Daughter Product	2	10 ppb	2
VC	If Daughter Product	2	13 ppb	2
1,1,1-TCA		0		
DCA	If Daughter Product	2		
Carbon Tetrachloride		0		
Chloroethane	If Daughter Product	2		
Ethene/Ethane	>0.01 mg/L or	2		
	>0.1 mg/L	3	<0.1	0
Chloroform	If Daughter Product	2		
Dichloromethane	If Daughter Product	2		
			Total Score	18
<b>Scoring Interpretation</b>				
0 to 5	Inadequate evidence for anaerobic biodegradation* of chlorinated organics			
6 to 14	Limited evidence for anaerobic biodegradation* of chlorinated organics			
15 to 20	Adequate evidence for anaerobic biodegradation* of chlorinated organics			
>20	Strong evidence for anaerobic biodegradation* of chlorinated organics			
*reductive dechlorination				
Values Taken from EPA Document <b>EPA/600/R-98/128</b> , <i>Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water</i> , 1998, Table 2.3 and Table 2.4				

**TABLE 5  
ANAEROBIC BIODEGRADATION SCREENING  
MICRO-WELL-6**

*Charbert Facility  
Alton, Rhode Island*

Analysis	Concentration in Most Contaminated Zone	Value	Laboratory or Field Analysis Value (mg/L)	Score
DO	<0.5 mg/L	3	0.3	3
DO	>5 mg/l	-3		
Nitrate	<1 mg/L	2	<0.1	2
Iron II	>1 mg/l	2	7.3	2
Sulfate	<20 mg/L	2	8.6	2
Sulfide	>1 mg/L	3		
Methane	<0.5 mg/L	0	0.11	0
Methane	>0.5 mg/L	3		
ORP	<50 mV	1		
ORP	<-100 mV	2	-174	2
pH	5< pH <9	0	6.7	0
pH	5> pH >10	-2		
TOC	>20 mg/L	2	<5	0
Temp	> 20°C	1	18.9	0
Carbon Dioxide	>2 times background	1		
Alkalinity	>2 times background	1		
Chloride	>2 times background	2		
Hydrogen	>1 nM	3		
Hydrogen	<1nM	0		
Volatile Fatty Acids	>0.1 mg/L	2		
BTEX	>0.1 mg/L	2		0
PCE		0		
TCE	If Daughter Product	2	6.0 ppb	2
DCE	If Daughter Product	2	3.4 ppb	2
VC	If Daughter Product	2		0
1,1,1-TCA		0		
DCA	If Daughter Product	2		
Carbon Tetrachloride		0		
Chloroethane	If Daughter Product	2		
Ethene/Ethane	>0.01 mg/L or	2		
	>0.1 mg/L	3	<0.1	0
Chloroform	If Daughter Product	2		
Dichloromethane	If Daughter Product	2		
			Total Score	15
<b>Scoring Interpretation</b>				
0 to 5	Inadequate evidence for anaerobic biodegradation* of chlorinated organics			
6 to 14	Limited evidence for anaerobic biodegradation* of chlorinated organics			
15 to 20	Adequate evidence for anaerobic biodegradation* of chlorinated organics			
>20	Strong evidence for anaerobic biodegradation* of chlorinated organics			
*reductive dechlorination				
Values Taken from EPA Document <b>EPA/600/R-98/128</b> , <i>Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water</i> , 1998, Table 2.3 and Table 2.4				

**TABLE 5  
ANAEROBIC BIODEGRADATION SCREENING  
MICRO-WELL-7**

*Charbert Facility  
Alton, Rhode Island*

Analysis	Concentration in Most Contaminated Zone	Value	Laboratory or Field Analysis Value (mg/L)	Score
DO	<0.5 mg/L	3	0.1	3
DO	>5 mg/l	-3		
Nitrate	<1 mg/L	2	<0.1	2
Iron II	>1 mg/l	2	17	2
Sulfate	<20 mg/L	2	0.81	2
Sulfide	>1 mg/L	3		
Methane	<0.5 mg/L	0	0.18	0
Methane	>0.5 mg/L	3		
ORP	<50 mV	1		
ORP	<-100 mV	2	-252	2
pH	5< pH <9	0	7.2	0
pH	5> pH >10	-2		
TOC	>20 mg/L	2	<5	0
Temp	> 20°C	1	22.3	1
Carbon Dioxide	>2 times background	1		
Alkalinity	>2 times background	1		
Chloride	>2 times background	2		
Hydrogen	>1 nM	3		
Hydrogen	<1nM	0		
Volatile Fatty Acids	>0.1 mg/L	2		
BTEX	>0.1 mg/L	2		
PCE		0	1.6 ppb	0
TCE	If Daughter Product	2	6 ppb	2
DCE	If Daughter Product	2	37 ppb	2
VC	If Daughter Product	2	9 ppb	2
1,1,1-TCA		0		
DCA	If Daughter Product	2		
Carbon Tetrachloride		0		
Chloroethane	If Daughter Product	2		
Ethene/Ethane	>0.01 mg/L or	2		
	>0.1 mg/L	3	<0.1	0
Chloroform	If Daughter Product	2		
Dichloromethane	If Daughter Product	2		
			Total Score	18
<b>Scoring Interpretation</b>				
0 to 5	Inadequate evidence for anaerobic biodegradation* of chlorinated organics			
6 to 14	Limited evidence for anaerobic biodegradation* of chlorinated organics			
15 to 20	Adequate evidence for anaerobic biodegradation* of chlorinated organics			
>20	Strong evidence for anaerobic biodegradation* of chlorinated organics			
*reductive dechlorination				
Values Taken from EPA Document <b>EPA/600/R-98/128</b> , <i>Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water</i> , 1998, Table 2.3 and Table 2.4				

**TABLE 5  
ANAEROBIC BIODEGRADATION SCREENING  
MICRO-WELL-8**

*Charbert Facility  
Alton, Rhode Island*

Analysis	Concentration in Most Contaminated Zone	Value	Laboratory or Field Analysis Value (mg/L)	Score
DO	<0.5 mg/L	3	0.1	3
DO	>5 mg/l	-3		
Nitrate	<1 mg/L	2	<0.1	2
Iron II	>1 mg/l	2	14	2
Sulfate	<20 mg/L	2	0.66	2
Sulfide	>1 mg/L	3		
Methane	<0.5 mg/L	0	0.14	0
Methane	>0.5 mg/L	3		
ORP	<50 mV	1		
ORP	<-100 mV	2	-249	2
pH	5< pH <9	0	7	0
pH	5> pH >10	-2		
TOC	>20 mg/L	2	<5	0
Temp	> 20°C	1	23.9	1
Carbon Dioxide	>2 times background	1		
Alkalinity	>2 times background	1		
Chloride	>2 times background	2		
Hydrogen	>1 nM	3		
Hydrogen	<1nM	0		
Volatile Fatty Acids	>0.1 mg/L	2		
BTEX	>0.1 mg/L	2		
PCE		0		
TCE	If Daughter Product	2	1,300 ppb	2
DCE	If Daughter Product	2	7,600 ppb	2
VC	If Daughter Product	2	2,200 ppb	2
1,1,1-TCA		0		
DCA	If Daughter Product	2		
Carbon Tetrachloride		0		
Chloroethane	If Daughter Product	2		
Ethene/Ethane	>0.01 mg/L or	2		
	>0.1 mg/L	3	<0.1	0
Chloroform	If Daughter Product	2		
Dichloromethane	If Daughter Product	2		
			Total Score	18
<b>Scoring Interpretation</b>				
0 to 5	Inadequate evidence for anaerobic biodegradation* of chlorinated organics			
6 to 14	Limited evidence for anaerobic biodegradation* of chlorinated organics			
15 to 20	Adequate evidence for anaerobic biodegradation* of chlorinated organics			
>20	Strong evidence for anaerobic biodegradation* of chlorinated organics			
*reductive dechlorination				
Values Taken from EPA Document <b>EPA/600/R-98/128</b> , <i>Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water</i> , 1998, Table 2.3 and Table 2.4				

TABLE 6  
LAGOON 5 REMEDIATION  
DIFFUSION BAG ANALYTICAL RESULTS SUMMARY

*Charbert Facility  
Alton, Rhode Island*

AUGUST 2009 DIFFUSION BAG RESULTS SUMMARY						
PARAMETERS	UNITS	DB - 1 <sup>2</sup>	DB - 2	DB - 3	DB - 4	DB - 5
		9/30/2009	9/9/2009	9/9/2009	9/9/2009	9/9/2009
<b>Volatile Organic Compounds (VOCs)</b>						
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
		8/22/08	8/22/08	8/22/08	8/22/08	8/22/08
<b>Volatile Organic Compounds (VOCs)</b>						
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 <sup>1</sup>	DB-4	DB-5	DB-5 Duplicate	DB-6	DB-7	DB-8
		8/31/07	8/31/07	8/31/07	8/31/07	8/31/07	8/31/07	8/31/07	8/31/07	8/31/07
<b>Volatile Organic Compounds (VOCs)</b>										
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 7  
LAGOON 5 REMEDIATION  
PIEZOMETRIC MONITORING RESULTS

*Charbert Facility  
Alton, Rhode Island*

WELL ID	GZA DATUM	GZA DATUM ELEV. (MSL)	12/18/09	
			DEPTH (FEET BELOW DATUM)	ELEV. (MSL)
RIZ-1	TOC	50.24	4.9	45.3
RIZ-3	TPVC	48.64	5.5	43.1
RIZ-5	TPVC	46.58	4.0	42.6
RIZ-6	TPVC	46.31	2.5	43.9
RIZ-7	TOC	47.02	4.9	42.1
RIZ-14	TPVC	62.61	14.8	47.8
RIZ-15	TPVC	62.51	14.7	47.9
RIZ-18	TPVC	65.94	17.6	48.3
RIZ-19	TPVC	63.85	15.6	48.2
RIZ-20	TPVC	60.79	14.2	46.6
RIZ-21	TPVC	52.85	9.5	43.3
MW-4A	TPVC	58.43	9.9	48.5
GP-15	TPVC	60.87	12.6	48.3
GP-16	TPVC	55.59	6.1	49.5
GP-17	TPVC	73.88	26.1	47.8
GP-18	TPVC	59.11	11.3	47.8
GP-19	TPVC	62.08	14.4	47.7
GP-22	TPVC	48.55	5.0	43.5
GP-25	TPVC	47.98	4.2	43.8
GP-26	TPVC	49.23	6.3	42.9
GP-27A	TPVC	52.16	7.9	44.2
GP-27B	TPVC	52.21	8.2	44.0
GP-28	TPVC	46.69	4.6	42.1
GP-30	TPVC	60.72	12.6	48.2
GP-115	TPVC	47.84	4.3	43.5
GP-117	TPVC	47.99	4.4	43.6
PT-1	TPVC	51.77	8.1	43.7
PT-2	TPVC	53.20	10.3	42.9
PT-4	TPVC	48.12	6.6	41.5
CB-9	TPVC	49.35	6.1	43.3
GZ-1	TOC	56.47	13.3	43.2
GZ-2	TPVC	61.45	17.5	43.9
GZ-3	TPVC	49.14	6.1	43.1
GZ-4A	TPVC	59.01	15.2	43.8
GZ-6	TPVC	48.32	4.7	43.6
GZ-7	TPVC	50.61	7.2	43.4
GZ-8	TPVC	52.17	7.9	44.2
GZ-19	TPVC	50.04	7.4	42.7

TABLE 7  
LAGOON 5 REMEDIATION  
PIEZOMETRIC MONITORING RESULTS

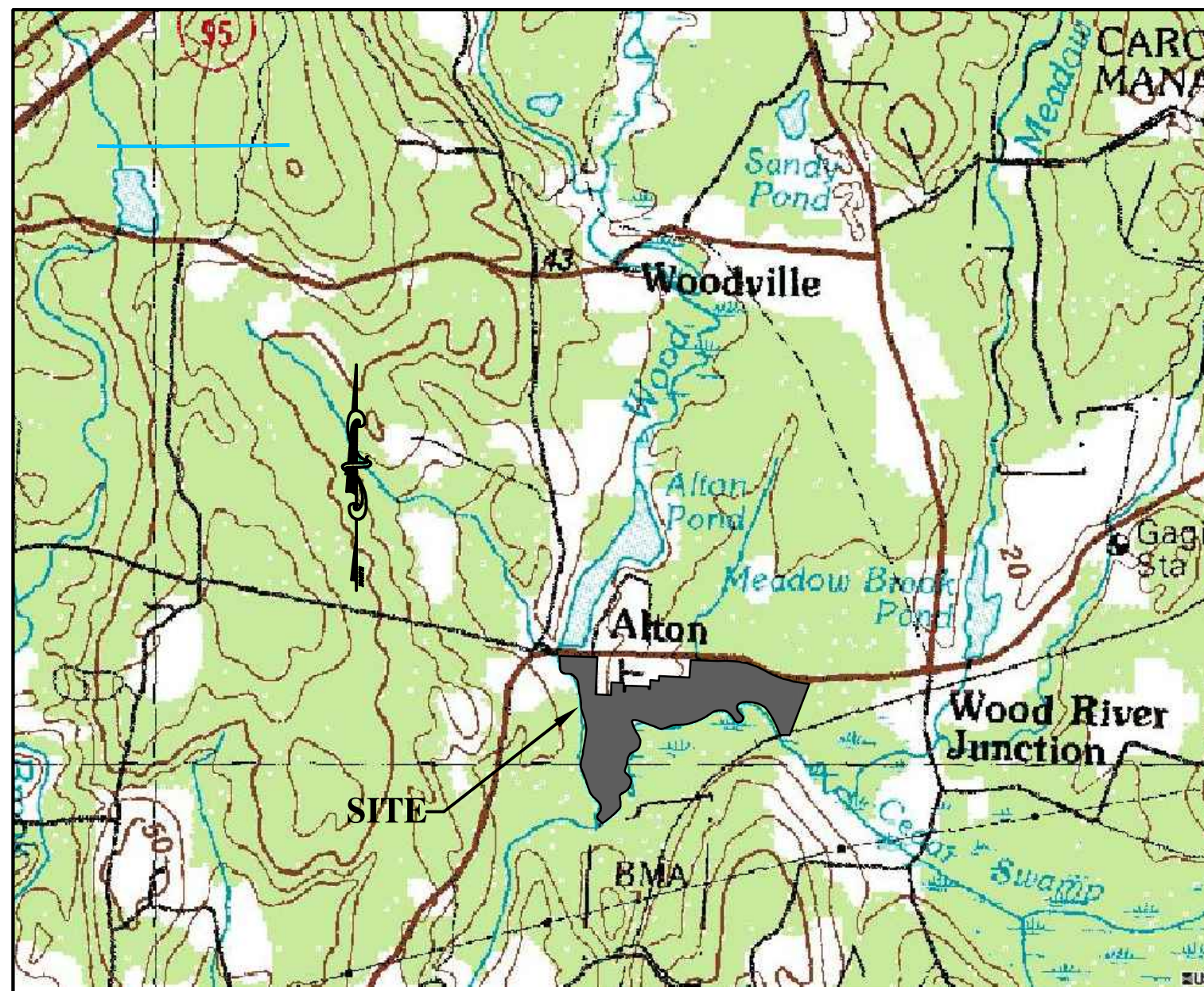
*Charbert Facility  
Alton, Rhode Island*

WELL ID	GZA DATUM	GZA DATUM ELEV. (MSL)	12/18/09	
			DEPTH (FEET BELOW DATUM)	ELEV. (MSL)
GZ-20	TPVC	48.97	6.2	42.8
GZ-21	TPVC	52.61	10.3	42.3
GZ-22	TPVC	52.71	10.5	42.2
GZ-23	TPVC	49.55	7.5	42.1
GZ-24	TPVC	46.50	3.9	42.6
GZ-25	TPVC	45.61	3.2	42.4
GZ-26	TPVC	45.92	3.6	42.4
PD-1	DRILL HOLE	53.53	2.0	51.5
PD-2	DRILL HOLE	54.43	12.3	42.1
SW-1 (Wood River)	Nut on Bolt	44.36	2.0	42.4
SW-2 (Pawcatuck River)	TOP OF REBAR	42.33	-0.3	43.2
SW-3 (Wood River)	TOP OF REBAR	39.83	-0.3	40.1
OLD WELL POINT	TOC	51.46	7.5	44.0
Lagoon 5	STK SET	44.56	1.1	43.5

1. TOC indicates Top of Casing, TPVC indicates Top of PVC Pipe.
2. SW indicates Surface Water.
3. PD indicates Pond Water.
4. Orange highlighted values are estimates

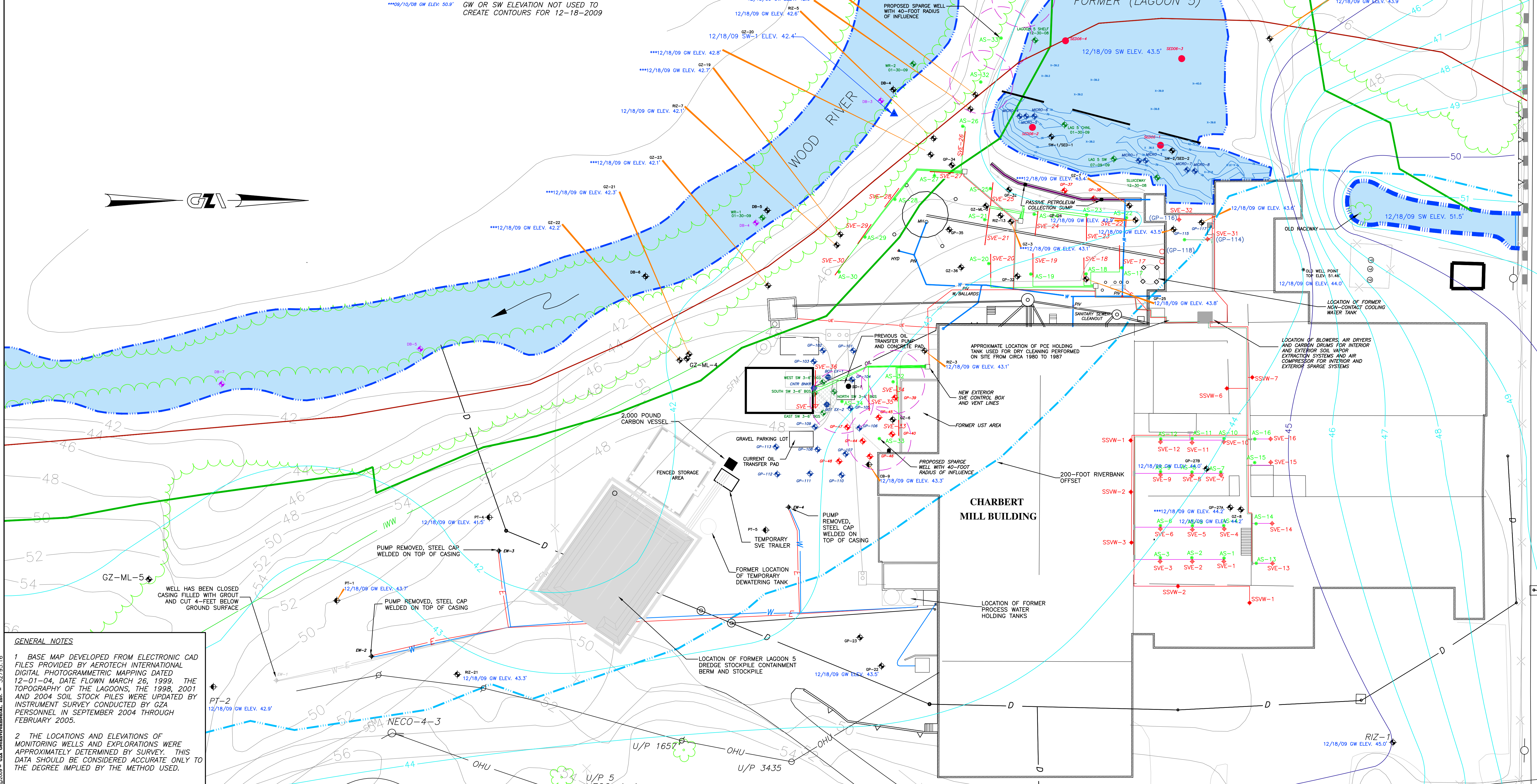


**FIGURE**



**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
- POST INDICATOR VALVE
- FIRE HYDRANT
- UTILITY POLE
- CHAIN LINK FENCE
- EXISTING SURFACE CONTOURS
- APPROX. 100 YEAR FLOOD LEVEL
- EDGE OF RIVER
- 50 INFERRED SHALLOW GROUNDWATER CONTOUR ELEVATIONS 12-18-2009 (MAJOR)
- 42 INFERRED SHALLOW GROUNDWATER CONTOUR ELEVATIONS 12-18-2009 (MINOR)
- 09/10/08 GW ELEV. 44.3' GW OR SW ELEVATION USED TO CREATE CONTOURS FOR 12-18-2009
- 09/10/08 GW ELEV. 50.5' GW OR SW ELEVATION NOT USED TO CREATE CONTOURS FOR 12-18-2009
- + DB-5 2007 DIFFUSION BAG MONITORING LOCATION
- + DB-5 2008 AND 2009 DIFFUSION BAG MONITORING LOCATION
- + GZ GZA MONITORING WELL
- + GZ-ML GZA MULTI-LEVEL MONITORING WELL
- + GP GZA GEOPROBE
- + EW EXTRACTION (PRODUCTION) WELL
- + CB CLAYTON TEMPORARY WELL
- + RIZ RIZZO MONITORING WELL
- + SW SURFACE WATER MONITORING STATION
- + GP-103 GZA GEOPROBE PERFORMED JANUARY 2009
- + GP-39 GZA GEOPROBE PERFORMED OCTOBER 2005
- + WR-1 01-30-09 GZA 2009 SURFACE WATER SAMPLING LOCATION
- + SW-1/SED-1 GZA 2005 SEDIMENT AND SURFACE WATER SAMPLING LOCATION
- + SED06-2 GZA 2006 SEDIMENT SAMPLING LOCATION



**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.

<p>SCALE: 1" = 30'</p>	<p>PROJ. MGR: SMA DESIGNED BY: SMA REVIEWED BY: EAS OPERATOR: SMA CHECKER: MH DATE: JAN., 2010</p>
<p>PROJ. NO. <b>32795.36</b></p>	<p>FIGURE NO. <b>1</b></p>
<p>CHARBERT FACILITY ALTON, RHODE ISLAND</p>	
<p>DECEMBER 2009 GROUNDWATER TABLE CONTOURS AND PROPOSED MONITORING/AIR SPARGE WELL LOCATIONS</p>	
<p>GZA GeoEnvironmental, Inc. Engineers and Scientists 4011 921-4433 PROVIDENCE, RHODE ISLAND 02909</p>	<p>REV. NO.    BY    DATE</p>

**ATTACHMENT A**  
**LABORATORY CERTIFICATES**

LAGOON 5 SW



**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

Steve Andrus / Mike Healy

Project No.: **03.0032795.36**  
Work Order No.: **0907-00070**  
Date Received: **07/10/2009**  
Date Reported: **07/16/2009**

**SAMPLE INFORMATION**

Date Sampled	Matrix	Laboratory ID	Sample ID
07/09/2009	Aqueous	0907-00070 001	LAG-5 SW



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

Page 2 of 6

## ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
530 Broadway  
Providence, RI 02909

Steve Andrus / Mike Healy

Project Name.: **Charbert Lag. 5 Remediation**

Project No.: **03.0032795.36**

Date Received: **07/10/2009**

Date Reported: **07/16/2009**

Work Order No.: **0907-00070**

---

### PROJECT NARRATIVE:

#### 1. Sample Receipt

The samples were received on 07/10/09 via  GZA courier,  EC,  FEDEX, or  hand delivered. The temperature of the  temperature blank/  cooler air, was 2.1 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 07/15/09 S - Aqueous



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
530 Broadway  
Providence, RI 02909

Steve Andrus / Mike Healy

Project Name.: **Charbert Lag. 5 Remediation**

Project No.: **03.0032795.36**

Date Received: **07/10/2009**

Date Reported: **07/16/2009**

Work Order No.: **0907-00070**

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 6010B.

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

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

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.



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus / Mike Healy

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **07/10/2009**  
 Date Reported: **07/16/2009**  
 Work Order No.: **0907-00070**

Sample ID: **LAG-5 SW**

Sample No.: **001**

Sample Date: **07/09/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	07/15/2009
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/15/2009
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/15/2009
Vinyl Chloride	EPA 8260	14	1.0	ug/L	MQS	07/15/2009
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/15/2009
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/15/2009
Diethylether	EPA 8260	<5.0	5.0	ug/L	MQS	07/15/2009
Acetone	EPA 8260	<25	25	ug/L	MQS	07/15/2009
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/15/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
trans-1,2-Dichloroethene	EPA 8260	1.0	1.0	ug/L	MQS	07/15/2009
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
2-Butanone	EPA 8260	<25	25	ug/L	MQS	07/15/2009
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
cis-1,2-Dichloroethene	EPA 8260	99	1.0	ug/L	MQS	07/15/2009
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	07/15/2009
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
Trichloroethene	EPA 8260	7.0	1.0	ug/L	MQS	07/15/2009
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
4-Methyl-2-Pentanone	EPA 8260	<25	25	ug/L	MQS	07/15/2009
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
Toluene	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	07/15/2009
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
2-Hexanone	EPA 8260	<25	25	ug/L	MQS	07/15/2009





ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus / Mike Healy

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **07/10/2009**  
 Date Reported: **07/16/2009**  
 Work Order No.: **0907-00070**

Sample ID: **LAG-5 SW**

Sample No.: **001**

Sample Date: **07/09/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
Tetrachloroethene	EPA 8260	7.5	1.0	ug/L	MQS	07/15/2009
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	07/15/2009
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	07/15/2009
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	07/15/2009
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	07/15/2009
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	07/15/2009
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/15/2009
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	98.8	70-130	% R	MQS	07/15/2009
***Toluene-D8	EPA 8260	100	70-130	% R	MQS	07/15/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus / Mike Healy

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **07/10/2009**  
 Date Reported: **07/16/2009**  
 Work Order No.: **0907-00070**

Sample ID: **LAG-5 SW**

Sample No.: **001**

Sample Date: **07/09/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	105	70-130	% R	MQS	07/15/2009
Preparation	EPA 5030B	1.0		CF	MQS	07/15/2009



# CHAIN-OF-CUSTODY RECORD

W.O. # 307-0270  
(for lab use only)

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)	pH	Cond.	GC Methane, Ethane, Ethene	EPA 8260	EPA 8260 - 8010 List (Chlor.)	EPA 8260 - 8021 list	EPA 8021 - 8026 List (BTEX)	EPA 524.2 DW VOCs	EPA 624 WW VOCs	601 602 WW VOCs	EPA 8270 FULL SVOCs	EPA 8270 PAH A J EN	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 J PPM-13 J R-R	MCP 14 Metals (MA)	Metals (List Below)**	TCPL - Specify Below	SPLP - Specify Below	EPA 300 J Cl J SO4	EPA 300 J NO2 J NO3	Total # of Cont.	Note #			
LAC-5 SW	7/9/09 12:30	SW																														3	①

CONTAINER TYPE (P-Plastic, G-Glass, V-Vial, T-Teflon, O-Other)\*  
 PRESERVATIVE (CI - HCl, M-Methanol, N - HNO3, S - H2SO4, Na - NaOH, O - Other)\*  
 RELINQUISHED BY: (AFFILIATION) Michael 7/10/09 DATE/TIME 7/10/09 RECEIVED BY: (AFFILIATION)  
 RELINQUISHED BY: (AFFILIATION) Michael 7/10/09 DATE/TIME 7/10/09 RECEIVED BY: (AFFILIATION) Michael 7/10/09

NOTES: (Unless otherwise noted, all samples have been refrigerated to 4° C)  
 \*Specify "Other" preservatives and containers types in this space.  
May contain chlorinated solvents up to 1000PPb.

PROJECT MANAGER: Wahneema Lubiano EXT: \_\_\_\_\_  
Steve Huskins  
**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 2.1 °C Temp Blank 0.0  
 COOLING AIR 23.6  
 GZA FILE NO: 52795-36 TASK NO.: \_\_\_\_\_ P.O. NO.: \_\_\_\_\_  
 PROJECT: Arthur Lopez S Remediation  
 LOCATION: Altun Rhode Island  
 COLLECTOR(S): SWIA SHEET 1 OF 1

LAGOON 5 DREDGE STOCK PILE



**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

Steve Andrus

Project No.: **03.0032795.36**  
Work Order No.: **0909-00112**  
Date Received: **09/21/2009**  
Date Reported: **09/25/2009**

### **SAMPLE INFORMATION**

<b>Date Sampled</b>	<b>Matrix</b>	<b>Laboratory ID</b>	<b>Sample ID</b>
09/17/2009	Solid	0909-00112 001	ST PL-1
09/17/2009	Solid	0909-00112 002	ST PL-2



**ANALYTICAL REPORT**

GZA GeoEnvironmental, Inc.  
530 Broadway  
Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**

Project No.: **03.0032795.36**

Date Received: **09/21/2009**

Date Reported: **09/25/2009**

Work Order No.: **0909-00112**

---

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 09/18/09 via  GZA courier,  EC,  FEDEX, or  hand delivered. The temperature of the  temperature blank/ cooler air, was 3.5 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 Laboratory Control Sample (LCS) (09/24/09 S) had an 8260 list analyte outside of the 70-130% QC acceptance limits. Specific outlier includes bromomethane (66%).

Samples ST PL-1 (0909-112-001) and ST PL-2 (0909-112-002) were analyzed at a 1/4 dilution based upon screening information and in order to report all target analytes within the calibration range of the instrument.

Attach QC 8260 09/24/09 S - Solid



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
530 Broadway  
Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
Project No.: **03.0032795.36**

Date Received: **09/21/2009**  
Date Reported: **09/25/2009**  
Work Order No.: **0909-00112**

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

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

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.





ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **09/21/2009**  
 Date Reported: **09/25/2009**  
 Work Order No.: **0909-00112**

Sample ID: **ST PL-1**  
 Sample Date: **09/17/2009**

Sample No.: **001**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	09/24/2009
Dichlorodifluoromethane	EPA 8260	<210	210	ug/kg	MQS	09/24/2009
Chloromethane	EPA 8260	<210	210	ug/kg	MQS	09/24/2009
Vinyl Chloride	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Bromomethane	EPA 8260	<210	210	ug/kg	MQS	09/24/2009
Chloroethane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Trichlorofluoromethane	EPA 8260	<210	210	ug/kg	MQS	09/24/2009
Diethylether	EPA 8260	<530	530	ug/kg	MQS	09/24/2009
Acetone	EPA 8260	<2700	2700	ug/kg	MQS	09/24/2009
1,1-Dichloroethene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Dichloromethane	EPA 8260	<210	210	ug/kg	MQS	09/24/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
trans-1,2-Dichloroethene	EPA 8260	130	110	ug/kg	MQS	09/24/2009
1,1-Dichloroethane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
2-Butanone	EPA 8260	<2700	2700	ug/kg	MQS	09/24/2009
2,2-Dichloropropane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
cis-1,2-Dichloroethene	EPA 8260	1900	110	ug/kg	MQS	09/24/2009
Chloroform	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Bromochloromethane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Tetrahydrofuran	EPA 8260	<1100	1100	ug/kg	MQS	09/24/2009
1,1,1-Trichloroethane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
1,1-Dichloropropene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Carbon Tetrachloride	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
1,2-Dichloroethane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Benzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Trichloroethene	EPA 8260	850	110	ug/kg	MQS	09/24/2009
1,2-Dichloropropane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Bromodichloromethane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Dibromomethane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
4-Methyl-2-Pentanone	EPA 8260	<2700	2700	ug/kg	MQS	09/24/2009
cis-1,3-Dichloropropene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Toluene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
trans-1,3-Dichloropropene	EPA 8260	<210	210	ug/kg	MQS	09/24/2009
1,1,2-Trichloroethane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
2-Hexanone	EPA 8260	<2700	2700	ug/kg	MQS	09/24/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **09/21/2009**  
 Date Reported: **09/25/2009**  
 Work Order No.: **0909-00112**

Sample ID: **ST PL-1**

Sample No.: **001**

Sample Date: **09/17/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Tetrachloroethene	EPA 8260	14000	110	ug/kg	MQS	09/24/2009
Dibromochloromethane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
1,2-Dibromoethane (EDB)	EPA 8260	<210	210	ug/kg	MQS	09/24/2009
Chlorobenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Ethylbenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
m&p-Xylene	EPA 8260	<210	210	ug/kg	MQS	09/24/2009
o-Xylene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Styrene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Bromoform	EPA 8260	<210	210	ug/kg	MQS	09/24/2009
Isopropylbenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
1,2,3-Trichloropropane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Bromobenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
n-Propylbenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
2-Chlorotoluene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
1,3,5-Trimethylbenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
4-Chlorotoluene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
tert-Butylbenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
1,2,4-Trimethylbenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
sec-Butylbenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
p-Isopropyltoluene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
1,3-Dichlorobenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
1,4-Dichlorobenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
n-Butylbenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
1,2-Dichlorobenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<530	530	ug/kg	MQS	09/24/2009
1,2,4-Trichlorobenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Hexachlorobutadiene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Naphthalene	EPA 8260	<210	210	ug/kg	MQS	09/24/2009
1,2,3-Trichlorobenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	101	70-130	% R	MQS	09/24/2009
***Toluene-D8	EPA 8260	101	70-130	% R	MQS	09/24/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
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Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **09/21/2009**  
 Date Reported: **09/25/2009**  
 Work Order No.: **0909-00112**

Sample ID: **ST PL-1**

Sample No.: **001**

Sample Date: **09/17/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	93.5	70-130	% R	MQS	09/24/2009
Preparation	EPA 5035	21		CF	MQS	09/23/2009
PERCENT SOLID		93.4		%	TAJ	09/22/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **09/21/2009**  
 Date Reported: **09/25/2009**  
 Work Order No.: **0909-00112**

Sample ID: **ST PL-2**  
 Sample Date: **09/17/2009**

Sample No.: **002**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	09/24/2009
Dichlorodifluoromethane	EPA 8260	<210	210	ug/kg	MQS	09/24/2009
Chloromethane	EPA 8260	<210	210	ug/kg	MQS	09/24/2009
Vinyl Chloride	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Bromomethane	EPA 8260	<210	210	ug/kg	MQS	09/24/2009
Chloroethane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Trichlorofluoromethane	EPA 8260	<210	210	ug/kg	MQS	09/24/2009
Diethylether	EPA 8260	<530	530	ug/kg	MQS	09/24/2009
Acetone	EPA 8260	<2700	2700	ug/kg	MQS	09/24/2009
1,1-Dichloroethene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Dichloromethane	EPA 8260	<210	210	ug/kg	MQS	09/24/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
trans-1,2-Dichloroethene	EPA 8260	130	110	ug/kg	MQS	09/24/2009
1,1-Dichloroethane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
2-Butanone	EPA 8260	<2700	2700	ug/kg	MQS	09/24/2009
2,2-Dichloropropane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
cis-1,2-Dichloroethene	EPA 8260	2100	110	ug/kg	MQS	09/24/2009
Chloroform	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Bromochloromethane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Tetrahydrofuran	EPA 8260	<1100	1100	ug/kg	MQS	09/24/2009
1,1,1-Trichloroethane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
1,1-Dichloropropene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Carbon Tetrachloride	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
1,2-Dichloroethane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Benzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Trichloroethene	EPA 8260	780	110	ug/kg	MQS	09/24/2009
1,2-Dichloropropane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Bromodichloromethane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Dibromomethane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
4-Methyl-2-Pentanone	EPA 8260	<2700	2700	ug/kg	MQS	09/24/2009
cis-1,3-Dichloropropene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Toluene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
trans-1,3-Dichloropropene	EPA 8260	<210	210	ug/kg	MQS	09/24/2009
1,1,2-Trichloroethane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
2-Hexanone	EPA 8260	<2700	2700	ug/kg	MQS	09/24/2009



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Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **09/21/2009**  
 Date Reported: **09/25/2009**  
 Work Order No.: **0909-00112**

Sample ID: **ST PL-2**  
 Sample Date: **09/17/2009**

Sample No.: **002**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Tetrachloroethene	EPA 8260	11000	110	ug/kg	MQS	09/24/2009
Dibromochloromethane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
1,2-Dibromoethane (EDB)	EPA 8260	<210	210	ug/kg	MQS	09/24/2009
Chlorobenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Ethylbenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
m&p-Xylene	EPA 8260	<210	210	ug/kg	MQS	09/24/2009
o-Xylene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Styrene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Bromoform	EPA 8260	<210	210	ug/kg	MQS	09/24/2009
Isopropylbenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
1,2,3-Trichloropropane	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Bromobenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
n-Propylbenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
2-Chlorotoluene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
1,3,5-Trimethylbenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
4-Chlorotoluene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
tert-Butylbenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
1,2,4-Trimethylbenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
sec-Butylbenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
p-Isopropyltoluene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
1,3-Dichlorobenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
1,4-Dichlorobenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
n-Butylbenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
1,2-Dichlorobenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<530	530	ug/kg	MQS	09/24/2009
1,2,4-Trichlorobenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Hexachlorobutadiene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Naphthalene	EPA 8260	<210	210	ug/kg	MQS	09/24/2009
1,2,3-Trichlorobenzene	EPA 8260	<110	110	ug/kg	MQS	09/24/2009
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	98.4	70-130	% R	MQS	09/24/2009
***Toluene-D8	EPA 8260	100	70-130	% R	MQS	09/24/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **09/21/2009**  
 Date Reported: **09/25/2009**  
 Work Order No.: **0909-00112**

Sample ID: **ST PL-2**  
 Sample Date: **09/17/2009**

Sample No.: **002**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	94.9	70-130	% R	MQS	09/24/2009
Preparation	EPA 5035	21		CF	MQS	09/23/2009
PERCENT SOLID		92.3		%	TAJ	09/22/2009









**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

Steve Andrus

Project No.: **03.0032795.36**  
Work Order No.: **0911-00008**  
Date Received: **11/02/2009**  
Date Reported: **11/11/2009**

### **SAMPLE INFORMATION**

Date Sampled	Matrix	Laboratory ID	Sample ID
10/30/2009	Solid	0911-00008 001	SS-1
10/30/2009	Solid	0911-00008 002	SS-2



**ANALYTICAL REPORT**

GZA GeoEnvironmental, Inc.  
530 Broadway  
Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
Project No.: **03.0032795.36**

Date Received: **11/02/2009**  
Date Reported: **11/11/2009**  
Work Order No.: **0911-00008**

---

PROJECT NARRATIVE:

**1. Sample Receipt**

The samples were received on 11/02/09 via   x\_GZA courier,   EC,   FEDEX, or   hand delivered. The temperature of the   temperature blank/  x\_cooler air, was 1.8 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. EPA Method 8260 - VOCs**

The continuing calibration verification standard (CCV) (11/08/09 #2) had analytes outside of the 30%D QC acceptance limit. The outliers include dichloromethane (38%) and tetrachloroethane (38%).

The Laboratory Control Sample (LCS) (11/08/09#2 S) had method 8260 list analytes outside of the 70-130% QC acceptance limits. Specific outliers include bromomethane (55.4%), chloroethane (66.4%), diethyl ether (59.3%), tert-butyl alcohol (TBA) (54.3%), 2,2-dichloropropane (66.3%) and trans-1,3-dichloropropene (67.8%).

Samples SS-1 (0911-008-001) and SS-2 (0911-008-002) were analyzed at a 1/10 dilution based upon screening information and in order to report all target analytes within the calibration range of the instrument.

Attach QC 8260 11/08/09#2 S - Solid



ANALYTICAL REPORT

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Project Name.: **Charbert Lag. 5 Remediation**

Project No.: **03.0032795.36**

Date Received: **11/02/2009**

Date Reported: **11/11/2009**

Work Order No.: **0911-00008**

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 6010B.

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

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

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.



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **11/02/2009**  
 Date Reported: **11/11/2009**  
 Work Order No.: **0911-00008**

Sample ID: **SS-1**

Sample No.: **001**

Sample Date: **10/30/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	11/08/2009
Dichlorodifluoromethane	EPA 8260	<760	760	ug/kg	MQS	11/08/2009
Chloromethane	EPA 8260	<760	760	ug/kg	MQS	11/08/2009
Vinyl Chloride	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
Bromomethane	EPA 8260	<760	760	ug/kg	MQS	11/08/2009
Chloroethane	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
Trichlorofluoromethane	EPA 8260	<760	760	ug/kg	MQS	11/08/2009
Diethylether	EPA 8260	<1900	1900	ug/kg	MQS	11/08/2009
Acetone	EPA 8260	<9900	9900	ug/kg	MQS	11/08/2009
1,1-Dichloroethene	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
Dichloromethane	EPA 8260	<760	760	ug/kg	MQS	11/08/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
trans-1,2-Dichloroethene	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
1,1-Dichloroethane	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
2-Butanone	EPA 8260	<9900	9900	ug/kg	MQS	11/08/2009
2,2-Dichloropropane	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
cis-1,2-Dichloroethene	EPA 8260	5800	380	ug/kg	MQS	11/08/2009
Chloroform	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
Bromochloromethane	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
Tetrahydrofuran	EPA 8260	<3800	3800	ug/kg	MQS	11/08/2009
1,1,1-Trichloroethane	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
1,1-Dichloropropene	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
Carbon Tetrachloride	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
1,2-Dichloroethane	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
Benzene	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
Trichloroethene	EPA 8260	1800	380	ug/kg	MQS	11/08/2009
1,2-Dichloropropane	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
Bromodichloromethane	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
Dibromomethane	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
4-Methyl-2-Pentanone	EPA 8260	<9900	9900	ug/kg	MQS	11/08/2009
cis-1,3-Dichloropropene	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
Toluene	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
trans-1,3-Dichloropropene	EPA 8260	<760	760	ug/kg	MQS	11/08/2009
1,1,2-Trichloroethane	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
2-Hexanone	EPA 8260	<9900	9900	ug/kg	MQS	11/08/2009



ANALYTICAL REPORT

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Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **11/02/2009**  
 Date Reported: **11/11/2009**  
 Work Order No.: **0911-00008**

Sample ID: **SS-1**

Sample No.: **001**

Sample Date: **10/30/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
Tetrachloroethene	EPA 8260	24000	380	ug/kg	MQS	11/08/2009
Dibromochloromethane	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
1,2-Dibromoethane (EDB)	EPA 8260	<760	760	ug/kg	MQS	11/08/2009
Chlorobenzene	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
Ethylbenzene	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
m&p-Xylene	EPA 8260	<760	760	ug/kg	MQS	11/08/2009
o-Xylene	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
Styrene	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
Bromoform	EPA 8260	<760	760	ug/kg	MQS	11/08/2009
Isopropylbenzene	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
1,2,3-Trichloropropane	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
Bromobenzene	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
n-Propylbenzene	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
2-Chlorotoluene	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
1,3,5-Trimethylbenzene	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
4-Chlorotoluene	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
tert-Butylbenzene	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
1,2,4-Trimethylbenzene	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
sec-Butylbenzene	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
p-Isopropyltoluene	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
1,3-Dichlorobenzene	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
1,4-Dichlorobenzene	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
n-Butylbenzene	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
1,2-Dichlorobenzene	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<1900	1900	ug/kg	MQS	11/08/2009
1,2,4-Trichlorobenzene	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
Hexachlorobutadiene	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
Naphthalene	EPA 8260	<760	760	ug/kg	MQS	11/08/2009
1,2,3-Trichlorobenzene	EPA 8260	<380	380	ug/kg	MQS	11/08/2009
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	85.1	70-130	% R	MQS	11/08/2009
***Toluene-D8	EPA 8260	97.2	70-130	% R	MQS	11/08/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **11/02/2009**  
 Date Reported: **11/11/2009**  
 Work Order No.: **0911-00008**

Sample ID: **SS-1**

Sample No.: **001**

Sample Date: **10/30/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	96.5	70-130	% R	MQS	11/08/2009
Preparation	EPA 5035	10		CF	MQS	11/07/2009
PERCENT SOLID		90.2		%	TAJ	11/05/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **11/02/2009**  
 Date Reported: **11/11/2009**  
 Work Order No.: **0911-00008**

Sample ID: **SS-2**

Sample No.: **002**

Sample Date: **10/30/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	11/08/2009
Dichlorodifluoromethane	EPA 8260	<640	640	ug/kg	MQS	11/08/2009
Chloromethane	EPA 8260	<640	640	ug/kg	MQS	11/08/2009
Vinyl Chloride	EPA 8260	740	320	ug/kg	MQS	11/08/2009
Bromomethane	EPA 8260	<640	640	ug/kg	MQS	11/08/2009
Chloroethane	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
Trichlorofluoromethane	EPA 8260	<640	640	ug/kg	MQS	11/08/2009
Diethylether	EPA 8260	<1600	1600	ug/kg	MQS	11/08/2009
Acetone	EPA 8260	<8300	8300	ug/kg	MQS	11/08/2009
1,1-Dichloroethene	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
Dichloromethane	EPA 8260	<640	640	ug/kg	MQS	11/08/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
trans-1,2-Dichloroethene	EPA 8260	440	320	ug/kg	MQS	11/08/2009
1,1-Dichloroethane	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
2-Butanone	EPA 8260	<8300	8300	ug/kg	MQS	11/08/2009
2,2-Dichloropropane	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
cis-1,2-Dichloroethene	EPA 8260	8800	320	ug/kg	MQS	11/08/2009
Chloroform	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
Bromochloromethane	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
Tetrahydrofuran	EPA 8260	<3200	3200	ug/kg	MQS	11/08/2009
1,1,1-Trichloroethane	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
1,1-Dichloropropene	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
Carbon Tetrachloride	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
1,2-Dichloroethane	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
Benzene	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
Trichloroethene	EPA 8260	1300	320	ug/kg	MQS	11/08/2009
1,2-Dichloropropane	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
Bromodichloromethane	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
Dibromomethane	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
4-Methyl-2-Pentanone	EPA 8260	<8300	8300	ug/kg	MQS	11/08/2009
cis-1,3-Dichloropropene	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
Toluene	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
trans-1,3-Dichloropropene	EPA 8260	<640	640	ug/kg	MQS	11/08/2009
1,1,2-Trichloroethane	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
2-Hexanone	EPA 8260	<8300	8300	ug/kg	MQS	11/08/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **11/02/2009**  
 Date Reported: **11/11/2009**  
 Work Order No.: **0911-00008**

Sample ID: **SS-2**

Sample No.: **002**

Sample Date: **10/30/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
Tetrachloroethene	EPA 8260	19000	320	ug/kg	MQS	11/08/2009
Dibromochloromethane	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
1,2-Dibromoethane (EDB)	EPA 8260	<640	640	ug/kg	MQS	11/08/2009
Chlorobenzene	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
Ethylbenzene	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
m&p-Xylene	EPA 8260	<640	640	ug/kg	MQS	11/08/2009
o-Xylene	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
Styrene	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
Bromoform	EPA 8260	<640	640	ug/kg	MQS	11/08/2009
Isopropylbenzene	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
1,2,3-Trichloropropane	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
Bromobenzene	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
n-Propylbenzene	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
2-Chlorotoluene	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
1,3,5-Trimethylbenzene	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
4-Chlorotoluene	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
tert-Butylbenzene	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
1,2,4-Trimethylbenzene	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
sec-Butylbenzene	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
p-Isopropyltoluene	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
1,3-Dichlorobenzene	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
1,4-Dichlorobenzene	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
n-Butylbenzene	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
1,2-Dichlorobenzene	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<1600	1600	ug/kg	MQS	11/08/2009
1,2,4-Trichlorobenzene	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
Hexachlorobutadiene	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
Naphthalene	EPA 8260	<640	640	ug/kg	MQS	11/08/2009
1,2,3-Trichlorobenzene	EPA 8260	<320	320	ug/kg	MQS	11/08/2009
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	88.9	70-130	% R	MQS	11/08/2009
***Toluene-D8	EPA 8260	98.2	70-130	% R	MQS	11/08/2009





ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **11/02/2009**  
 Date Reported: **11/11/2009**  
 Work Order No.: **0911-00008**

Sample ID: **SS-2**

Sample No.: **002**

Sample Date: **10/30/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	99.4	70-130	% R	MQS	11/08/2009
Preparation	EPA 5035	10		CF	MQS	11/07/2009
PERCENT SOLID		88.9		%	TAJ	11/05/2009



# CHAIN-OF-CUSTODY RECORD

W.O. # 0911-0008  
(for lab use only)

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																Total # of Cont.	Note #										
			GC Methane, Ethane, Ethene	EPA 8260	EPA 8260 - 8010 List (C/Nor.)	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 B N	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 (MA)	Metals (List Below)**	TCLP - Specify Below	SPLP - Specify Below	EPA 300 CI SO4	EPA 300 NO2 NO3		
SS-1	10/31/09 1200P	S	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																									3	1.
SS-2	10/30/09 345P	S	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																									3	1.

M  
V

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

1. Approx Break-up VOA VIM + Full Non-facs. Drillers spec for each sample.

RELINQUISHED BY: (AFFILIATION) Ray J. J. J. DATE/TIME 11-30-09 RECEIVED BY: (AFFILIATION) Cosby Scar

RELINQUISHED BY: (AFFILIATION) CS 11/16/09 1000B DATE/TIME 11/16/09 RECEIVED BY: (AFFILIATION) Dianna Buccan

PROJECT MANAGER: Steve Andrews EXT: 2740

**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 1.8 LAB USE: Temp Blank  
GZA FILE NO.: 11/2 16 03 00 32795.36 TASK NO.: 1320 TEMP. OF COOLER: 1.8 °C  
PROJECT: CHARBET 1AGION S P.O. NO.: 11/16/09

LOCATION: Sul. Stat. Pite Composite Samples PROJECT: CHARBET 1AGION S  
COLLECTOR(S): Beaver H. y mass SHEET 1 OF 1

## LAGOON 5 MICRO-WELLS



**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

Steve Andrus

Project No.: **03.0032795.36**  
Work Order No.: **0908-00125**  
Date Received: **08/26/2009**  
Date Reported: **08/31/2009**

### **SAMPLE INFORMATION**

<b>Date Sampled</b>	<b>Matrix</b>	<b>Laboratory ID</b>	<b>Sample ID</b>
08/24/2009	Aqueous	0908-00125 001	TB
08/25/2009	Aqueous	0908-00125 002	Microwell 7
08/23/2009	Aqueous	0908-00125 003	Microwell 1
08/25/2009	Aqueous	0908-00125 004	Microwell 8
08/25/2009	Aqueous	0908-00125 005	Microwell 3
08/25/2009	Aqueous	0908-00125 006	Microwell 5
08/25/2009	Aqueous	0908-00125 007	Microwell 6
08/25/2009	Aqueous	0908-00125 008	Microwell 4



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
530 Broadway  
Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**

Project No.: **03.0032795.36**

Date Received: **08/26/2009**

Date Reported: **08/31/2009**

Work Order No.: **0908-00125**

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PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 08/26/09 via  GZA courier,  EC,  FEDEX, or  hand delivered. The temperature of the  temperature blank/ cooler air, was 2.8 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. EPA Method 8260 - VOCs

The continuing calibration verification standard (CCV) (08/27/09) had an analyte outside of the 30%D QC acceptance limit. The outlier includes isopropylbenzene (32%).

The Laboratory Control Sample (LCS) (08/28/09 S) had a method 8260 list analyte outside of the 70-130% QC acceptance limits. Specific outlier includes isopropylbenzene (132%). This analyte was not detected in the associated samples.

Samples Microwell 1 (0908-125-003) and Microwell 3 (0908-125-005) were analyzed at a 1/250 dilution based upon screening information and in order to report all target analytes within the calibration range of the instrument.

Attach QC 8260 08/27/09 S - Aqueous



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
530 Broadway  
Providence, RI 02909

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Project Name.: **Charbert Lag. 5 Remediation**  
Project No.: **03.0032795.36**

Date Received: **08/26/2009**  
Date Reported: **08/31/2009**  
Work Order No.: **0908-00125**

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 6010B.

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

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

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.



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **08/26/2009**  
 Date Reported: **08/31/2009**  
 Work Order No.: **0908-00125**

Sample ID: **TB**  
 Sample Date: **08/24/2009**

Sample No.: **001**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	08/27/2009
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Diethylether	EPA 8260	<5.0	5.0	ug/L	MQS	08/27/2009
Acetone	EPA 8260	<25	25	ug/L	MQS	08/27/2009
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
2-Butanone	EPA 8260	<25	25	ug/L	MQS	08/27/2009
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
cis-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	08/27/2009
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
4-Methyl-2-Pentanone	EPA 8260	<25	25	ug/L	MQS	08/27/2009
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Toluene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
2-Hexanone	EPA 8260	<25	25	ug/L	MQS	08/27/2009





ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **08/26/2009**  
 Date Reported: **08/31/2009**  
 Work Order No.: **0908-00125**

Sample ID: **TB**  
 Sample Date: **08/24/2009**

Sample No.: **001**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	08/27/2009
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	105	70-130	% R	MQS	08/27/2009
***Toluene-D8	EPA 8260	101	70-130	% R	MQS	08/27/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **08/26/2009**  
 Date Reported: **08/31/2009**  
 Work Order No.: **0908-00125**

Sample ID: **TB**  
 Sample Date: **08/24/2009**

Sample No.: **001**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	97.4	70-130	% R	MQS	08/27/2009
Preparation	EPA 5030B	1.0		CF	MQS	08/27/2009



ANALYTICAL REPORT

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530 Broadway  
Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**

Project No.: **03.0032795.36**

Date Received: **08/26/2009**

Date Reported: **08/31/2009**

Work Order No.: **0908-00125**

Sample ID: **Microwell 7**

Sample No.: **002**

Sample Date: **08/25/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	08/27/2009
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Vinyl Chloride	EPA 8260	9.3	1.0	ug/L	MQS	08/27/2009
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Diethylether	EPA 8260	<5.0	5.0	ug/L	MQS	08/27/2009
Acetone	EPA 8260	<25	25	ug/L	MQS	08/27/2009
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
2-Butanone	EPA 8260	<25	25	ug/L	MQS	08/27/2009
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
cis-1,2-Dichloroethene	EPA 8260	37	1.0	ug/L	MQS	08/27/2009
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	08/27/2009
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Trichloroethene	EPA 8260	5.6	1.0	ug/L	MQS	08/27/2009
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
4-Methyl-2-Pentanone	EPA 8260	<25	25	ug/L	MQS	08/27/2009
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Toluene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
2-Hexanone	EPA 8260	<25	25	ug/L	MQS	08/27/2009



ANALYTICAL REPORT

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 530 Broadway  
 Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **08/26/2009**  
 Date Reported: **08/31/2009**  
 Work Order No.: **0908-00125**

Sample ID: **Microwell 7**

Sample No.: **002**

Sample Date: **08/25/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Tetrachloroethene	EPA 8260	1.6	1.0	ug/L	MQS	08/27/2009
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	08/27/2009
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	95.0	70-130	% R	MQS	08/27/2009
***Toluene-D8	EPA 8260	101	70-130	% R	MQS	08/27/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **08/26/2009**  
 Date Reported: **08/31/2009**  
 Work Order No.: **0908-00125**

Sample ID: **Microwell 7**

Sample No.: **002**

Sample Date: **08/25/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	100	70-130	% R	MQS	08/27/2009
Preparation	EPA 5030B	1.0		CF	MQS	08/27/2009



ANALYTICAL REPORT

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Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
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Date Received: **08/26/2009**  
 Date Reported: **08/31/2009**  
 Work Order No.: **0908-00125**

Sample ID: **Microwell 1**  
 Sample Date: **08/23/2009**

Sample No.: **003**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	08/27/2009
Dichlorodifluoromethane	EPA 8260	<200	200	ug/L	MQS	08/27/2009
Chloromethane	EPA 8260	<200	200	ug/L	MQS	08/27/2009
Vinyl Chloride	EPA 8260	3700	100	ug/L	MQS	08/27/2009
Bromomethane	EPA 8260	<200	200	ug/L	MQS	08/27/2009
Chloroethane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Trichlorofluoromethane	EPA 8260	<200	200	ug/L	MQS	08/27/2009
Diethylether	EPA 8260	<500	500	ug/L	MQS	08/27/2009
Acetone	EPA 8260	<2500	2500	ug/L	MQS	08/27/2009
1,1-Dichloroethene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Dichloromethane	EPA 8260	<200	200	ug/L	MQS	08/27/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<100	100	ug/L	MQS	08/27/2009
trans-1,2-Dichloroethene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,1-Dichloroethane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
2-Butanone	EPA 8260	<2500	2500	ug/L	MQS	08/27/2009
2,2-Dichloropropane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
cis-1,2-Dichloroethene	EPA 8260	11000	100	ug/L	MQS	08/27/2009
Chloroform	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Bromochloromethane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Tetrahydrofuran	EPA 8260	<1000	1000	ug/L	MQS	08/27/2009
1,1,1-Trichloroethane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,1-Dichloropropene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Carbon Tetrachloride	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,2-Dichloroethane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Benzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Trichloroethene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,2-Dichloropropane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Bromodichloromethane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Dibromomethane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
4-Methyl-2-Pentanone	EPA 8260	<2500	2500	ug/L	MQS	08/27/2009
cis-1,3-Dichloropropene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Toluene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
trans-1,3-Dichloropropene	EPA 8260	<200	200	ug/L	MQS	08/27/2009
1,1,2-Trichloroethane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
2-Hexanone	EPA 8260	<2500	2500	ug/L	MQS	08/27/2009



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Date Received: **08/26/2009**  
 Date Reported: **08/31/2009**  
 Work Order No.: **0908-00125**

Sample ID: **Microwell 1**  
 Sample Date: **08/23/2009**

Sample No.: **003**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Tetrachloroethene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Dibromochloromethane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,2-Dibromoethane (EDB)	EPA 8260	<200	200	ug/L	MQS	08/27/2009
Chlorobenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Ethylbenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
m&p-Xylene	EPA 8260	<200	200	ug/L	MQS	08/27/2009
o-Xylene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Styrene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Bromoform	EPA 8260	<200	200	ug/L	MQS	08/27/2009
Isopropylbenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,2,3-Trichloropropane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Bromobenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
N-Propylbenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
2-Chlorotoluene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,3,5-Trimethylbenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
4-Chlorotoluene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
tert-Butylbenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,2,4-Trimethylbenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
sec-Butylbenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
p-Isopropyltoluene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,3-Dichlorobenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,4-Dichlorobenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
n-Butylbenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,2-Dichlorobenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<500	500	ug/L	MQS	08/27/2009
1,2,4-Trichlorobenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Hexachlorobutadiene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Naphthalene	EPA 8260	<200	200	ug/L	MQS	08/27/2009
1,2,3-Trichlorobenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	97.6	70-130	% R	MQS	08/27/2009
***Toluene-D8	EPA 8260	100	70-130	% R	MQS	08/27/2009



ANALYTICAL REPORT

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Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **08/26/2009**  
 Date Reported: **08/31/2009**  
 Work Order No.: **0908-00125**

Sample ID: **Microwell 1**

Sample No.: **003**

Sample Date: **08/23/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	100	70-130	% R	MQS	08/27/2009
Preparation	EPA 5030B	100		CF	MQS	08/27/2009





ANALYTICAL REPORT

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Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **08/26/2009**  
 Date Reported: **08/31/2009**  
 Work Order No.: **0908-00125**

Sample ID: **Microwell 8**

Sample No.: **004**

Sample Date: **08/25/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	08/27/2009
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Diethylether	EPA 8260	<5.0	5.0	ug/L	MQS	08/27/2009
Acetone	EPA 8260	<25	25	ug/L	MQS	08/27/2009
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
2-Butanone	EPA 8260	<25	25	ug/L	MQS	08/27/2009
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
cis-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	08/27/2009
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
4-Methyl-2-Pentanone	EPA 8260	<25	25	ug/L	MQS	08/27/2009
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Toluene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
2-Hexanone	EPA 8260	<25	25	ug/L	MQS	08/27/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **08/26/2009**  
 Date Reported: **08/31/2009**  
 Work Order No.: **0908-00125**

Sample ID: **Microwell 8**  
 Sample Date: **08/25/2009**

Sample No.: **004**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	08/27/2009
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	103	70-130	% R	MQS	08/27/2009
***Toluene-D8	EPA 8260	101	70-130	% R	MQS	08/27/2009



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Project Name.: **Charbert Lag. 5 Remediation**  
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Date Received: **08/26/2009**  
 Date Reported: **08/31/2009**  
 Work Order No.: **0908-00125**

Sample ID: **Microwell 8**

Sample No.: **004**

Sample Date: **08/25/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	98.5	70-130	% R	MQS	08/27/2009
Preparation	EPA 5030B	1.0		CF	MQS	08/27/2009



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Date Received: **08/26/2009**  
 Date Reported: **08/31/2009**  
 Work Order No.: **0908-00125**

