00585

GROUNDWATER MONITORING REPORT
ASH LANDFILL
SECOND QUARTER 2003

Prepared for:

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And
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1 INTRODUCTION

This report summarizes results of the Second Quarter 2003 (2Q 2003) groundwater sampling and monitoring event completed at the Ash Landfill Operable Unit (Ash Landfill OU) at the Seneca Army Depot Activity (SEDA), Romulus, New York. The goal of groundwater monitoring at the Ash Landfill OU is to monitor the extent of the well-defined chlorinated ethene contaminant plume present at this operable unit and to monitor and evaluate the effectiveness of the existing iron reactive barrier, also known as the permeable reactive barrier (PRB). This work was performed in accordance with the requirements of Delivery Order 0010 of Contract DACA87-02-D-0005.

Historic groundwater data have been combined with information collected during the 2Q 2003 sampling event to evaluate flow characteristics and chemistry in the shallow groundwater aquifer at the Ash Landfill. **Section 2.0** provides a summary of the quarterly monitoring activities performed, **Section 3.0** provides a summary of monitoring results obtained, and **Section 4.0** summarizes the results and conclusions drawn from the 2Q 2003 sampling and monitoring event.

1.1 SITE BACKGROUND

The Ash Landfill OU site was initially estimated to encompass an area of approximately 130 acres at the SEDA. This larger area was investigated to ensure that previously unidentified waste disposal areas were not overlooked. Following the completion of the remedial investigation (RI), the area of the Ash Landfill OU was refocused to encompass an area of approximately 23 acres. This area overlays five known, historic Solid Waste Management Units (SWMUs) in the area including: the Ash Cooling Pond (SEAD-3), the Ash Landfill (SEAD-6), the Non-Combustible Fill Landfill (NCFL, SEAD-8), the Refuse Burning Pits (SEAD-14), and the Abandoned Solid Waste Incinerator Building (SEAD-15). SEAD-14 is also known as the Debris Piles. The Ash Landfill (SEAD-6) includes a groundwater plume, comprised mainly of chlorinated ethene compounds, that emanates from the area of the northwestern side of the original ash landfill SWMU (SEAD-6).

A non-time critical removal action, also known as an interim remedial measure (IRM), was conducted by the Army between August 1994 and June 1995 in accordance with requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Only soils within the portion of the original ash landfill SWMU known as the "Bend in the Road" were excavated and treated. Soil within this area was identified as the source of groundwater contamination during the RI. The IRM consisted of excavation and thermal treatment of volatile organic compounds (VOCs) impacted soils using the Low Temperature Thermal Desorption (LTTD) process. The objectives of the IRM were to thermally treat VOCs and polycyclic aromatic hydrocarbons (PAHs) in soils at two source areas near the "Bend in the Road" where sampling identified elevated concentrations of VOCs and PAHs. The IRM thermal treatment project provided a positive benefit for the long-term remedial action by eliminating continued the leaching of VOCs into groundwater and by preventing further human and wildlife exposure to VOC contaminated soils. .

In December 1998, a 650-foot long permeable reactive iron wall was installed approximately 100 feet east of the railroad tracks that run roughly parallel to the property line along the west side of the Ash Landfill OU. The wall was installed as a demonstration project to show whether the PRB technology could effectively reduce the concentrations of chlorinated ethenes contained in the migrating groundwater through reductive dechlorination. The wall was constructed by placing a mixture of 50 percent zero valent reactive iron granules and 50 percent sand into a trench measuring 14 inches wide, 650 feet long and varying in depth from 7 to 12 feet deep. Monitoring wells were installed upgradient, downgradient and within the bounds of the wall to monitor the continuing migration of the identified plume and the effectiveness of treatment achieved by the PRB. Groundwater sampling has been performed quarterly at these wells since the wall installation.

2 QUARTERLY MONITORING ACTIVITIES

Activities related to the 2Q 2003 sampling round at the Ash Landfill OU included a comprehensive gauging of all associated monitoring wells for groundwater elevations, and the collection of groundwater samples for laboratory analysis from 19 selected monitoring well locations. Chemical analysis performed included field measurements of natural attenuation properties, as well as laboratory analysis by a contract laboratory that is certified in the State of New York and by the U.S. Army Corps of Engineers. A detailed description of these activities is provided below.

2.1 GROUNDWATER ELEVATION MEASUREMENTS

Groundwater elevation data were collected from all site wells on July 7, 2003 by Parsons personnel prior to the commencement of sampling at the Ash Landfill OU. Depth to groundwater was measured from a known point at the top of the well casing using a Solnist® electronic water level indicator. The actual groundwater elevations were later calculated by subtracting the field measured depth to groundwater from the previously recorded surveyed elevation for the identified fixed fixed point at the top of each well casing.

2.2 GROUNDWATER SAMPLING

Groundwater sampling occurred at the Ash Landfill OU between July 7, 2003 and July 11, 2003. Parsons collected groundwater samples from 19 monitoring wells. Groundwater samples were collected following USEPA Region II low-flow groundwater sampling procedures. All monitoring wells, with the exceptions of the three wells that are located within the wall (i.e., MWT-2, MWT-5 and MWT-8), were initially purged using a QED bladder pump and dedicated Teflon® tubing that was connected to a flow-through cell. A Horiba U-22 Water Quality Monitoring System (Horiba, Ltd., Kyoto, Japan) was used to establish stabilization of groundwater quality by measuring the following parameters: pH, temperature, specific conductivity, oxidation-reduction potential (ORP), dissolved oxygen (DO), and turbidity. These parameters were recorded at regular intervals during purging. Purge volume was estimated based on the water column height and diameter of the well. Wells were sampled when one of

the following occurred: 1) groundwater quality stabilization was achieved; or 2) five well volumes were extracted from the well. Groundwater quality stabilization is achieved per EPA Region 2 Guidance on low-flow sampling procedures once three consecutive readings of pH for the purge water are within ±0.1 standard units, when specific conductivity readings are within ±3%, when turbidity and DO measurements are within ±10%, and when ORP measurements are within ±10 millivolts (mV). A final round of groundwater quality values were recorded after parameter stabilization and immediately prior to collection of groundwater samples for laboratory sampling. The final recorded values are considered to represent the level of the parameters at the time of sampling. Immediately following the completion of well purging, tubing was disconnected from the flow-through cell (to reduce the potential for cross-contamination and volatilization) and necessary samples were collected.

The three trench wells (i.e., well MWT-2, MWT-5 and MWT-8) are constructed of 1-inch PVC tubing, which prevents them from being sampled using a 2-inch diameter bladder pump. These wells were sampled using a peristaltic pump, which was connected to the Horiba U-22 Water Quality Monitoring System where the same parameters (i.e., pH, specific conductance, turbidity, DO, and ORP) were measured and stabilized as described above. Sampling was initiated once stabilization was determined or once five well volumes of water were removed.

2.3 GROUNDWATER ANALYSES

The groundwater quality sampling matrix for the 19 sampling locations included in the 2Q 2003 sampling event is included in **Table 2-1**. As shown on the sample matrix (**Table 2-1**), two duplicates, two pairs (four samples total) of matrix spikes (MS) and matrix spike duplicates (MSDs), two rinse blanks, and four trip blanks were collected and analyzed as part of the 2Q 2003 groundwater sampling event.

As is shown in **Table 2-1,** alkalinity, carbon dioxide (CO_2), hydrogen sulfide (H_2S), and ferrous iron content was measured in the field at each of the sampling locations. A Model DR/700 colorimeter (Hach Company, Loveland, CO) was used to measure hydrogen sulfide and ferrous iron levels, and a Model AL-APMG-L test kit (Hach Company, Loveland, CO) was used to measure alkalinity and carbon dioxide content.

Groundwater samples were collected and sent to General Engineering Laboratories (GEL; Charleston, SC) for analysis of VOCs. Two different USEPA recommended analysis methods, EPA 524.2 and SW-846 Method 8260B, were used for the analysis of groundwater samples as are listed in **Table 2-1**. In general, samples collected from locations near the reactive wall were analyzed using EPA Method 524.2, which can separately determine cis-1,2-dichloroethene (cis-1,2-DCE) from trans-1,2-dichloroethene (trans-1,2-DCE), and which also has a lower detection limit for all analytes determined. Samples collected from locations further upgradient or downgradient of the PRB wall were analyzed using USEPA SW-846 Method 8260B. Compound identification is more certain via SW-846 Method 8260B, but the detection limits are slightly higher and this method has less ability to separate

cis-1,2- and trans-1,2-DCE. In wells downgradient of the PRB wall, concentrations of chlorinated ethenes are expected to be lower than concentrations in other regions of the plume.

3 QUARTERLY MONITORING RESULTS

3.1 GROUNDWATER ELEVATION CONDITIONS

Depth to groundwater measurements were used in conjunction with known, reference point elevation data to compute groundwater elevation data for each monitoring well location at the Ash Landfill OU. Groundwater elevations calculated during the 2Q 2003 sampling round are reported in **Table 3-1**, along with historic maximum and minimum measured elevations for each well and the height of water standing in each well prior to sampling. Based on a review of the historic data for the 60 monitoring wells listed in **Table 3-1**, the average seasonal variation in groundwater elevation at the site is 6 feet and the maximum-recorded seasonal variation in groundwater elevation is 13.52 feet (MW-50D). **Appendix A** contains a listing of all groundwater elevation data collected at the Ash Landfill between 1995 and 2Q 2003.

The groundwater elevation in 53 wells were determined during the 2Q 2003 sampling event; however only 19 wells were sampled. Groundwater elevation data from the additional wells were used to aid in creating a more comprehensive groundwater contour map, which is shown in **Figure 3-1**. The groundwater flow direction is generally to the west, as seen in **Figure 3-1**, with an average horizontal hydraulic gradient of approximately 0.02 $^{ft}/_{ft}$ (Feasibility Memorandum for Groundwater Remediation Alternatives using Zero Valence Iron Continuous Reactive Wall at the Ash Landfill, August 2000). The 2Q 2003 groundwater elevation data are generally consistent with historic groundwater elevations found at the Ash Landfill operational unit at this timeof the year.

3.2 GROUNDWATER ANALYTICAL RESULTS – DOWNGRADIENT TOWARDS PRB

Field parameters measured prior to the collection of the analytical groundwater samples are presented in **Table 3-2**. Analytical results for the 2Q 2003 groundwater samples are presented in **Tables 3-3** and **3-4**. The complete laboratory report obtained from General Environmental Laboratories for the groundwater samples is presented in **Appendix B**. **Table 3-3** presents all analytical data reported by the laboratory. **Table 3-4** provides a summary of the complete data set, in which only wells where detectable levels of VOCs via either analytical method are reported.

The results indicate that Trichloroethene (TCE) was detected at 14 sample locations and exceeded the GA groundwater standard of 5 µg/L at 9 locations (MW-28, MW-44A, MW-46, MWT-1, MWT-3, MWT-7, MWT-9, MWT-10, and PT-12A). Seven of the locations where the TCE concentration was seen to exceed the GA groundwater standard are located upgradient of the PRB. The remaining two locations (i.e., MWT-3 and MWT-9) are located downgradient of the wall. As shown in **Figure 3-2**, TCE concentrations downgradient of the PRB are lower than those recorded upgradient of the PRB.

This is a strong preliminary indication, based solely on the VOC results, that the PRB is working as designed.

Cis-1,2-dichloroethene (cis-1,2-DCE) was detected at 18 locations and exceeded the GA standard of 5 µg/L at 16 of those sample locations. **Figure 3-2** displays these results. Four of the locations (i.e., MWT-3, MWT-6, MWT-9, and PT-24) where cis-1,2-dichloroethene was found at levels higher than its GA groundwater standard are downgradient of the PRB; three others (i.e., MWT-2, MWT-5, and MWT-8) are located within the PRB.

The maximum detected concentrations of TCE and cis-1,2-DCE in groundwater were 1280 µg/L and 3180 µg/L, respectively, and these were found collocated in well PT-12A, which is located downgradient of the original contamination source, but within the measured pathway of the plume. A significant level of cis-1,2-DCE (478 µg/L) was also detected in well MW-44A, which is north of PT-12A and upgradient of the PRB.

The combined concentration of total chlorinated ethenes [i.e., tetrachloroethene, trichlroethene, dichlorethene (cis-1,2- and trans-12,- or total 1,2-) and vinyl chloride] present in the shallow aquifer in the area of the Ash Landfill OU was determined, and the resulting data is presented in **Figure 3-3** to provide an indication of the current extent of the plume. The level of total chlorinated ethene present at each well location was computed by adding the number of TCE equivalents that are present at each site based on the reported levels of the four individual ethenes identified in the sample. TCE equivalents for each of the chlorinated ethene compounds were calculated by ratioing the detected concentration of the specific compound identified in the well to its molecular weight multiplied by the molecular weight of TCE. An example calculation is presented in Appendix C, along with individual ethene data for the 2Q 2003 sampling event. For purposes of comparison, an equivalent presentation of the total chlorinated ethene data based on the October 1999 sampling results has been provided on the same figure to show how the plume has changed and moved since that time. Comparative groundwater elevation data collected in July 2003 and October 1999 are presented for several of the key wells within the plume on **Figure 3-4.** Review of the groundwater elevation figure indicates that the October 1999 and July 2003 groundwater elevation conditions are very similar.