Sample ID: **Microwell 3**  
 Sample Date: **08/25/2009**

Sample No.: **005**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	08/27/2009
Dichlorodifluoromethane	EPA 8260	<200	200	ug/L	MQS	08/27/2009
Chloromethane	EPA 8260	<200	200	ug/L	MQS	08/27/2009
Vinyl Chloride	EPA 8260	5200	100	ug/L	MQS	08/27/2009
Bromomethane	EPA 8260	<200	200	ug/L	MQS	08/27/2009
Chloroethane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Trichlorofluoromethane	EPA 8260	<200	200	ug/L	MQS	08/27/2009
Diethylether	EPA 8260	<500	500	ug/L	MQS	08/27/2009
Acetone	EPA 8260	<2500	2500	ug/L	MQS	08/27/2009
1,1-Dichloroethene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Dichloromethane	EPA 8260	<200	200	ug/L	MQS	08/27/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<100	100	ug/L	MQS	08/27/2009
trans-1,2-Dichloroethene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,1-Dichloroethane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
2-Butanone	EPA 8260	<2500	2500	ug/L	MQS	08/27/2009
2,2-Dichloropropane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
cis-1,2-Dichloroethene	EPA 8260	10000	100	ug/L	MQS	08/27/2009
Chloroform	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Bromochloromethane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Tetrahydrofuran	EPA 8260	<1000	1000	ug/L	MQS	08/27/2009
1,1,1-Trichloroethane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,1-Dichloropropene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Carbon Tetrachloride	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,2-Dichloroethane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Benzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Trichloroethene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,2-Dichloropropane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Bromodichloromethane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Dibromomethane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
4-Methyl-2-Pentanone	EPA 8260	<2500	2500	ug/L	MQS	08/27/2009
cis-1,3-Dichloropropene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Toluene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
trans-1,3-Dichloropropene	EPA 8260	<200	200	ug/L	MQS	08/27/2009
1,1,2-Trichloroethane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
2-Hexanone	EPA 8260	<2500	2500	ug/L	MQS	08/27/2009



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Sample ID: **Microwell 3**  
 Sample Date: **08/25/2009**

Sample No.: **005**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Tetrachloroethene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Dibromochloromethane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,2-Dibromoethane (EDB)	EPA 8260	<200	200	ug/L	MQS	08/27/2009
Chlorobenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Ethylbenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
m&p-Xylene	EPA 8260	<200	200	ug/L	MQS	08/27/2009
o-Xylene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Styrene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Bromoform	EPA 8260	<200	200	ug/L	MQS	08/27/2009
Isopropylbenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,2,3-Trichloropropane	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Bromobenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
N-Propylbenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
2-Chlorotoluene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,3,5-Trimethylbenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
4-Chlorotoluene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
tert-Butylbenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,2,4-Trimethylbenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
sec-Butylbenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
p-Isopropyltoluene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,3-Dichlorobenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,4-Dichlorobenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
n-Butylbenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,2-Dichlorobenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<500	500	ug/L	MQS	08/27/2009
1,2,4-Trichlorobenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Hexachlorobutadiene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Naphthalene	EPA 8260	<200	200	ug/L	MQS	08/27/2009
1,2,3-Trichlorobenzene	EPA 8260	<100	100	ug/L	MQS	08/27/2009
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	97.3	70-130	% R	MQS	08/27/2009
***Toluene-D8	EPA 8260	100	70-130	% R	MQS	08/27/2009



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 Work Order No.: **0908-00125**

Sample ID: **Microwell 3**

Sample No.: **005**

Sample Date: **08/25/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	96.3	70-130	% R	MQS	08/27/2009
Preparation	EPA 5030B	100		CF	MQS	08/27/2009



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 Work Order No.: **0908-00125**

Sample ID: **Microwell 5**  
 Sample Date: **08/25/2009**

Sample No.: **006**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	08/27/2009
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Vinyl Chloride	EPA 8260	13	1.0	ug/L	MQS	08/27/2009
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Diethylether	EPA 8260	<5.0	5.0	ug/L	MQS	08/27/2009
Acetone	EPA 8260	<25	25	ug/L	MQS	08/27/2009
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
trans-1,2-Dichloroethene	EPA 8260	1.5	1.0	ug/L	MQS	08/27/2009
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
2-Butanone	EPA 8260	<25	25	ug/L	MQS	08/27/2009
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
cis-1,2-Dichloroethene	EPA 8260	10	1.0	ug/L	MQS	08/27/2009
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	08/27/2009
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
4-Methyl-2-Pentanone	EPA 8260	<25	25	ug/L	MQS	08/27/2009
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Toluene	EPA 8260	1.1	1.0	ug/L	MQS	08/27/2009
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
2-Hexanone	EPA 8260	<25	25	ug/L	MQS	08/27/2009



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 Work Order No.: **0908-00125**

Sample ID: **Microwell 5**  
 Sample Date: **08/25/2009**

Sample No.: **006**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
m&p-Xylene	EPA 8260	2.7	2.0	ug/L	MQS	08/27/2009
o-Xylene	EPA 8260	1.5	1.0	ug/L	MQS	08/27/2009
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
2-Chlorotoluene	EPA 8260	3.3	1.0	ug/L	MQS	08/27/2009
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	08/27/2009
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	93.3	70-130	% R	MQS	08/27/2009
***Toluene-D8	EPA 8260	100	70-130	% R	MQS	08/27/2009





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Date Received: **08/26/2009**  
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 Work Order No.: **0908-00125**

Sample ID: **Microwell 5**

Sample No.: **006**

Sample Date: **08/25/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	100	70-130	% R	MQS	08/27/2009
Preparation	EPA 5030B	1.0		CF	MQS	08/27/2009



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Date Received: **08/26/2009**  
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 Work Order No.: **0908-00125**

Sample ID: **Microwell 6**  
 Sample Date: **08/25/2009**

Sample No.: **007**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	08/27/2009
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Diethylether	EPA 8260	<5.0	5.0	ug/L	MQS	08/27/2009
Acetone	EPA 8260	<25	25	ug/L	MQS	08/27/2009
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
2-Butanone	EPA 8260	<25	25	ug/L	MQS	08/27/2009
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
cis-1,2-Dichloroethene	EPA 8260	3.4	1.0	ug/L	MQS	08/27/2009
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	08/27/2009
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
4-Methyl-2-Pentanone	EPA 8260	<25	25	ug/L	MQS	08/27/2009
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Toluene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
2-Hexanone	EPA 8260	<25	25	ug/L	MQS	08/27/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **08/26/2009**  
 Date Reported: **08/31/2009**  
 Work Order No.: **0908-00125**

Sample ID: **Microwell 6**  
 Sample Date: **08/25/2009**

Sample No.: **007**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	08/27/2009
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	91.5	70-130	% R	MQS	08/27/2009
***Toluene-D8	EPA 8260	100	70-130	% R	MQS	08/27/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **08/26/2009**  
 Date Reported: **08/31/2009**  
 Work Order No.: **0908-00125**

Sample ID: **Microwell 6**  
 Sample Date: **08/25/2009**

Sample No.: **007**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	100	70-130	% R	MQS	08/27/2009
Preparation	EPA 5030B	1.0		CF	MQS	08/27/2009



ANALYTICAL REPORT

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Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **08/26/2009**  
 Date Reported: **08/31/2009**  
 Work Order No.: **0908-00125**

Sample ID: **Microwell 4**  
 Sample Date: **08/25/2009**

Sample No.: **008**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	08/27/2009
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Vinyl Chloride	EPA 8260	22	1.0	ug/L	MQS	08/27/2009
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Diethylether	EPA 8260	<5.0	5.0	ug/L	MQS	08/27/2009
Acetone	EPA 8260	<25	25	ug/L	MQS	08/27/2009
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
2-Butanone	EPA 8260	<25	25	ug/L	MQS	08/27/2009
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
cis-1,2-Dichloroethene	EPA 8260	70	1.0	ug/L	MQS	08/27/2009
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	08/27/2009
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Trichloroethene	EPA 8260	1.2	1.0	ug/L	MQS	08/27/2009
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
4-Methyl-2-Pentanone	EPA 8260	<25	25	ug/L	MQS	08/27/2009
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Toluene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
2-Hexanone	EPA 8260	<25	25	ug/L	MQS	08/27/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **08/26/2009**  
 Date Reported: **08/31/2009**  
 Work Order No.: **0908-00125**

Sample ID: **Microwell 4**

Sample No.: **008**

Sample Date: **08/25/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	08/27/2009
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	08/27/2009
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	08/27/2009
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	99.8	70-130	% R	MQS	08/27/2009
***Toluene-D8	EPA 8260	99.1	70-130	% R	MQS	08/27/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **08/26/2009**  
 Date Reported: **08/31/2009**  
 Work Order No.: **0908-00125**

Sample ID: **Microwell 4**

Sample No.: **008**

Sample Date: **08/25/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	99.2	70-130	% R	MQS	08/27/2009
Preparation	EPA 5030B	1.0		CF	MQS	08/27/2009









**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

Steve Andrus

Project No.: **03.0032795.36**  
Work Order No.: **0909-00048**  
Date Received: **09/10/2009**  
Date Reported: **09/17/2009**

### **SAMPLE INFORMATION**

<b>Date Sampled</b>	<b>Matrix</b>	<b>Laboratory ID</b>	<b>Sample ID</b>
09/09/2009	Aqueous	0909-00048 001	Micro-1
09/09/2009	Aqueous	0909-00048 002	Micro-3
09/09/2009	Aqueous	0909-00048 003	Micro-4
09/09/2009	Aqueous	0909-00048 004	Micro-5
09/09/2009	Aqueous	0909-00048 005	Micro-6
09/09/2009	Aqueous	0909-00048 006	Micro-7
09/09/2009	Aqueous	0909-00048 007	Micro-8



**ANALYTICAL REPORT**

GZA GeoEnvironmental, Inc.  
530 Broadway  
Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
Project No.: **03.0032795.36**

Date Received: **09/10/2009**  
Date Reported: **09/17/2009**  
Work Order No.: **0909-00048**

---

**PROJECT NARRATIVE:**

**1. Sample Receipt**

The samples were received on 09/10/09 via  GZA courier,  EC,  FEDEX, or  hand delivered. The temperature of the  temperature blank/ cooler air, was 3.4 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. Subcontracted Analyses**

Analyses for TOC was performed by R.I. Analytical Laboratories, Inc, Warwick RI.

**3. EPA Method 300.0 - Anions**

Attach QC 300.0 09/10/09

**4. EPA Method 6010B - Metals**

Attach QC 6010B 09/11/09 - Aqueous



ANALYTICAL REPORT

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Steve Andrus

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Project No.: **03.0032795.36**

Date Received: **09/10/2009**  
Date Reported: **09/17/2009**  
Work Order No.: **0909-00048**

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 6010B.

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

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

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.



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
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Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **09/10/2009**  
 Date Reported: **09/17/2009**  
 Work Order No.: **0909-00048**

Sample ID: **Micro-1**

Sample No.: **001**

Sample Date: **09/09/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
<b>VOLATILE ORGANIC COMPOUNDS</b>	GC SCREEN				RJD	09/14/2009
Methane	GC SCREEN	1600	100	ug/L	RJD	09/14/2009
Ethane	GC SCREEN	460	100	ug/L	RJD	09/14/2009
Ethene	GC SCREEN	2100	100	ug/L	RJD	09/14/2009
<b>DISSOLVED METALS</b>						
Iron	EPA 6010B	43	0.025	mg/L	LLZ	09/11/2009
Manganese	EPA 6010B	3.6	0.0050	mg/L	LLZ	09/11/2009
<b>ANIONS - ION CHROMATOGRAPHY</b>	EPA 300.0				TAJ	09/10/2009
Nitrate	EPA 300.0	<0.10	0.10	mg/L	TAJ	09/10/2009
Sulfate	EPA 300.0	1.9	0.60	mg/L	TAJ	09/10/2009
<b>SUBCONTRACTED ANALYTES</b>						
Total Organic Carbon	SM-5310B	9.3	5	mg/L	XXX	09/15/2009



ANALYTICAL REPORT

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Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **09/10/2009**  
 Date Reported: **09/17/2009**  
 Work Order No.: **0909-00048**

Sample ID: **Micro-3**

Sample No.: **002**

Sample Date: **09/09/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
<b>VOLATILE ORGANIC COMPOUNDS</b>	GC SCREEN				RJD	09/14/2009
Methane	GC SCREEN	660	100	ug/L	RJD	09/14/2009
Ethane	GC SCREEN	<100	100	ug/L	RJD	09/14/2009
Ethene	GC SCREEN	520	100	ug/L	RJD	09/14/2009
<b>DISSOLVED METALS</b>						
Iron	EPA 6010B	13	0.025	mg/L	LLZ	09/11/2009
Manganese	EPA 6010B	0.22	0.0050	mg/L	LLZ	09/11/2009
<b>ANIONS - ION CHROMATOGRAPHY</b>	EPA 300.0				TAJ	09/10/2009
Nitrate	EPA 300.0	<0.10	0.10	mg/L	TAJ	09/10/2009
Sulfate	EPA 300.0	<0.60	0.60	mg/L	TAJ	09/10/2009
<b>SUBCONTRACTED ANALYTES</b>						
Total Organic Carbon	SM-5310B	11	5	mg/L	XXX	09/15/2009



ANALYTICAL REPORT

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 Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **09/10/2009**  
 Date Reported: **09/17/2009**  
 Work Order No.: **0909-00048**

Sample ID: **Micro-4**  
 Sample Date: **09/09/2009**

Sample No.: **003**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
<b>VOLATILE ORGANIC COMPOUNDS</b>	GC SCREEN				RJD	09/14/2009
Methane	GC SCREEN	670	100	ug/L	RJD	09/14/2009
Ethane	GC SCREEN	<100	100	ug/L	RJD	09/14/2009
Ethene	GC SCREEN	<100	100	ug/L	RJD	09/14/2009
<b>DISSOLVED METALS</b>						
Iron	EPA 6010B	10	0.025	mg/L	LLZ	09/11/2009
Manganese	EPA 6010B	0.48	0.0050	mg/L	LLZ	09/11/2009
<b>ANIONS - ION CHROMATOGRAPHY</b>	EPA 300.0				TAJ	09/10/2009
Nitrate	EPA 300.0	<0.10	0.10	mg/L	TAJ	09/10/2009
Sulfate	EPA 300.0	21	0.60	mg/L	TAJ	09/10/2009
<b>SUBCONTRACTED ANALYTES</b>						
Total Organic Carbon	SM-5310B	5.8	5	mg/L	XXX	09/15/2009



ANALYTICAL REPORT

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 530 Broadway  
 Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **09/10/2009**  
 Date Reported: **09/17/2009**  
 Work Order No.: **0909-00048**

Sample ID: **Micro-5**

Sample No.: **004**

Sample Date: **09/09/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
<b>VOLATILE ORGANIC COMPOUNDS</b>	GC SCREEN				RJD	09/14/2009
Methane	GC SCREEN	4000	100	ug/L	RJD	09/14/2009
Ethane	GC SCREEN	<100	100	ug/L	RJD	09/14/2009
Ethene	GC SCREEN	<100	100	ug/L	RJD	09/14/2009
<b>DISSOLVED METALS</b>						
Iron	EPA 6010B	19	0.025	mg/L	LLZ	09/11/2009
Manganese	EPA 6010B	1.9	0.0050	mg/L	LLZ	09/11/2009
<b>ANIONS - ION CHROMATOGRAPHY</b>	EPA 300.0				TAJ	09/10/2009
Nitrate	EPA 300.0	<0.10	0.10	mg/L	TAJ	09/10/2009
Sulfate	EPA 300.0	<0.60	0.60	mg/L	TAJ	09/10/2009
<b>SUBCONTRACTED ANALYTES</b>						
Total Organic Carbon	SM-5310B	6.0	5	mg/L	XXX	09/15/2009





ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **09/10/2009**  
 Date Reported: **09/17/2009**  
 Work Order No.: **0909-00048**

Sample ID: **Micro-6**  
 Sample Date: **09/09/2009**

Sample No.: **005**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
<b>VOLATILE ORGANIC COMPOUNDS</b>	GC SCREEN				RJD	09/14/2009
Methane	GC SCREEN	110	10	ug/L	RJD	09/14/2009
Ethane	GC SCREEN	<10	10	ug/L	RJD	09/14/2009
Ethene	GC SCREEN	<10	10	ug/L	RJD	09/14/2009
<b>DISSOLVED METALS</b>						
Iron	EPA 6010B	7.3	0.025	mg/L	LLZ	09/11/2009
Manganese	EPA 6010B	0.59	0.0050	mg/L	LLZ	09/11/2009
<b>ANIONS - ION CHROMATOGRAPHY</b>	EPA 300.0				TAJ	09/10/2009
Nitrate	EPA 300.0	<0.10	0.10	mg/L	TAJ	09/10/2009
Sulfate	EPA 300.0	8.6	0.60	mg/L	TAJ	09/10/2009
<b>SUBCONTRACTED ANALYTES</b>						
Total Organic Carbon	SM-5310B	<5	5	mg/L	XXX	09/15/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **09/10/2009**  
 Date Reported: **09/17/2009**  
 Work Order No.: **0909-00048**

Sample ID: **Micro-7**  
 Sample Date: **09/09/2009**

Sample No.: **006**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
<b>VOLATILE ORGANIC COMPOUNDS</b>	GC SCREEN				RJD	09/14/2009
Methane	GC SCREEN	180	10	ug/L	RJD	09/14/2009
Ethane	GC SCREEN	<10	10	ug/L	RJD	09/14/2009
Ethene	GC SCREEN	<10	10	ug/L	RJD	09/14/2009
<b>DISSOLVED METALS</b>						
Iron	EPA 6010B	17	0.025	mg/L	LLZ	09/11/2009
Manganese	EPA 6010B	1.1	0.0050	mg/L	LLZ	09/11/2009
<b>ANIONS - ION CHROMATOGRAPHY</b>	EPA 300.0				TAJ	09/10/2009
Nitrate	EPA 300.0	<0.10	0.10	mg/L	TAJ	09/10/2009
Sulfate	EPA 300.0	0.81	0.60	mg/L	TAJ	09/10/2009
<b>SUBCONTRACTED ANALYTES</b>						
Total Organic Carbon	SM-5310B	<5	5	mg/L	XXX	09/15/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **09/10/2009**  
 Date Reported: **09/17/2009**  
 Work Order No.: **0909-00048**

Sample ID: **Micro-8**

Sample No.: **007**

Sample Date: **09/09/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
<b>VOLATILE ORGANIC COMPOUNDS</b>	GC SCREEN				RJD	09/14/2009
Methane	GC SCREEN	140	10	ug/L	RJD	09/14/2009
Ethane	GC SCREEN	<10	10	ug/L	RJD	09/14/2009
Ethene	GC SCREEN	<10	10	ug/L	RJD	09/14/2009
<b>DISSOLVED METALS</b>						
Iron	EPA 6010B	17	0.025	mg/L	LLZ	09/11/2009
Manganese	EPA 6010B	1.2	0.0050	mg/L	LLZ	09/11/2009
<b>ANIONS - ION CHROMATOGRAPHY</b>	EPA 300.0				TAJ	09/10/2009
Nitrate	EPA 300.0	<0.10	0.10	mg/L	TAJ	09/10/2009
Sulfate	EPA 300.0	0.66	0.60	mg/L	TAJ	09/10/2009
<b>SUBCONTRACTED ANALYTES</b>						
Total Organic Carbon	SM-5310B	<5	5	mg/L	XXX	09/15/2009

GZA GEOENVIRONMENTAL, INC.  
ENVIRONMENTAL CHEMISTRY LABORATORY  
106 SOUTH ST, HOPKINTON, MA 01748  
MASSACHUSETTS LABORATORY I.D. NO. MA092

**EPA METHOD 300.0 ANALYSIS**  
**Anions by Ion Chromatography**

**QUALITY CONTROL - Aqueous**

**DATE PREPARED: 9/10/09**

QC Sample	Method Blank	LCS	LCSD	LCS/LCSD Difference
Units	mg/L	% Recovery	% Recovery	RPD
Acceptance Limits	Results	90-110 %	90-110%	20%
<b>Analyte</b>				
Fluoride	NA	NA	NA	NA
Chloride	<0.200	96.7	92.9	3.97
Nitrite	NA	NA	NA	NA
Nitrate	<0.100	98.7	97.5	1.15
Phosphate	NA	NA	NA	NA
Sulfate	<0.600	105	95.2	9.92

RPD = Relative Percent Difference

GZA GEOENVIRONMENTAL, INC.  
 ENVIRONMENTAL CHEMISTRY LABORATORY  
 106 SOUTH ST, HOPKINTON, MA 01748  
 MASSACHUSETTS LABORATORY I.D. NO. MA092

**EPA METHOD 6010B ANALYSIS**  
**Metals by ICP**

**QUALITY CONTROL - AQUEOUS**

**DATE PREPARED: 9/11/2009**

QC Sample	Method Blank	Lab Control Sample	LC Duplicate	LC/LCD Diff.
Units	mg/L	% Recovery	% Recovery	RPD
Acceptance Limits	Results	80-120	80-120	20%
<b>Analyte</b>				
Silver (Ag)	NA	NA	NA	NA
Aluminum (Al)	NA	NA	NA	NA
Arsenic (As)	<0.010	101	99.1	1.50
Boron (B)	NA	NA	NA	NA
Barium (Ba)	NA	NA	NA	NA
Beryllium (Be)	<0.0040	99.4	98.6	0.78
Calcium (Ca)	NA	NA	NA	NA
Cadmium (Cd)	<0.0050	96.9	96.4	0.50
Cobalt (Co)	NA	NA	NA	NA
Chromium (Cr)	<0.0050	97.1	96.3	0.82
Copper (Cu)	NA	NA	NA	NA
Iron (Fe)	<0.025	101	100	0.57
Magnesium (Mg)	NA	NA	NA	NA
Manganese (Mn)	<0.0050	97.7	97.0	0.75
Molybdenum (Mo)	NA	NA	NA	NA
Nickel (Ni)	<0.010	99.2	98.7	0.51
Lead (Pb)	<0.010	97.9	97.2	0.67
Antimony (Sb)	<0.025	100	99.5	0.98
Selenium (Se)	NA	NA	NA	NA
Strontium (Sr)	NA	NA	NA	NA
Titanium (Ti)	NA	NA	NA	NA
Thallium (Tl)	NA	NA	NA	NA
Vanadium (V)	NA	NA	NA	NA
Zinc (Zn)	<0.010	100	98.3	1.75
Zirconium (Zr)	NA	NA	NA	NA
Tin (Sn)	NA	NA	NA	NA

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

# CHAIN-OF-CUSTODY RECORD

110-26

W.O. # 0807-00048  
(for lab use only)

Sample I.D.	Date/Time Sampled	Matrix A=Air S=Soil GW=Ground W. SM=Surface W. WW=Waste W. DW=Drinking W. P=Product Other (Specify)	ANALYSIS REQUIRED													Total # of Cont.	Note #																
			<input type="checkbox"/> pH <input type="checkbox"/> Cond.	GC Methane, Ethane, Ethene	EPA 8260 (Hold)	EPA 8260 - 8070 List (Chlor.)	EPA 8260 - 8021 list	EPA 8260 - 8020 List	EPA 524.2 DW VOCs	EPA 624 WW VOCs	<input type="checkbox"/> 601 <input type="checkbox"/> 602 WW VOCs	EPA 8270 FULL SVOCs	EPA 8270 PAH A & B N	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 <input type="checkbox"/> PPM-13 <input type="checkbox"/> R-8	MCP 14 Metals (MA)	Metals (List Below)**	TCLP - Specify Below	SPLP - Specify Below	EPA 300 <input type="checkbox"/> Cl <input type="checkbox"/> SO4	EPA 300 <input type="checkbox"/> NO2 <input type="checkbox"/> NO3				
Mico-1	9-9-09/1030	GW			X																	X								8	1030		
Mico-2	955				X																		X										
Mico-4	910				X																		X										
Mico-5	1125				X																		X										
Mico-6	1210				X																		X										
Mico-7	1245				X																		X										
Mico-8	1320				X																		X										
Triplank					X																		X										

RELINQUISHED BY: (AFFILIATION) DATE/TIME RECEIVED BY: (AFFILIATION)  
 RELINQUISHED BY: (AFFILIATION) DATE/TIME RECEIVED BY: (AFFILIATION)  
 RELINQUISHED BY: (AFFILIATION) DATE/TIME RECEIVED BY: (AFFILIATION)

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

9/10/09 16:45 B. Bissmann/MLM  
 Metals were field filtered,  
 test for dissolved Iron + Manganese

PROJECT MANAGER: Steve Andrews EXT: \_\_\_\_\_

**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 Blank 05118 °C  
 COOLER Air 3.4 °C  
 PO. NO. 9/10/09  
 TASK NO. 32795.36

PROJECT: Charbert  
 LOCATION: \_\_\_\_\_  
 COLLECTOR(S): M. Bergen  
 SHEET 1 OF 1





**CERTIFICATE OF ANALYSIS**

GZA GeoEnvironmental Labs  
Attn: Ms. Michelle Mirenda  
Engineers and Scientists  
106 South Street  
Hopkinton, MA 01748

**Date Received:** 9/9/09  
**Date Reported:** 9/15/09  
**P.O. #:** 8-32793  
**Work Order #:** 0909-16220

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**DESCRIPTION:** GZA FILE# 03.0032795.36 CHARBERT ALTON, RI

---

Subject sample(s) has/have been analyzed by our Warwick, R.I. laboratory with the attached results.

Reference: All parameters were analyzed by U.S. EPA approved methodologies.  
The specific methodologies are listed in the methods column of the Certificate Of Analysis.

Data qualifiers (if present) are explained in full at the end of a given sample's analytical results.

Certification #: RI-033, MA-RI015, CT-PH-0508, ME-RI015  
NH-253700 A & B, USDA S-41844

If you have any questions regarding this work, or if we may be of further assistance, please contact our customer service department.

Approved by



---

Data Reporting

enc: Chain of Custody



R.I. Analytical Laboratories, Inc.  
**CERTIFICATE OF ANALYSIS**

GZA GeoEnvironmental Labs  
 Date Received: 9/9/09  
 Work Order #: 0909-16220

Approved by: \_\_\_\_\_

Data Reporting

Sample # 001  
**SAMPLE DESCRIPTION:** MICRO-1  
**SAMPLE TYPE:** GRAB

**SAMPLE DATE/TIME:** 9/09/2009 @ 10:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
TOC	9.3	5	mg/l	SM-5310B	9/15/09	JJP

Sample # 002  
**SAMPLE DESCRIPTION:** MICRO-3  
**SAMPLE TYPE:** GRAB

**SAMPLE DATE/TIME:** 9/09/2009 @ 09:55

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
TOC	11	5	mg/l	SM-5310B	9/15/09	JJP

Sample # 003  
**SAMPLE DESCRIPTION:** MICRO-4  
**SAMPLE TYPE:** GRAB

**SAMPLE DATE/TIME:** 9/09/2009 @ 09:10

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
TOC	5.8	5	mg/l	SM-5310B	9/15/09	JJP

Sample # 004  
**SAMPLE DESCRIPTION:** MICRO-5  
**SAMPLE TYPE:** GRAB

**SAMPLE DATE/TIME:** 9/09/2009 @ 11:25

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
TOC	6.0	5	mg/l	SM-5310B	9/15/09	JJP

Sample # 005  
**SAMPLE DESCRIPTION:** MICRO-6  
**SAMPLE TYPE:** GRAB

**SAMPLE DATE/TIME:** 9/09/2009 @ 12:10

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
TOC	<5	5	mg/l	SM-5310B	9/15/09	JJP

Sample # 006  
**SAMPLE DESCRIPTION:** MICRO-8  
**SAMPLE TYPE:** GRAB

**SAMPLE DATE/TIME:** 9/09/2009 @ 13:20

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
TOC	<5	5	mg/l	SM-5310B	9/15/09	JJP

**R.I. Analytical Laboratories, Inc.**  
**CERTIFICATE OF ANALYSIS**

GZA GeoEnvironmental Labs  
Date Received: 9/9/09  
Work Order #: 0909-16220

Approved by: \_\_\_\_\_

Data Reporting

Sample # 007

**SAMPLE DESCRIPTION:** MICRO-7

**SAMPLE TYPE:** GRAB

**SAMPLE DATE/TIME:** 9/09/2009 @ 12:45

<b>PARAMETER</b>	<b>SAMPLE RESULTS</b>	<b>DET. LIMIT</b>	<b>UNITS</b>	<b>METHOD</b>	<b>DATE ANALYZED</b>	<b>ANALYST</b>
TOC	<5	5	mg/l	SM-5310B	9/15/09	JJP



**Client:** GZA GeoEnvironmental Labs  
**WO #:** 0909-16251  
**Date:** 9/15/09

**Description:** GZA FILE# 04.0021206.16 SALEM FORMER WW TREATMENT FACILITY

-Method Blanks Results-

Parameter	Units	Results	Date Analyzed
COD	mg/l	<10	9/10/2009
COD	mg/l	<150	9/10/2009
TOC	mg/l	<5	9/15/2009

-Laboratory Control Standard-

Parameter	Units	Spike Conc.	Detected Conc.	% Rec.	Date Analyzed
COD	mg/l	75.0	70.36	94	9/10/2009
COD	mg/l	500	528	106	9/10/2009
COD	mg/l	75.0	71.77	96	9/10/2009
TOC	mg/l	141	140	99	9/15/2009

W.O. # 0909-00048  
 (for lab use only)  
 9/11

**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	Note #	Total # of Cont.																
						EPA 8260 - 8010 (Meth.)	EPA 8260 - 8021 list	EPA 8021 - 8020 list (STO)	EPA 824 DW VOCs	EPA 824 WW VOCs	□ 601 □ 602 WW VOCs	EPA 8270 FULL SVOCs	EPA 8270 DPM/A/B/N	EPA 826 WW SVOCs	EPA 8082-PCBS	EPA 8081-Pest	TPH-GC (Mod. 8100)	TPH-GC W/FING	EPH (MA DEP)	VPH (MA DEP)	Metals (Pb, Cu, Zn, Cd, Ni, Mn, Fe, Cr, As)
MICRO-1	9-9-09/12:30	GSU			1																
MICRO-3	9:55				1																
MICRO-4	9:10				1																
MICRO-5	11:25				1																
MICRO-6	12:10				1																
MICRO-8	13:20				1																
MICRO-7	12:45				1																

PRESERVATIVE (Cl - HCl, Methanol, N - HNO3, S - H2SO4, Na - NaOH, O - Other) \_\_\_\_\_  
 CONTAINER TYPE (P-Plastic, G-Glass, V-Vial, T-Teflon, O-Other) \_\_\_\_\_  
 RELINQUISHED BY: (AFFILIATION) DATE/TIME RECEIVED BY: (AFFILIATION)  
McGowan 9-9-09/12:30 McGowan  
 RELINQUISHED BY: (AFFILIATION) DATE/TIME RECEIVED BY: (AFFILIATION) \_\_\_\_\_

TURNAROUND TIME: Standard Rush Days, Approved by \_\_\_\_\_  
 LAB USE: Temp Blank \_\_\_\_\_  
 TEMP. OF COOLER 5.8 °C Cooler Air \_\_\_\_\_

GZA FILE NO: 03-0032795.346 TASK NO: \_\_\_\_\_  
 PROJECT: Charbert  
 LOCATION: Alton, RI  
 COLLECTOR(S): M. Belger

PROJECT MANAGER: Steve Andrews EXT: \_\_\_\_\_

**GZA GEOENVIRONMENTAL, INC.**  
 Laboratory Division  
 106 South Street  
 Hopkinton, MA 01748  
 (617) 278-4700  
 FAX (603) 435-9912

SHEET 1 OF 1



LAGOON 5 NEW MONITORING WELLS



**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

Steve Andrus / Mike Healy

Project No.: **03.0032795.36**  
Work Order No.: **0907-00072**  
Date Received: **07/13/2009**  
Date Reported: **07/21/2009**

### **SAMPLE INFORMATION**

Date Sampled	Matrix	Laboratory ID	Sample ID
07/10/2009	Aqueous	0907-00072 001	TB
07/10/2009	Aqueous	0907-00072 002	GZ-24
07/10/2009	Aqueous	0907-00072 003	GZ-25
07/10/2009	Aqueous	0907-00072 004	GZ-26



**ANALYTICAL REPORT**

GZA GeoEnvironmental, Inc.  
530 Broadway  
Providence, RI 02909

Steve Andrus / Mike Healy

Project Name.: **Charbert Lag. 5 Remediation**

Date Received: **07/13/2009**

Project No.: **03.0032795.36**

Date Reported: **07/21/2009**

Work Order No.: **0907-00072**

---

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 07/13/09 via  GZA courier,  EC,  FEDEX, or  hand delivered. The temperature of the  temperature blank/ cooler air, was 2.3 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

Sample GZ-25 (0907-72-003) was analyzed at a 1/5 dilution based upon screening information and in order to report all target analytes within the calibration range of the instrument.

Sample GZ-24 (0907-72-002) was analyzed at a 1/10 dilution based upon screening information and in order to report all target analytes within the calibration range of the instrument.

Attach QC 8260 07/20/09 S - Aqueous





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

Page 3 of 15

**ANALYTICAL REPORT**

GZA GeoEnvironmental, Inc.  
530 Broadway  
Providence, RI 02909

Steve Andrus / Mike Healy

Project Name.: **Charbert Lag. 5 Remediation**

Date Received: **07/13/2009**

Project No.: **03.0032795.36**

Date Reported: **07/21/2009**

Work Order No.: **0907-00072**

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 6010B.

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

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

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.



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus / Mike Healy

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **07/13/2009**  
 Date Reported: **07/21/2009**  
 Work Order No.: **0907-00072**

Sample ID: **TB**  
 Sample Date: **07/10/2009**

Sample No.: **001**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	07/20/2009
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/20/2009
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/20/2009
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/20/2009
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/20/2009
Diethylether	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
Acetone	EPA 8260	<25	25	ug/L	MQS	07/20/2009
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/20/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
2-Butanone	EPA 8260	<25	25	ug/L	MQS	07/20/2009
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
cis-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	07/20/2009
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
4-Methyl-2-Pentanone	EPA 8260	<25	25	ug/L	MQS	07/20/2009
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Toluene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	07/20/2009
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
2-Hexanone	EPA 8260	<25	25	ug/L	MQS	07/20/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus / Mike Healy

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **07/13/2009**  
 Date Reported: **07/21/2009**  
 Work Order No.: **0907-00072**

Sample ID: **TB**  
 Sample Date: **07/10/2009**

Sample No.: **001**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	07/20/2009
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	07/20/2009
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	07/20/2009
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	07/20/2009
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	103	70-130	% R	MQS	07/20/2009
***Toluene-D8	EPA 8260	101	70-130	% R	MQS	07/20/2009



ANALYTICAL REPORT

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Project Name.: **Charbert Lag. 5 Remediation**

Date Received: **07/13/2009**

Project No.: **03.0032795.36**

Date Reported: **07/21/2009**

Work Order No.: **0907-00072**

Sample ID: **TB**

Sample No.: **001**

Sample Date: **07/10/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	101	70-130	% R	MQS	07/20/2009
Preparation	EPA 5030B	1.0		CF	MQS	07/20/2009



ANALYTICAL REPORT

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Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **07/13/2009**  
 Date Reported: **07/21/2009**  
 Work Order No.: **0907-00072**

Sample ID: **GZ-24**

Sample No.: **002**

Sample Date: **07/10/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	07/20/2009
Dichlorodifluoromethane	EPA 8260	<10	10	ug/L	MQS	07/20/2009
Chloromethane	EPA 8260	<10	10	ug/L	MQS	07/20/2009
Vinyl Chloride	EPA 8260	30	5.0	ug/L	MQS	07/20/2009
Bromomethane	EPA 8260	<10	10	ug/L	MQS	07/20/2009
Chloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
Trichlorofluoromethane	EPA 8260	<10	10	ug/L	MQS	07/20/2009
Diethylether	EPA 8260	<25	25	ug/L	MQS	07/20/2009
Acetone	EPA 8260	<130	130	ug/L	MQS	07/20/2009
1,1-Dichloroethene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
Dichloromethane	EPA 8260	<10	10	ug/L	MQS	07/20/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
trans-1,2-Dichloroethene	EPA 8260	5.1	5.0	ug/L	MQS	07/20/2009
1,1-Dichloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
2-Butanone	EPA 8260	<130	130	ug/L	MQS	07/20/2009
2,2-Dichloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
cis-1,2-Dichloroethene	EPA 8260	390	5.0	ug/L	MQS	07/20/2009
Chloroform	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
Bromochloromethane	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
Tetrahydrofuran	EPA 8260	<50	50	ug/L	MQS	07/20/2009
1,1,1-Trichloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
1,1-Dichloropropene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
Carbon Tetrachloride	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
1,2-Dichloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
Benzene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
Trichloroethene	EPA 8260	22	5.0	ug/L	MQS	07/20/2009
1,2-Dichloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
Bromodichloromethane	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
Dibromomethane	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
4-Methyl-2-Pentanone	EPA 8260	<130	130	ug/L	MQS	07/20/2009
cis-1,3-Dichloropropene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
Toluene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
trans-1,3-Dichloropropene	EPA 8260	<10	10	ug/L	MQS	07/20/2009
1,1,2-Trichloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
2-Hexanone	EPA 8260	<130	130	ug/L	MQS	07/20/2009



ANALYTICAL REPORT

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Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **07/13/2009**  
 Date Reported: **07/21/2009**  
 Work Order No.: **0907-00072**

Sample ID: **GZ-24**

Sample No.: **002**

Sample Date: **07/10/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
Tetrachloroethene	EPA 8260	150	5.0	ug/L	MQS	07/20/2009
Dibromochloromethane	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
1,2-Dibromoethane (EDB)	EPA 8260	<10	10	ug/L	MQS	07/20/2009
Chlorobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
Ethylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
m&p-Xylene	EPA 8260	<10	10	ug/L	MQS	07/20/2009
o-Xylene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
Styrene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
Bromoform	EPA 8260	<10	10	ug/L	MQS	07/20/2009
Isopropylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
1,2,3-Trichloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
Bromobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
N-Propylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
2-Chlorotoluene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
1,3,5-Trimethylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
4-Chlorotoluene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
tert-Butylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
1,2,4-Trimethylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
sec-Butylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
p-Isopropyltoluene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
1,3-Dichlorobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
1,4-Dichlorobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
n-Butylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
1,2-Dichlorobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<25	25	ug/L	MQS	07/20/2009
1,2,4-Trichlorobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
Hexachlorobutadiene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
Naphthalene	EPA 8260	<10	10	ug/L	MQS	07/20/2009
1,2,3-Trichlorobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	96.2	70-130	% R	MQS	07/20/2009
***Toluene-D8	EPA 8260	102	70-130	% R	MQS	07/20/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus / Mike Healy

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **07/13/2009**  
 Date Reported: **07/21/2009**  
 Work Order No.: **0907-00072**

Sample ID: **GZ-24**

Sample No.: **002**

Sample Date: **07/10/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	105	70-130	% R	MQS	07/20/2009
Preparation	EPA 5030B	5.0		CF	MQS	07/20/2009



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Project Name.: **Charbert Lag. 5 Remediation**  
Project No.: **03.0032795.36**

Date Received: **07/13/2009**  
Date Reported: **07/21/2009**  
Work Order No.: **0907-00072**

Sample ID: **GZ-25**  
Sample Date: **07/10/2009**

Sample No.: **003**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	07/20/2009
Dichlorodifluoromethane	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
Chloromethane	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
Vinyl Chloride	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
Bromomethane	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
Chloroethane	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
Trichlorofluoromethane	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
Diethylether	EPA 8260	<13	13	ug/L	MQS	07/20/2009
Acetone	EPA 8260	<63	63	ug/L	MQS	07/20/2009
1,1-Dichloroethene	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
Dichloromethane	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
trans-1,2-Dichloroethene	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
1,1-Dichloroethane	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
2-Butanone	EPA 8260	<63	63	ug/L	MQS	07/20/2009
2,2-Dichloropropane	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
cis-1,2-Dichloroethene	EPA 8260	11	2.5	ug/L	MQS	07/20/2009
Chloroform	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
Bromochloromethane	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
Tetrahydrofuran	EPA 8260	<25	25	ug/L	MQS	07/20/2009
1,1,1-Trichloroethane	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
1,1-Dichloropropene	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
Carbon Tetrachloride	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
1,2-Dichloroethane	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
Benzene	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
Trichloroethene	EPA 8260	15	2.5	ug/L	MQS	07/20/2009
1,2-Dichloropropane	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
Bromodichloromethane	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
Dibromomethane	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
4-Methyl-2-Pentanone	EPA 8260	<63	63	ug/L	MQS	07/20/2009
cis-1,3-Dichloropropene	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
Toluene	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
trans-1,3-Dichloropropene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
1,1,2-Trichloroethane	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
2-Hexanone	EPA 8260	<63	63	ug/L	MQS	07/20/2009





ANALYTICAL REPORT

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Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **07/13/2009**  
 Date Reported: **07/21/2009**  
 Work Order No.: **0907-00072**

Sample ID: **GZ-25**

Sample No.: **003**

Sample Date: **07/10/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
Tetrachloroethene	EPA 8260	220	2.5	ug/L	MQS	07/20/2009
Dibromochloromethane	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
1,2-Dibromoethane (EDB)	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
Chlorobenzene	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
Ethylbenzene	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
m&p-Xylene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
o-Xylene	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
Styrene	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
Bromoform	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
Isopropylbenzene	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
1,2,3-Trichloropropane	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
Bromobenzene	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
N-Propylbenzene	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
2-Chlorotoluene	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
1,3,5-Trimethylbenzene	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
4-Chlorotoluene	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
tert-Butylbenzene	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
1,2,4-Trimethylbenzene	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
sec-Butylbenzene	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
p-Isopropyltoluene	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
1,3-Dichlorobenzene	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
1,4-Dichlorobenzene	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
n-Butylbenzene	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
1,2-Dichlorobenzene	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<13	13	ug/L	MQS	07/20/2009
1,2,4-Trichlorobenzene	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
Hexachlorobutadiene	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
Naphthalene	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
1,2,3-Trichlorobenzene	EPA 8260	<2.5	2.5	ug/L	MQS	07/20/2009
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	93.1	70-130	% R	MQS	07/20/2009
***Toluene-D8	EPA 8260	100	70-130	% R	MQS	07/20/2009



ANALYTICAL REPORT

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Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **07/13/2009**  
 Date Reported: **07/21/2009**  
 Work Order No.: **0907-00072**

Sample ID: **GZ-25**

Sample No.: **003**

Sample Date: **07/10/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	107	70-130	% R	MQS	07/20/2009
Preparation	EPA 5030B	2.5		CF	MQS	07/20/2009



ANALYTICAL REPORT

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Steve Andrus / Mike Healy

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **07/13/2009**  
 Date Reported: **07/21/2009**  
 Work Order No.: **0907-00072**

Sample ID: **GZ-26**  
 Sample Date: **07/10/2009**

Sample No.: **004**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	07/20/2009
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/20/2009
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/20/2009
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/20/2009
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/20/2009
Diethylether	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
Acetone	EPA 8260	<25	25	ug/L	MQS	07/20/2009
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/20/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
2-Butanone	EPA 8260	<25	25	ug/L	MQS	07/20/2009
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
cis-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	07/20/2009
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
4-Methyl-2-Pentanone	EPA 8260	<25	25	ug/L	MQS	07/20/2009
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Toluene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	07/20/2009
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
2-Hexanone	EPA 8260	<25	25	ug/L	MQS	07/20/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus / Mike Healy

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **07/13/2009**  
 Date Reported: **07/21/2009**  
 Work Order No.: **0907-00072**

Sample ID: **GZ-26**

Sample No.: **004**

Sample Date: **07/10/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	07/20/2009
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	07/20/2009
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	07/20/2009
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	07/20/2009
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	07/20/2009
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/20/2009
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	96.1	70-130	% R	MQS	07/20/2009
***Toluene-D8	EPA 8260	101	70-130	% R	MQS	07/20/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
530 Broadway  
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Steve Andrus / Mike Healy

Project Name.: **Charbert Lag. 5 Remediation**

Date Received: **07/13/2009**

Project No.: **03.0032795.36**

Date Reported: **07/21/2009**

Work Order No.: **0907-00072**

Sample ID: **GZ-26**

Sample No.: **004**

Sample Date: **07/10/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	106	70-130	% R	MQS	07/20/2009
Preparation	EPA 5030B	1.0		CF	MQS	07/20/2009







**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

Mike Healy / Steve Andrus

Project No.: **03.0032795.36**  
Work Order No.: **0907-00007**  
Date Received: **07/01/2009**  
Date Reported: **07/06/2009**

### **SAMPLE INFORMATION**

<b>Date Sampled</b>	<b>Matrix</b>	<b>Laboratory ID</b>	<b>Sample ID</b>
06/29/2009	Solid	0907-00007 001	GZ-25 Dr-Cut
06/29/2009	Solid	0907-00007 002	GZ-25 S-22
06/29/2009	Solid	0907-00007 003	GZ-24 Dr-Cut
06/30/2009	Solid	0907-00007 004	GZ-26 Dr-Cut
06/30/2009	Solid	0907-00007 005	GZ-26 S-16





**ANALYTICAL REPORT**

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Project Name.: **Charbert Lag. 5 Remediation**  
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Date Received: **07/01/2009**  
Date Reported: **07/06/2009**  
Work Order No.: **0907-00007**

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**PROJECT NARRATIVE:**

**1. Sample Receipt**

The samples were received on 07/01/09 via  GZA courier,  EC,  FEDEX, or  hand delivered. The temperature of the  temperature blank/ cooler air, was 2.6 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 Laboratory Control Sample (LCS) (07/02/09 S) had method 8260 list analytes outside of the 70-130% QC acceptance limits. Specific outliers include bromomethane (56.4%) and chloroethane (67.6%).

Attach QC 8260 07/02/09 S - Solid



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Date Received: **07/01/2009**  
Date Reported: **07/06/2009**  
Work Order No.: **0907-00007**

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 6010B.

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

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

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.



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
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Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **07/01/2009**  
 Date Reported: **07/06/2009**  
 Work Order No.: **0907-00007**

Sample ID: **GZ-25 Dr-Cut**  
 Sample Date: **06/29/2009**

Sample No.: **001**

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			MQS	07/02/2009
Dichlorodifluoromethane	EPA 8260	<120	ug/kg	MQS	07/02/2009
Chloromethane	EPA 8260	<120	ug/kg	MQS	07/02/2009
Vinyl Chloride	EPA 8260	<60	ug/kg	MQS	07/02/2009
Bromomethane	EPA 8260	<120	ug/kg	MQS	07/02/2009
Chloroethane	EPA 8260	<60	ug/kg	MQS	07/02/2009
Trichlorofluoromethane	EPA 8260	<120	ug/kg	MQS	07/02/2009
Diethylether	EPA 8260	<300	ug/kg	MQS	07/02/2009
Acetone	EPA 8260	<1600	ug/kg	MQS	07/02/2009
1,1-Dichloroethene	EPA 8260	<60	ug/kg	MQS	07/02/2009
Dichloromethane	EPA 8260	<120	ug/kg	MQS	07/02/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<60	ug/kg	MQS	07/02/2009
trans-1,2-Dichloroethene	EPA 8260	<60	ug/kg	MQS	07/02/2009
1,1-Dichloroethane	EPA 8260	<60	ug/kg	MQS	07/02/2009
2-Butanone	EPA 8260	<1600	ug/kg	MQS	07/02/2009
2,2-Dichloropropane	EPA 8260	<60	ug/kg	MQS	07/02/2009
cis-1,2-Dichloroethene	EPA 8260	<60	ug/kg	MQS	07/02/2009
Chloroform	EPA 8260	<60	ug/kg	MQS	07/02/2009
Bromochloromethane	EPA 8260	<60	ug/kg	MQS	07/02/2009
Tetrahydrofuran	EPA 8260	<600	ug/kg	MQS	07/02/2009
1,1,1-Trichloroethane	EPA 8260	<60	ug/kg	MQS	07/02/2009
1,1-Dichloropropene	EPA 8260	<60	ug/kg	MQS	07/02/2009
Carbon Tetrachloride	EPA 8260	<60	ug/kg	MQS	07/02/2009
1,2-Dichloroethane	EPA 8260	<60	ug/kg	MQS	07/02/2009
Benzene	EPA 8260	<60	ug/kg	MQS	07/02/2009
Trichloroethene	EPA 8260	<60	ug/kg	MQS	07/02/2009
1,2-Dichloropropane	EPA 8260	<60	ug/kg	MQS	07/02/2009
Bromodichloromethane	EPA 8260	<60	ug/kg	MQS	07/02/2009
Dibromomethane	EPA 8260	<60	ug/kg	MQS	07/02/2009
4-Methyl-2-Pentanone	EPA 8260	<1600	ug/kg	MQS	07/02/2009
cis-1,3-Dichloropropene	EPA 8260	<60	ug/kg	MQS	07/02/2009
Toluene	EPA 8260	<60	ug/kg	MQS	07/02/2009
trans-1,3-Dichloropropene	EPA 8260	<120	ug/kg	MQS	07/02/2009
1,1,2-Trichloroethane	EPA 8260	<60	ug/kg	MQS	07/02/2009
2-Hexanone	EPA 8260	<1600	ug/kg	MQS	07/02/2009
1,3-Dichloropropane	EPA 8260	<60	ug/kg	MQS	07/02/2009
Tetrachloroethene	EPA 8260	<60	ug/kg	MQS	07/02/2009



ANALYTICAL REPORT

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 530 Broadway  
 Providence, RI 02909

Mike Healy / Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **07/01/2009**  
 Date Reported: **07/06/2009**  
 Work Order No.: **0907-00007**

Sample ID: **GZ-25 Dr-Cut**

Sample No.: **001**

Sample Date: **06/29/2009**

Test Performed	Method	Results	Units	Tech	Analysis Date
Dibromochloromethane	EPA 8260	<60	ug/kg	MQS	07/02/2009
1,2-Dibromoethane (EDB)	EPA 8260	<120	ug/kg	MQS	07/02/2009
Chlorobenzene	EPA 8260	<60	ug/kg	MQS	07/02/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<60	ug/kg	MQS	07/02/2009
Ethylbenzene	EPA 8260	<60	ug/kg	MQS	07/02/2009
m&p-Xylene	EPA 8260	<120	ug/kg	MQS	07/02/2009
o-Xylene	EPA 8260	<60	ug/kg	MQS	07/02/2009
Styrene	EPA 8260	<60	ug/kg	MQS	07/02/2009
Bromoform	EPA 8260	<120	ug/kg	MQS	07/02/2009
Isopropylbenzene	EPA 8260	<60	ug/kg	MQS	07/02/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<60	ug/kg	MQS	07/02/2009
1,2,3-Trichloropropane	EPA 8260	<60	ug/kg	MQS	07/02/2009
Bromobenzene	EPA 8260	<60	ug/kg	MQS	07/02/2009
n-Propylbenzene	EPA 8260	<60	ug/kg	MQS	07/02/2009
2-Chlorotoluene	EPA 8260	<60	ug/kg	MQS	07/02/2009
1,3,5-Trimethylbenzene	EPA 8260	<60	ug/kg	MQS	07/02/2009
4-Chlorotoluene	EPA 8260	<60	ug/kg	MQS	07/02/2009
tert-Butylbenzene	EPA 8260	<60	ug/kg	MQS	07/02/2009
1,2,4-Trimethylbenzene	EPA 8260	<60	ug/kg	MQS	07/02/2009
sec-Butylbenzene	EPA 8260	<60	ug/kg	MQS	07/02/2009
p-Isopropyltoluene	EPA 8260	<60	ug/kg	MQS	07/02/2009
1,3-Dichlorobenzene	EPA 8260	<60	ug/kg	MQS	07/02/2009
1,4-Dichlorobenzene	EPA 8260	<60	ug/kg	MQS	07/02/2009
n-Butylbenzene	EPA 8260	<60	ug/kg	MQS	07/02/2009
1,2-Dichlorobenzene	EPA 8260	<60	ug/kg	MQS	07/02/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<300	ug/kg	MQS	07/02/2009
1,2,4-Trichlorobenzene	EPA 8260	<60	ug/kg	MQS	07/02/2009
Hexachlorobutadiene	EPA 8260	<60	ug/kg	MQS	07/02/2009
Naphthalene	EPA 8260	<120	ug/kg	MQS	07/02/2009
1,2,3-Trichlorobenzene	EPA 8260	<60	ug/kg	MQS	07/02/2009
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	88.3	% R	MQS	07/02/2009
***Toluene-D8	EPA 8260	102	% R	MQS	07/02/2009
***4-Bromofluorobenzene	EPA 8260	104	% R	MQS	07/02/2009
Preparation	EPA 5035	12	CF	MQS	07/01/2009
PERCENT SOLID		82.6	%	TAJ	07/02/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Mike Healy / Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **07/01/2009**  
 Date Reported: **07/06/2009**  
 Work Order No.: **0907-00007**

Sample ID: **GZ-25 S-22**  
 Sample Date: **06/29/2009**

Sample No.: **002**

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			MQS	07/02/2009
Dichlorodifluoromethane	EPA 8260	<100	ug/kg	MQS	07/02/2009
Chloromethane	EPA 8260	<100	ug/kg	MQS	07/02/2009
Vinyl Chloride	EPA 8260	<50	ug/kg	MQS	07/02/2009
Bromomethane	EPA 8260	<100	ug/kg	MQS	07/02/2009
Chloroethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
Trichlorofluoromethane	EPA 8260	<100	ug/kg	MQS	07/02/2009
Diethylether	EPA 8260	<250	ug/kg	MQS	07/02/2009
Acetone	EPA 8260	<1300	ug/kg	MQS	07/02/2009
1,1-Dichloroethene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Dichloromethane	EPA 8260	<100	ug/kg	MQS	07/02/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<50	ug/kg	MQS	07/02/2009
trans-1,2-Dichloroethene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,1-Dichloroethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
2-Butanone	EPA 8260	<1300	ug/kg	MQS	07/02/2009
2,2-Dichloropropane	EPA 8260	<50	ug/kg	MQS	07/02/2009
cis-1,2-Dichloroethene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Chloroform	EPA 8260	<50	ug/kg	MQS	07/02/2009
Bromochloromethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
Tetrahydrofuran	EPA 8260	<500	ug/kg	MQS	07/02/2009
1,1,1-Trichloroethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,1-Dichloropropene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Carbon Tetrachloride	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,2-Dichloroethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
Benzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Trichloroethene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,2-Dichloropropane	EPA 8260	<50	ug/kg	MQS	07/02/2009
Bromodichloromethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
Dibromomethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
4-Methyl-2-Pentanone	EPA 8260	<1300	ug/kg	MQS	07/02/2009
cis-1,3-Dichloropropene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Toluene	EPA 8260	<50	ug/kg	MQS	07/02/2009
trans-1,3-Dichloropropene	EPA 8260	<100	ug/kg	MQS	07/02/2009
1,1,2-Trichloroethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
2-Hexanone	EPA 8260	<1300	ug/kg	MQS	07/02/2009
1,3-Dichloropropane	EPA 8260	<50	ug/kg	MQS	07/02/2009
Tetrachloroethene	EPA 8260	<50	ug/kg	MQS	07/02/2009



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Date Received: **07/01/2009**  
 Date Reported: **07/06/2009**  
 Work Order No.: **0907-00007**

Sample ID: **GZ-25 S-22**  
 Sample Date: **06/29/2009**

Sample No.: **002**

Test Performed	Method	Results	Units	Tech	Analysis Date
Dibromochloromethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,2-Dibromoethane (EDB)	EPA 8260	<100	ug/kg	MQS	07/02/2009
Chlorobenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
Ethylbenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
m&p-Xylene	EPA 8260	<100	ug/kg	MQS	07/02/2009
o-Xylene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Styrene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Bromoform	EPA 8260	<100	ug/kg	MQS	07/02/2009
Isopropylbenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,2,3-Trichloropropane	EPA 8260	<50	ug/kg	MQS	07/02/2009
Bromobenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
n-Propylbenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
2-Chlorotoluene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,3,5-Trimethylbenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
4-Chlorotoluene	EPA 8260	<50	ug/kg	MQS	07/02/2009
tert-Butylbenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,2,4-Trimethylbenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
sec-Butylbenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
p-Isopropyltoluene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,3-Dichlorobenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,4-Dichlorobenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
n-Butylbenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,2-Dichlorobenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<250	ug/kg	MQS	07/02/2009
1,2,4-Trichlorobenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Hexachlorobutadiene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Naphthalene	EPA 8260	<100	ug/kg	MQS	07/02/2009
1,2,3-Trichlorobenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	92.7	% R	MQS	07/02/2009
***Toluene-D8	EPA 8260	101	% R	MQS	07/02/2009
***4-Bromofluorobenzene	EPA 8260	103	% R	MQS	07/02/2009
Preparation	EPA 5035	10	CF	MQS	07/01/2009
PERCENT SOLID		90.3	%	TAJ	07/02/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Mike Healy / Steve Andrus

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **07/01/2009**  
 Date Reported: **07/06/2009**  
 Work Order No.: **0907-00007**

Sample ID: **GZ-24 Dr-Cut**  
 Sample Date: **06/29/2009**

Sample No.: **003**

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			MQS	07/02/2009
Dichlorodifluoromethane	EPA 8260	<100	ug/kg	MQS	07/02/2009
Chloromethane	EPA 8260	<100	ug/kg	MQS	07/02/2009
Vinyl Chloride	EPA 8260	<50	ug/kg	MQS	07/02/2009
Bromomethane	EPA 8260	<100	ug/kg	MQS	07/02/2009
Chloroethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
Trichlorofluoromethane	EPA 8260	<100	ug/kg	MQS	07/02/2009
Diethylether	EPA 8260	<250	ug/kg	MQS	07/02/2009
Acetone	EPA 8260	<1300	ug/kg	MQS	07/02/2009
1,1-Dichloroethene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Dichloromethane	EPA 8260	<100	ug/kg	MQS	07/02/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<50	ug/kg	MQS	07/02/2009
trans-1,2-Dichloroethene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,1-Dichloroethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
2-Butanone	EPA 8260	<1300	ug/kg	MQS	07/02/2009
2,2-Dichloropropane	EPA 8260	<50	ug/kg	MQS	07/02/2009
cis-1,2-Dichloroethene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Chloroform	EPA 8260	<50	ug/kg	MQS	07/02/2009
Bromochloromethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
Tetrahydrofuran	EPA 8260	<500	ug/kg	MQS	07/02/2009
1,1,1-Trichloroethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,1-Dichloropropene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Carbon Tetrachloride	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,2-Dichloroethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
Benzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Trichloroethene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,2-Dichloropropane	EPA 8260	<50	ug/kg	MQS	07/02/2009
Bromodichloromethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
Dibromomethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
4-Methyl-2-Pentanone	EPA 8260	<1300	ug/kg	MQS	07/02/2009
cis-1,3-Dichloropropene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Toluene	EPA 8260	<50	ug/kg	MQS	07/02/2009
trans-1,3-Dichloropropene	EPA 8260	<100	ug/kg	MQS	07/02/2009
1,1,2-Trichloroethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
2-Hexanone	EPA 8260	<1300	ug/kg	MQS	07/02/2009
1,3-Dichloropropane	EPA 8260	<50	ug/kg	MQS	07/02/2009
Tetrachloroethene	EPA 8260	<50	ug/kg	MQS	07/02/2009



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Date Received: **07/01/2009**  
 Date Reported: **07/06/2009**  
 Work Order No.: **0907-00007**

Sample ID: **GZ-24 Dr-Cut**

Sample No.: **003**

Sample Date: **06/29/2009**

Test Performed	Method	Results	Units	Tech	Analysis Date
Dibromochloromethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,2-Dibromoethane (EDB)	EPA 8260	<100	ug/kg	MQS	07/02/2009
Chlorobenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
Ethylbenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
m&p-Xylene	EPA 8260	<100	ug/kg	MQS	07/02/2009
o-Xylene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Styrene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Bromoform	EPA 8260	<100	ug/kg	MQS	07/02/2009
Isopropylbenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,2,3-Trichloropropane	EPA 8260	<50	ug/kg	MQS	07/02/2009
Bromobenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
n-Propylbenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
2-Chlorotoluene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,3,5-Trimethylbenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
4-Chlorotoluene	EPA 8260	<50	ug/kg	MQS	07/02/2009
tert-Butylbenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,2,4-Trimethylbenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
sec-Butylbenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
p-Isopropyltoluene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,3-Dichlorobenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,4-Dichlorobenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
n-Butylbenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,2-Dichlorobenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<250	ug/kg	MQS	07/02/2009
1,2,4-Trichlorobenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Hexachlorobutadiene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Naphthalene	EPA 8260	<100	ug/kg	MQS	07/02/2009
1,2,3-Trichlorobenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	94.6	% R	MQS	07/02/2009
***Toluene-D8	EPA 8260	102	% R	MQS	07/02/2009
***4-Bromofluorobenzene	EPA 8260	100	% R	MQS	07/02/2009
Preparation	EPA 5035	10	CF	MQS	07/01/2009
PERCENT SOLID		86.2	%	TAJ	07/02/2009