Generally, this comparison indicates that although the overall shape of the mapped total chlorinated ethene plumes are generally similar, the strength of the plume appears to have diminished. The most significant change is seen at the eastern extreme of the mapped plume where the former zone of 10,000 µg/L of total chlorinated ethene surrounding well location PT-18 is absent for 2Q 2003. Although a groundwater sample was not collected from location PT-18 in 2Q 2003, the 1Q 2003 sampling event showed that levels of cis-1,2-DCE and TCE were only 3 µg/L and 27.3 µg/L, respectively at this location. It now appears that the strongest portion of the chlorinated ethene plume has moved westerly where it has strengthened the total chlorinated ethene concentration found at PT-12A (approximately 2100 µg/L in 1999 and now approximately 6000 µg/L). The noted increase of total chlorinated ethene concentration is driven by the cis-1,2-DCE concentration of 3180 µg/L (more than a three-fold increase

from a level of 940 µg/L in October 1999) and a level of 1280 µg/L TCE (a 1.5 times increase from the October 1999 date). The relative levels of the three detected ethenes seen at location MW-44A, which forms the northern bound of the 1000 µg/L plume draw have all shown slight decreases (cis-1,2-DCE 690 to 480 µg/L; vinyl chloride 180 to 162 µg/L; and TCE 26 to 10.9 µg/L) with the passage of time.

The chlorinated ethene concentrations trends for locations PT-12A and MW-44A are shown in **Figures 3-5** and **3-6**, which are the individual trend analysis graphs for the respective wells..

The comparative trend maps shown in **Figure 3-3** also shows that the length of the plume has elongated towards the north along the eastern edge of the PRB wall. In the 1999 map, concentrations of greater than 100 µg/L of total chlorinated ethene located upgradient of the PRB are observed at locations MW-29 and MWT-7. In the 2Q 2003 map, total chlorinated ethene concentrations upgradient of the PRB are greater than 100 µg/L at MWT-7, MW-29, MWT-4 and MWT-1. Additionally, the 2Q 2003 map continues to show that there is elevated concentrations of total chlorinated ethenes downgradient of the walls in the area of MWT-9 (towards the southern end of the PRB wall). The total chlorinated ethene at this location is predominated by TCE (171 µg/L), with a lesser amount of cis-1,2-DCE (57.8 µg/L). A level of 56 µg/L of TCE and 38 µg/L of cis-1,2-DCE were detected in this same location in 1999. The actual cause of the total chlorinated ethenes found at MWT-9 remains uncertain at this time. One possible explanation could be the continuing release of TCE from soils downgradient of the PRB. Another possible cause is preferential flow through this portion of the PRB due to remnants of the former building foundation that was located in this area.

Finally, the small pocket of total chlorinated ethenes at a concentration above 100 µg/L that was previously located at PT-24 is now found to have lessened and appears to be diminishing.

3.3 GROUNDWATER ANALYTICAL RESULTS – VICINITY OF PRB

During the 2Q 2003 sampling event, samples were collected from three tiered well-groupings that transect the existing PRB. Each cluster consists of three wells, , one upgradient of the PRB, one within the PRB, and one downgradient of the PRB. The three well groupings are MWT-1, MWT-2, and MWT-3; MWT-4, MWT-5, and MWT-6; and MWT-7, MWT-8, and MWT-9. As is shown on **Figure 3-6**, wells MWT-1, MWT-4, and MWT-7 are located immediately upgradient of the PRB and wells MWT-3, MWT-6, and MWT-9 are located immediately downgradient of the PRB. Wells MWT-2, MWT-5, and MWT-8 are located in the middle of the PRB. One purpose for including these well groupings was to allow for an evaluation of whether the PRB is enhancing the attenuation of chlorinated ethenes contained in the groundwater at the Ash Landfill OU.

The maximum measured TCE concentration found near the PRB was 506 µg/L at monitoring well MWT-7, which is located on the southern end of the wall, upgradient of the barrier, as shown on the enlarged figure of the reactive wall in **Figure 3-6**. The maximum measured cis-1,2-DCE concentration

in wells near the PRB was 97.8 µg/L at MWT-8. Well MWT-8 is within the same well triplet as MWT-7, but is located within the wall.

Detectable levels of TCE above the GA standard (5 ug/L) were found at MWT-7 (506 µg/L) and MWT-1 (15.9 µg/L) which are upgradient of the wall near the southern and northern ends of the PRB, and at location MWT-9 (171 µg/L) and MWT-3 (6.4 µg/L), which are both downgradient of the PRB and in the same triplets as MWT-7 and MWT-1. Well MWT-5, located in the center of the PRB at the approximate center of its overall length showed a low level of TCE (1.3 µg/L). Neither of the other wells within the PRB (i.e., MWT-2 or MWT-8), nor MWT-6 which is located downgradient of the PRB in the approximate center of its span, showed any evidence of TCE.

Detectable levels of cis-1,2-DCE above the GA standard (5 µg/L) were found at all two of the three monitoring wells within the wall (MWT-5, 7.7 µg/L and MWT-8, 97.8 µg/L) and at four monitoring wells that are immediately downgradient of the PRB (MWT-3, MWT-6, MWT-9, and PT-24), with a maximum concentration of 58.2 µg/L at PT-24.

Figures 3-7, **3-8**, and **3-9** present the concentrations of TCE and cis-1,2-DCE found at three locations bisecting the PRB. In each case, the combined total ethene concentrationdecreases by greater than 50% as the plume flows from the upgradient side to the downgradient side of the PRB.

With reference to the southern-most PRB transect, the concentration of TCE was observed to decrease from 506 µg/L at MWT-7 to 171 µg/L at MWT-9, while the cis-1,2-DCE concentration increased from 29.3 µg/L at MWT-7 to 57.8 µg/L at MWT-9. The slight rebound in TCE and cis-1,2-DCE concentrations in the downgradient well suggests that there may be some residual contamination present downgradient of the wall, or there maybe some preferential flow path in the area of the old building foundation.. Nevertheless, the wall appears to be functioning as the design specifications indicated for breaking down TCE into byproducts. The natural attenuation parameters, shown in **Table 3-5,** indicate the marked decrease of ORP, DO and CO2 in the wells within the wall and marked decrease in concentrations following the interaction with the wall. The decreases in concentrations following interaction with the wall are indicative that water reacting with an iron-bearing wall. The decrease of total chlorinated ethene loadings on the downgradient side of the PRB suggests that the wall is working as designed.

Figure 3-10 depicts the historic groundwater trend associated with well number PT-24, which is downgradient of the PRB. Concentrations of TCE and, more notably, cis-1,2-DCE have decreased since the installation of the wall in 1998 (**Figure 3-3**). The marked decrease in the trend indicates that the wall is functioning as intended.

4 SUMMARY AND CONCLUSIONS

In summary, the 2Q 2003 groundwater monitoring and sampling event found:

1. Groundwater flow direction, and horizontal gradients are consistent with previous data collected in the Ash Landfill OU.

2. Generally, TCE and cis-1,2-DCE concentrations have decreased in monitoring wells PT-12A and MW-44a, which are both in the immediate vicinity of the original source area, since 1994 and 1995 when the removal action was conducted. There was an apparent seasonal-driven increase in the concentrations TCE and cis-1,2-DCE measured at these location during the 2Q 2003 event, but generally both wells have shown a lessening of the level of contamination present. This suggests that the source area removal was successful.

3. Biodegradation is occurring as the contaminated groundwater plume moves through the PRB wall. Evidence of product breakdown is shown in the decreased amounts of TCE and cis-1,2-DCE on the downgradient side of the reactive wall. It is assumed that some residual contamination exists in the soil downgradient of the wall and is partially responsible for some of the concentrations of chlorinated ethenes seen in the downgradient monitoring wells.

4. Data suggests that the most concentrated portion of the chlorinated ethene plume passes through the southern end of the PRB, close to the location of the access roadway. This suggests that shorter walls may be sufficient to remove the remaining chlorinated solvents from the groundwater upgradient of the treatability study PRB wall in a timely manner.

Monitoring well PT-21A will not be sampled during the forthcoming sampling event since it has been determined that this is a bedrock well and not an overburden well. Past sampling of PT-21A has not indicated elevated concentrations of any of the ethenes. Well PT-22, an overburden well located approximately four feet downgradient of PT-21A, will be sampled as a replacement well to provide a better definition of the plume that appears to be centered and focused in the overburden aquifer.

TABLE 2-1
GROUNDWATER SAMPLING MATRIX - SECOND QUARTER 2003
GROUNDWATER MONITORING - ASH LANDFILL
SENECA ARMY DEPOT ACTIVITY

			Field Parameters										Lab Parameters	
Location	Sample ID	QC Code	pH	Spec Cond	Eh or ORP	DO	Turbidity	Sulfide (H_2S)	Ferrous FE	Alkalinity	Temp	CO_2	VOC EPA 524.2	VOC CLP SW 8260B
Site Monitoring Wells														
MW-28	ARD2205	SA	X	X	X	X	X	X	X	X	X	X	X	
MW-44A	ARD2206	SA	X	X	X	X	X	X	X	X	X	X		X
MW-46	ARD2207	SA	X	X	X	X	X	X	X	X	X	X		X
MW-53	ARD2208	SA	X	X	X	X	X	X	X	X	X	X		X
MW-56	ARD2209	SA	X	X	X	X	X	X	X	X	X	X		X
PT-12A	ARD2210	SA	X	X	X	X	X	X	X	X	X	X		X
PT-21A	ARD2211	SA	X	X	X	X	X	X	X	X	X	X		X
PT-24	ARD2212	SA	X	X	X	X	X	X	X	X	X	X	X	
Permeable Reactive Barrier Monitoring Wells														
MWT-1	TR2112	SA	X	X	X	X	X	X	X	X	X	X		X
MWT-2	TR2113	SA	X	X	X	X	X	X	X	X	X	X	X	
MWT-3	TR2114	SA	X	X	X	X	X	X	X	X	X	X	X	
MWT-4	TR2115	SA	X	X	X	X	X	X	X	X	X	X	X	
MWT-5	TR2116	SA	X	X	X	X	X	X	X	X	X	X	X	
MWT-6	TR2117	SA	X	X	X	X	X	X	X	X	X	X	X	
MWT-7	TR2118	SA	X	X	X	X	X	X	X	X	X	X	X	
MWT-8	TR2119	SA	X	X	X	X	X	X	X	X	X	X	X	
MWT-9	TR2120	SA	X	X	X	X	X	X	X	X	X	X	X	
MWT-10	TR2121	SA	X	X	X	X	X	X	X	X	X	X	X	
MWT-11	TR2122	SA	X	X	X	X	X	X	X	X	X	X	X	
QA/QC Samples														
(Duplicate) MWT-1	ARD2213	SA	X	X	X	X	X	X	X	X	X	X		X
(Duplicate) MWT-4	TR2123	SA	X	X	X	X	X	X	X	X	X	X	X	
MWT-10	TR2121MS	MS											X	
MWT-10	TR2121MSD	MSD											X	
MW-46	ARD2207MS	MS												X
MW-46	ARD2207MSD	MSD												X
Rinsate	TR0044	RB											X	
Rinsate	ARD0034	RB												X
Trip Blank	TR0045	TB											X	
Trip Blank	TR0046	TB											X	
Trip Blank	ARD0035	TB												X
Trip Blank	ARD0036	TB												X
													17	13

* Set pump intake at midpoint of saturated column or 1.25 feet off the bottom of the well, to allow a minimum distance of 1.25 feet between intake and POW

MS - Matrix Spike
MSD - Matrix Spike Duplicate
RB - Rinse Blank
TB - Trip Blank

TABLE 3-1
GROUNDWATER ELEVATION DATA - SECOND QUARTER 2003
GROUNDWATER MONITORING - ASH LANDFILL
SENECA ARMY DEPOT ACTIVITY