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Date Received: **07/01/2009**  
 Date Reported: **07/06/2009**  
 Work Order No.: **0907-00007**

Sample ID: **GZ-26 Dr-Cut**  
 Sample Date: **06/30/2009**

Sample No.: **004**

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			MQS	07/02/2009
Dichlorodifluoromethane	EPA 8260	<110	ug/kg	MQS	07/02/2009
Chloromethane	EPA 8260	<110	ug/kg	MQS	07/02/2009
Vinyl Chloride	EPA 8260	<55	ug/kg	MQS	07/02/2009
Bromomethane	EPA 8260	<110	ug/kg	MQS	07/02/2009
Chloroethane	EPA 8260	<55	ug/kg	MQS	07/02/2009
Trichlorofluoromethane	EPA 8260	<110	ug/kg	MQS	07/02/2009
Diethylether	EPA 8260	<280	ug/kg	MQS	07/02/2009
Acetone	EPA 8260	<1400	ug/kg	MQS	07/02/2009
1,1-Dichloroethene	EPA 8260	<55	ug/kg	MQS	07/02/2009
Dichloromethane	EPA 8260	<110	ug/kg	MQS	07/02/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<55	ug/kg	MQS	07/02/2009
trans-1,2-Dichloroethene	EPA 8260	<55	ug/kg	MQS	07/02/2009
1,1-Dichloroethane	EPA 8260	<55	ug/kg	MQS	07/02/2009
2-Butanone	EPA 8260	<1400	ug/kg	MQS	07/02/2009
2,2-Dichloropropane	EPA 8260	<55	ug/kg	MQS	07/02/2009
cis-1,2-Dichloroethene	EPA 8260	<55	ug/kg	MQS	07/02/2009
Chloroform	EPA 8260	<55	ug/kg	MQS	07/02/2009
Bromochloromethane	EPA 8260	<55	ug/kg	MQS	07/02/2009
Tetrahydrofuran	EPA 8260	<550	ug/kg	MQS	07/02/2009
1,1,1-Trichloroethane	EPA 8260	<55	ug/kg	MQS	07/02/2009
1,1-Dichloropropene	EPA 8260	<55	ug/kg	MQS	07/02/2009
Carbon Tetrachloride	EPA 8260	<55	ug/kg	MQS	07/02/2009
1,2-Dichloroethane	EPA 8260	<55	ug/kg	MQS	07/02/2009
Benzene	EPA 8260	<55	ug/kg	MQS	07/02/2009
Trichloroethene	EPA 8260	<55	ug/kg	MQS	07/02/2009
1,2-Dichloropropane	EPA 8260	<55	ug/kg	MQS	07/02/2009
Bromodichloromethane	EPA 8260	<55	ug/kg	MQS	07/02/2009
Dibromomethane	EPA 8260	<55	ug/kg	MQS	07/02/2009
4-Methyl-2-Pentanone	EPA 8260	<1400	ug/kg	MQS	07/02/2009
cis-1,3-Dichloropropene	EPA 8260	<55	ug/kg	MQS	07/02/2009
Toluene	EPA 8260	<55	ug/kg	MQS	07/02/2009
trans-1,3-Dichloropropene	EPA 8260	<110	ug/kg	MQS	07/02/2009
1,1,2-Trichloroethane	EPA 8260	<55	ug/kg	MQS	07/02/2009
2-Hexanone	EPA 8260	<1400	ug/kg	MQS	07/02/2009
1,3-Dichloropropane	EPA 8260	<55	ug/kg	MQS	07/02/2009
Tetrachloroethene	EPA 8260	<55	ug/kg	MQS	07/02/2009



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Date Received: **07/01/2009**  
 Date Reported: **07/06/2009**  
 Work Order No.: **0907-00007**

Sample ID: **GZ-26 Dr-Cut**  
 Sample Date: **06/30/2009**

Sample No.: **004**

Test Performed	Method	Results	Units	Tech	Analysis Date
Dibromochloromethane	EPA 8260	<55	ug/kg	MQS	07/02/2009
1,2-Dibromoethane (EDB)	EPA 8260	<110	ug/kg	MQS	07/02/2009
Chlorobenzene	EPA 8260	<55	ug/kg	MQS	07/02/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<55	ug/kg	MQS	07/02/2009
Ethylbenzene	EPA 8260	<55	ug/kg	MQS	07/02/2009
m&p-Xylene	EPA 8260	<110	ug/kg	MQS	07/02/2009
o-Xylene	EPA 8260	<55	ug/kg	MQS	07/02/2009
Styrene	EPA 8260	<55	ug/kg	MQS	07/02/2009
Bromoform	EPA 8260	<110	ug/kg	MQS	07/02/2009
Isopropylbenzene	EPA 8260	<55	ug/kg	MQS	07/02/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<55	ug/kg	MQS	07/02/2009
1,2,3-Trichloropropane	EPA 8260	<55	ug/kg	MQS	07/02/2009
Bromobenzene	EPA 8260	<55	ug/kg	MQS	07/02/2009
n-Propylbenzene	EPA 8260	<55	ug/kg	MQS	07/02/2009
2-Chlorotoluene	EPA 8260	<55	ug/kg	MQS	07/02/2009
1,3,5-Trimethylbenzene	EPA 8260	<55	ug/kg	MQS	07/02/2009
4-Chlorotoluene	EPA 8260	<55	ug/kg	MQS	07/02/2009
tert-Butylbenzene	EPA 8260	<55	ug/kg	MQS	07/02/2009
1,2,4-Trimethylbenzene	EPA 8260	<55	ug/kg	MQS	07/02/2009
sec-Butylbenzene	EPA 8260	<55	ug/kg	MQS	07/02/2009
p-Isopropyltoluene	EPA 8260	<55	ug/kg	MQS	07/02/2009
1,3-Dichlorobenzene	EPA 8260	<55	ug/kg	MQS	07/02/2009
1,4-Dichlorobenzene	EPA 8260	<55	ug/kg	MQS	07/02/2009
n-Butylbenzene	EPA 8260	<55	ug/kg	MQS	07/02/2009
1,2-Dichlorobenzene	EPA 8260	<55	ug/kg	MQS	07/02/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<280	ug/kg	MQS	07/02/2009
1,2,4-Trichlorobenzene	EPA 8260	<55	ug/kg	MQS	07/02/2009
Hexachlorobutadiene	EPA 8260	<55	ug/kg	MQS	07/02/2009
Naphthalene	EPA 8260	<110	ug/kg	MQS	07/02/2009
1,2,3-Trichlorobenzene	EPA 8260	<55	ug/kg	MQS	07/02/2009
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	96.4	% R	MQS	07/02/2009
***Toluene-D8	EPA 8260	101	% R	MQS	07/02/2009
***4-Bromofluorobenzene	EPA 8260	102	% R	MQS	07/02/2009
Preparation	EPA 5035	11	CF	MQS	07/01/2009
PERCENT SOLID		83.7	%	TAJ	07/02/2009



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Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **07/01/2009**  
 Date Reported: **07/06/2009**  
 Work Order No.: **0907-00007**

Sample ID: **GZ-26 S-16**  
 Sample Date: **06/30/2009**

Sample No.: **005**

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			MQS	07/02/2009
Dichlorodifluoromethane	EPA 8260	<100	ug/kg	MQS	07/02/2009
Chloromethane	EPA 8260	<100	ug/kg	MQS	07/02/2009
Vinyl Chloride	EPA 8260	<50	ug/kg	MQS	07/02/2009
Bromomethane	EPA 8260	<100	ug/kg	MQS	07/02/2009
Chloroethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
Trichlorofluoromethane	EPA 8260	<100	ug/kg	MQS	07/02/2009
Diethylether	EPA 8260	<250	ug/kg	MQS	07/02/2009
Acetone	EPA 8260	<1300	ug/kg	MQS	07/02/2009
1,1-Dichloroethene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Dichloromethane	EPA 8260	<100	ug/kg	MQS	07/02/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<50	ug/kg	MQS	07/02/2009
trans-1,2-Dichloroethene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,1-Dichloroethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
2-Butanone	EPA 8260	<1300	ug/kg	MQS	07/02/2009
2,2-Dichloropropane	EPA 8260	<50	ug/kg	MQS	07/02/2009
cis-1,2-Dichloroethene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Chloroform	EPA 8260	<50	ug/kg	MQS	07/02/2009
Bromochloromethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
Tetrahydrofuran	EPA 8260	<500	ug/kg	MQS	07/02/2009
1,1,1-Trichloroethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,1-Dichloropropene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Carbon Tetrachloride	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,2-Dichloroethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
Benzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Trichloroethene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,2-Dichloropropane	EPA 8260	<50	ug/kg	MQS	07/02/2009
Bromodichloromethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
Dibromomethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
4-Methyl-2-Pentanone	EPA 8260	<1300	ug/kg	MQS	07/02/2009
cis-1,3-Dichloropropene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Toluene	EPA 8260	<50	ug/kg	MQS	07/02/2009
trans-1,3-Dichloropropene	EPA 8260	<100	ug/kg	MQS	07/02/2009
1,1,2-Trichloroethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
2-Hexanone	EPA 8260	<1300	ug/kg	MQS	07/02/2009
1,3-Dichloropropane	EPA 8260	<50	ug/kg	MQS	07/02/2009
Tetrachloroethene	EPA 8260	<50	ug/kg	MQS	07/02/2009



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 Date Reported: **07/06/2009**  
 Work Order No.: **0907-00007**

Sample ID: **GZ-26 S-16**

Sample No.: **005**

Sample Date: **06/30/2009**

Test Performed	Method	Results	Units	Tech	Analysis Date
Dibromochloromethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,2-Dibromoethane (EDB)	EPA 8260	<100	ug/kg	MQS	07/02/2009
Chlorobenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
Ethylbenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
m&p-Xylene	EPA 8260	<100	ug/kg	MQS	07/02/2009
o-Xylene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Styrene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Bromoform	EPA 8260	<100	ug/kg	MQS	07/02/2009
Isopropylbenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,2,3-Trichloropropane	EPA 8260	<50	ug/kg	MQS	07/02/2009
Bromobenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
n-Propylbenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
2-Chlorotoluene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,3,5-Trimethylbenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
4-Chlorotoluene	EPA 8260	<50	ug/kg	MQS	07/02/2009
tert-Butylbenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,2,4-Trimethylbenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
sec-Butylbenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
p-Isopropyltoluene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,3-Dichlorobenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,4-Dichlorobenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
n-Butylbenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,2-Dichlorobenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<250	ug/kg	MQS	07/02/2009
1,2,4-Trichlorobenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Hexachlorobutadiene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Naphthalene	EPA 8260	<100	ug/kg	MQS	07/02/2009
1,2,3-Trichlorobenzene	EPA 8260	<50	ug/kg	MQS	07/02/2009
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	100	% R	MQS	07/02/2009
***Toluene-D8	EPA 8260	104	% R	MQS	07/02/2009
***4-Bromofluorobenzene	EPA 8260	103	% R	MQS	07/02/2009
Preparation	EPA 5035	10	CF	MQS	07/01/2009
PERCENT SOLID		88.9	%	TAJ	07/02/2009



# CHAIN-OF-CUSTODY RECORD

Sols

W.O. # 0907-0007  
(for lab use only)

Sample I.D.	Date/Time Sampled	Matrix A=Air S=Soil GM=Ground W. SW=Surface W. WW=Waste W. DW=Drinking W. P=Product Other (Specify)	ANALYSIS REQUIRED															Total # of Cont.	Note #													
			<input type="checkbox"/> pH	<input type="checkbox"/> 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	<input type="checkbox"/> 601 <input type="checkbox"/> 602 WW VOCs	EPA 8270 FULL SVOCs	EPA 8270 <input type="checkbox"/> PAH <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> N	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 <input type="checkbox"/> PPM-13 <input type="checkbox"/> R-8	MCP 14 Metals (MA)	Metals (List Below)**	TCLP - Specify Below	SPLP - Specify Below	EPA 300 <input type="checkbox"/> CI <input type="checkbox"/> SO4	EPA 300 <input type="checkbox"/> NO2 <input type="checkbox"/> NO3		
GZ-25 DR-CUT	06/29/09 11:30	S	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2		
GZ-25 S-22	06/29/09 11:00	S	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2	
GZ-25 DW	06/29/09 11:30	DW	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	3	
GZ-24 DR-CUT	06/29/09 14:00	S	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2	
TB	6/29/09 11:00	DW	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	3	
GZ-26 DR-WTR	6/30/09 11:00	GW	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	3	
GZ-26 DR-CUT	6/30/09 11:00	S	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2	
GZ-23 S-	6/30/09 11:00	S	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2	

WAL

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

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)\*

RELINQUISHED BY: (AFFILIATION) DATE/TIME RECEIVED BY: (AFFILIATION)

RELINQUISHED BY: (AFFILIATION) DATE/TIME RECEIVED BY: (AFFILIATION)

RELINQUISHED BY: (AFFILIATION) DATE/TIME RECEIVED BY: (AFFILIATION)

RELINQUISHED BY: (AFFILIATION) DATE/TIME RECEIVED BY: (AFFILIATION)

PROJECT MANAGER: M. W. Healy EXT:

Spate Adams

GZA GEOENVIRONMENTAL, INC.  
Laboratory Division

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

TRAINAROUND TIME: Standard Rusts 3 Days, Approved by

LAB USE: TEMP. OF COOLER 26 °C Temp Blank Cooler Air

PROJECT: Lagoon - S Remediation - Chestnut Facility

LOCATION: Wttn Rhode Island

COLLECTOR(S): Spate Adams

GZA FILE NO: 32795.36 TASK NO: P.O. NO: 7/1/09 11:30

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.  
530 Broadway  
Providence, RI 02909

Steve Andrus / Mike Healy

Project No.: **03.0032795.36**  
Work Order No.: **0907-00008**  
Date Received: **07/01/2009**  
Date Reported: **07/10/2009**

**SAMPLE INFORMATION**

Date Sampled	Matrix	Laboratory ID	Sample ID
06/29/2009	Aqueous	0907-00008 001	GZ-25 DW
06/29/2009	Aqueous	0907-00008 002	TB
06/30/2009	Aqueous	0907-00008 003	GZ-26 Dr-WTR



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

**ANALYTICAL REPORT**

GZA GeoEnvironmental, Inc.  
530 Broadway  
Providence, RI 02909

Steve Andrus / Mike Healy

Project Name.: **Charbert Lag. 5 Remediation**  
Project No.: **03.0032795.36**

Date Received: **07/01/2009**  
Date Reported: **07/10/2009**  
Work Order No.: **0907-00008**

---

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 07/01/09 via  GZA courier,  EC,  FEDEX, or  hand delivered. The temperature of the  temperature blank/ cooler air, was 2.6 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 07/09/09 S - Aqueous





**ANALYTICAL REPORT**

GZA GeoEnvironmental, Inc.  
530 Broadway  
Providence, RI 02909

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Project Name.: **Charbert Lag. 5 Remediation**

Date Received: **07/01/2009**

Date Reported: **07/10/2009**

Project No.: **03.0032795.36**

Work Order No.: **0907-00008**

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 6010B.

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

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

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.



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus / Mike Healy

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **07/01/2009**  
 Date Reported: **07/10/2009**  
 Work Order No.: **0907-00008**

Sample ID: **GZ-25 DW**  
 Sample Date: **06/29/2009**

Sample No.: **001**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	07/10/2009
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
Diethylether	EPA 8260	<5.0	5.0	ug/L	MQS	07/10/2009
Acetone	EPA 8260	<25	25	ug/L	MQS	07/10/2009
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
2-Butanone	EPA 8260	<25	25	ug/L	MQS	07/10/2009
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
cis-1,2-Dichloroethene	EPA 8260	1.0	1.0	ug/L	MQS	07/10/2009
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	07/10/2009
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
4-Methyl-2-Pentanone	EPA 8260	<25	25	ug/L	MQS	07/10/2009
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Toluene	EPA 8260	1.1	1.0	ug/L	MQS	07/10/2009
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
2-Hexanone	EPA 8260	<25	25	ug/L	MQS	07/10/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 530 Broadway  
 Providence, RI 02909

Steve Andrus / Mike Healy

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **07/01/2009**  
 Date Reported: **07/10/2009**  
 Work Order No.: **0907-00008**

Sample ID: **GZ-25 DW**

Sample No.: **001**

Sample Date: **06/29/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	07/10/2009
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	92.0	70-130	% R	MQS	07/10/2009
***Toluene-D8	EPA 8260	100	70-130	% R	MQS	07/10/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
530 Broadway  
Providence, RI 02909

Steve Andrus / Mike Healy

Project Name.: **Charbert Lag. 5 Remediation**  
Project No.: **03.0032795.36**

Date Received: **07/01/2009**  
Date Reported: **07/10/2009**  
Work Order No.: **0907-00008**

Sample ID: **GZ-25 DW**  
Sample Date: **06/29/2009**

Sample No.: **001**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	99.3	70-130	% R	MQS	07/10/2009
Preparation	EPA 5030B	1.0		CF	MQS	07/09/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
530 Broadway  
Providence, RI 02909

Steve Andrus / Mike Healy

Project Name.: **Charbert Lag. 5 Remediation**  
Project No.: **03.0032795.36**

Date Received: **07/01/2009**  
Date Reported: **07/10/2009**  
Work Order No.: **0907-00008**

Sample ID: **TB**  
Sample Date: **06/29/2009**

Sample No.: **002**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	07/10/2009
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
Diethylether	EPA 8260	<5.0	5.0	ug/L	MQS	07/10/2009
Acetone	EPA 8260	<25	25	ug/L	MQS	07/10/2009
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
2-Butanone	EPA 8260	<25	25	ug/L	MQS	07/10/2009
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
cis-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	07/10/2009
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
4-Methyl-2-Pentanone	EPA 8260	<25	25	ug/L	MQS	07/10/2009
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Toluene	EPA 8260	1.1	1.0	ug/L	MQS	07/10/2009
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
2-Hexanone	EPA 8260	<25	25	ug/L	MQS	07/10/2009



ANALYTICAL REPORT

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 530 Broadway  
 Providence, RI 02909

Steve Andrus / Mike Healy

Project Name.: **Charbert Lag. 5 Remediation**  
 Project No.: **03.0032795.36**

Date Received: **07/01/2009**  
 Date Reported: **07/10/2009**  
 Work Order No.: **0907-00008**

Sample ID: **TB**

Sample No.: **002**

Sample Date: **06/29/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	07/10/2009
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	93.3	70-130	% R	MQS	07/10/2009
***Toluene-D8	EPA 8260	100	70-130	% R	MQS	07/10/2009



ANALYTICAL REPORT

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Project Name.: **Charbert Lag. 5 Remediation**  
Project No.: **03.0032795.36**

Date Received: **07/01/2009**  
Date Reported: **07/10/2009**  
Work Order No.: **0907-00008**

Sample ID: **TB**  
Sample Date: **06/29/2009**

Sample No.: **002**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	100	70-130	% R	MQS	07/10/2009
Preparation	EPA 5030B	1.0		CF	MQS	07/09/2009



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Date Received: **07/01/2009**  
Date Reported: **07/10/2009**  
Work Order No.: **0907-00008**

Sample ID: **GZ-26 Dr-WTR**  
Sample Date: **06/30/2009**

Sample No.: **003**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	07/10/2009
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
Diethylether	EPA 8260	<5.0	5.0	ug/L	MQS	07/10/2009
Acetone	EPA 8260	<25	25	ug/L	MQS	07/10/2009
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
2-Butanone	EPA 8260	<25	25	ug/L	MQS	07/10/2009
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
cis-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	07/10/2009
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
4-Methyl-2-Pentanone	EPA 8260	<25	25	ug/L	MQS	07/10/2009
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Toluene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
2-Hexanone	EPA 8260	<25	25	ug/L	MQS	07/10/2009





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Date Received: **07/01/2009**  
Date Reported: **07/10/2009**  
Work Order No.: **0907-00008**

Sample ID: **GZ-26 Dr-WTR**  
Sample Date: **06/30/2009**

Sample No.: **003**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	07/10/2009
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	07/10/2009
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	07/10/2009
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	97.5	70-130	% R	MQS	07/10/2009
***Toluene-D8	EPA 8260	99.0	70-130	% R	MQS	07/10/2009



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Project Name.: **Charbert Lag. 5 Remediation**  
Project No.: **03.0032795.36**

Date Received: **07/01/2009**  
Date Reported: **07/10/2009**  
Work Order No.: **0907-00008**

Sample ID: **GZ-26 Dr-WTR**

Sample No.: **003**

Sample Date: **06/30/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	101	70-130	% R	MQS	07/10/2009
Preparation	EPA 5030B	1.0		CF	MQS	07/09/2009

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: 7/9/2009			Date Analyzed: 7/9/2009			Date Analyzed: 7/9/2009			RPD	Limit	Verdict	
Conc. ug/L	Acceptance Limit		Spike Concentration = 20ug/L	% Recovery	Acceptance Limits	Verdict	% Recovery	Acceptance Limits	Verdict			
Volatile Organics	< 1.0	< 1.0	dichlorodifluoromethane	78.4	70-130	ok	74.3	70-130	ok	2.83	<25	ok
dichlorodifluoromethane	< 1.0	< 1.0	chloromethane	97.4	70-130	ok	98.8	70-130	ok	1.19	<25	ok
chloromethane	< 0.5	< 0.5	vinyl chloride	87.9	80-120	ok	88.3	70-130	ok	0.53	<25	ok
vinyl chloride	< 1.0	< 1.0	bromomethane	84.2	70-130	ok	81.5	70-130	ok	3.16	<25	ok
bromomethane	< 0.5	< 0.5	chloroethane	80.8	70-130	ok	80.5	70-130	ok	0.36	<25	ok
chloroethane	< 1.0	< 1.0	trichlorofluoromethane	78.5	70-130	ok	78.7	70-130	ok	0.25	<25	ok
trichlorofluoromethane	< 2.5	< 2.5	diethyl ether	94.3	70-130	ok	97.1	70-130	ok	2.86	<25	ok
diethyl ether	< 13	< 13	acetone	102	70-130	ok	102	70-130	ok	0.96	<25	ok
acetone	< 0.5	< 0.5	1,1-dichloroethane	87.4	80-120	ok	88.1	70-130	ok	0.83	<25	ok
1,1-dichloroethane	< 1.0	< 1.0	FREON-113	81.2	70-130	ok	82.2	70-130	ok	1.21	<25	ok
FREON-113	< 0.5	< 0.5	iodomethane	75.5	70-130	ok	75.6	70-130	ok	0.16	<25	ok
iodomethane	< 5.0	< 5.0	carbon disulfide	95.5	70-130	ok	94.2	70-130	ok	1.36	<25	ok
carbon disulfide	< 1.0	< 1.0	dichloromethane	91.9	70-130	ok	91.9	70-130	ok	0.01	<25	ok
dichloromethane	< 13	< 13	tert-butyl alcohol (TBA)	91.7	70-130	ok	87.9	70-130	ok	4.28	<25	ok
tert-butyl alcohol (TBA)	< 0.5	< 0.5	acrylonitrile	99.0	70-130	ok	99.9	70-130	ok	0.84	<25	ok
acrylonitrile	< 0.5	< 0.5	methyl-tert-butyl-ether	91.5	70-130	ok	89.8	70-130	ok	1.89	<25	ok
methyl-tert-butyl-ether	< 0.5	< 0.5	trans-1,2-dichloroethane	100.0	70-130	ok	99.7	70-130	ok	0.31	<25	ok
trans-1,2-dichloroethane	< 0.5	< 0.5	1,1-dichloroethane	92.8	70-130	ok	96.6	70-130	ok	1.94	<25	ok
1,1-dichloroethane	< 1.0	< 1.0	di-isopropyl ether (DIPE)	101	70-130	ok	101	70-130	ok	0.28	<25	ok
di-isopropyl ether (DIPE)	< 1.0	< 1.0	ethyl tert-butyl ether (EIBE)	89.5	70-130	ok	89.4	70-130	ok	0.07	<25	ok
ethyl tert-butyl ether (EIBE)	< 13	< 13	vinyl acetate	82.6	70-130	ok	85.5	70-130	ok	3.47	<25	ok
vinyl acetate	< 13	< 13	2-butanone	111	70-130	ok	112	70-130	ok	0.84	<25	ok
2-butanone	< 0.5	< 0.5	2,2-dichloropropane	93.5	70-130	ok	90.3	70-130	ok	3.54	<25	ok
2,2-dichloropropane	< 0.5	< 0.5	cis-1,2-dichloroethane	89.0	70-130	ok	88.6	70-130	ok	0.39	<25	ok
cis-1,2-dichloroethane	< 0.5	< 0.5	chloroform	85.6	80-120	ok	85.8	70-130	ok	0.32	<25	ok
chloroform	< 5.0	< 5.0	bromochloromethane	83.3	70-130	ok	84.3	70-130	ok	1.20	<25	ok
bromochloromethane	< 0.5	< 0.5	tetrahydrofuran	102	70-130	ok	103	70-130	ok	1.28	<25	ok
tetrahydrofuran	< 0.5	< 0.5	1,1,1-trichloroethane	80.9	70-130	ok	80.4	70-130	ok	0.73	<25	ok
1,1,1-trichloroethane	< 0.5	< 0.5	1,1-dichloropropene	92.9	70-130	ok	93.0	70-130	ok	0.03	<25	ok
1,1-dichloropropene	< 0.5	< 0.5	carbon tetrachloride	77.1	70-130	ok	77.6	70-130	ok	0.63	<25	ok
carbon tetrachloride	< 0.5	< 0.5	1,2-dichloroethane	81.0	70-130	ok	81.8	70-130	ok	0.97	<25	ok
1,2-dichloroethane	< 0.5	< 0.5	benzene	100.0	70-130	ok	101	70-130	ok	1.04	<25	ok
benzene	< 1.0	< 1.0	tert-amyl methyl ether (TAME)	88.6	70-130	ok	89.1	70-130	ok	0.55	<25	ok
tert-amyl methyl ether (TAME)	< 0.5	< 0.5	trichloroethane	85.6	70-130	ok	84.7	70-130	ok	1.09	<25	ok
trichloroethane	< 0.5	< 0.5	1,2-dichloropropane	101	80-120	ok	102	70-130	ok	0.83	<25	ok
1,2-dichloropropane	< 0.5	< 0.5	bromodichloromethane	84.8	70-130	ok	83.6	70-130	ok	1.40	<25	ok
bromodichloromethane	< 50	< 50	1,4-Dioxane	88.8	70-130	ok	102	70-130	ok	13.7	<25	ok
1,4-Dioxane	< 0.5	< 0.5	dibromomethane	86.9	70-130	ok	85.8	70-130	ok	1.30	<25	ok
dibromomethane	< 13	< 13	4-methyl-2-pentanone	97.3	70-130	ok	97.3	70-130	ok	0.09	<25	ok
4-methyl-2-pentanone	< 0.5	< 0.5	cis-1,3-dichloropropene	92.6	70-130	ok	92.8	70-130	ok	0.22	<25	ok
cis-1,3-dichloropropene	< 0.5	< 0.5	toluene	84.9	80-120	ok	85.9	70-130	ok	1.04	<25	ok
toluene	< 1.0	< 1.0	trans-1,3-dichloropropene	88.1	70-130	ok	89.1	70-130	ok	1.14	<25	ok
trans-1,3-dichloropropene	< 0.5	< 0.5	1,1,2-trichloroethane	91.9	70-130	ok	92.3	70-130	ok	0.48	<25	ok
1,1,2-trichloroethane	< 13	< 13	2-hexanone	99.2	70-130	ok	98.5	70-130	ok	0.70	<25	ok
2-hexanone	< 0.5	< 0.5	1,3-dichloropropane	98.9	70-130	ok	98.5	70-130	ok	0.47	<25	ok
1,3-dichloropropane	< 0.5	< 0.5	tetrachloroethane	88.2	70-130	ok	86.4	70-130	ok	2.03	<25	ok
tetrachloroethane	< 0.5	< 0.5	dibromochloromethane	82.9	70-130	ok	81.9	70-130	ok	1.14	<25	ok
dibromochloromethane	< 1.0	< 1.0	1,2-dibromoethane (EDB)	90.9	70-130	ok	91.2	70-130	ok	0.31	<25	ok
1,2-dibromoethane (EDB)	< 0.5	< 0.5	chlorobenzene	88.0	70-130	ok	88.3	70-130	ok	2.01	<25	ok
chlorobenzene	< 0.5	< 0.5	1,1,1,2-tetrachloroethane	79.0	70-130	ok	78.0	70-130	ok	1.29	<25	ok
1,1,1,2-tetrachloroethane	< 0.5	< 0.5	ethylbenzene	92.6	80-120	ok	90.4	70-130	ok	2.40	<25	ok
ethylbenzene	< 0.5	< 0.5	1,1,2,2-tetrachloroethane	99.8	70-130	ok	95.7	70-130	ok	4.16	<25	ok
1,1,2,2-tetrachloroethane	< 1.0	< 1.0	m&p-xylene	90.8	70-130	ok	89.3	70-130	ok	1.88	<25	ok
m&p-xylene	< 0.5	< 0.5	o-xylene	104	70-130	ok	104	70-130	ok	0.30	<25	ok
o-xylene	< 0.5	< 0.5	styrene	107	70-130	ok	108	70-130	ok	0.60	<25	ok
styrene	< 1.0	< 1.0	bromoform	97.2	70-130	ok	97.3	70-130	ok	0.12	<25	ok
bromoform	< 0.5	< 0.5	isopropylbenzene	120	70-130	ok	120	70-130	ok	0.57	<25	ok
isopropylbenzene	< 0.5	< 0.5	1,2,3-trichloropropane	100	70-130	ok	98.8	70-130	ok	1.39	<25	ok
1,2,3-trichloropropane	< 0.5	< 0.5	bromobenzene	96.8	70-130	ok	98.7	70-130	ok	1.85	<25	ok
bromobenzene	< 0.5	< 0.5	n-propylbenzene	114	70-130	ok	114	70-130	ok	0.46	<25	ok
n-propylbenzene	< 0.5	< 0.5	2-chlorotoluene	105	70-130	ok	106	70-130	ok	1.02	<25	ok
2-chlorotoluene	< 0.5	< 0.5	1,3,5-trimethylbenzene	104	70-130	ok	103	70-130	ok	0.48	<25	ok
1,3,5-trimethylbenzene	< 1.0	< 1.0	trans-1,4-dichloro-2-butene	103	70-130	ok	108	70-130	ok	2.95	<25	ok
trans-1,4-dichloro-2-butene	< 0.5	< 0.5	4-chlorotoluene	107	70-130	ok	107	70-130	ok	0.03	<25	ok
4-chlorotoluene	< 0.5	< 0.5	tert-butyl-benzene	95.7	70-130	ok	93.2	70-130	ok	2.68	<25	ok
tert-butyl-benzene	< 0.5	< 0.5	1,2,4-trimethylbenzene	102	70-130	ok	101	70-130	ok	0.77	<25	ok
1,2,4-trimethylbenzene	< 0.5	< 0.5	sec-butyl-benzene	104	70-130	ok	102	70-130	ok	1.76	<25	ok
sec-butyl-benzene	< 0.5	< 0.5	p-isopropyltoluene	97.8	70-130	ok	96.4	70-130	ok	1.49	<25	ok
p-isopropyltoluene	< 0.5	< 0.5	1,3-dichlorobenzene	98.6	70-130	ok	97.2	70-130	ok	1.49	<25	ok
1,3-dichlorobenzene	< 0.5	< 0.5	1,4-dichlorobenzene	98.3	70-130	ok	97.0	70-130	ok	1.41	<25	ok
1,4-dichlorobenzene	< 0.5	< 0.5	n-butylbenzene	108	70-130	ok	107	70-130	ok	1.12	<25	ok
n-butylbenzene	< 0.5	< 0.5	1,2-dichlorobenzene	94.4	70-130	ok	94.3	70-130	ok	0.08	<25	ok
1,2-dichlorobenzene	< 2.5	< 2.5	1,2-dibromo-3-chloropropane	95.0	70-130	ok	98.9	70-130	ok	4.00	<25	ok
1,2-dibromo-3-chloropropane	< 0.5	< 0.5	1,3,5-trichlorobenzene	101	70-130	ok	99.3	70-130	ok	1.39	<25	ok
1,3,5-trichlorobenzene	< 0.5	< 0.5	1,2,4-trichlorobenzene	104	70-130	ok	104	70-130	ok	0.28	<25	ok
1,2,4-trichlorobenzene	< 0.5	< 0.5	hexachlorobutadiene	104	70-130	ok	104	70-130	ok	0.47	<25	ok
hexachlorobutadiene	< 1.0	< 1.0	naphthalene	92.1	70-130	ok	92.7	70-130	ok	0.83	<25	ok
naphthalene	< 0.5	< 0.5	1,2,3-trichlorobenzene	98.5	70-130	ok	97.3	70-130	ok	1.28	<25	ok
1,2,3-trichlorobenzene	< 0.5	< 0.5										

Surrogates:	Recovery (%)	Acceptance Limits	Surrogates:	Recovery (%)	Acceptance Limits	Verdict	Recovery (%)	Acceptance Limits	Verdict	RPD	Limits	Verdict
DIBROMOFLUOROMETHANE	92.5	70-130	DIBROMOFLUOROMETHANE	89.5	70-130	ok	88.9	70-130	ok	0.59	<25	ok
1,2-DICHLOROETHANE-D4	102	70-130	1,2-DICHLOROETHANE-D4	93.7	70-130	ok	96.4	70-130	ok	2.88	<25	ok
TOLUENE-D8	99.3	70-130	TOLUENE-D8	98.0	70-130	ok	98.6	70-130	ok	0.70	<25	ok
4-BROMOFLUOROBENZENE	96.8	70-130	4-BROMOFLUOROBENZENE	104	70-130	ok	106	70-130	ok	1.39	<25	ok
1,2-DICHLOROBENZENE-D4	94.1	70-130	1,2-DICHLOROBENZENE-D4	98.5	70-130	ok	95.8	70-130	ok	2.72	<25	ok

**CHAIN-OF-CUSTODY RECORD**

**W.O. #** 0807-0008  
(for lab use only)

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																		Total # of Cont.	Note #															
			<input type="checkbox"/> pH <input type="checkbox"/> 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	<input type="checkbox"/> 601 <input type="checkbox"/> 602 WW VOCs	EPA 8270 FULL SVOCs	EPA 8270 J PAH J A J 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 <input type="checkbox"/> PPM-13 <input type="checkbox"/> R-6	MCP 14 Metals (MA)	Metals (List Below)**	TCLP - Specify Below	SPLP - Specify Below	EPA 300 <input type="checkbox"/> Cl <input type="checkbox"/> SO4	EPA 300 <input type="checkbox"/> NO2 <input type="checkbox"/> NO3								
GZ-25 DR-CUT	06/29/09 11:30	S																																			2
GZ-25 S-22	06/29/09 11:00	S																																		2	
GZ-25 DW	06/29/09 11:30	WW																																		3	
GZ-24 DR-CUT	06/29/09 14:00	S																																		2	
TB	6/29/09	WW																																		3	
GZ-26 DR-WTR	6/30/09 11:00	GW																																		2	
GZ-26 DR-CUT	6/30/09 11:00	S																																		2	
GZ-28 S-	6/30/09 11:00	S																																		2	

*CWS*

NOTES: Unless otherwise noted, all samples have been refrigerated to 4° C)  
\*Specify "Other" preservatives and containers types in this space.

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)\*

RELINQUISHED BY: (AFFILIATION) DATE/TIME RECEIVED BY: (AFFILIATION)  
*ATM/Quinn 6/30/1000 - [Signature]*

RELINQUISHED BY: (AFFILIATION) DATE/TIME RECEIVED BY: (AFFILIATION)  
*Quinn 6/30/11/09 0900 Bob Bussan*

RELINQUISHED BY: (AFFILIATION) DATE/TIME RECEIVED BY: (AFFILIATION)  
*Bob Bussan 7/1/10 11:00 [Signature]*

PROJECT MANAGER: *Mike Healy* EXT: \_\_\_\_\_  
*Steve Adams*

**GZA GEOENVIRONMENTAL, INC.**  
Laboratory Division

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

TURNAROUND TIME: Standard 5 Days, Approved by \_\_\_\_\_  
LAB USE: \_\_\_\_\_ TEMP. OF COOLER 2.6 °C Temp Blank  
GZA FILE NO: 0807-32795-36 TASK NO: \_\_\_\_\_ P.O. NO. \_\_\_\_\_  
PROJECT: Lagoon - S Remediation - Chestnut Facility  
LOCATION: Attn Rhode Island  
COLLECTOR(S): Steve Adams SHEET 1 OF 1

*7/1/09*  
*11:30*  
*1/6*

WOOD RIVER DIFFUSION BAGS



**CERTIFICATE OF ANALYSIS**

GZA / Geoenvironmental, Inc.  
Attn: Mr. Rick Carlone  
530 Broadway  
Providence, RI 02909

**Date Received:** 9/9/09  
**Date Reported:** 9/15/09  
**P.O. #:**  
**Work Order #:** 0909-16221

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**DESCRIPTION:** PROJECT# 32795.32 CHARBERT

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Subject sample(s) has/have been analyzed by our Warwick, R.I. laboratory with the attached results.

Reference: All parameters were analyzed by U.S. EPA approved methodologies.  
The specific methodologies are listed in the methods column of the Certificate Of Analysis.

Data qualifiers (if present) are explained in full at the end of a given sample's analytical results.

Certification #: RI-033, MA-RI015, CT-PH-0508, ME-RI015  
NH-253700 A & B, USDA S-41844

If you have any questions regarding this work, or if we may be of further assistance, please contact our customer service department.

Approved by:



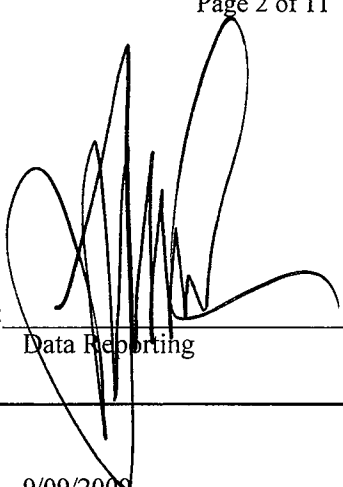
\_\_\_\_\_

Data Reporting

enc. Chain of Custody

**R.I. Analytical Laboratories, Inc.**  
**CERTIFICATE OF ANALYSIS**

GZA / Geoenvironmental, Inc.  
 Date Received: 9/9/09  
 Work Order #: 0909-16221

Approved by: 

Data Reporting

Sample # 001  
**SAMPLE DESCRIPTION:** D-2  
**SAMPLE TYPE:** GRAB

**SAMPLE DATE/TIME:** 9/09/2009

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Volatile Organic Compounds						
Benzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Bromobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Bromochloromethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Bromodichloromethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Bromoform	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Bromomethane	<7	7	ug/l	SW-846 8260B	9/10/09	MMM
n-Butylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Sec-butylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
tert-Butylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Carbon Tetrachloride	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Chlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Chloroethane	<5	5	ug/l	SW-846 8260B	9/10/09	MMM
Chloroform	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Chloromethane	<5	5	ug/l	SW-846 8260B	9/10/09	MMM
2-Chlorotoluene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
4-Chlorotoluene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Dibromochloromethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2-Dibromo-3-Chloropropane	<2	2	ug/l	SW-846 8260B	9/10/09	MMM
1,2-Dibromoethane(EDB)	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Dibromomethane	<2	2	ug/l	SW-846 8260B	9/10/09	MMM
1,2-Dichlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,3-Dichlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,4-Dichlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Dichlorodifluoromethane	<5	5	ug/l	SW-846 8260B	9/10/09	MMM
1,1-Dichloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2-Dichloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1-Dichloroethene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
cis-1,2-Dichloroethene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
trans-1,2-Dichloroethylene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2-Dichloropropane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,3-Dichloropropane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
2,2-Dichloropropane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1-Dichloropropene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Ethylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Hexachlorobutadiene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Isopropylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
p-Isopropyltoluene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM

**R.I. Analytical Laboratories, Inc.**  
**CERTIFICATE OF ANALYSIS**

GZA / Geoenvironmental, Inc.  
 Date Received: 9/9/09  
 Work Order #: 0909-16221

Approved by: \_\_\_\_\_

Data Reporting

Sample # 001  
 SAMPLE DESCRIPTION: D-2  
 SAMPLE TYPE: GRAB

SAMPLE DATE/TIME: 9/09/2009

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Methylene Chloride	<5	5	ug/l	SW-846 8260B	9/10/09	MMM
Naphthalene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
n-Propylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Styrene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1,1,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1,2,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Tetrachloroethene	34	1	ug/l	SW-846 8260B	9/10/09	MMM
Toluene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2,3-Trichlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2,4-Trichlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1,1-Trichloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1,2-Trichloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Trichloroethene	2	1	ug/l	SW-846 8260B	9/10/09	MMM
Trichlorofluoromethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2,3-Trichloropropane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2,4-Trimethylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,3,5-Trimethylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Vinyl Chloride	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
o-Xylene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
m,p-Xylene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Total Xylene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Methyl Tertiary Butyl Ether (MTBE)	<2	2	ug/l	SW-846 8260B	9/10/09	MMM
Surrogates			RANGE	SW-846 8260B	9/10/09	MMM
Dibromofluoromethane	108		86-118%	SW-846 8260B	9/10/09	MMM
Toluene-d8	109		88-110%	SW-846 8260B	9/10/09	MMM
4-Bromofluorobenzene	98		86-115%	SW-846 8260B	9/10/09	MMM
1,2 Dichloroethane-d4	108		80-120%	SW-846 8260B	9/10/09	MMM



**R.I. Analytical Laboratories, Inc.**  
**CERTIFICATE OF ANALYSIS**

GZA / Geoenvironmental, Inc.  
 Date Received: 9/9/09  
 Work Order #: 0909-16221

Approved by: \_\_\_\_\_

Data Reporting

Sample # 002  
**SAMPLE DESCRIPTION:** D-3  
**SAMPLE TYPE:** GRAB

**SAMPLE DATE/TIME:** 9/09/2009

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Volatile Organic Compounds						
Benzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Bromobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Bromochloromethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Bromodichloromethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Bromoform	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Bromomethane	<7	7	ug/l	SW-846 8260B	9/10/09	MMM
n-Butylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Sec-butylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
tert-Butylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Carbon Tetrachloride	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Chlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Chloroethane	<5	5	ug/l	SW-846 8260B	9/10/09	MMM
Chloroform	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Chloromethane	<5	5	ug/l	SW-846 8260B	9/10/09	MMM
2-Chlorotoluene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
4-Chlorotoluene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Dibromochloromethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2-Dibromo-3-Chloropropane	<2	2	ug/l	SW-846 8260B	9/10/09	MMM
1,2-Dibromoethane(EDB)	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Dibromomethane	<2	2	ug/l	SW-846 8260B	9/10/09	MMM
1,2-Dichlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,3-Dichlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,4-Dichlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Dichlorodifluoromethane	<5	5	ug/l	SW-846 8260B	9/10/09	MMM
1,1-Dichloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2-Dichloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1-Dichloroethene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
cis-1,2-Dichloroethene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
trans-1,2-Dichloroethylene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2-Dichloropropane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,3-Dichloropropane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
2,2-Dichloropropane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1-Dichloropropene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Ethylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Hexachlorobutadiene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Isopropylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
p-Isopropyltoluene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM

**R.I. Analytical Laboratories, Inc.**  
**CERTIFICATE OF ANALYSIS**

GZA / Geoenvironmental, Inc.  
 Date Received: 9/9/09  
 Work Order #: 0909-16221

Approved by: \_\_\_\_\_

Data Reporting

Sample # 002  
**SAMPLE DESCRIPTION:** D-3  
**SAMPLE TYPE:** GRAB

**SAMPLE DATE/TIME:** 9/09/2009

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Methylene Chloride	<5	5	ug/l	SW-846 8260B	9/10/09	MMM
Naphthalene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
n-Propylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Styrene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1,1,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1,2,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Tetrachloroethene	3	1	ug/l	SW-846 8260B	9/10/09	MMM
Toluene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2,3-Trichlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2,4-Trichlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1,1-Trichloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1,2-Trichloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Trichloroethene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Trichlorofluoromethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2,3-Trichloropropane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2,4-Trimethylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,3,5-Trimethylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Vinyl Chloride	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
o-Xylene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
m,p-Xylene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Total Xylene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Methyl Tertiary Butyl Ether (MTBE)	<2	2	ug/l	SW-846 8260B	9/10/09	MMM
Surrogates			RANGE	SW-846 8260B	9/10/09	MMM
Dibromofluoromethane	108		86-118%	SW-846 8260B	9/10/09	MMM
Toluene-d8	103		88-110%	SW-846 8260B	9/10/09	MMM
4-Bromofluorobenzene	98		86-115%	SW-846 8260B	9/10/09	MMM
1,2 Dichloroethane-d4	102		80-120%	SW-846 8260B	9/10/09	MMM

**R.I. Analytical Laboratories, Inc.**  
**CERTIFICATE OF ANALYSIS**

GZA / Geoenvironmental, Inc.  
 Date Received: 9/9/09  
 Work Order #: 0909-16221

Approved by: \_\_\_\_\_

Data Reporting

Sample # 003  
**SAMPLE DESCRIPTION:** D-4  
**SAMPLE TYPE:** GRAB

**SAMPLE DATE/TIME:** 9/09/2009

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Volatile Organic Compounds						
Benzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Bromobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Bromochloromethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Bromodichloromethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Bromoform	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Bromomethane	<7	7	ug/l	SW-846 8260B	9/10/09	MMM
n-Butylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Sec-butylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
tert-Butylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Carbon Tetrachloride	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Chlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Chloroethane	<5	5	ug/l	SW-846 8260B	9/10/09	MMM
Chloroform	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Chloromethane	<5	5	ug/l	SW-846 8260B	9/10/09	MMM
2-Chlorotoluene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
4-Chlorotoluene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Dibromochloromethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2-Dibromo-3-Chloropropane	<2	2	ug/l	SW-846 8260B	9/10/09	MMM
1,2-Dibromoethane(EDB)	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Dibromomethane	<2	2	ug/l	SW-846 8260B	9/10/09	MMM
1,2-Dichlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,3-Dichlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,4-Dichlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Dichlorodifluoromethane	<5	5	ug/l	SW-846 8260B	9/10/09	MMM
1,1-Dichloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2-Dichloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1-Dichloroethene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
cis-1,2-Dichloroethene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
trans-1,2-Dichloroethylene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2-Dichloropropane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,3-Dichloropropane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
2,2-Dichloropropane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1-Dichloropropene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Ethylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Hexachlorobutadiene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Isopropylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
p-Isopropyltoluene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM

**R.I. Analytical Laboratories, Inc.**  
**CERTIFICATE OF ANALYSIS**

GZA / Geoenvironmental, Inc.  
 Date Received: 9/9/09  
 Work Order #: 0909-16221

Approved by: \_\_\_\_\_

Data Reporting

Sample # 003

**SAMPLE DESCRIPTION:** D-4

**SAMPLE TYPE:** GRAB

**SAMPLE DATE/TIME:** 9/09/2009

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Methylene Chloride	<5	5	ug/l	SW-846 8260B	9/10/09	MMM
Naphthalene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
n-Propylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Styrene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1,1,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1,2,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Tetrachloroethene	22	1	ug/l	SW-846 8260B	9/10/09	MMM
Toluene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2,3-Trichlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2,4-Trichlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1,1-Trichloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1,2-Trichloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Trichloroethene	2	1	ug/l	SW-846 8260B	9/10/09	MMM
Trichlorofluoromethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2,3-Trichloropropane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2,4-Trimethylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,3,5-Trimethylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Vinyl Chloride	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
o-Xylene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
m,p-Xylene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Total Xylene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Methyl Tertiary Butyl Ether (MTBE)	<2	2	ug/l	SW-846 8260B	9/10/09	MMM
Surrogates			RANGE	SW-846 8260B	9/10/09	MMM
Dibromofluoromethane	109		86-118%	SW-846 8260B	9/10/09	MMM
Toluene-d8	109		88-110%	SW-846 8260B	9/10/09	MMM
4-Bromofluorobenzene	96		86-115%	SW-846 8260B	9/10/09	MMM
1,2 Dichloroethane-d4	105		80-120%	SW-846 8260B	9/10/09	MMM

**R.I. Analytical Laboratories, Inc.**  
**CERTIFICATE OF ANALYSIS**

GZA / Geoenvironmental, Inc.  
 Date Received: 9/9/09  
 Work Order #: 0909-16221

Approved by: \_\_\_\_\_

Data Reporting

Sample # 004  
**SAMPLE DESCRIPTION:** D-5  
**SAMPLE TYPE:** GRAB

**SAMPLE DATE/TIME:** 9/09/2009

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Volatile Organic Compounds						
Benzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Bromobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Bromochloromethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Bromodichloromethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Bromoform	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Bromomethane	<7	7	ug/l	SW-846 8260B	9/10/09	MMM
n-Butylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Sec-butylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
tert-Butylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Carbon Tetrachloride	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Chlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Chloroethane	<5	5	ug/l	SW-846 8260B	9/10/09	MMM
Chloroform	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Chloromethane	<5	5	ug/l	SW-846 8260B	9/10/09	MMM
2-Chlorotoluene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
4-Chlorotoluene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Dibromochloromethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2-Dibromo-3-Chloropropane	<2	2	ug/l	SW-846 8260B	9/10/09	MMM
1,2-Dibromoethane(EDB)	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Dibromomethane	<2	2	ug/l	SW-846 8260B	9/10/09	MMM
1,2-Dichlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,3-Dichlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,4-Dichlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Dichlorodifluoromethane	<5	5	ug/l	SW-846 8260B	9/10/09	MMM
1,1-Dichloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2-Dichloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1-Dichloroethene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
cis-1,2-Dichloroethene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
trans-1,2-Dichloroethylene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2-Dichloropropane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,3-Dichloropropane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
2,2-Dichloropropane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1-Dichloropropene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Ethylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Hexachlorobutadiene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Isopropylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
p-Isopropyltoluene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

GZA / Geoenvironmental, Inc.

Date Received: 9/9/09

Work Order #: 0909-16221

Approved by: \_\_\_\_\_

Data Reporting

Sample # 004

SAMPLE DESCRIPTION: D-5

SAMPLE TYPE: GRAB

SAMPLE DATE/TIME: 9/09/2009

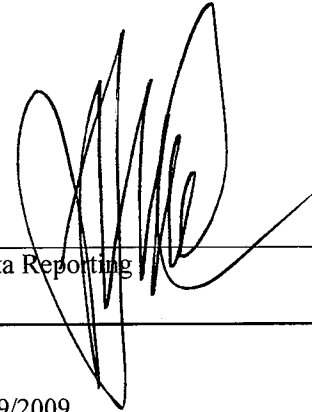
PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Methylene Chloride	<5	5	ug/l	SW-846 8260B	9/10/09	MMM
Naphthalene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
n-Propylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Styrene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1,1,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1,2,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Tetrachloroethene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Toluene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2,3-Trichlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2,4-Trichlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1,1-Trichloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1,2-Trichloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Trichloroethene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Trichlorofluoromethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2,3-Trichloropropane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2,4-Trimethylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,3,5-Trimethylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Vinyl Chloride	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
o-Xylene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
m,p-Xylene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Total Xylene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Methyl Tertiary Butyl Ether (MTBE)	<2	2	ug/l	SW-846 8260B	9/10/09	MMM
Surrogates			RANGE	SW-846 8260B	9/10/09	MMM
Dibromofluoromethane	109		86-118%	SW-846 8260B	9/10/09	MMM
Toluene-d8	109		88-110%	SW-846 8260B	9/10/09	MMM
4-Bromofluorobenzene	100		86-115%	SW-846 8260B	9/10/09	MMM
1,2 Dichloroethane-d4	105		80-120%	SW-846 8260B	9/10/09	MMM

**R.I. Analytical Laboratories, Inc.**  
**CERTIFICATE OF ANALYSIS**

GZA / Geoenvironmental, Inc.  
 Date Received: 9/9/09  
 Work Order #: 0909-16221

Approved by: \_\_\_\_\_

Data Reporting \_\_\_\_\_



Sample # 005

SAMPLE DESCRIPTION: TRIP BLANK

SAMPLE TYPE: GRAB

SAMPLE DATE/TIME: 9/09/2009

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Volatile Organic Compounds						
Benzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Bromobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Bromochloromethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Bromodichloromethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Bromoform	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Bromomethane	<7	7	ug/l	SW-846 8260B	9/10/09	MMM
n-Butylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Sec-butylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
tert-Butylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Carbon Tetrachloride	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Chlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Chloroethane	<5	5	ug/l	SW-846 8260B	9/10/09	MMM
Chloroform	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Chloromethane	<5	5	ug/l	SW-846 8260B	9/10/09	MMM
2-Chlorotoluene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
4-Chlorotoluene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Dibromochloromethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2-Dibromo-3-Chloropropane	<2	2	ug/l	SW-846 8260B	9/10/09	MMM
1,2-Dibromoethane(EDB)	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Dibromomethane	<2	2	ug/l	SW-846 8260B	9/10/09	MMM
1,2-Dichlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,3-Dichlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,4-Dichlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Dichlorodifluoromethane	<5	5	ug/l	SW-846 8260B	9/10/09	MMM
1,1-Dichloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2-Dichloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1-Dichloroethene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
cis-1,2-Dichloroethene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
trans-1,2-Dichloroethylene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2-Dichloropropane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,3-Dichloropropane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
2,2-Dichloropropane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1-Dichloropropene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Ethylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Hexachlorobutadiene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Isopropylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
p-Isopropyltoluene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM

**R.I. Analytical Laboratories, Inc.**  
**CERTIFICATE OF ANALYSIS**

GZA / Geoenvironmental, Inc.  
 Date Received: 9/9/09  
 Work Order #: 0909-16221

Approved by: \_\_\_\_\_

Data Reporting \_\_\_\_\_

Sample # 005

**SAMPLE DESCRIPTION:** TRIP BLANK

**SAMPLE TYPE:** GRAB

**SAMPLE DATE/TIME:** 9/09/2009

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Methylene Chloride	<5	5	ug/l	SW-846 8260B	9/10/09	MMM
Naphthalene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
n-Propylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Styrene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1,1,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1,2,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Tetrachloroethene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Toluene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2,3-Trichlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2,4-Trichlorobenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1,1-Trichloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,1,2-Trichloroethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Trichloroethene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Trichlorofluoromethane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2,3-Trichloropropane	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,2,4-Trimethylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
1,3,5-Trimethylbenzene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Vinyl Chloride	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
o-Xylene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
m,p-Xylene	<1	1	ug/l	SW-846 8260B	9/10/09	MMM
Methyl Tertiary Butyl Ether (MTBE)	<2	2	ug/l	SW-846 8260B	9/10/09	MMM
Surrogates			RANGE	SW-846 8260B	9/10/09	MMM
Dibromofluoromethane	108		86-118%	SW-846 8260B	9/10/09	MMM
Toluene-d8	107		88-110%	SW-846 8260B	9/10/09	MMM
4-Bromofluorobenzene	100		86-115%	SW-846 8260B	9/10/09	MMM
1,2 Dichloroethane-d4	102		80-120%	SW-846 8260B	9/10/09	MMM



# CHAIN OF CUSTODY RECORD

**R.I. Analytical Laboratories, Inc.**  
 41 Illinois Avenue  
 131 Coolidge St, Bldg. 2  
 Warwick, RI 02888  
 Hudson, MA 01749  
 Tel: 800-937-2580  
 Tel: 888-228-3334  
 Fax: 401-738-1970  
 Fax: 978-568-0078

Date Collected	Time Collected	Field Sample Identification	Grab or Composite	# of Containers & Type <sup>T</sup>	Preservation Code <sup>P</sup>	Matrix Code <sup>M</sup>	8260-VOLCS
		<del>D-1</del>	G	2V			
		<del>D-2</del>		.2V			X
		D-3		.2V			X
		D-4		.2V			X
		D-5		.2V			X
		TRIP BLANK		.2V			

CONTAINERS  
 ALL 919

**Client Information**

Company Name: 6ZA      Project Name: Charbert  
 Address: 530 Broadway      P.O. Number: 3275-312  
 City/State/Zip: Providence RI 02909      Phone: 401-421-1140 Fax:   
 Telephone: 401-421-1140      Sampled by: Rick Carlone  
 Contact Person: Rick Carlone      Quoted No:   
 Email address: rcarlone@qza.com

Relinquished By	Date	Time	Received By	Date	Time
	9/01/09		Rick Carlone	9/1/09	1:00

**Turn Around Time**

Normal      EMAIL Report  
 5 Business days. Possible surcharge.  
 Rush      (business days)

**Project Comments**

Circle if applicable: GW-1, GW-2, GW-3, S-1, S-2, S-3      MCP Data Enhancement QC Package? Yes No  
 8.62

**Lab Use Only**

Sample Pick Up Only  
 RI/AL sampled; attach field hours  
 Shipped on ice  
 Workorder No. 09-09-162



**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

Steve Andrus

Project No.: **03.0032795.32**  
Work Order No.: **0910-00002**  
Date Received: **10/01/2009**  
Date Reported: **10/05/2009**

### **SAMPLE INFORMATION**

Date Sampled	Matrix	Laboratory ID	Sample ID
09/30/2009	Aqueous	0910-00002 001	DB-1
09/30/2009	Aqueous	0910-00002 002	Trip Blank



**ANALYTICAL REPORT**

GZA GeoEnvironmental, Inc.  
140 Broadway  
Providence, RI 02903

Steve Andrus

Project Name.: **Charbert Diffusion Bass**

Project No.: **03.0032795.32**

Date Received: **10/01/2009**

Date Reported: **10/05/2009**

Work Order No.: **0910-00002**

---

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 10/1/09 via  GZA courier,  EC,  FEDEX, or  hand delivered. The temperature of the  temperature blank/ cooler air, was 2.8 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. EPA Method 8260 - VOCs

Attach QC 8260 10/01/09 S - Aqueous



ANALYTICAL REPORT

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Project Name.: **Charbert Diffusion Bass**

Date Received: **10/01/2009**

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Date Reported: **10/05/2009**

Work Order No.: **0910-00002**

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 6010B.

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

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

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.