Monitoring Well	Top of Riser Elevation (ft)	2Q2003				Historical Data			
		Date Measured	Saturated Thickness (ft)	Depth to Groundwater (ft)	Water Level Elevation (ft)	Groundwater Elevation (ft)			Well Depth (ft)
						Maximum	Minimum	Range	
PT-10	681.52					676.90	671.02	5.88	46.36
PT-11	658.22	7/7/03	11.82	7.73	650.49	654.03	647.79	6.24	19.55
PT-12A	652.15	7/7/03	4.91	8.47	643.68	649.01	642.26	6.75	13.38
PT-15	637.76	7/7/03	11.46	8.04	629.72	633.74	627.38	6.36	19.50
PT-16	637.51	7/7/03	6.17	4.87	632.64	634.85	629.83	5.02	11.04
PT-17	640.14	7/7/03	3.55	8.10	632.04	635.85	629.05	6.80	11.65
PT-18	656.68					652.28	646.30	5.98	11.70
PT-19	645.26	7/7/03	4.93	6.77	638.49	643.61	635.01	8.60	11.70
PT-20	647.28	7/7/03	2.69	9.11	638.17	642.34	637.41	4.93	11.80
PT-21A	647.73	7/7/03	10.52	8.94	638.79	643.84	637.22	6.62	19.46
MW-22	648.61	7/7/03	2.23	9.58	639.03	644.30	637.51	6.79	11.81
PT-23	641.58	7/7/03	4.39	7.69	633.89	638.14	632.35	5.79	12.08
PT-24	636.40	7/7/03	6.36	5.52	630.88	632.76	627.99	4.77	11.88
PT-25	637.09	7/7/03	4.54	7.49	629.6	633.51	625.64	7.87	12.03
PT-26	614.64					611.60	601.53	10.07	14.00
MW-27	639.32	7/7/03	3.70	6.84	632.48	634.88	630.09	4.79	10.54
MW-28	637.21	7/7/03	4.51	5.88	631.33	632.57	628.71	3.86	10.39
MW-29	637.31	7/7/03	4.00	6.54	630.77	632.10	627.30	4.80	10.54
MW-30	640.32	7/7/03	0.95	9.57	630.75	636.42	629.88	6.54	10.52
MW-31	636.70	7/7/03	3.66	6.69	630.01	634.22	627.02	7.20	10.35
MW-32	641.68	7/7/03	1.30	9.07	632.61	637.84	632.61	5.23	10.37
MW-33	639.56	7/7/03	0.86	9.53	630.03	635.65	629.72	5.93	10.39
MW-34	632.89					630.15	622.36	7.79	18.15
MW-35D	631.82	7/7/03	52.52	4.12	627.7	629.44	624.62	4.82	56.64
MW-36	631.79	7/7/03	12.57	4.01	627.78	629.47	622.26	7.21	16.58
MW-37	632.89					630.65	625.77	4.88	13.62
MW-38D	637.90	7/7/03	26.74	5.50	632.4	635.39	628.99	6.40	32.24
MW-39	659.54	7/7/03	7.42	4.47	655.07	657.84	650.47	7.37	11.89
MW-40	659.30	7/7/03	7.98	6.73	652.57	655.85	650.16	5.69	14.71
MW-41D	694.02					687.92	685.21	2.71	47.02
MW-42D	683.04					680.67	671.39	9.28	47.38
MW-43	657.73	7/7/03	2.23	5.24	652.49	655.36	650.73	4.63	7.47
MW-44A	653.85	7/7/03	4.56	7.92	645.93	650.37	642.42	7.95	12.48
MW-45	650.90	7/7/03	2.02	6.32	644.58	648.80	643.12	5.68	8.34
MW-46	650.41	7/7/03	4.00	7.45	642.96	648.03	641.12	6.91	11.45
MW-47	628.06	7/7/03	3.03	5.53	622.53	625.76	619.88	5.88	8.56
MW-48	648.32	7/7/03	5.18	6.32	642	645.57	639.94	5.63	11.50
MW-49D	650.50	7/7/03	30.29	7.25	643.25	647.62	641.55	6.07	37.54
MW-50D	649.88	7/7/03	52.58	7.08	642.8	647.40	633.88	13.52	59.66
MW-51D	628.24	7/7/03	31.05	5.82	622.42	628.24	620.49	7.75	36.87
MW-52D	626.35	7/7/03	54.06	5.30	621.05	624.17	618.67	5.50	59.36
MW-53	639.41	7/7/03	2.71	7.64	631.77	633.84	629.46	4.38	10.35
MW-54D	639.11	7/7/03	27.39	7.60	631.51	633.43	628.66	4.77	34.99
MW-55D	639.16	7/7/03	50.41	7.77	631.39	633.41	627.96	5.45	58.18
MW-56	630.51	7/7/03	2.09	4.79	625.72	627.56	621.66	5.90	6.88
MW-57D	629.82	7/7/03	31.02	4.07	625.75	628.13	621.76	6.37	35.09
MW-58D	629.69	7/7/03	53.44	3.85	625.84	628.37	623.94	4.43	57.29
MW-59	656.83	7/7/03	5.11	3.99	652.84	654.93	649.85	5.08	9.10
MW-60	660.15	7/7/03	5.12	4.38	655.77	658.20	652.23	5.97	9.50
MWT-1	637.24	7/7/03	4.29	5.46	631.78	632.47	629.06	3.41	9.75
MWT-2	637.19	7/7/03	4.00	5.55	631.64	632.27	629.94	2.33	9.55
MWT-3	637.31	7/7/03	4.31	5.69	631.62	632.20	628.99	3.21	10.00
MWT-4	637.68	7/7/03	6.13	6.30	631.38	632.58	627.28	5.30	12.43
MWT-5	637.72	7/7/03	5.32	6.63	631.09	632.45	628.67	3.78	11.95
MWT-6	637.59	7/7/03	5.70	6.58	631.01	632.38	627.24	5.14	12.28
MWT-7	638.34	7/7/03	7.00	6.97	631.37	632.92	626.58	6.34	13.97
MWT-8	638.40	7/7/03	5.10	7.45	630.95	635.90	627.95	7.95	12.55
MWT-9	638.08	7/7/03	6.93	7.21	630.87	632.42	626.04	6.38	14.14
MWT-10	636.07	7/7/03	4.50	4.45	631.62	632.23	629.55	2.68	8.95
MWT-11	635.90	7/7/03	5.12	4.83	631.07	633.82	626.92	6.90	9.95

TABLE 3-2
FIELD MONITORING RESULTS - SECOND QUARTER 2003
GROUNDWATER MONITORING - ASH LANDFILL
SENECA ARMY DEPOT ACTIVITY

Well ID	Sample ID	Temp. (°C)	Specific Conductance (uS/cm)	pH	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	CO_2 (mg/L)	Alkalinity (mg/L)	Ferrous Iron (mg/L)	H_2S (mg/L)
MW-28	ARD2205	14.4	0.742	6.95	190	0.32	3.4	108	293	0.44	0.041
MW-44A	ARD2206	13.36	5.59	7.22	-74	0.31	0	112.8	276	0.92	0.025
MW-46	ARD2207	14.64	1.12	6.85	-108	0.09	14.8	112	364	5.1	0.017
MW-53	ARD2208	13.84	1.07	7.08	175	2.83	3.6	102.2	272	0.44	0.048
MW-56	ARD2209	16.76	0.672	6.85	152	0.63	6.4	106	213	0.28	0.016
PT-12A	ARD2210	13.3	2.8	6.95	74	0.55	20.2	154.2	275	0.1	0.18
PT-21A	ARD2211	10.74	1.43	7.43	7	3.04	13.8	90.2	256	0.88	0.27
PT-24	ARD2212	14.15	0.592	7.31	-29	0.26	0.7	32.8	107	0.23	0.013
MWT-1	TR2112	15.44	0.914	7.07	178	2.51	2.3	92	354	0.53	0.016
MWT-2	TR2113	14.36	0.32	8.39	-325	0.44	25.5	21.8	88	0.72	0.211
MWT-3	TR2114	15.83	0.757	7.22	-70	0.53	8.8	72	240	0.68	0.051
MWT-4	TR2115	12.3	0.938	7.27	165	5.32	9.3	124	291	1.11	0.025
MWT-5	TR2116	13.46	0.376	9.66	-354	0.33	2.4	3.8	15	0.52	0.018
MWT-6	TR2117	12.52	0.375	8.16	-142	3.45	14.9	20.6	44	0.28	0.012
MWT-7	TR2118	12.35	0.834	7.11	187	6.69	60.3	128.6	369	0.22	0.012
MWT-8	TR2119	13.8	0.192	9.43	-312	0.1	0	0	110.9	0.02	0.012
MWT-9	TR2120	12.42	0.61	7.38	-21	3.84	188	105.6	272	0.24	0.304
MWT-10	TR2121	14.7	0.133	9.22	-234	0.36	0.34	10	32	0.09	0.032
MWT-11	TR2122	15.77	0.787	7.17	201	3.8	745	139.8	218.5	0.94	0.41

mg/L - milligrams per liter
mV - millivolts
uS/cm - microsiemens per centimeter
NTU - Nephelometric Turbidity Unit

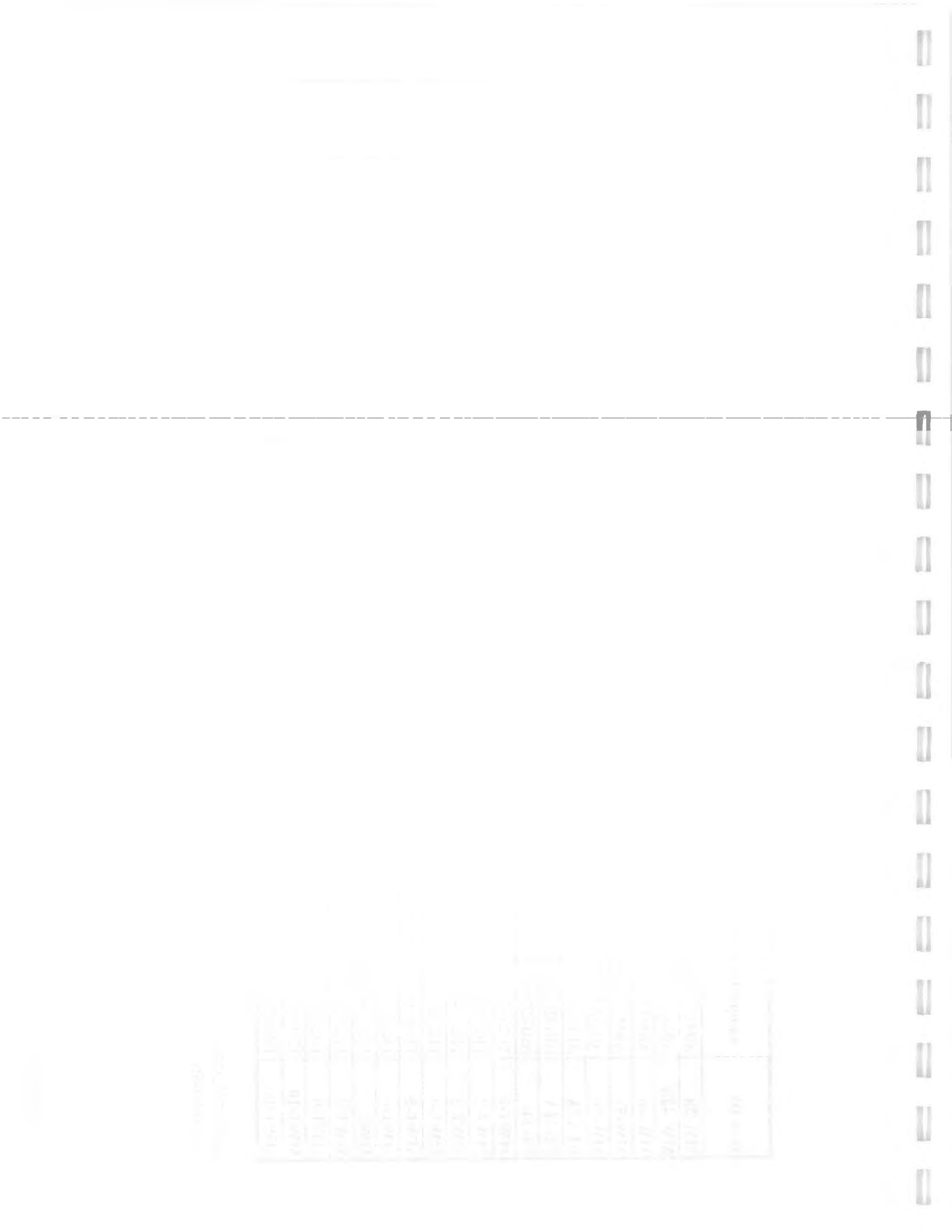

TABLE 3-3
RESULTS OF GROUNDWATER ANALYSIS - SECOND QUARTER 2003
GROUNDWATER MONITORING - ASH LANDFILL
SENECA ARMY DEPOT ACTIVITY