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
140 Broadway  
Providence, RI 02903

Steve Andrus

Project Name.: **Charbert Diffusion Bass**  
Project No.: **03.0032795.32**

Date Received: **10/01/2009**  
Date Reported: **10/05/2009**  
Work Order No.: **0910-00002**

Sample ID: **DB-1**

Sample No.: **001**

Sample Date: **09/30/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	10/01/2009
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	10/01/2009
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	10/01/2009
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	10/01/2009
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	10/01/2009
Diethylether	EPA 8260	<5.0	5.0	ug/L	MQS	10/01/2009
Acetone	EPA 8260	<25	25	ug/L	MQS	10/01/2009
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	10/01/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
2-Butanone	EPA 8260	<25	25	ug/L	MQS	10/01/2009
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
cis-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	10/01/2009
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
4-Methyl-2-Pentanone	EPA 8260	<25	25	ug/L	MQS	10/01/2009
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Toluene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	10/01/2009
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
2-Hexanone	EPA 8260	<25	25	ug/L	MQS	10/01/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 140 Broadway  
 Providence, RI 02903

Steve Andrus

Project Name.: **Charbert Diffusion Bass**  
 Project No.: **03.0032795.32**

Date Received: **10/01/2009**  
 Date Reported: **10/05/2009**  
 Work Order No.: **0910-00002**

Sample ID: **DB-1**

Sample No.: **001**

Sample Date: **09/30/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Tetrachloroethene	EPA 8260	3.6	1.0	ug/L	MQS	10/01/2009
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	10/01/2009
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	10/01/2009
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	10/01/2009
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	10/01/2009
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	10/01/2009
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	96.2	70-130	% R	MQS	10/01/2009
***Toluene-D8	EPA 8260	97.8	70-130	% R	MQS	10/01/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 140 Broadway  
 Providence, RI 02903

Steve Andrus

Project Name.: **Charbert Diffusion Bass**  
 Project No.: **03.0032795.32**

Date Received: **10/01/2009**  
 Date Reported: **10/05/2009**  
 Work Order No.: **0910-00002**

Sample ID: **DB-1**

Sample No.: **001**

Sample Date: **09/30/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	99.6	70-130	% R	MQS	10/01/2009
Preparation	EPA 5030B	1.0		CF	MQS	10/01/2009



ANALYTICAL REPORT

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 Providence, RI 02903

Steve Andrus

Project Name.: **Charbert Diffusion Bass**  
 Project No.: **03.0032795.32**

Date Received: **10/01/2009**  
 Date Reported: **10/05/2009**  
 Work Order No.: **0910-00002**

Sample ID: **Trip Blank**  
 Sample Date: **09/30/2009**

Sample No.: **002**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260				MQS	10/01/2009
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	10/01/2009
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	10/01/2009
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	10/01/2009
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	10/01/2009
Diethylether	EPA 8260	<5.0	5.0	ug/L	MQS	10/01/2009
Acetone	EPA 8260	<25	25	ug/L	MQS	10/01/2009
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	10/01/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
2-Butanone	EPA 8260	<25	25	ug/L	MQS	10/01/2009
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
cis-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	10/01/2009
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Benzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
4-Methyl-2-Pentanone	EPA 8260	<25	25	ug/L	MQS	10/01/2009
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Toluene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	10/01/2009
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
2-Hexanone	EPA 8260	<25	25	ug/L	MQS	10/01/2009





ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 140 Broadway  
 Providence, RI 02903

Steve Andrus

Project Name.: **Charbert Diffusion Bass**  
 Project No.: **03.0032795.32**

Date Received: **10/01/2009**  
 Date Reported: **10/05/2009**  
 Work Order No.: **0910-00002**

Sample ID: **Trip Blank**  
 Sample Date: **09/30/2009**

Sample No.: **002**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	10/01/2009
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Ethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
m&p-Xylene	EPA 8260	<2.0	2.0	ug/L	MQS	10/01/2009
o-Xylene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	10/01/2009
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	10/01/2009
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Naphthalene	EPA 8260	<2.0	2.0	ug/L	MQS	10/01/2009
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	10/01/2009
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	93.0	70-130	% R	MQS	10/01/2009
***Toluene-D8	EPA 8260	97.5	70-130	% R	MQS	10/01/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.  
 140 Broadway  
 Providence, RI 02903

Steve Andrus

Project Name.: **Charbert Diffusion Bass**  
 Project No.: **03.0032795.32**

Date Received: **10/01/2009**  
 Date Reported: **10/05/2009**  
 Work Order No.: **0910-00002**

Sample ID: **Trip Blank**

Sample No.: **002**

Sample Date: **09/30/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	99.5	70-130	% R	MQS	10/01/2009
Preparation	EPA 5030B	1.0		CF	MQS	10/01/2009

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:	10/1/2009		Date Analyzed:	10/1/2009		Date Analyzed:	10/1/2009		Date Analyzed:	10/1/2009		
Volatiles 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	120	70-130	ok	121	70-130	ok	1.06	<25	ok
chloromethane	< 1.0	< 1.0	chloromethane	114	70-130	ok	116	70-130	ok	1.59	<25	ok
vinyl chloride	< 0.5	< 0.5	vinyl chloride	118	80-120	ok	119	70-130	ok	0.32	<25	ok
bromomethane	< 1.0	< 1.0	bromomethane	104	70-130	ok	104	70-130	ok	0.84	<25	ok
chloroethane	< 0.5	< 0.5	chloroethane	107	70-130	ok	107	70-130	ok	0.59	<25	ok
trichlorofluoromethane	< 1.0	< 1.0	trichlorofluoromethane	101	70-130	ok	101	70-130	ok	0.34	<25	ok
diethyl ether	< 2.5	< 2.5	diethyl ether	98.3	70-130	ok	99.6	70-130	ok	1.31	<25	ok
acetone	< 13	< 13	acetone	101	70-130	ok	106	70-130	ok	5.14	<25	ok
1,1-dichloroethane	< 0.5	< 0.5	1,1-dichloroethane	101	80-120	ok	102	70-130	ok	1.25	<25	ok
FREON-113	< 1.0	< 1.0	FREON-113	110	70-130	ok	113	70-130	ok	2.88	<25	ok
iodomethane	< 0.5	< 0.5	iodomethane	101	70-130	ok	102	70-130	ok	1.52	<25	ok
carbon disulfide	< 5.0	< 5.0	carbon disulfide	120	70-130	ok	119	70-130	ok	0.73	<25	ok
dichloromethane	< 1.0	< 1.0	dichloromethane	98.1	70-130	ok	101	70-130	ok	2.29	<25	ok
tert-butyl alcohol (TBA)	< 13	< 13	tert-butyl alcohol (TBA)	88.7	70-130	ok	95.4	70-130	ok	7.31	<25	ok
acrylonitrile	< 0.5	< 0.5	acrylonitrile	104	70-130	ok	108	70-130	ok	3.93	<25	ok
methyl-tert-butyl-ether	< 0.5	< 0.5	methyl-tert-butyl-ether	99.7	70-130	ok	104	70-130	ok	4.12	<25	ok
trans-1,2-dichloroethane	< 0.5	< 0.5	trans-1,2-dichloroethane	113	70-130	ok	113	70-130	ok	0.30	<25	ok
1,1-dichloroethane	< 0.5	< 0.5	1,1-dichloroethane	98.8	70-130	ok	101	70-130	ok	2.18	<25	ok
di-isopropyl ether (DIPE)	< 1.0	< 1.0	di-isopropyl ether (DIPE)	100	70-130	ok	105	70-130	ok	4.70	<25	ok
ethyl tert-butyl ether (ETBE)	< 1.0	< 1.0	ethyl tert-butyl ether (ETBE)	97.8	70-130	ok	102	70-130	ok	4.61	<25	ok
vinyl acetate	< 13	< 13	vinyl acetate	93.6	70-130	ok	97.1	70-130	ok	3.62	<25	ok
2-butanone	< 13	< 13	2-butanone	107	70-130	ok	112	70-130	ok	4.02	<25	ok
2,2-dichloropropane	< 0.5	< 0.5	2,2-dichloropropane	101	70-130	ok	102	70-130	ok	0.71	<25	ok
cis-1,2-dichloroethane	< 0.5	< 0.5	cis-1,2-dichloroethane	95.7	70-130	ok	97.0	70-130	ok	1.35	<25	ok
chloroform	< 0.5	< 0.5	chloroform	90.1	80-120	ok	92.2	70-130	ok	2.27	<25	ok
bromochloromethane	< 0.5	< 0.5	bromochloromethane	97.5	70-130	ok	102	70-130	ok	4.96	<25	ok
tetrahydrofuran	< 5.0	< 5.0	tetrahydrofuran	98.6	70-130	ok	104	70-130	ok	5.09	<25	ok
1,1,1-trichloroethane	< 0.5	< 0.5	1,1,1-trichloroethane	90.2	70-130	ok	92.8	70-130	ok	2.87	<25	ok
1,1-dichloropropene	< 0.5	< 0.5	1,1-dichloropropene	97.8	70-130	ok	99.2	70-130	ok	1.51	<25	ok
carbon tetrachloride	< 0.5	< 0.5	carbon tetrachloride	92.2	70-130	ok	92.0	70-130	ok	0.21	<25	ok
1,2-dichloroethane	< 0.5	< 0.5	1,2-dichloroethane	84.9	70-130	ok	87.7	70-130	ok	3.16	<25	ok
benzene	< 0.5	< 0.5	benzene	106	70-130	ok	107	70-130	ok	1.19	<25	ok
tert-amyl methyl ether (TAME)	< 1.0	< 1.0	tert-amyl methyl ether (TAME)	98.6	70-130	ok	104	70-130	ok	5.60	<25	ok
trichloroethane	< 0.5	< 0.5	trichloroethane	99.8	70-130	ok	99.4	70-130	ok	0.21	<25	ok
1,2-dichloropropane	< 0.5	< 0.5	1,2-dichloropropane	101	80-120	ok	105	70-130	ok	3.94	<25	ok
bromodichloromethane	< 0.5	< 0.5	bromodichloromethane	88.3	70-130	ok	90.3	70-130	ok	2.21	<25	ok
1,4-Dioxane	< 50	< 50	1,4-Dioxane	95.3	70-130	ok	113	70-130	ok	16.9	<25	ok
1,2-dibromomethane	< 0.5	< 0.5	1,2-dibromomethane	96.6	70-130	ok	105	70-130	ok	7.93	<25	ok
4-methyl-2-pentanone	< 13	< 13	4-methyl-2-pentanone	94.5	70-130	ok	101	70-130	ok	6.74	<25	ok
cis-1,3-dichloropropene	< 0.5	< 0.5	cis-1,3-dichloropropene	97.5	70-130	ok	98.6	70-130	ok	1.13	<25	ok
toluene	< 0.5	< 0.5	toluene	99.3	80-120	ok	102	70-130	ok	2.22	<25	ok
trans-1,3-dichloropropene	< 1.0	< 1.0	trans-1,3-dichloropropene	90.5	70-130	ok	92.7	70-130	ok	2.35	<25	ok
1,1,2-trichloroethane	< 0.5	< 0.5	1,1,2-trichloroethane	95.2	70-130	ok	95.2	70-130	ok	0.01	<25	ok
2-hexanone	< 13	< 13	2-hexanone	94.8	70-130	ok	96.2	70-130	ok	1.40	<25	ok
1,3-dichloropropane	< 0.5	< 0.5	1,3-dichloropropane	97.7	70-130	ok	96.3	70-130	ok	1.44	<25	ok
tetrachloroethane	< 0.5	< 0.5	tetrachloroethane	99.7	70-130	ok	96.8	70-130	ok	2.97	<25	ok
dibromochloromethane	< 0.5	< 0.5	dibromochloromethane	90.1	70-130	ok	89.1	70-130	ok	1.09	<25	ok
1,2-dibromoethane (EDB)	< 1.0	< 1.0	1,2-dibromoethane (EDB)	96.8	70-130	ok	97.2	70-130	ok	0.48	<25	ok
chlorobenzene	< 0.5	< 0.5	chlorobenzene	95.7	70-130	ok	93.2	70-130	ok	2.84	<25	ok
1,1,1,2-tetrachloroethane	< 0.5	< 0.5	1,1,1,2-tetrachloroethane	94.4	70-130	ok	93.4	70-130	ok	1.12	<25	ok
ethylbenzene	< 0.5	< 0.5	ethylbenzene	97.8	80-120	ok	94.7	70-130	ok	3.20	<25	ok
1,1,2,2-tetrachloroethane	< 0.5	< 0.5	1,1,2,2-tetrachloroethane	100	70-130	ok	100	70-130	ok	0.06	<25	ok
m&p-xylene	< 1.0	< 1.0	m&p-xylene	95.4	70-130	ok	93.0	70-130	ok	2.58	<25	ok
o-xylene	< 0.5	< 0.5	o-xylene	99.9	70-130	ok	101	70-130	ok	1.59	<25	ok
styrene	< 0.5	< 0.5	styrene	102	70-130	ok	104	70-130	ok	2.04	<25	ok
bromoform	< 1.0	< 1.0	bromoform	99.5	70-130	ok	107	70-130	ok	7.43	<25	ok
isopropylbenzene	< 0.5	< 0.5	isopropylbenzene	121	70-130	ok	123	70-130	ok	1.75	<25	ok
1,2,3-trichloropropane	< 0.5	< 0.5	1,2,3-trichloropropane	95.9	70-130	ok	101	70-130	ok	4.98	<25	ok
bromobenzene	< 0.5	< 0.5	bromobenzene	102	70-130	ok	106	70-130	ok	2.99	<25	ok
n-propylbenzene	< 0.5	< 0.5	n-propylbenzene	110	70-130	ok	111	70-130	ok	0.96	<25	ok
2-chlorotoluene	< 0.5	< 0.5	2-chlorotoluene	101	70-130	ok	103	70-130	ok	1.22	<25	ok
1,3,5-trimethylbenzene	< 0.5	< 0.5	1,3,5-trimethylbenzene	106	70-130	ok	107	70-130	ok	0.98	<25	ok
trans-1,4-dichloro-2-butene	< 1.0	< 1.0	trans-1,4-dichloro-2-butene	97.5	70-130	ok	104	70-130	ok	6.14	<25	ok
4-chlorotoluene	< 0.5	< 0.5	4-chlorotoluene	103	70-130	ok	104	70-130	ok	1.14	<25	ok
tert-butyl-benzene	< 0.5	< 0.5	tert-butyl-benzene	104	70-130	ok	104	70-130	ok	0.31	<25	ok
1,2,4-trimethylbenzene	< 0.5	< 0.5	1,2,4-trimethylbenzene	103	70-130	ok	105	70-130	ok	1.74	<25	ok
sec-butyl-benzene	< 0.5	< 0.5	sec-butyl-benzene	105	70-130	ok	106	70-130	ok	1.13	<25	ok
p-isopropyltoluene	< 0.5	< 0.5	p-isopropyltoluene	105	70-130	ok	108	70-130	ok	1.13	<25	ok
1,3-dichlorobenzene	< 0.5	< 0.5	1,3-dichlorobenzene	102	70-130	ok	103	70-130	ok	1.71	<25	ok
1,4-dichlorobenzene	< 0.5	< 0.5	1,4-dichlorobenzene	102	70-130	ok	104	70-130	ok	1.75	<25	ok
n-butylbenzene	< 0.5	< 0.5	n-butylbenzene	106	70-130	ok	107	70-130	ok	0.64	<25	ok
1,2-dichlorobenzene	< 0.5	< 0.5	1,2-dichlorobenzene	101	70-130	ok	105	70-130	ok	3.76	<25	ok
1,2-dibromo-3-chloropropane	< 2.5	< 2.5	1,2-dibromo-3-chloropropane	102	70-130	ok	113	70-130	ok	9.82	<25	ok
1,3,5-trichlorobenzene	< 0.5	< 0.5	1,3,5-trichlorobenzene	111	70-130	ok	113	70-130	ok	2.26	<25	ok
1,2,4-trichlorobenzene	< 0.5	< 0.5	1,2,4-trichlorobenzene	112	70-130	ok	120	70-130	ok	7.21	<25	ok
hexachlorobutadiene	< 0.5	< 0.5	hexachlorobutadiene	113	70-130	ok	114	70-130	ok	0.73	<25	ok
naphthalene	< 1.0	< 1.0	naphthalene	101	70-130	ok	110	70-130	ok	8.81	<25	ok
1,2,3-trichlorobenzene	< 0.5	< 0.5	1,2,3-trichlorobenzene	112	70-130	ok	121	70-130	ok	7.72	<25	ok

Surrogates:			Surrogates:			Acceptance						
DIBROMOFLUOROMETHANE	Recovery (%)	Acceptance Limits	DIBROMOFLUOROMETHANE	Recovery (%)	Acceptance Limits	Verdict	Recovery (%)	Acceptance Limits	Verdict	RPD	Limits	Verdict
DIBROMOFLUOROMETHANE	95.7	70-130	DIBROMOFLUOROMETHANE	93.0	70-130	ok	94.9	70-130	ok	2.02	<25	ok
1,2-DICHLOROETHANE-D4	99.6	70-130	1,2-DICHLOROETHANE-D4	98.6	70-130	ok	98.1	70-130	ok	0.54	<25	ok
TOLUENE-D8	98.3	70-130	TOLUENE-D8	95.7	70-130	ok	98.5	70-130	ok	2.84	<25	ok
4-BROMOFLUOROBENZENE	97.6	70-130	4-BROMOFLUOROBENZENE	101	70-130	ok	104	70-130	ok	2.98	<25	ok
1,2-DICHLOROETHANE-D4	99.4	70-130	1,2-DICHLOROETHANE-D4	102	70-130	ok	103	70-130	ok	0.33	<25	ok

**CHAIN-OF-CUSTODY RECORD**

**W.O. #** 0910 - 00002  
 (for lab use only)

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																										Total # of Cont.	Note #						
			<input type="checkbox"/> pH	<input type="checkbox"/> 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	<input type="checkbox"/> 601 <input type="checkbox"/> 602 WW VOCs	EPA 8270 FULL SVOCs	EPA 8270 <input type="checkbox"/> PAH <input type="checkbox"/> A <input type="checkbox"/> 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 <input type="checkbox"/> PPM-13 <input type="checkbox"/> R-8	MCP 14 Metals (MA)	Metals (List Below)*	TCLP - Specify Below	SPLP - Specify Below	EPA 300 <input type="checkbox"/> CI <input type="checkbox"/> SO4	EPA 300 <input type="checkbox"/> NO2 <input type="checkbox"/> NO3								
DB-1	9/30/09	SW																																	3	
Trip Blank	9/30/09	SW																																	3	

PRESERVATIVE (C) - HCl, M-Methanol, N - HNO3, S - H2SO4, Na - NaOH, O - Other)\*

CONTAINER TYPE (P-Plastic, G-Glass, V-Vial, T-Teflon, O-Other)\*

RELAUNCHED BY: (AFFILIATION) DATE/TIME RECEIVED BY: (AFFILIATION)

RELINQUISHED BY: (AFFILIATION) DATE/TIME

RELINQUISHED BY: (AFFILIATION) DATE/TIME

*Received by: [Signature] 9/30/09*  
*Received by: [Signature] 10/1/09*  
*Received by: [Signature] 10/1/09*

PROJECT MANAGER: Steve Harvey EXT: \_\_\_\_\_

**GZA GEOENVIRONMENTAL, INC.**  
 Laboratory Division

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

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

TURNAROUND TIME: Standard Days, Approved by: \_\_\_\_\_  
 LAB USE: Temp Blank Temp. OF COOLER: 2.3 °C  
 COOLER AIR: 69/3  
 GZA FILE NO: 1011 030032795-32  
 TASK NO.: \_\_\_\_\_ P.O. NO.: \_\_\_\_\_

PROJECT: Chamber 1  
 LOCATION: Alton Pt  
 COLLECTOR(S): RAH  
 SHEET 1 OF 1

**ATTACHMENT B**  
**SOIL ACCEPTANCE LETTER**  
**AND WEIGHT SLIPS**



November 30, 2009

Profile #: CHAR112709

Rate Code: 358

Mr. Michael S. Healey  
Charbert Division of NFA Corp.  
299 Church Street  
Alton, RI 02894  
Fax: (401) 751-8613

Dear Mr. Healey:

The Rhode Island Resource Recovery Corporation (the Corporation) has reviewed your request submitted on behalf of the generator, Charbert Division of NFA Corp., to deliver approximately 750 tons of miscellaneous material generated from their site, located in Alton, Rhode Island, to the Central Landfill.

Based on the information you have provided the material does appear to be suitable for use as alternative cover at the Central Landfill. The material will be accepted provided the following conditions are strictly adhered to.

1. This approval is for approximately 750 tons.
2. The material must not cause a dust nuisance.
3. The material must not emit any unreasonable odors.
4. The material must be free of solid waste.
5. The material must not contain any free liquids. If the material is too saturated and has no structural characteristics, it will be classified
6. The initial loads will be accepted between 7:30 am and 3:30 pm, Monday through Friday, for load verification. After load verification, material can be accepted Monday through Saturday during the hours of operation.
7. You must notify the Scalehouse (942-1430 Ext. 102) a minimum of 24 hours prior to delivery.
8. The material must comply with all other conditions contained in sections 6.2.1, 6.2.1.1 and 6.2.1.6 of RIRRC's Alternative Cover Policy.
9. Any material deemed by RIRRC not to be suitable as alternative cover shall be tipped at \$75.00 per ton.
10. Expiration Date: June 30<sup>th</sup>, 2010, at which time the rates have potential to increase and updated testing required.

This letter does not exclude the loads from inspection and/or denial of delivery to the Central Landfill if landfill personnel suspect hazardous waste.

Please note that prior to delivery of this material; you must first contact Steve Pietrantozzi (942-1430 Ext. 102) for payment arrangements and to receive load verification documents. This material will be accepted as alternative cover and will be tipped at \$15.00 per ton.

If you have any questions regarding this matter, please do not hesitate to contact me. (942-1430 Ext. 211)

Sincerely,

Dan Szetela  
Environmental Engineer

Cc: Brian Card, RIRRC  
Bill Anderson, RIRRC  
Steve Pietrantozzi, RIRRC  
Ed Sumnerly, GZA

299 CHURCH STREET  
ALTON, RI02894

299 CHURCH STREET  
ALTON, RI02894

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DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/10/09	12:27:43	WVA	12:27:58	WVA	100360 LBS Scale 54.18 Tons	36960 LBS Pretare 18.48 Tons	71400 LBS 35.70 Tons

VEHICLE NUMBER	VEHICLE TYPE	PLATE NUMBER	TRANSACTION TYPE
221	Dump Truck	01150RE	Inbound

QUANTITY	WC	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	AMOUNT
35.70	358	ALT CYR- NON HAZD PROCESS Gross: 100360 Tare: 36960	Ton	\$15.00	\$535.50

Comments:

**DECLARATION REGARDING WASTE DELIVERY**

The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.

*[Signature]*

DRIVER NAME

DOCUMENT TOTAL

\$535.50

**L** 299 CHURCH STREET  
**T** ALTON, RI02894  
**O**

**D** 299 CHURCH STREET  
**L** ALTON, RI02894  
**E**  
**R**

DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/10/09	11:31:59	FF	11:45:00	PH	111100 LBS Scale 57.05 Tons	70140 LBS Scale 17.57 Tons	78960 LBS 39.48 Tons

VEHICLE NUMBER: C116  
 VEHICLE TYPE: Pickup/Van  
 PLATE NUMBER: OFFSHORE  
 TRANSACTION TYPE: Inbound  
 MRF

QUANTITY	WC	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	AMOUNT
39.48	358	ALT CVR- NON HAZD PROCESS Gross: 114100 Tare: 35140	Ton	\$15.00	\$592.20

Comments:  
**DECLARATION REGARDING WASTE DELIVERY**  
 The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.

DRIVER NAME: P. H. [Signature]  
 DOCUMENT TOTAL: \$592.20



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ALTON, RI02024-

299 CHURCH STREET  
ALTON, RI02024-

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DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/10/09	09:56:31	WW	10:18:06	KJJ	120200 LBS Scale 60.14 Tons	36960 LBS Scale 10.46 Tons	83320 LBS 41.66 Tons

VEHICLE NUMBER	VEHICLE TYPE	PLATE NUMBER	TRANSACTION TYPE
C21	Dump Truck	OFFSHORE	IRF Inbound

QUANTITY	WC	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	AMOUNT
41.66	350	ALT CVR NON HAZD PROCESS Gross: 120200 Tare: 36960	Bales: 0.00 Ton Net: 83320	\$15.10	\$624.90

Comments:

**DECLARATION REGARDING WASTE DELIVERY**

The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.



DRIVER NAME

DOCUMENT TOTAL

\$624.90

L 299 CHURCH STREET  
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DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/10/09	09:39:20	WJA	09:55:44	SP	11000 LBS Manual Scale	39300 LBS 19.65 TONS	78700 LBS 39.35 TONS

VEHICLE NUMBER	VEHICLE TYPE	PLATE NUMBER	TRANSACTION TYPE
CO	Dump Truck		MRF Inbound

QUANTITY	WC	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	AMOUNT
39.35	35B	ALT CVR- NON HAZD PROCESS BROSET 11000 Tare: 39300	Ton	\$15.00	\$590.25

Comments:

**DECLARATION REGARDING WASTE DELIVERY**

The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.

DRIVER NAME *R. S. ...*

*[Signature]*

DOCUMENT TOTAL

REVENUE

L 299 CHURCH STREET  
 T ALTON, RI02894  
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U 299 CHURCH STREET  
 L ALTON, RI02894  
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DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/10/09	09:17:28	WHP	09:34:38	KJJ	117200 LBS Scale	35420 LBS Scale	81760 LBS
					50.60 TONS	17.71 TONS	40.89 TONS

VEHICLE NUMBER: C116  
 VEHICLE TYPE: PICKUP/VAN  
 PLATE NUMBER: OFFSHORE  
 TRANSACTION TYPE: Inbound

QUANTITY	WC	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	AMOUNT
40.89	350	ALT CVR- NON HAZD PROCESS Gross: 117200 Tare: 35420	100	\$15.00	\$613.35

Comments:

**DECLARATION REGARDING WASTE DELIVERY**  
 The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.

DRIVER NAME: James Patis

DOCUMENT TOTAL: 1613.35

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299 CHURCH STREET  
ALTON, RI 02894

299 CHURCH STREET  
ALTON, RI 02894

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DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/10/09	13:51:52	WWA	13:51:54	WWA	112540 LBS Scale	39300 LBS PreTare	73240 LBS
					56.27 Tons	19.65 Tons	36.62 Tons
VEHICLE NUMBER	VEHICLE TYPE	PLATE NUMBER	TRANSACTION TYPE				
CB	Dump Truck	OFFSHORE	Inbound				
QUANTITY	WC	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	AMOUNT		
36.62	358	ALT CYR- NON HAZD PROCESS Gross: 112540 Tare: 39300	TON	\$15.00	\$549.30		

Comments:

**DECLARATION REGARDING WASTE DELIVERY**

The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.

DRIVER NAME *Russin*

*[Signature]*

DOCUMENT TOTAL

\$549.30

TO  
 699 CHURCH STREET  
 ALTON, RI 02894

LE R  
 699 CHURCH STREET  
 ALTON, RI 02894

DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/10/09	13:54:21	WWA	13:54:23	WWA	107600 LBS Scale	35140 LBS Pretare	72460 LBS 36.23 Tons
VEHICLE NUMBER		VEHICLE TYPE		PLATE NUMBER		TRANSACTION TYPE	
LL16		PICKUP/VAN		OFFSHORE		Inbound	
QUANTITY	WC	DESCRIPTION/ORIGIN		UNITS	UNIT PRICE	AMOUNT	
36.23	358	ALT CVR- NON HAZD PROCESS Gross: 107600 Tare: 35140		100	\$15.00	\$1543.45	
Comments:							

**DECLARATION REGARDING WASTE DELIVERY**

I, undersigned, declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.

OPER NAME: *John's Batts*

DOCUMENT TOTAL

\$1543.45

299 CHURCH STREET  
ALTON, RI02894

299 CHURCH STREET  
ALTON, RI02894

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DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/10/05	14:43:57	W0A	14:43:59	W0A	110780 LBS Scale 55.39 Tons	36960 LBS PreTare 16.48 Tons	73820 LBS 36.91 Tons

VEHICLE NUMBER	VEHICLE TYPE	PLATE NUMBER	TRANSACTION TYPE
021	Dump Truck	0FT50RE	Inbound

QUANTITY	WC	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	AMOUNT
36.91	350	ALT CVR- NON HAZD PROBLESS Gross: 110780 Tare: 36960	TON	\$15.00	\$553.65

Comments:

**DECLARATION REGARDING WASTE DELIVERY**

The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.



DRIVER NAME

DOCUMENT TOTAL

\$553.65

**L** 299 CHURCH STREET  
**T** ALTON, RI02894  
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**U** 299 CHURCH STREET  
**L** ALTON, RI02894  
**E**  
**R**

DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
11/11/00	09:14:00	LM	09:30:34	EF	114620 LBS Scale 57.31 Tons	37300 LBS Scale 18.65 Tons	77320 LBS 38.66 Tons
VEHICLE NUMBER	VEHICLE TYPE	PLATE NUMBER	TRANSACTION TYPE				
CH23	Transfer Trailer	OFFSHORE	MRF Inbound				
QUANTITY	WC	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	AMOUNT		
38.66	358	ALT CUR-- NON HAZD PROCESS Gross: 114620 Tare: 37300	Ton	\$15.00	\$579.90		
Comment: PUT IN TARE WEIGHT							
<b>DECLARATION REGARDING WASTE DELIVERY</b> The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.							
DRIVER NAME							DOCUMENT TOTAL
							\$579.90

299 CHURCH STREET  
ALTON, RI02894

299 CHURCH STREET  
ALTON, RI02894

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DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/11/09	14:35:01	LM	14:35:02	LN	81640 LBS Scale	29260 LBS PreTare	52380 LBS
					40.82 Tons	14.63 Tons	26.19 Tons

VEHICLE NUMBER	VEHICLE TYPE	PLATE NUMBER	TRANSACTION TYPE
CH17	DUMP TRUCK	OFFSHORE	Inbound

QUANTITY	WC	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	AMOUNT
26.19	559	ALL COR-- NON HAZD PROCESS Gross: 81640 Tare: 29260	Ton	\$15.00	\$392.85
Comments:					

**DECLARATION REGARDING WASTE DELIVERY**  
The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.

DRIVER NAME *Bill Bish* DOCUMENT TOTAL 4392.85



U L E R 299 CHURCH STREET ALTON, RI02894-		U L E R 299 CHURCH STREET ALTON, RI02894-					
DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/11/09	14:08:00	LM	14:08:12	LM	109920 LBS Scale 54.96 Tons	36720 LBS PreTare 18.36 Tons	73200 LBS 36.60 Tons
VEHICLE NUMBER	VEHICLE TYPE	PLATE NUMBER	TRANSACTION TYPE				
10	Dump Truck	OFFSHORE10	Inbound				
QUANTITY	WC	DESCRIPTION/ORIGIN		UNITS	UNIT PRICE	AMOUNT	
36.60	358	ALC CVR- MUN HAZD PROCESS Gross: 109920 Tare: 36720		Ton	\$15.00	\$549.00	
Comments:							
<b>DECLARATION REGARDING WASTE DELIVERY</b> The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.							
DRIVER NAME <i>Mike Thibodeau</i>							DOCUMENT TOTAL \$549.00

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 299 CHURCH STREET  
 ALTON, RI02894-

U L L E R  
 299 CHURCH STREET  
 ALTON, RI02894-

DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/11/03	11:29:30	LM	11:29:31	LM	76600 LBS Scale	29300 LBS Pretare	47220 LBS
					38.30 Tons	14.69 Tons	23.61 Tons

VEHICLE NUMBER  
 677

VEHICLE TYPE  
 Dump Truck

PLATE NUMBER  
 R088R

TRANSACTION TYPE  
 Inbound

QUANTITY	WC	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	AMOUNT
23.61	358	ALT COR- NON HAZD PROCESS Gross: 76600 Tare: 29300 Net: 47220	100	\$15.28	\$354.15


Comments:

**DECLARATION REGARDING WASTE DELIVERY**

The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.

DRIVER NAME: *[Signature]*

DOCUMENT TOTAL: 4354.15

L TO		277 CHURCH STREET ALTON, RI02894		L ER		277 CHURCH STREET ALTON, RI02894	
DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/11/09	13:45:25	6000	13:45:28	6000	73740 LBS Scale 35.07 Tons	29380 LBS Prefare 14.69 Tons	44360 LBS 22.18 Tons
VEHICLE NUMBER		VEHICLE TYPE		PLATE NUMBER		TRANSACTION TYPE	
CPT		Dump Truck		R000R		Inbound	
QUANTITY	WC	DESCRIPTION/ORIGIN		UNITS	UNIT PRICE	AMOUNT	
22.18	350	ALT CVR- NON HAZD PROCESS Gross: 73740 Tare: 29380 Net: 44360		100	\$15.20	\$332.70	
Comments:							
<b>DECLARATION REGARDING WASTE DELIVERY</b> The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.							
DRIVER NAME 							DOCUMENT TOTAL
							\$332.70

299 CHURCH STREET  
ALTON, RI 02894

299 CHURCH STREET  
ALTON, RI 02894

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DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/11/09	13:26:16	LM	13:26:10	LM	112900 LBS Scale	36960 LBS PreTare	75940 LBS 37.97 Tons
VEHICLE NUMBER 621		VEHICLE TYPE Dump Truck		PLATE NUMBER OFF50KE	TRANSACTION TYPE Inbound		
QUANTITY 37.97	WC 358	DESCRIPTION/ORIGIN ALT CVR NON HAZD PROCESS		UNITS TON	UNIT PRICE \$15.00	AMOUNT \$569.55	
Comments:		GROSS: 112900 Tare: 36960		RALES: 0.00		Net: 75940	

**DECLARATION REGARDING WASTE DELIVERY**

The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.

*[Signature]*

DRIVER NAME

DOCUMENT  
TOTAL

\$569.55

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ALTON, RI 02894

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ALTON, RI 02894

DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/11/09	06:13:27	1M	07:30:11	EF	47960 LBS Scale	47960 LBS Scale	47960 LBS
					38.67 Tons	14.69 Tons	23.98 Tons

VEHICLE NUMBER	VEHICLE TYPE	PLATE NUMBER	TRANSACTION TYPE
CH7	Dump Truck	ROBAR	MRF Inbound

QUANTITY	WC	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	AMOUNT
23.98	35B	ALT CVR- NON HAZD PROCESS GROSS: 77340 Tons: 29380	Ton	\$15.00	\$359.70

Comments: PUT IN TARE

**DECLARATION REGARDING WASTE DELIVERY**

The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.



DRIVER NAME

DOCUMENT TOTAL

\$359.70

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299 CHURCH STREET  
ALTON, RI02894-

DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/11/09	10:58:42	LM	10:50:43	LM	113660 LBS Scale	36960 LBS Pretare	76900 LBS
					56.93 Tons	18.48 Tons	38.45 Tons

VEHICLE NUMBER: C21

VEHICLE TYPE: Dump Truck

PLATE NUMBER: 01150RE


TRANSACTION TYPE: Inbound

QUANTITY	WC	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	AMOUNT
38.45	358	ALT CUR- NON HAZD PROCESS Gross: 113660 Tare: 36960	ton	115.00	4576.75

Comments:

**DECLARATION REGARDING WASTE DELIVERY**

The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.



DRIVER NAME

DOCUMENT TOTAL

1576.75

299 CHURCH STREET  
ALTON, RI02894

299 CHURCH STREET  
ALTON, RI02894

299 CHURCH STREET  
ALTON, RI02894

DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/11/09	08:28:33	LM	08:28:37	LM	112700 LBS Scale	36960 LBS Preface	75740 LBS
					56.35 Tons	18.48 Tons	37.87 Tons

VEHICLE NUMBER	VEHICLE TYPE	PLATE NUMBER	TRANSACTION TYPE
021	Bump truck	OFFSHORE	Inbound

QUANTITY	WC	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	AMOUNT
37.07	358	ALT CUR - NON HAZD PROCESS Gross: 112700 Tare: 36960	Ton	\$15.00	\$556.05

Comments:

**DECLARATION REGARDING WASTE DELIVERY**

The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.

*[Signature]*

DRIVER NAME

DOCUMENT TOTAL

\$568.05

DEPARTMENT DIVISION OF HIGHWAYS  
 299 CHURCH STREET  
 ALTON, RI 02894

DEPARTMENT DIVISION OF HIGHWAYS  
 299 CHURCH STREET  
 ALTON, RI 02894

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DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/11/09	12:20:29	WMA	12:35:28	EF	92320 LBS Scale	29260 LBS Scale	53060 LBS
VEHICLE NUMBER		VEHICLE TYPE		PLATE NUMBER	TRANSACTION TYPE		
CH17		Dump Truck		OFFSHORE	41.16 TONS 14.63 TONS		
QUANTITY		WC	DESCRIPTION/ORIGIN		UNITS	UNIT PRICE	AMOUNT
26.53		358	ALT CUR- NON HAZY PROCESS GROSS: 92320 Tare: 29260		Ton	\$15.00	\$397.95
Comments:		Inbound					

**DECLARATION REGARDING WASTE DELIVERY**

The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.

DRIVER NAME: *D. W. ...*

DOCUMENT TOTAL



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ALTON, RI02094

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ALTON, RI02094

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DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/14/09	13:08:17	KJJ	13:08:18	KJJ	115560 LBS Scale	39600 LBS Pretare	75960 LBS
					57.78 Tons	19.80 Tons	37.98 Tons

VEHICLE NUMBER	VEHICLE TYPE	PLATE NUMBER	TRANSACTION TYPE
614	Pickup/Van	OFFSHOREL1	Inbound

QUANTITY	WC	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	AMOUNT
37.98	358	ALT CUR-- NON HAZD PROCESS Gross: 115560 Tare: 39600	Ton	\$15.00	\$569.70

Comments:

DECLARATION REGARDING WASTE DELIVERY

The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.

DRIVER NAME *Bill Bishop*

DOCUMENT TOTAL \$569.70

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ALTON, RI 02804

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ALTON, RI 02804

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DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/14/09	15:15:26	KJJ	15:15:27	KJJ	119820 LBS Scale	39600 LBS PreTare	80220 LBS
					59.91 Tons	19.98 Tons	40.11 Tons

VEHICLE NUMBER	VEHICLE TYPE	PLATE NUMBER	TRANSACTION TYPE
C14	Pickup/Van	OFFSHOREL	Inbound

QUANTITY	WC	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	AMOUNT
40.11	358	ALT CVR-- NON HAZD PROCESS Gross: 119820 Tare: 39600	Ton	\$15.00	\$601.65
Bales: 0.00 Net: 80220					

Comments:

**DECLARATION REGARDING WASTE DELIVERY**

The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.

DRIVER NAME

DOCUMENT TOTAL

\$601.65

*R. H. [Signature]*

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 ALTON, RI 02894

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 ALTON, RI 02894

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DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/14/09	09:24:39	KJJ	09:24:41	KJJ	11,1740 LBS Scale	36,720 LBS PreTare	75020 LBS 37.51 Tons

VEHICLE NUMBER: C10  
 VEHICLE TYPE: Dump Truck  
 PLATE NUMBER: OFFSHORE10  
 TRANSACTION TYPE: Inbound

QUANTITY	WG	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	AMOUNT
37.51	358	ALT CVR- NON HAZD PROCESS Gross: 111740 Tare: 36720	Ton	\$15.00	\$562.65

Comments:

**DECLARATION REGARDING WASTE DELIVERY**  
 The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.

DRIVER NAME: [Signature]  
 DOCUMENT TOTAL: \$562.65

299 CHURCH STREET  
ALTON, RI02894

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ALTON, RI02894

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DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/14/09	11:01:59	KJJ	11:02:00	KJJ	120620 LBS Scale 60.41 Tons	39600 LBS Pretare 19.00 Tons	81220 LBS 40.61 Tons

VEHICLE NUMBER	VEHICLE TYPE	PLATE NUMBER	TRANSACTION TYPE
C14	Pickup/Van	01F3A0RE1	Inbound

QUANTITY	WC	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	AMOUNT
40.61	358	ALT CVR- NON HAZD PROCESS Gross: 120620 Tare: 39600	Ton	\$15.00	\$609.15

Comments:

**DECLARATION REGARDING WASTE DELIVERY**

The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.

DRIVER NAME

DOCUMENT TOTAL

\$609.15

L T O		299 CHURCH STREET ALTON, RI02894-		299 CHURCH STREET ALTON, RI02894-		L E R	
DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/14/09	14:45:12	KJJ	14:45:29	KJJ	111640 LBS Scale	36720 LBS Manual	74920 LBS
					55.82 Tons	18.36 Tons	37.46 Tons
VEHICLE NUMBER		VEHICLE TYPE		PLATE NUMBER		TRANSACTION TYPE	
C10		Pickup/Van				Inbound	
QUANTITY	WC	DESCRIPTION/ORIGIN		UNITS	UNIT PRICE	AMOUNT	
37.46	358	ALT CVR-- NON HAZD PROCESS Gross: 111640 Tare: 36720		1 Ton	115.00	\$551.90	
Comments:							
<p><b>DECLARATION REGARDING WASTE DELIVERY</b></p> <p>The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.</p>							
DRIVER NAME							DOCUMENT TOTAL
							\$561.90

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ALTON, RI02894

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ALTON, RI02894

DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/14/09	14:50:19	KJJ	14:50:20	KJJ	80200 LBS Scale 40.10 Tons	29260 LBS Prelate 14.63 Tons	50940 LBS 25.47 Tons

VEHICLE NUMBER	VEHICLE TYPE	PLATE NUMBER	TRANSACTION TYPE
CH17	Dump Truck	OFFSHORE	MRF Inbound

QUANTITY	WC	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	AMOUNT
25.47	358	ALT CVR-- NON HAZD PROCESS Gross: 80200 Tare: 29260	Ton	\$15.00	\$382.05

Comments:

**DECLARATION REGARDING WASTE DELIVERY**

The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.

DRIVER NAME

DOCUMENT  
TOTAL

\$382.05

L 299 CHURCH STREET  
ALTON, RI02894

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299 CHURCH STREET  
ALTON, RI02894

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DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/14/09	08:57:33	KJJ	09:14:53	WMA	113740 LBS Scale 56.87 Tons	39600 LBS Scale 19.00 Tons	74140 LBS  17.07 Tons
VEHICLE NUMBER	VEHICLE TYPE	PLATE NUMBER	TRANSACTION TYPE				
C14	Pickup/Man	OFFSHORE14	Inbound				
QUANTITY	WC	DESCRIPTION/ORIGIN		UNITS	UNIT PRICE	AMOUNT	
37.07	350	ALT CUR- NON HAZD PROCESS GROSS: 113740 Tons NET: 74140		Ton	\$15.00	\$556.05	
Comments:							

**DECLARATION REGARDING WASTE DELIVERY**

The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.

DRIVER NAME

*Bill Bishop*

DOCUMENT TOTAL

1556.05

299 CHURCH STREET  
ALTON, RI 02894

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ALTON, RI 02894

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DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/14/09	12:52:54	KJJ	12:52:55	KJJ	79600 LBS Scale	28740 LBS Prefare	50860 LBS
					39.80 Tons	14.37 Tons	25.43 Tons
VEHICLE NUMBER	VEHICLE TYPE	PLATE NUMBER	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	AMOUNT	
C17	Bump Truck	OFFSHORELY MKF	ALT CYR- NON HAZD PROCESS Gross: 79600 Tare: 28740	0.00 Ton	\$15.00	\$381.45	
QUANTITY	WC						
25.43	350						
Comments:							

**DECLARATION REGARDING WASTE DELIVERY**

The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.

*D-W*

DRIVER NAME

DOCUMENT TOTAL

\$381.45



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ALTON, RI02894--

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DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/14/09	12:41:40	KJJ	12:41:55	KJJ	114060 LBS Scale 57.03 Tons	36720 LBS Manual 18.36 Tons	77340 LBS 38.67 Tons
VEHICLE NUMBER C10		VEHICLE TYPE Pickup/Van		PLATE NUMBER	TRANSACTION TYPE Inbound		
QUANTITY	WC	DESCRIPTION/ORIGIN		UNITS	UNIT PRICE	AMOUNT	
38.67	350	ALT CVR- NON HAZD PROCESS Gross: 114060 Tare: 36720		100	\$15.00	\$1500.00	
Comments:							

**DECLARATION REGARDING WASTE DELIVERY**

The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.



DRIVER NAME

DOCUMENT TOTAL

\$ 1500.00

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ALTON, RI02894

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ALTON, RI02894

DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/15/09	08:21:53	PH	08:39:23	KJT	9320 LBS Scale	3540 LBS Scale	57040 LBS
					46.66 TONS	17.74 TONS	28.92 TONS

VEHICLE NUMBER	VEHICLE TYPE	PLATE NUMBER	TRANSACTION TYPE
CH16	Pickup/Van	OFFSHORE	HRF Inbound

QUANTITY	WC	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	AMOUNT
28.92	358	ALT CUR- NON HAZD PROCESS GREEN Tare: 35400 Net: 57040	Ton	415.00	12033.00

**DECLARATION REGARDING WASTE DELIVERY**

The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.

DRIVER NAME: James R. His *[Signature]*

DOCUMENT TOTAL 1277.00

297 CHURCH STREET  
ALTON, RI02894

297 CHURCH STREET  
ALTON, RI02894

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DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/15/09	11:13:16	PH	11:13:22	PH	100480 LBS Manual 54.24 Tons	39600 LBS PreTare 19.60 Tons	60880 LBS 34.44 Tons

VEHICLE NUMBER	VEHICLE TYPE	PLATE NUMBER	TRANSACTION TYPE
C14	Pickup/Van	OFF-SHOREL14	Inbound

QUANTITY	WC	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	AMOUNT
34.44	350	ALT DVR- HIGH HAZD PROCESS Gross: 100480 Tare: 39600	Ton	\$15.00	\$516.60

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Comments:

**DECLARATION REGARDING WASTE DELIVERY**

The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.

DRIVER NAME  
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DOCUMENT  
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\$516.60

SIGNATURE

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DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/15/03	11:15:45	PH	11:16:00	PH	100120 LBS Manual 50.06 Tons	35480 LBS Prelare 17.74 Tons	64640 LBS 32.32 Tons
VEHICLE NUMBER	VEHICLE TYPE	PLATE NUMBER	TRANSACTION TYPE				
CH16	Dump Truck	OFFSHORE	PKF	Inbound			
QUANTITY	WC	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	AMOUNT		
32.32	358	ALL CUR- NON HAZD PROCESS Gross: 100120 Tare: 35480	Ton	\$15.00	\$484.80		
Comments: 12604							

**DECLARATION REGARDING WASTE DELIVERY**

The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.

DRIVER NAME

DOCUMENT TOTAL

\$484.80

299 CHURCH STREET  
ALTON, RI02894-

299 CHURCH STREET  
ALTON, RI02894-

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DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/15/09	12:07:14	PH	12:07:23	PH	102660 LBS Scale	35480 LBS Prefare	67180 LBS
					51.33 Tons	17.74 Tons	33.59 Tons

VEHICLE NUMBER	VEHICLE TYPE	PLATE NUMBER	TRANSACTION TYPE
CH16	Dump Truck	OFFSHORE 1	Inbound

QUANTITY	WC	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	AMOUNT
33.59	350	ALT CUR- NON HAZD PROCESS Gross: 102660 Tare: 35480	Ton	#15.00	\$503.85

Comments:

**DECLARATION REGARDING WASTE DELIVERY**

The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.

DRIVER NAME *Tom Potts*

DOCUMENT TOTAL \$503.85

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299 CHURCH STREET  
ALTON, RI02094

299 CHURCH STREET  
ALTON, RI02094

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DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/15/09	13:29:05	PH	13:29:08	PH	111000 LBS Scale	39600 LBS Pretare	71400 LBS
					59.50 Tons	19.80 Tons	35.70 Tons

VEHICLE NUMBER	VEHICLE TYPE	PLATE NUMBER	TRANSACTION TYPE
014	Pickup/Van	OFFSHORE14	Inbound

QUANTITY	WC	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	AMOUNT
35.70	558	ALT CVR- NON HAZD PROCESS Gross: 111000 Tare: 39600	100	\$15.00	\$535.50

Comments:

**DECLARATION REGARDING WASTE DELIVERY**

The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.

DRIVER NAME

DOCUMENT TOTAL

\$535.50

L T O		299 CHURCH STREET ALTON, RI02894		L E R		299 CHURCH STREET ALTON, RI02894	
DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
12/16/09	09:15:40	EF	09:15:51	EF	77340 LBS Scale 38.67 Tons	39600 LBS PreTare 19.00 Tons	37740 LBS 18.67 Tons
VEHICLE NUMBER C14		VEHICLE TYPE Pickup/Van		PLATE NUMBER U-FBHQRE14	TRANSACTION TYPE Inbound		
QUANTITY	WC	DESCRIPTION/ORIGIN		UNITS	UNIT PRICE	AMOUNT	
18.67	350	ALT CUR- NON HAZD PROCESS Gross: 77340 Tare: 39600		100	\$15.00	\$283.05	
Comment#:							
<p><b>DECLARATION REGARDING WASTE DELIVERY</b></p> <p>The undersigned declares, under penalty of perjury that 100% of the solid waste delivered to the Central Landfill in the vehicle and on the date above, was generated and collected in Rhode Island, is not Hazardous Waste, does not contain in excess of 20% recyclable material by weight, as defined by DEM regulation, and complies with all applicable laws and regulations.</p>							
DRIVER NAME							DOCUMENT TOTAL
							\$283.05

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**ATTACHMENT C**

**BORING LOGS**



<b>GZA GEOENVIRONMENTAL INC.</b> 530 BROADWAY, PROVIDENCE, RHODE ISLAND GEOTECH/GEOHYDROLOGICAL CONSULTANTS HYDROLOGICAL BORING LOG	PROJECT	REPORT OF BORING NO.	GZ-24
	Charbert Industries	SHEET	1 of 1
	Lagoon 5 Remediation	FILE NO.	32795.35
	Alton, Rhode Island	CHKD BY	EAS

BORING CO.	Geologic	BORING LOCATION	8-Feet East of GP-28	
FOREMAN	Charles O'Donell	GROUND SURFACE ELEV.	46.90'	DATUM TPVC 46.50'
GZA ENGINEER	Stephen Andrus	DATE START	6/18/09	DATE END 6/19/09

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 IN  CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 LB HAMMER FALLING 24 IN.  CASING SIZE: 4 inch OTHER:	GROUNDWATER READINGS				
	DATE	TIME	WATER	CASING	STABILIZATION TIME
	6/19/09	16:00	3.24	46.90	
	6/20/09	7:00	3.25	46.90	15 HOURS

DPTH (FT)	CASING BLOWS	SAMPLE				SAMPLE DESCRIPTION BURMISTER CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED		FIELD TESTING	R K				
		NO	PEN/REC	DEPTH (FT)	BLOWS/6"										
5		S-1	24/3	0-2	6-8	Medium Dense Brown fine to coarse SAND,	MEDIUM DENSE SAND	Native Soil	2" PVC	Native Soil	1/0 (TVOC PPM)	#1			
					10-12	trace Gravel, trace Silt									
		S-2	24/16	2-4	24-16	Dense Brown fine to coarse SAND,							2/0		
					19-17	trace Gravel, trace Silt									
		S-3	24/18	4-6	11-7	Medium Dense Brown fine to coarse SAND,							0/0		
10					8-6	trace Gravel, trace Silt								0/0	#2
		S-4	24/12	6-8	4-11	Medium Dense Brown fine to coarse SAND,									
					16-9	trace Gravel, trace Silt									
		S-5	24/12	8-10	7-7	Medium Dense Gray fine to coarse SAND,								0/0	
					7-8	trace fine Gravel, trace Silt									
15		S-6	24/12	10-12	7-7	Medium Dense Gray fine to coarse SAND,	LOOSE SAND	RISER			14/2				
					6-4	trace fine Gravel, trace Silt						30/3			
		S-7	24/18	12-14	4-4	Medium Dense Gray fine to coarse SAND,									
					7-4	trace fine Gravel, trace Silt									
		S-8	24/18	14-16	2-3	Loose Gray fine to coarse SAND + trace Silt.				15/2					
20					2-2		3" Silty Fine Sand	RISER			15/2				
		S-9	24/18	16-18	4-4	Loose Gray fine to coarse SAND + trace Silt.						15/2			
					4-4										
		S-10													
		S-11	24/12	18-20	4-3	3" LENSE Fine SAND, little Silt				15/2					
25					4-5	Loose Gray fine to coarse SAND + trace Silt.	Lense	BENT	CHIPS		3/3				
		S-12	24/12	20-22	3-3	Loose Gray fine to coarse SAND + trace Silt.						1/0			
					3-4										
		S-13	24/12	22-24	2-2	Loose Gray fine to coarse SAND + trace Silt.				11/6					
					3-2										
30		S-14	24/8	24-26	2-2	Loose Gray fine to coarse SAND, trace fine	LOOSE SAND	Filter: Sand	2" PVC		4/2				
					5-4	Gravel, trace Silt									
		S-15	24/20	26-28	6-8	Same				9/15					
		S-16				9-26	Dense Orange fine to coarse SAND, trace			2/14					
		S-17	24/18	28-30	11-18	fine Gravel, trace Silt				7/14					
35		S-18			4-6	Loose Brown fine to coarse SAND,	LOOSE SILTY SAND				3/1				
		S-19	24/18	32-34	4-2	little Silt, trace fine Gravel.						9/4			
					8-8										
		S-20	24/12	34-36	7-7	Medium Dense Brown fine to coarse SAND,	MEDIUM DENSE SAND			11/15					
					14-43	trace Gravel, trace Silt									
	S-21	22/12	36-38	27-28	Very Dense Orange fine to coarse SAND,	DENSE SAND			15/9						
				31-100	trace fine to coarse Gravel, trace Silt.	TILL				#3					
End of Exploartion at 36' BGS															

REMARKS:

- Field screening with Foxboro TVA-100 FID/PID reported as total VOCs by volume (TVOC) in parts per million (PPM).
- Light petroleum odor at 8 to 10-feet below ground surface.
- No laboratory Samples Collected.

NOTES:

- STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES; TRANSITIONS MAY BE GRADUAL.
- WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED; FLUCTUATIONS OF GROUNDWATER TABLE MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

<b>GZA GEOENVIRONMENTAL INC.</b> 530 BROADWAY, PROVIDENCE, RHODE ISLAND GEOTECH/GEOHYDROLOGICAL CONSULTANTS HYDROLOGICAL BORING LOG	PROJECT	REPORT OF BORING NO.	GZ-25
	Charbert Industries	SHEET	1 of 1
	Lagoon 5 Remediation	FILE NO.	32795.35
	Alton, Rhode Island	CHKD BY	EAS

BORING CO.	Geologic	BORING LOCATION	West Side of Lagoon 5
FOREMAN	Charles O'Donell	GROUND SURFACE ELEV.	45.85' DATUM TPVC 45.61'
GZA ENGINEER	Stephen Andrus	DATE START	6/29/09 DATE END 6/29/09

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 IN  CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 LB HAMMER FALLING 24 IN.  CASING SIZE: OTHER:	GROUNDWATER READINGS				
	DATE	TIME	WATER	CASING	STABILIZATION TIME
	6/29	16:00	2.76		
	6/30	7:30	2.80		15.5 hours

DPTH (FT)	CASING BLOWS	SAMPLE				SAMPLE DESCRIPTION BURMISTER CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING	R K
		NO	PEN/REC	DEPTH (FT)	BLOWS/6"					
5		S-1	24/16	0-2	1-3	Loose Brown fine to coarse SAND, trace Silt	SAND	Native Soil	0 (TVOC PPM)	1.
					7-6	-trace fine Gravel.				
		S-2	24/18	2-4	4-4	Loose Brown fine to medium SAND, little Silt	SILTY FINE SAND		0	
		S-3			3-4	Loose Black fine SAND, +little Silt				
		S-4	24/8	4-6	9-9	Medium Dense Brown fine to coarse SAND, + trace Silt, trace fine Gravel.	MEDIUM DENSE SAND		0	
					9-14					
		S-5	24/2	6-8	14-9	Medium Dense Brown fine to coarse SAND, + trace Silt, trace fine Gravel.			0	
					7-3					
		S-6	24/4	8-10	2-4	Medium Dense Gray fine SAND, trace Silt.			0	
		S-7			7-9	Medium Dense Brown fine to coarse SAND, little fine Gravel trace Silt.			0	
10		S-8	24/4		4-5	Medium Dense Gray fine to coarse SAND, trace fine Gravel, trace Silt		0		
					6-5					
		S-9	24/4	12-19	4-6	Medium Dense Gray fine to coarse SAND, trace fine Gravel, trace Silt		0		
					5-5					
15		S-10	24/12	14-16	5-5	Loose Brown-gray fine to coarse SAND, trace fine Gravel	BENT	CHIPS	1	
					5-5					
20		S-11	24/12	16-18	6-7	Loose Brown-gray fine to coarse SAND, trace fine Gravel	LOOSE SAND		0	
					5-5					
		S-12	24/18	18-20	6-8	Same			0	
		S-13	S-14		13-16	Medium Dense Black medium SAND.		2"		
		S-15	24/18	20-22	12-10	Medium Dense Orange fine to coarse SAND, trace Silt, trace fine Gravel.		P	0	
					14-24			V		
25		S-16	24/18	22/24	8-8	Medium Dense Orange fine to coarse SAND, trace Silt, trace fine Gravel.	MEDIUM DENSE SAND	Filter Sand	C	0
		S-17			11-12					
		S-18	24/16	24-26	7-8	Medium Dense Gray fine to medium SAND, trace Silt.			S	0
		S-19			9-9				C	0
		S-20	24/24	26-28	15-21	Dense Brown fine to coarse SAND, trace Silt.			E	0
30		S-21			16-23	Very Dense Orange/gray fine to coarse SAND, trace Silt.			E	0
		S-22	9/	28-28.75	36-100	TILL			N	0
						End of Exploration at 28.75' bgs				3.
35										

REMARKS:

- Field screening with a Thermo Environmental PID model 580B with a 10.6 eV lamp reporting TVOC by volume in PPM.
- 2" Black medium sand layer at 19.0' bgs.
- Sample S-22 sent for laboratory analysis of VOCs via EPA 8260.

NOTES:

- STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES; TRANSITIONS MAY BE GRADUAL.
- WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED; FLUCTUATIONS OF GROUNDWATER TABLE MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

<b>GZA GEOENVIRONMENTAL INC.</b> 530 BROADWAY, PROVIDENCE, RHODE ISLAND GEOTECH/GEOHYDROLOGICAL CONSULTANTS HYDROLOGICAL BORING LOG	PROJECT	REPORT OF BORING NO.	GZ-26
	Charbert Facility	SHEET	1 of 1
	Lagoon 5 Remediation	FILE NO.	32795.35
	Alton, Rhode Island	CHKD BY	

BORING CO.	Geologic	BORING LOCATION	West Side of Lagoon 5	
FOREMAN	Charles O'Donnell	GROUND SURFACE ELEV.	46.26'	DATUM TPVC 45.92
GZA ENGINEER	Stephen Andrus	DATE START	6/30/09	DATE END 6/30/09

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 IN.  CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 LB HAMMER FALLING 24 IN.  CASING SIZE: 4 Inch OTHER:	GROUNDWATER READINGS				
	DATE	TIME	WATER	CASING	STABILIZATION TIME
	6/30/09	15:00	2.92		
	7/01/09	8:30	2.98		17.5 hours

DPTH (FT)	CASING BLOWS	SAMPLE				SAMPLE DESCRIPTION BURMISTER CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING	R K
		NO	PEN/REC	DEPTH (FT)	BLOWS/6"					
5		S-1	24/16	0-2	1-3	LOAM	SAND	NATIVE SOIL	0 (TVOC PPM)	1.
					4-4	Loose Brown fine to coarse SAND, trace				
		S-2	24/4	2-4	6-8	Gravel, trace Silt.				
					5-4	Same				
		S-3	24/18	4-6	1-2	Very Loose Black fine SAND little Silt, trace organics				
10					2-2		MEDIUM DENSE SAND	2" P V C	0	
		S-4	24/20	6-8	2-3	Same				
					4-9	Loose Gray fine to coarse SAND, trace Silt.				
		S-5	24/10	8-10	1-1	Loose Gray fine to coarse SAND, trace Silt.				
					1-3					
		S-6	24/10	10-12	7-5	Loose Gray fine to coarse SAND, trace fine Gravel, trace Silt, trace Organics.				
					4-5					
		S-7	24/16	12-14	5-8	Medium Dense Gray fine to coarse SAND, trace fine Gravel, trace Silt, trace Organics.				
					6-9					
		S-8	24/12	14-16	7-5	Medium Dense Gray fine to coarse SAND, trace fine Gravel, trace Silt, no Organics.				
15					6-9		BENT	R I S E R	0	
		S-9	24/12	16-18	7-9	Medium Dense Gray fine to coarse SAND, trace fine Gravel, trace Silt.				
					8-9					
		S-10	24/12	18-20	3-5	Medium Dense Gray fine to coarse SAND, trace fine Gravel, trace Silt.				
					7-7					
		S-11	24/8	20-22	7-9	Medium Dense Orange fine to coarse SAND, trace fine Gravel, trace Silt.				
20					5-7		Filter Sand	2" S C R E N	0	
		S-12	24/12	22-24	5-7	Medium Dense Orange fine to coarse SAND, trace fine Gravel, trace Silt.				
					6-6					
		S-13	24/16	24-26	7-6	Medium Dense Brown fine to coarse SAND, trace fine Gravel, trace Silt.				
					9-6					
25		S-14	24/8	26-28	21-12	Medium Dense Brown fine to coarse SAND, trace fine Gravel, trace Silt.	TILL		0	
					9-12					
		S-15	24/9	28-30	12-9	Medium Dense Orange-brown, fine to coarse SAND, trace fine to coarse gravel, trace Silt				
					11-12					
30		S-16	5/3	30-32	100-	Weathered ROCK	BEDROCK		0	3.
35						End of Exploration at 30.5' bgs				

REMARKS:

- Field screening with ThermoEnvironmental PID Model 580B with 10.6 bulb.
- Thin stratified Silt lenses, 1/8" to 3/8" thick.
- Sample S-16 sent for laboratory analysis of VOC's via EPA 8260.

NOTES:

- STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES; TRANSITIONS MAY BE GRADUAL.
- WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED; FLUCTUATIONS OF GROUNDWATER TABLE MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.