Parameter	Units	Maximum Value	Frequency of Detection	Criteria Level	Number of Exceedances	Number of Times Detected	Number of Samples Collected	ASH LNDFL MW-28 GRNDWTR ARD2205 8.39 8.39 7/10/03 SA ASH RD 20 Value (Q)	ASH LNDFL MW-44A GRNDWTR ARD2206 10.48 10.48 7/9/03 SA ASH RD 20 Value (Q)	ASH LNDFL MW-46 GRNDWTR ARD2207 9.45 9.45 7/9/03 SA ASH RD 20 Value (Q)	ASH LNDFL MW-53 GRNDWTR ARD2208 8.35 8.35 7/8/03 SA ASH RD 20 Value (Q)	ASH LNDFL MW-56 GRNDWTR ARD2209 7.88 7.88 7/8/03 SA ASH RD 20 Value (Q)	ASH LNDFL MWT-1 GRNDWTR TR2112 8.13 8.13 7/10/03 SA ASH TRENCH 20 Value (Q)	ASH LNDFL MWT-1 GRNDWTR ARD2213 7 7 7/10/03 SA ASH TRENCH 20 Value (Q)	ASH LNDFL MWT-10 GRNDWTR TR2121 7 7 7/10/03 SA ASH TRENCH 20 Value (Q)
VOLATILE ORGANIC COMPOUNDS															
1,1,1,2-Tetrachloroethane	ug/L	0	0%	5	0	0	13	0.5 U							0.5 U
1,1,1-Trichloroethane	ug/L	1.4	19%	5	0	4	21	0.5 U	1.4	1 U	1 U	1 U	1 U	1 U	0.5 U
1,1,2,2-Tetrachloroethane	ug/L	0	0%	5	0	0	21	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U
1,1,2-Trichloroethane	ug/L	0	0%	1	0	0	21	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U
1,1-Dichloroethane	ug/L	5.7	29%	5	1	6	21	0.5 U	5.7	1 U	1 U	1 U	1 U	1 U	0.5 U
1,1-Dichloroethene	ug/L	6.3	10%	5	1	2	21	0.5 U	0.62 J	1 U	1 U	1 U	1 U	1 U	0.5 U
1,1-Dichloropropene	ug/L	0	0%	5	0	0	13	0.5 U							0.5 U
1,2,3-Trichlorobenzene	ug/L	0	0%	5	0	0	13	0.5 U							0.5 U
1,2,3-Trichloropropane	ug/L	0	0%	0.04	0	0	13	0.5 U							0.5 U
1,2,4-Trichlorobenzene	ug/L	0	0%	5	0	0	13	0.5 U							0.5 U
1,2,4-Trimethylbenzene	ug/L	0	0%	5	0	0	13	0.5 U							0.5 U
1,2-Dibromo-3-chloropropane	ug/L	0	0%	0.04	0	0	13	0.5 U							0.5 U
1,2-Dibromoethane	ug/L	0	0%	0.0006	0	0	13	0.5 U							0.5 U
1,2-Dichlorobenzene	ug/L	0	0%	3	0	0	13	0.5 U							0.5 U
1,2-Dichloroethane	ug/L	0.36	14%	0.6	0	3	21	0.5 U	0.36 J	1 U	1 U	1 U	1 U	1 U	0.5 U
1,2-Dichloropropane	ug/L	0	0%	1	0	0	21	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U
1,3,5-Trimethylbenzene	ug/L	0	0%	5	0	0	13	0.5 U							0.5 U
1,3-Dichlorobenzene	ug/L	0	0%	3	0	0	13	0.5 U							0.5 U
1,3-Dichloropropane	ug/L	0	0%	5	0	0	13	0.5 U							0.5 U
1,4-Dichlorobenzene	ug/L	0	0%	3	0	0	13	0.5 U							0.5 U
2,2-Dichloropropane	ug/L	0	0%		0	0	13	0.5 U							0.5 U
2-Chlorotoluene	ug/L	0	0%	5	0	0	13	0.5 U							0.5 U
Acetone	ug/L	0	0%		0	0	8		5 U	5 U	5 U	5 U	5 U	5 U	
Benzene	ug/L	0.81	38%	1	0	8	21	0.5 U	0.48 J	1 U	1 U	1 U	1 U	1 U	0.64
Bromobenzene	ug/L	0	0%	5	0	0	13	0.5 U							0.5 U
Bromochloromethane	ug/L	0	0%	5	0	0	13	0.5 U							0.5 U
Bromodichloromethane	ug/L	0	0%	80	0	0	21	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U
Bromoform	ug/L	0	0%	80	0	0	21	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U
Carbon disulfide	ug/L	0	0%		0	0	8		5 U	5 U	5 U	5 U	5 U	5 U	
Carbon tetrachloride	ug/L	0	0%	5	0	0	21	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U
Chlorobenzene	ug/L	0	0%	5	0	0	21	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U
Chlorodibromomethane	ug/L	0	0%	80	0	0	21	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U
Chloroethane	ug/L	0	0%	5	0	0	21	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U
Chloroform	ug/L	0	0%	7	0	0	21	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U
Cis-1,2-Dichloroethene	ug/L	3180	95%	5	17	20	21	14.4	678	47	3.6	1.6	83.8	83.8	3.1
Cis-1,3-Dichloropropene	ug/L	0	0%	0.4	0	0	21	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U
Dichlorodifluoromethane	ug/L	0	0%	5	0	0	13	0.5 U							0.5 U
Ethyl benzene	ug/L	0	0%	5	0	0	21	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U
Hexachlorobutadiene	ug/L	0	0%	0.5	0	0	13	0.5 U							0.5 U
Isopropylbenzene	ug/L	0	0%	5	0	0	13	0.5 U							0.5 U
Meta/Para Xylene	ug/L	0	0%		0	0	13	0.5 U							0.5 U
Methyl bromide	ug/L	0	0%	5	0	0	21	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U
Methyl butyl ketone	ug/L	0	0%		0	0	8		5 U	5 U	5 U	5 U	5 U	5 U	
Methyl chloride	ug/L	0	0%	5	0	0	21	0.5 UJ	1 U	1 U	1 U	1 U	1 U	1 U	0.5 UJ
Methyl ethyl ketone	ug/L	0	0%		0	0	8		5 U	5 U	5 U	5 U	5 U	5 U	
Methyl isobutyl ketone	ug/L	0	0%		0	0	8		5 U	5 U	5 U	5 U	5 U	5 U	
Methylene bromide	ug/L	0	0%	5	0	0	13	0.5 U							0.5 U
Methylene chloride	ug/L	0.47	10%	5	0	2	21	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	0.42 J
Naphthalene	ug/L	0	0%		0	0	13	0.5 U							0.5 U
Ortho Xylene	ug/L	0	0%	5	0	0	13	0.5 U							0.5 U
Propylbenzene	ug/L	0	0%	5	0	0	13	0.5 U							0.5 U

Shade indicates concentration above action level

TABLE 3-3
RESULTS OF GROUNDWATER ANALYSIS - SECOND QUARTER 2003
GROUNDWATER MONITORING - ASH LANDFILL
SENECA ARMY DEPOT ACTIVITY

Parameter	Units	Maximum Value	Frequency of Detection	Criteria Level	Number of Exceedances	Number of Times Detected	Number of Samples Collected	ASH LNDFL MW-28 GRNDWTR ARD2205 8.39 8.39 7/10/03 SA ASH RD 20 Value (Q)	ASH LNDFL MW-44A GRNDWTR ARD2206 10.48 10.48 7/9/03 SA ASH RD 20 Value (Q)	ASH LNDFL MW-46 GRNDWTR ARD2207 9.45 9.45 7/9/03 SA ASH RD 20 Value (Q)	ASH LNDFL MW-53 GRNDWTR ARD2208 8.35 8.35 7/8/03 SA ASH RD 20 Value (Q)	ASH LNDFL MW-56 GRNDWTR ARD2209 7.88 7.88 7/8/03 SA ASH RD 20 Value (Q)	ASH LNDFL MWT-1 GRNDWTR TR2112 8.13 8.13 7/10/03 SA ASH TRENCH 20 Value (Q)	ASH LNDFL MWT-1 GRNDWTR ARD2213 7 7 7/10/03 SA ASH TRENCH 20 Value (Q)	ASH LNDFL MWT-10 GRNDWTR TR2121 7 7 7/10/03 SA ASH TRENCH 20 Value (Q)
Styrene	ug/L	0	0%	5	0	0	21	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U
Tetrachloroethene	ug/L	0	0%	5	0	0	21	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U
Toluene	ug/L	0.49	10%	5	0	2	21	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	0.35 J
Total Xylenes	ug/L	0	0%	5	0	0	21	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U
Trans-1,2-Dichloroethene	ug/L	20.2	38%	5	1	8	21	0.5 U	2.7	2.3	1 U	1 U	1 U	0.43 J	0.5 U
Trans-1,3-Dichloropropene	ug/L	0	0%	0.4	0	0	21	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U
Trichloroethene	ug/L	1280	71%	5	9	15	21	20.3	10.9	40.8	2	1 U	152	18.9	0.5 U
Trichlorofluoromethane	ug/L	0	0%	5	0	0	13	0.5 U							0.5 U
Vinyl acetate	ug/L	0	0%		0	0	21	1 U	5 U	5 U	5 U	5 U	5 U	5 U	1 U
Vinyl chloride	ug/L	168	14%	2	2	3	21	0.5 U	162	1 U	1 U	1 U	1 U	1 UJ	0.5 U
n-Butylbenzene	ug/L	0	0%	5	0	0	13	0.5 U							0.5 U
p-Chlorotoluene	ug/L	0	0%	5	0	0	13	0.5 U							0.5 U
p-Isopropyltoluene	ug/L	0	0%	5	0	0	13	0.5 U							0.5 U
sec-Butylbenzene	ug/L	0	0%	5	0	0	13	0.5 U							0.5 U
tert-Butylbenzene	ug/L	0	0%	5	0	0	13	0.5 U							0.5 U

NOTES.
U = compound was not detected
J = the reported value is an estimated concentration
UJ = the compound was not detected; the associated reporting limit is approximate

Shade indicates concentration above action level

TABLE 3-3
RESULTS OF GROUNDWATER ANALYSIS - SECOND QUARTER 2003
GROUNDWATER MONITORING - ASH LANDFILL
SENECA ARMY DEPOT ACTIVITY

Parameter	Units	Maximum Value	Frequency of Detection	Criteria Level	Number of Exceedances	Number of Times Detected	Number of Samples Collected	ASH LNDFL MWT-11 GRNDWTR TR2122 7.94 7.94 7/7/03 SA ASH TRENCH 20 Value (Q)	ASH LNDFL MWT-2 GRNDWTR TR2113 7.7 7.7 7/11/03 SA ASH TRENCH 20 Value (Q)	ASH LNDFL MWT-3 GRNDWTR TR2114 8.13 8.13 7/10/03 SA ASH TRENCH 20 Value (Q)	ASH LNDFL MWT-4 GRNDWTR TR2123 10.43 10.43 7/8/03 SA ASH TRENCH 20 Value (Q)	ASH LNDFL MWT-4 GRNDWTR TR2115 10.43 10.43 7/8/03 SA ASH TRENCH 20 Value (Q)	ASH LNDFL MWT-5 GRNDWTR TR2116 10.1 10.1 7/11/03 SA ASH TRENCH 20 Value (Q)	ASH LNDFL MWT-6 GRNDWTR TR2117 10.65 10.65 7/8/03 SA ASH TRENCH 20 Value (Q)	ASH LNDFL MWT-7 GRNDWTR TR2118 11.64 11.64 7/7/03 SA ASH TRENCH 20 Value (Q)
VOLATILE ORGANIC COMPOUNDS															
1,1,1,2-Tetrachloroethane	ug/L	0	0%	5	0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	ug/L	1.4	19%	5	0	4	21	0.5 U	0.5 U	0.5 U	1.3	1.4	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	ug/L	0	0%	5	0	0	21	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	ug/L	0	0%	1	0	0	21	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	ug/L	5.7	29%	5	1	6	21	0.5 U	0.5 U	0.5 U	0.44 J	0.49 J	0.4 J	0.38 J	0.5 U
1,1-Dichloroethene	ug/L	6.3	10%	5	1	2	21	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropene	ug/L	0	0%	5	0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	ug/L	0	0%	5	0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	ug/L	0	0%	0.04	0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	ug/L	0	0%	5	0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trimethylbenzene	ug/L	0	0%	5	0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	ug/L	0	0%	0.04	0	0	13	0.5 UJ	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 UJ
1,2-Dibromoethane	ug/L	0	0%	0.0006	0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichlorobenzene	ug/L	0	0%	3	0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	ug/L	0.36	14%	0.6	0	3	21	0.5 U	0.5 U	0.5 U	0.32 J	0.31 J	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	ug/L	0	0%	1	0	0	21	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene	ug/L	0	0%	5	0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	ug/L	0	0%	3	0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	ug/L	0	0%	5	0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	ug/L	0	0%	3	0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	ug/L	0	0%		0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Chlorotoluene	ug/L	0	0%	5	0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Acetone	ug/L	0	0%		0	0	8								
Benzene	ug/L	0.81	38%	1	0	8	21	0.5 U	0.81	0.27 J	0.5 U	0.5 U	0.62	0.53	0.5 U
Bromobenzene	ug/L	0	0%	5	0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	ug/L	0	0%	5	0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	ug/L	0	0%	80	0	0	21	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	ug/L	0	0%	80	0	0	21	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	ug/L	0	0%		0	0	8								
Carbon tetrachloride	ug/L	0	0%	5	0	0	21	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	ug/L	0	0%	5	0	0	21	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorodibromomethane	ug/L	0	0%	80	0	0	21	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	ug/L	0	0%	5	0	0	21	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	ug/L	0	0%	7	0	0	21	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cis-1,2-Dichloroethene	ug/L	3180	95%	5	17	20	21	0.5 U	12.8	31.7	78.3	76.5	97.7	110	29.3
Cis-1,3-Dichloropropene	ug/L	0	0%	0.4	0	0	21	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	ug/L	0	0%	5	0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethyl benzene	ug/L	0	0%	5	0	0	21	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene	ug/L	0	0%	0.5	0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Isopropylbenzene	ug/L	0	0%	5	0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Meta/Para Xylene	ug/L	0	0%		0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl bromide	ug/L	0	0%	5	0	0	21	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl butyl ketone	ug/L	0	0%		0	0	8								
Methyl chloride	ug/L	0	0%	5	0	0	21	0.5 U	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U
Methyl ethyl ketone	ug/L	0	0%		0	0	8								
Methyl isobutyl ketone	ug/L	0	0%		0	0	8								
Methylene bromide	ug/L	0	0%	5	0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methylene chloride	ug/L	0.47	10%	5	0	2	21	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Naphthalene	ug/L	0	0%		0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ortho Xylene	ug/L	0	0%	5	0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Propylbenzene	ug/L	0	0%	5	0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Shade indicates concentration above action level

TABLE 3-3
RESULTS OF GROUNDWATER ANALYSIS - SECOND QUARTER 2003
GROUNDWATER MONITORING - ASH LANDFILL
SENECA ARMY DEPOT ACTIVITY

Parameter	Units	Maximum Value	Frequency of Detection	Criteria Level	Number of Exceedances	Number of Times Detected	Number of Samples Collected	ASH LNDFL MWT-11 GRNDWTR TR2122 7.94 7.94 7/7/03 SA ASH TRENCH 20 Value (Q)	ASH LNDFL MWT-2 GRNDWTR TR2113 7.7 7.7 7/11/03 SA ASH TRENCH 20 Value (Q)	ASH LNDFL MWT-3 GRNDWTR TR2114 8.13 8.13 7/10/03 SA ASH TRENCH 20 Value (Q)	ASH LNDFL MWT-4 GRNDWTR TR2123 10.43 10.43 7/8/03 SA ASH TRENCH 20 Value (Q)	ASH LNDFL MWT-4 GRNDWTR TR2115 10.43 10.43 7/8/03 SA ASH TRENCH 20 Value (Q)	ASH LNDFL MWT-5 GRNDWTR TR2116 10.1 10.1 7/11/03 SA ASH TRENCH 20 Value (Q)	ASH LNDFL MWT-6 GRNDWTR TR2117 10.65 10.65 7/8/03 SA ASH TRENCH 20 Value (Q)	ASH LNDFL MWT-7 GRNDWTR TR2118 11.64 11.64 7/7/03 SA ASH TRENCH 20 Value (Q)
Styrene	ug/L	0	0%	5	0	0	21	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	ug/L	0	0%	5	0	0	21	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	ug/L	0.49	10%	5	0	2	21	0.5 U	0.49 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Total Xylenes	ug/L	0	0%	5	0	0	21	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trans-1,2-Dichloroethene	ug/L	20.2	38%	5	1	8	21	0.5 U	0.5 U	0.44 J	0.34 J	0.35 J	0.5 U	0.5 U	0.5 U
Trans-1,3-Dichloropropene	ug/L	0	0%	0.4	0	0	21	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	ug/L	1280	71%	5	9	15	21	0.34 J	1.3	6.4	3.2	3.2	0.5 U	0.5 U	506
Trichlorofluoromethane	ug/L	0	0%	5	0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl acetate	ug/L	0	0%		0	0	21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	ug/L	168	14%	2	2	3	21	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-Butylbenzene	ug/L	0	0%	5	0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
p-Chlorotoluene	ug/L	0	0%	5	0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
p-Isopropyltoluene	ug/L	0	0%	5	0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
sec-Butylbenzene	ug/L	0	0%	5	0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
tert-Butylbenzene	ug/L	0	0%	5	0	0	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

NOTES.
U = compound was not detected
J = the reported value is an estimated concentration
UJ = the compound was not detected; the associated reporting limit is approximate

Shade indicates concentration above action level.

TABLE 3-3
RESULTS OF GROUNDWATER ANALYSIS - SECOND QUARTER 2003
GROUNDWATER MONITORING - ASH LANDFILL
SENECA ARMY DEPOT ACTIVITY

Parameter	Units	Maximum Value	Frequency of Detection	Criteria Level	Number of Exceedances	Number of Times Detected	Number of Samples Collected	ASH LNDFL MWT-8 GRNDWTR TR2119 10.8 10.8 7/11/03 SA ASH TRENCH 20 Value (Q)	ASH LNDFL MWT-9 GRNDWTR TR2120 12.14 12.14 7/7/03 SA ASH TRENCH 20 Value (Q)	ASH LNDFL PT-12A GRNDWTR ARD2210 11.38 11.38 7/9/03 SA ASH RD 20 Value (Q)	ASH LNDFL PT-21A GRNDWTR ARD2211 17.46 17.46 7/9/03 SA ASH RD 20 Value (Q)	ASH LNDFL PT-24 GRNDWTR ARD2212 9.88 9.88 7/10/03 SA ASH RD 20 Value (Q)
VOLATILE ORGANIC COMPOUNDS												
1,1,1,2-Tetrachloroethane	ug/L	0	0%	5	0	0	13	0.5 U	1 U			0.5 U
1,1,1-Trichloroethane	ug/L	1.4	19%	5	0	4	21	0.5 U	1 U	1 U	1 U	0.39 J
1,1,2,2-Tetrachloroethane	ug/L	0	0%	5	0	0	21	0.5 U	1 U	1 U	1 U	0.5 U
1,1,2-Trichloroethane	ug/L	0	0%	1	0	0	21	0.5 U	1 U	1 U	1 U	0.5 U
1,1-Dichloroethane	ug/L	5.7	29%	5	1	6	21	0.5 U	1 U	1 U	1 U	0.6
1,1-Dichloroethene	ug/L	6.3	10%	5	1	2	21	0.5 U	1 U	6.3	1 U	0.5 U
1,1-Dichloropropene	ug/L	0	0%	5	0	0	13	0.5 U	1 U			0.5 U
1,2,3-Trichlorobenzene	ug/L	0	0%	5	0	0	13	0.5 U	1 U			0.5 U
1,2,3-Trichloropropane	ug/L	0	0%	0.04	0	0	13	0.5 U	1 U			0.5 U
1,2,4-Trichlorobenzene	ug/L	0	0%	5	0	0	13	0.5 U	1 U			0.5 U
1,2,4-Trimethylbenzene	ug/L	0	0%	5	0	0	13	0.5 U	1 U			0.5 U
1,2-Dibromo-3-chloropropane	ug/L	0	0%	0.04	0	0	13	0.5 U	1 U			0.5 U
1,2-Dibromoethane	ug/L	0	0%	0.0006	0	0	13	0.5 U	1 U			0.5 U
1,2-Dichlorobenzene	ug/L	0	0%	3	0	0	13	0.5 U	1 U			0.5 U
1,2-Dichloroethane	ug/L	0.36	14%	0.6	0	3	21	0.5 U	1 U	1 U	1 U	0.5 U
1,2-Dichloropropane	ug/L	0	0%	1	0	0	21	0.5 U	1 U	1 U	1 U	0.5 U
1,3,5-Trimethylbenzene	ug/L	0	0%	5	0	0	13	0.5 U	1 U			0.5 U
1,3-Dichlorobenzene	ug/L	0	0%	3	0	0	13	0.5 U	1 U			0.5 U
1,3-Dichloropropane	ug/L	0	0%	5	0	0	13	0.5 U	1 U			0.5 U
1,4-Dichlorobenzene	ug/L	0	0%	3	0	0	13	0.5 U	1 U			0.5 U
2,2-Dichloropropane	ug/L	0	0%		0	0	13	0.5 U	1 U			0.5 U
2-Chlorotoluene	ug/L	0	0%	5	0	0	13	0.5 U	1 U			0.5 U
Acetone	ug/L	0	0%		0	0	8			5 U	5 U	
Benzene	ug/L	0.81	38%	1	0	8	21	0.51	1 U	0.49 J	1 U	0.5 U
Bromobenzene	ug/L	0	0%	5	0	0	13	0.5 U	1 U			0.5 U
Bromochloromethane	ug/L	0	0%	5	0	0	13	0.5 U	1 U			0.5 U
Bromodichloromethane	ug/L	0	0%	80	0	0	21	0.5 U	1 U	1 U	1 U	0.5 U
Bromoform	ug/L	0	0%	80	0	0	21	0.5 U	1 U	1 U	1 U	0.5 U
Carbon disulfide	ug/L	0	0%		0	0	8			5 U	5 U	
Carbon tetrachloride	ug/L	0	0%	5	0	0	21	0.5 U	1 U	1 U	1 U	0.5 U
Chlorobenzene	ug/L	0	0%	5	0	0	21	0.5 U	1 U	1 U	1 U	0.5 U
Chlorodibromomethane	ug/L	0	0%	80	0	0	21	0.5 U	1 U	1 U	1 U	0.5 U
Chloroethane	ug/L	0	0%	5	0	0	21	0.5 U	1 U	1 U	1 U	0.5 U
Chloroform	ug/L	0	0%	7	0	0	21	0.5 U	1 U	1 U	1 U	0.5 U
Cis-1,2-Dichloroethene	ug/L	3180	95%	5	17	20	21	9[illegible]	[illegible]	3180	0.7 J	[illegible]
Cis-1,3-Dichloropropene	ug/L	0	0%	0.4	0	0	21	0.5 U	1 U	1 U	1 U	0.5 U
Dichlorodifluoromethane	ug/L	0	0%	5	0	0	13	0.5 U	1 U			0.5 U
Ethyl benzene	ug/L	0	0%	5	0	0	21	0.5 U	1 U	1 U	1 U	0.5 U
Hexachlorobutadiene	ug/L	0	0%	0.5	0	0	13	0.5 U	1 U			0.5 U
Isopropylbenzene	ug/L	0	0%	5	0	0	13	0.5 U	1 U			0.5 U
Meta/Para Xylene	ug/L	0	0%		0	0	13	0.5 U	1 U			0.5 U
Methyl bromide	ug/L	0	0%	5	0	0	21	0.5 U	1 U	1 U	1 U	0.5 U
Methyl butyl ketone	ug/L	0	0%		0	0	8			5 U	5 U	
Methyl chloride	ug/L	0	0%	5	0	0	21	0.5 UJ	1 UJ	1 U	1 U	0.5 UJ
Methyl ethyl ketone	ug/L	0	0%		0	0	8			5 U	5 U	
Methyl isobutyl ketone	ug/L	0	0%		0	0	8			5 U	5 U	
Methylene bromide	ug/L	0	0%	5	0	0	13	0.5 U	1 U			0.5 U
Methylene chloride	ug/L	0.47	10%	5	0	2	21	0.47 J	1 U	5 U	5 U	0.5 U
Naphthalene	ug/L	0	0%		0	0	13	0.5 U	1 U			0.5 U
Ortho Xylene	ug/L	0	0%	5	0	0	13	0.5 U	1 U			0.5 U
Propylbenzene	ug/L	0	0%	5	0	0	13	0.5 U	1 U			0.5 U

Shade indicates concentration above action level

TABLE 3-3
RESULTS OF GROUNDWATER ANALYSIS - SECOND QUARTER 2003
GROUNDWATER MONITORING - ASH LANDFILL
SENECA ARMY DEPOT ACTIVITY

Parameter	Units	Maximum Value	Frequency of Detection	Criteria Level	Number of Exceedances	Number of Times Detected	Number of Samples Collected	ASH LNDFL MWT-8 GRNDWTR TR2119 10.8 10.8 7/11/03 SA ASH TRENCH 20 Value (Q)	ASH LNDFL MWT-9 GRNDWTR TR2120 12.14 12.14 7/7/03 SA ASH TRENCH 20 Value (Q)	ASH LNDFL PT-12A GRNDWTR ARD2210 11.38 11.38 7/9/03 SA ASH RD 20 Value (Q)	ASH LNDFL PT-21A GRNDWTR ARD2211 17.46 17.46 7/9/03 SA ASH RD 20 Value (Q)	ASH LNDFL PT-24 GRNDWTR ARD2212 9.88 9.88 7/10/03 SA ASH RD 20 Value (Q)
Styrene	ug/L	0	0%	5	0	0	21	0.5 U	1 U	1 U	1 U	0.5 U
Tetrachloroethene	ug/L	0	0%	5	0	0	21	0.5 U	1 U	1 U	1 U	0.5 U
Toluene	ug/L	0.49	10%	5	0	2	21	0.5 U	1 U	1 U	1 U	0.5 U
Total Xylenes	ug/L	0	0%	5	0	0	21	0.5 U	1 U	1 U	1 U	0.5 U
Trans-1,2-Dichloroethene	ug/L	20.2	38%	5	1	8	21	0.5 U	1 U	20.2	1 U	0.34 J
Trans-1,3-Dichloropropene	ug/L	0	0%	0.4	0	0	21	0.5 U	1 U	1 U	1 U	0.5 U
Trichloroethene	ug/L	1280	71%	5	9	15	21	0.5 U	171	1280	1 UJ	4.6
Trichlorofluoromethane	ug/L	0	0%	5	0	0	13	0.5 U	1 U			0.5 U
Vinyl acetate	ug/L	0	0%		0	0	21	1 U	2 U	5 U	5 U	1 U
Vinyl chloride	ug/L	168	14%	2	2	3	21	1.5	1 U	168	1 U	0.5 U
n-Butylbenzene	ug/L	0	0%	5	0	0	13	0.5 U	1 U			0.5 U
p-Chlorotoluene	ug/L	0	0%	5	0	0	13	0.5 U	1 U			0.5 U
p-Isopropyltoluene	ug/L	0	0%	5	0	0	13	0.5 U	1 U			0.5 U
sec-Butylbenzene	ug/L	0	0%	5	0	0	13	0.5 U	1 U			0.5 U
tert-Butylbenzene	ug/L	0	0%	5	0	0	13	0.5 U	1 U			0.5 U

NOTES:
U = compound was not detected
J = the reported value is an estimated concentration
UJ = the compound was not detected; the associated reporting limit is approximate

Shade indicates concentration above action level

TABLE 3-4
RESULTS OF DETECTED VOCs - SECOND QUARTER 2003
GROUNDWATER MONITORING - ASH LANDFILL
SENECA ARMY DEPOT ACTIVITY

			WELL ID						
Parameter	Units	Groundwater Standard [1]	MW-28	MW-44A	MW-46	MW-53	MW-56	MWT-1	MWT-2
1,1,1-Trichloroethane	ug/L	5	--	1.4	--	--	--	--	--
1,1-Dichloroethane	ug/L	5	--	5.7	--	--	--	--	--
1,1-Dichloroethene	ug/L	5	--	0.62 J	--	--	--	--	--
1,2-Dichloroethane	ug/L	0.6	--	0.36 J	--	--	--	--	--
Benzene	ug/L	1	--	0.48 J	--	--	--	--	0.81
Cis-1,2-Dichloroethene	ug/L	5	**14.4**	**478**	**47**	**18.6**	1.6	**79.1**	**12.8**
Methylene chloride	ug/L	5	--	--	--	--	--	--	--
Toluene	ug/L	5	--	--	--	--	--	--	0.49 J
Trans-1,2-Dichloroethene	ug/L	5	--	2.7	2.3	--	--	--	--
Trichloroethene	ug/L	5	**20.3**	**10.9**	**40.8**	2	--	**15.6**	1.3
Vinyl chloride	ug/L	2	--	**162**	--	--	--	--	--

NOTES:

1. Groundwater criteria source is NY State Class GA Groundwater Standard (TOGS 1.1.1, June 1998).

J = the report value is an estimated concentration

-- = compound was not detected

Shade indicates concentration above action level

TABLE 3-4
RESULTS OF DETECTED VOCs - SECOND QUARTER 2003
GROUNDWATER MONITORING - ASH LANDFILL
SENECA ARMY DEPOT ACTIVITY

			WELL ID					
Parameter	Units	Groundwater Standard [1]	MWT-3	MWT-4	MWT-5	MWT-6	MWT-7	MWT-8
1,1,1-Trichloroethane	ug/L	5	--	1.4	--	--	--	--
1,1-Dichloroethane	ug/L	5	--	0.47 J	0.4 J	0.38 J	--	--
1,1-Dichloroethene	ug/L	5	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	0.6	--	0.32 J	--	--	--	--
Benzene	ug/L	1	0.27 J	--	0.62	0.53	--	0.51
Cis-1,2-Dichloroethene	ug/L	5	**31.7**	**77.7**	**7.7**	**10**	**29.3**	**97.8**
Methylene chloride	ug/L	5	--	--	--	--	--	0.47 J
Toluene	ug/L	5	--	--	--	--	--	--
Trans-1,2-Dichloroethene	ug/L	5	0.44 J	0.34 J	--	--	--	--
Trichloroethene	ug/L	5	**6.4**	3.2	--	--	**506**	--
Vinyl chloride	ug/L	2	--	--	--	--	--	1.5

NOTES:

1. Groundwater criteria source is NY State Class GA Groundwater Standard (TOGS 1.1.1, June 1998).

J = the report value is an estimated concentration

-- = compound was not detected

Shade indicates concentration above action level

TABLE 3-4
RESULTS OF DETECTED VOCs - SECOND QUARTER 2003
GROUNDWATER MONITORING - ASH LANDFILL
SENECA ARMY DEPOT ACTIVITY

			WELL ID					
Parameter	Units	Groundwater Standard [1]	MWT-9	MWT-10	MWT-11	PT-12A	PT-21A	PT-24
1,1,1-Trichloroethane	ug/L	5	--	--	--	--	--	0.39 J
1,1-Dichloroethane	ug/L	5	--	--	--	--	--	0.6
1,1-Dichloroethene	ug/L	5	--	--	--	**6.3**	--	--
1,2-Dichloroethane	ug/L	0.6	--	--	--	--	--	--
Benzene	ug/L	1	--	0.64	--	0.49 J	--	--
Cis-1,2-Dichloroethene	ug/L	5	**57.8**	**3.1**	--	**3180**	0.7 J	**58.2**
Methylene chloride	ug/L	5	--	0.42 J	--	--	--	--
Toluene	ug/L	5	--	0.35 J	--	--	--	--
Trans-1,2-Dichloroethene	ug/L	5	--	--	--	**20.2**	--	0.34 J
Trichloroethene	ug/L	5	**171**	--	0.34 J	**1280**	--	4.6
Vinyl chloride	ug/L	2	--	--	--	**168**	--	--

NOTES:

1. Groundwater criteria source is NY State Class GA Groundwater Standard (TOGS 1.1.1, June 1998).

J = the report value is an estimated concentration

-- = compound was not detected

Shade indicates concentration above action level

TABLE 3-5
Natural Attenuation Parameters Immediately Upgradient, Downgradient, and in the Permeable Reactive Barrier (PRB)
2Q 2003
GROUNDWATER MONITORING - ASH LANDFILL
SENECA ARMY DEPOT ACTIVITY

Well Grouping I

		Electron Acceptors		Reaction Endproducts		Physical Parameters					
Well Location in Relation to PRB	Well ID	DO (mg/L)	Carbon Dioxide (mg/L)	Ferrous Iron (mg/L)	Hydrogen Sulfide (mg/L)	ORP (mV)	pH	Temp. (deg. C)	Specific Conductivity (uS/cm)	Turbidity (NTU)	Alkalinity (mg/L as $CaCO_3$)
Upgradient	MWT-1	2.51	92	0.53	0.016	178	7.07	15.44	0.914	2.3	354
PRB	MWT-2	0.44	21.8	0.72	0.211	-325	8.39	14.36	0.320	25.5	88
Downgradient	MWT-3	0.53	72	0.68	0.051	-70	7.22	15.83	0.757	8.8	240

Well Grouping II

		Electron Acceptors		Reaction Endproducts		Physical Parameters					
Well Location in Relation to PRB	Well ID	DO (mg/L)	Carbon Dioxide (mg/L)	Ferrous Iron (mg/L)	Hydrogen Sulfide (mg/L)	ORP (mV)	pH	Temp. (deg. C)	Specific Conductivity (uS/cm)	Turbidity (NTU)	Alkalinity (mg/L as $CaCO_3$)
Upgradient	MWT-4	5.32	124	1.11	0.250	165	7.27	12.30	0.938	9.3	291
PRB	MWT-5	0.33	3.8	0.02	0.520	-354	9.66	13.46	0.376	2.4	15
Downgradient	MWT-6	3.45	20.6	0.28	0.120	-142	8.16	12.52	0.375	14.9	44

Well Grouping III

		Electron Acceptors		Reaction Endproducts		Physical Parameters					
Well Location in Relation to PRB	Well ID	DO (mg/L)	Carbon Dioxide (mg/L)	Ferrous Iron (mg/L)	Hydrogen Sulfide (mg/L)	ORP (mV)	pH	Temp. (deg. C)	Specific Conductivity (uS/cm)	Turbidity (NTU)	Alkalinity (mg/L as $CaCO_3$)
Upgradient	MWT-7	6.69	128.6	0.22	0.012	187	7.11	12.35	0.834	60.3	369
PRB	MWT-8	0.10	0	0.02	0.012	-312	9.43	13.80	0.192	0.0	110.9
Downgradient	MWT-9	3.84	105.6	0.24	0.304	-21	7.38	12.42	0.610	188.0	272

Note:
PRB - permeable reactive barrier
"Upgradient" refers to a location upgradient of the PRB.
"Downgradient" refers to a location upgradient of the PRB.
U - compound was not detected
J - the report value is an estimated concentration
ND - Non-detect

mg/L - milligrams per liter
ug/L - micrograms per liter
mV - millivolts
deg. C - degrees centigrade (C^o)
uS/cm - microsiemens per centimeter
NTU - Nephelometric Turbidity Unit

FIGURE 3-4
COMPARISON OF GROUNDWATER ELEVATION VERSUS TIME
GROUNDWATER MONITORING - ASH LANDFILL
SENECA ARMY DEPOT ACTIVITY

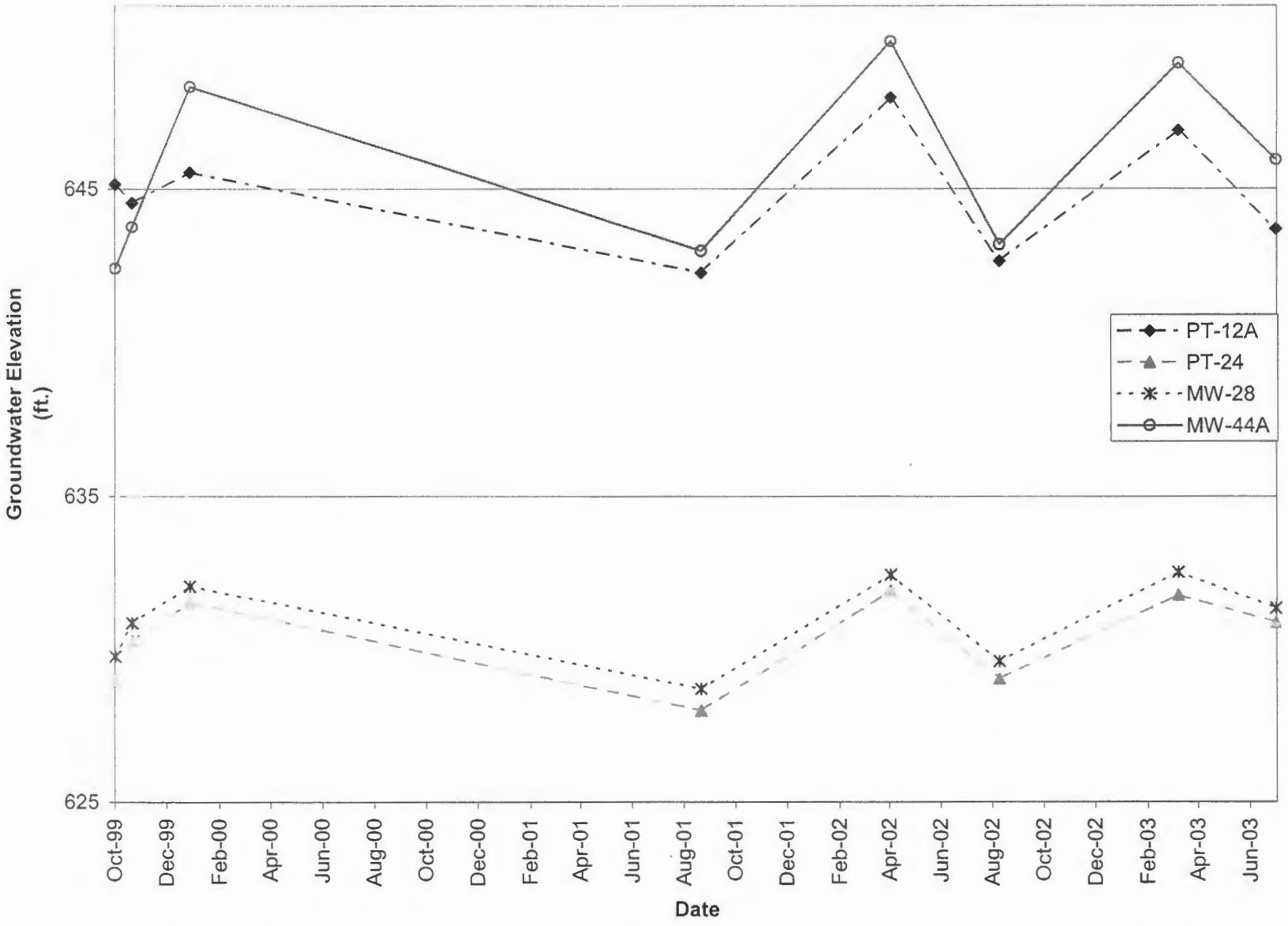

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FIGURE 3-5
HISTORIC TCE AND DCE CONCENTRATIONS AT PT-12A
GROUNDWATER MONITORING - ASH LANDFILL
SENECA ARMY DEPOT ACTIVITY

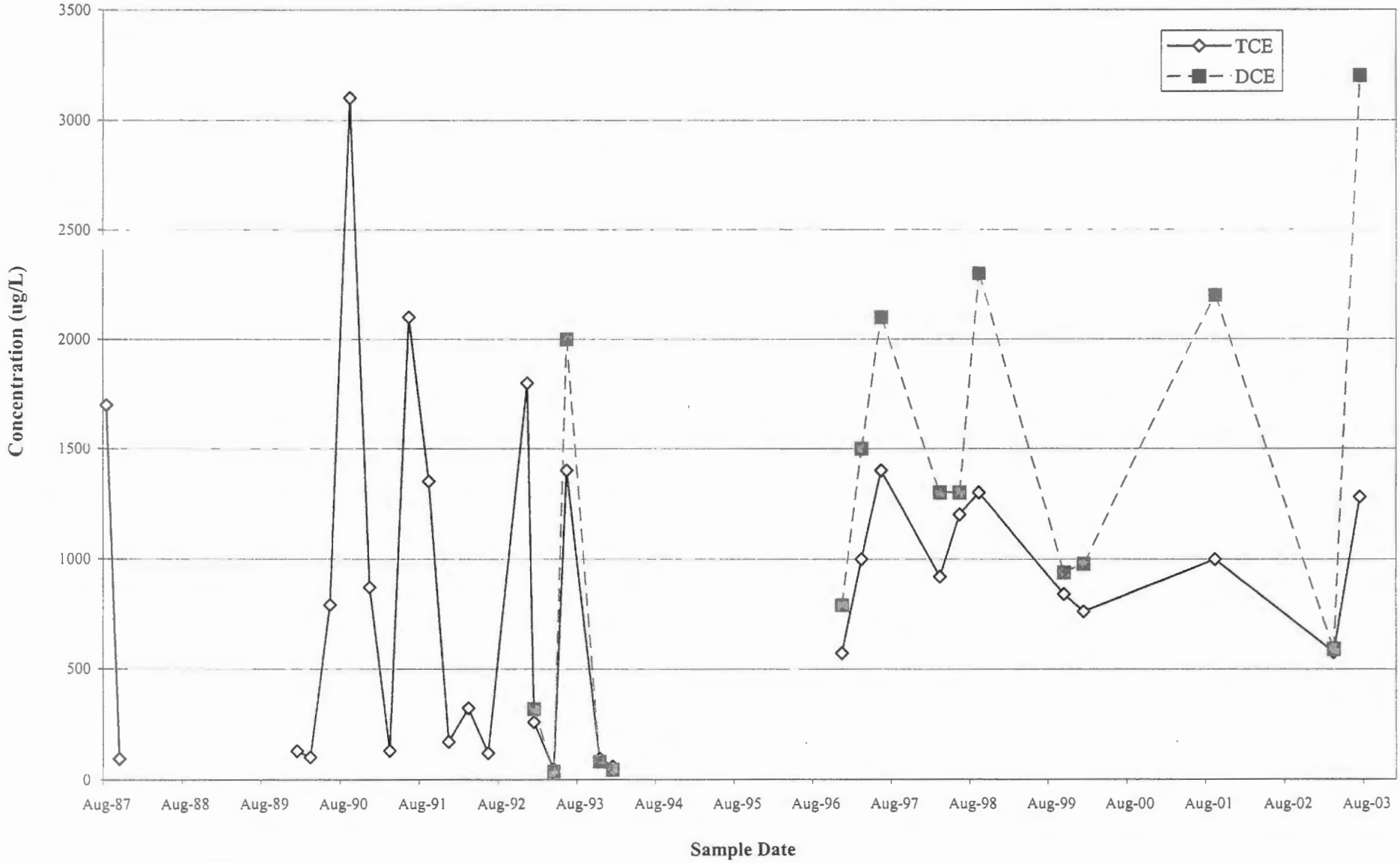

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FIGURE 3-6
HISTORIC TCE, DCE, and VINYL CHLORIDE CONCENTRATIONS AT MW-44a
GROUNDWATER MONITORING - ASH LANDFILL
SENECA ARMY DEPOT ACTIVITY

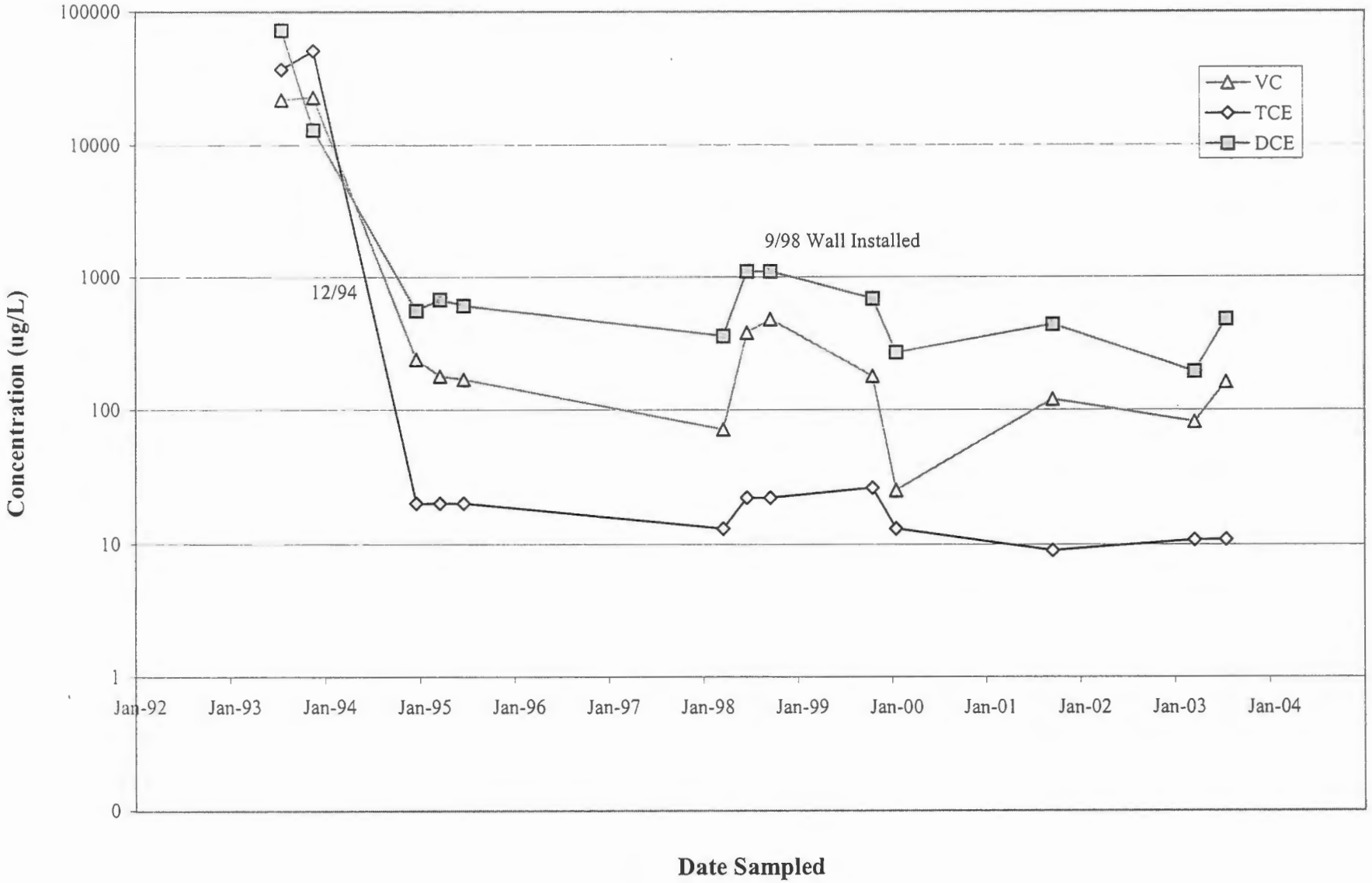

FIGURE 3-7
TOTAL CHLORINATED ETHENE CONCENTRATIONS IN PRB WELL TRANSECT - MWT-1, MWT-2, AND MWT-3
JULY 2003
GROUNDWATER MONITORING - ASH LANDFILL
SENECA ARMY DEPOT ACTIVITY

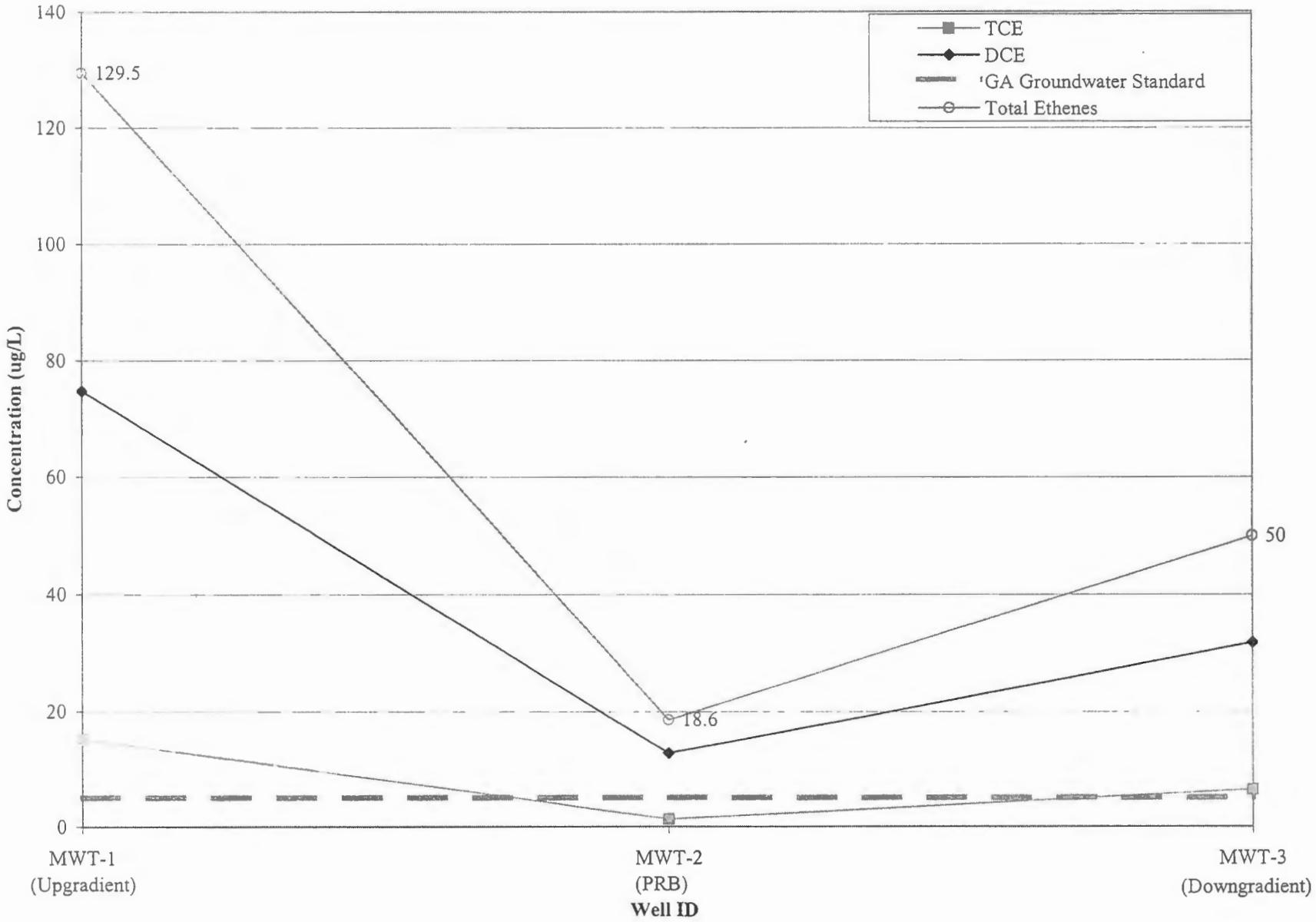

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FIGURE 3-8
TOTAL CHLORINATED ETHENE CONCENTRATIONS IN PRB WELL TRANSECT MWT-4, MWT-5, AND MWT-6
JULY 2003
GROUNDWATER MONITORING - ASH LANDFILL
SENECA ARMY DEPOT ACTIVITY

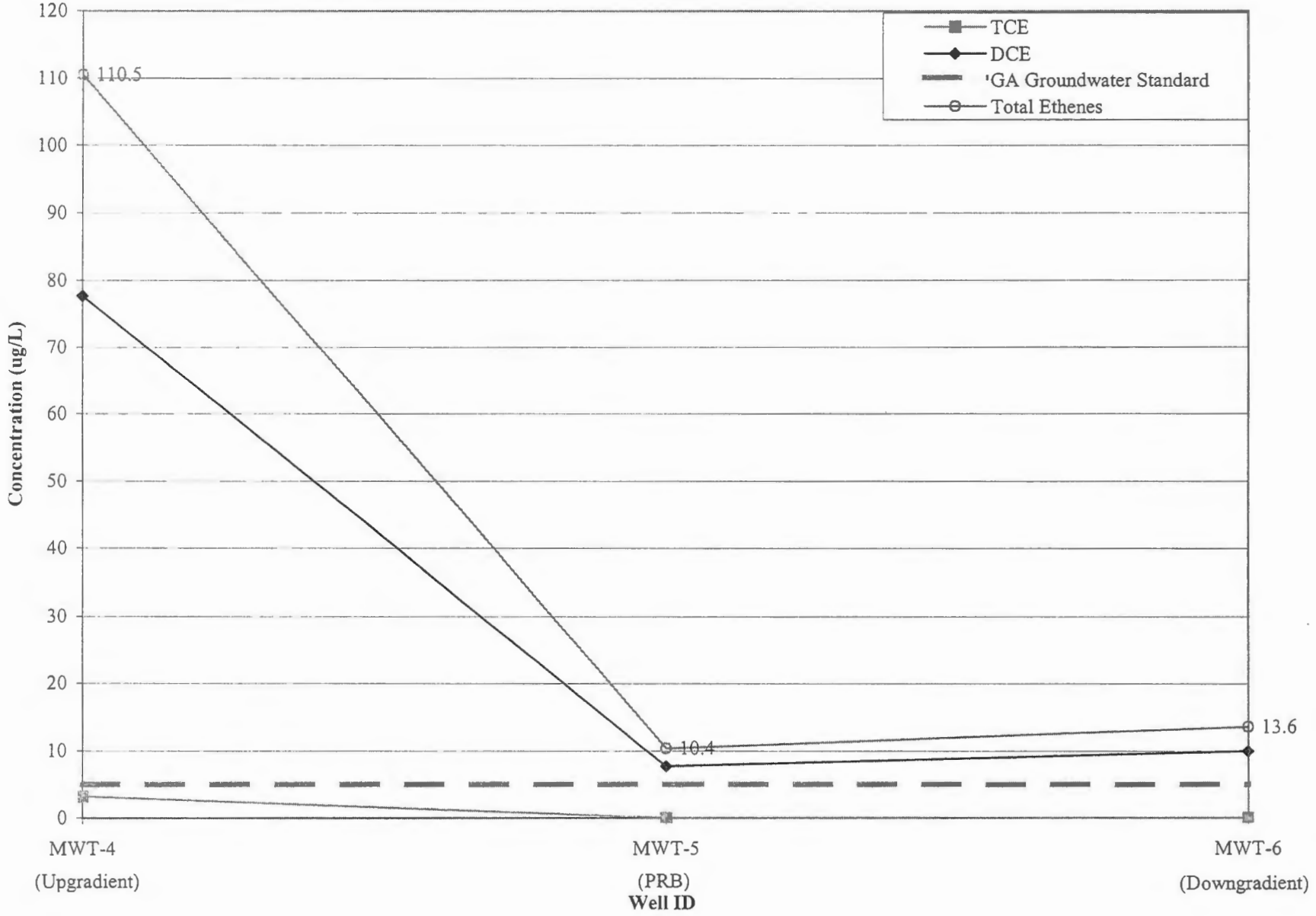

FIGURE 3-9
TOTAL CHLORINATED ETHENES CONCENTRATIONS IN PRB WELL TRANSECT MWT-7, MWT-8, AND MWT-9
JULY 2003
GROUNDWATER MONITORING - ASH LANDFILL
SENECA ARMY DEPOT ACTIVITY

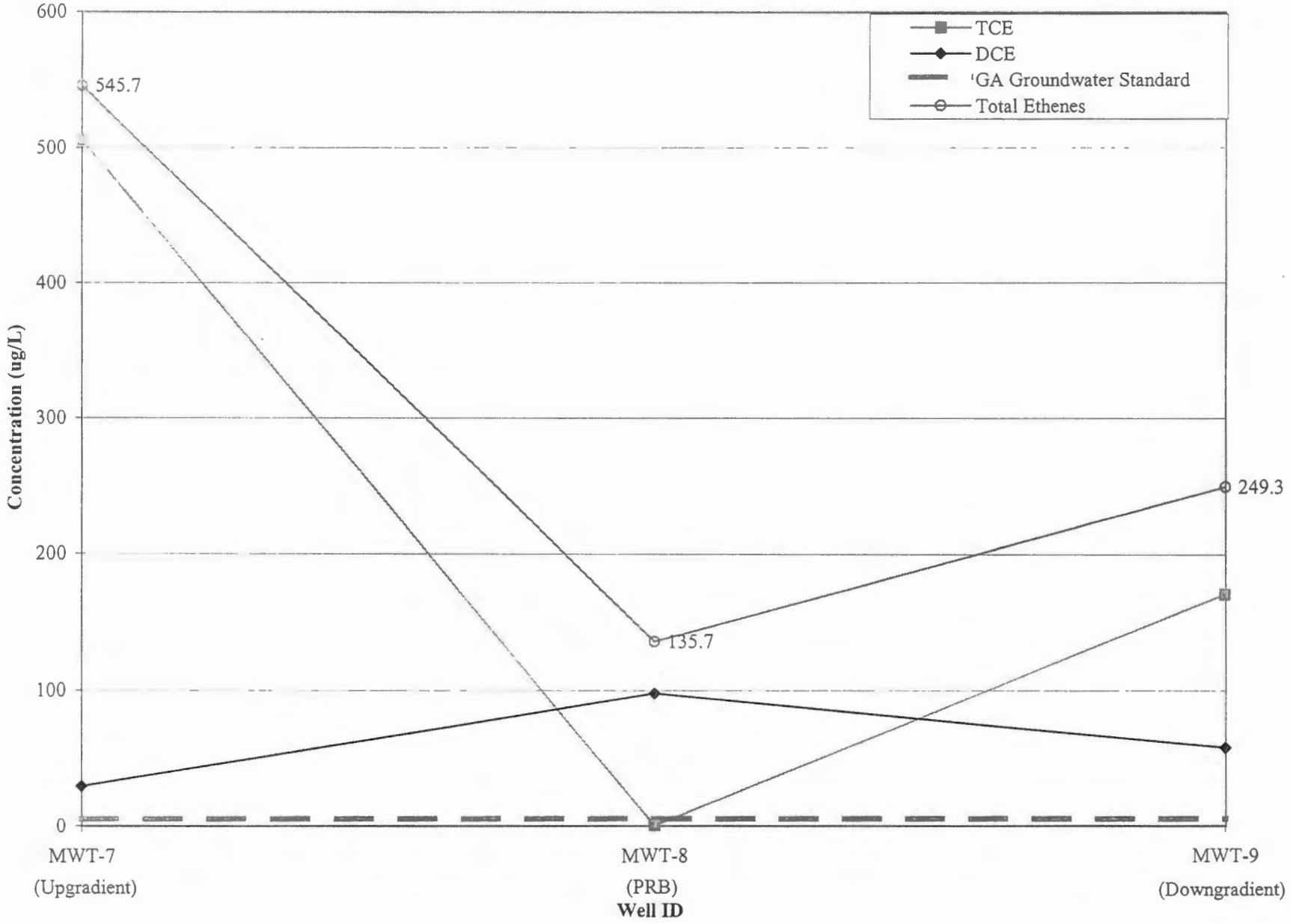

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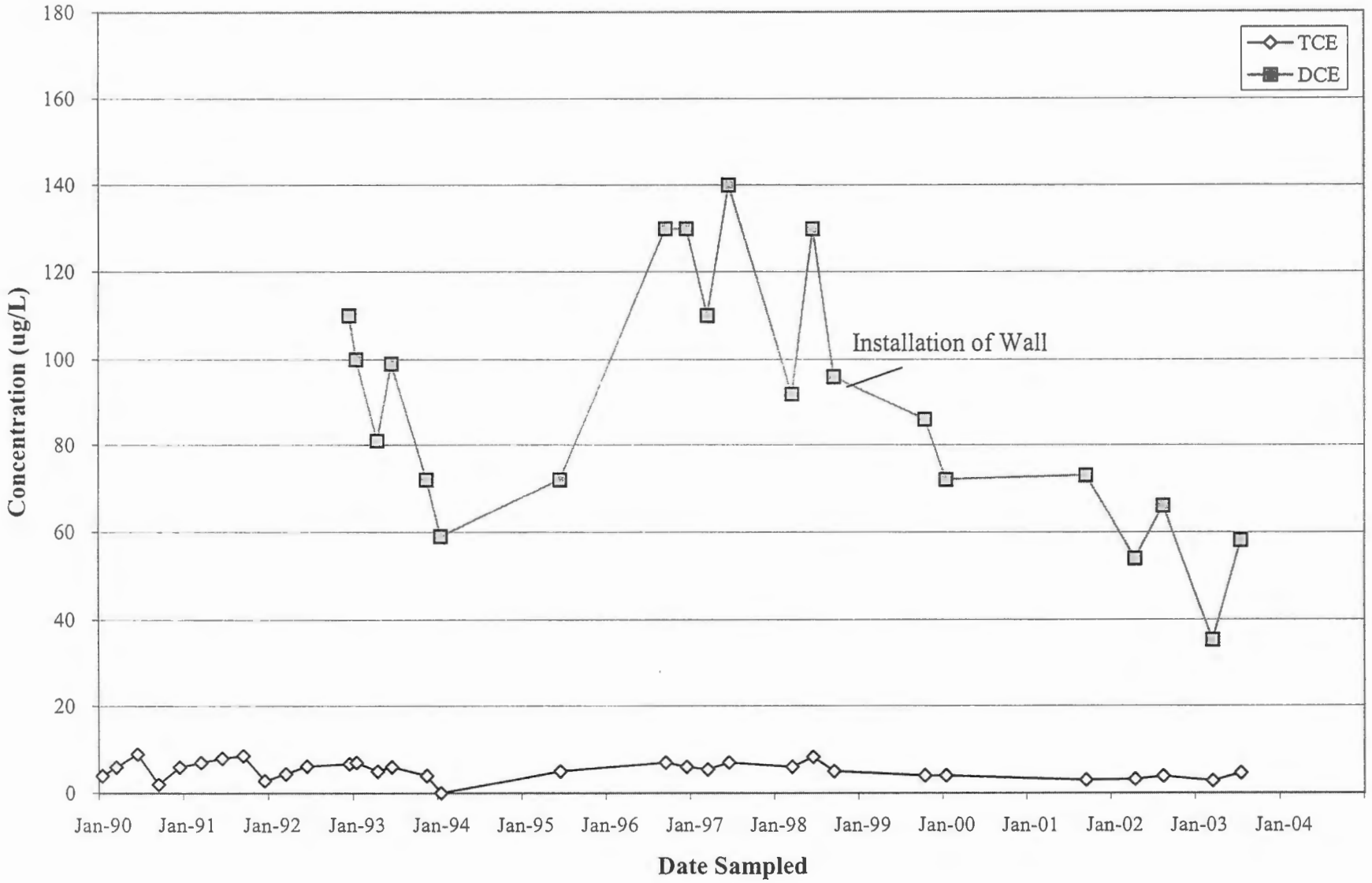
FIGURE 3-10
HISTORIC TCE AND DCE CONCENTRATIONS AT PT-24
GROUNDWATER MONITORING - ASH LANDFILL
SENECA ARMY DEPOT ACTIVITY



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APPENDIX A

GROUNDWATER ELEVATION DATA

APPENDIX A
HISTORICAL GROUNDWATER ELEVATION DATA
GROUNDWATER MONITORING - ASH LANDFILL
SENECA ARMY DEPOT ACTIVITY

Monitoring Well	Top of Riser Elevation (ft)	First Quarter 1995			Second Quarter 1995			Third Quarter 1995			Fourth Quarter 1995		
		Date	of Riser (ft.)	Water Level (ft.)	Date	of Riser (ft.)	Water Level (ft.)	Date	of Riser (ft.)	Water Level (ft.)	Date	of Riser (ft.)	Water Level (ft.)
PT-10	681.52				06/05/1995	10.4	671.12	09/12/1995	10.5	671.02	1/11/96	8.22	673.3
PT-11	658.22	03/16/1995	4.28	653.94	06/05/1995	7.2	651.02	09/12/1995	8.39	649.83	1/11/96	4.94	653.28
PT-12A	652.15				06/05/1995	Destroyed							
PT-15	637.76				06/05/1995	8.2	629.56	09/12/1995	9.73	628.03	1/11/96	4.94	632.82
PT-16	637.51				06/05/1995	4.68	632.83	09/12/1995	5.36	632.15	1/11/96	3.18	634.33
PT-17	640.14				06/05/1995	7.87	632.27	09/12/1995	8.66	631.48	1/11/96	6.16	633.98
PT-18	656.68				06/05/1995	8.24	648.44	09/12/1995	8.81	647.87	1/11/96	7.22	649.46
PT-19	645.26	03/17/1995	3.1	642.16	06/05/1995	6.33	638.93	09/12/1995	7.57	637.69	1/10/96	4.14	641.12
PT-20	647.28				06/05/1995	7.69	639.59	09/12/1995	8.83	638.45	1/11/96	6.89	640.39
PT-21A	647.73				06/05/1995	Destroyed							
MW-22	648.61				06/05/1995	8.92	639.69	09/12/1995	9.74	638.87	1/11/96	8.9	639.71
PT-23	641.58				06/05/1995	6.95	634.63	09/12/1995	7.94	633.64	1/11/96	4.74	636.84
PT-24	636.40				06/05/1995	5.41	630.99	09/12/1995	5.64	630.76	1/11/96	5.08	631.32
PT-25	637.09				06/05/1995	7.2	629.89	09/12/1995	9.84	627.25	1/10/96	5.63	631.46
PT-26	614.64				06/05/1995	7.02	607.62	09/12/1995	Not Measured		1/11/96	Not Measured	
MW-27	639.32	03/16/1995	5.13	634.19	06/05/1995	6.85	632.47	09/12/1995	6.74	632.58	1/11/96	6.04	633.28
MW-28	637.21				06/05/1995	5.93	631.28	09/12/1995	6.12	631.09	1/11/96	5.66	631.55
MW-29	637.31				06/05/1995	7.38	629.93	09/12/1995	7.78	629.53	1/11/96	6.68	630.63
MW-30	640.32	03/17/1995	4.1	636.22	06/05/1995	Dry		09/12/1995	10.42	629.9	1/11/96	7.65	632.67
MW-31	636.70				06/05/1995	6.49	630.21	09/12/1995	8.7	628.00	1/11/96	4.88	631.82
MW-32	641.68				06/05/1995	8	633.68	09/12/1995	8.9	632.78	1/11/96	6.86	634.82
MW-33	639.56				06/05/1995	8.76	630.8	09/12/1995	9.62	629.94	1/11/96	6.24	633.32
MW-34	632.89				06/05/1995	5.93	626.96	09/12/1995	8.9	623.99	1/10/96	4.72	628.17
MW-35D	631.82				06/05/1995	4.15	627.67	09/12/1995	5.43	626.39	1/10/96	2.89	628.93
MW-36	631.79	03/16/1995	2.34	629.45	06/05/1995	4.36	627.43	09/12/1995	5.94	625.85	1/10/96	2.97	628.82
MW-37	632.89	09/23/1901			06/05/1995	4.58	628.31	09/12/1995	5.96	626.93	1/11/96	3.32	629.57
MW-38D	637.90	09/28/1901			06/05/1995	5.23	632.67	09/12/1995	8.91	628.99	1/11/96	3.88	634.02
MW-39	659.54	10/20/1901			06/05/1995	3.96	655.58	09/12/1995	5.27	654.27	1/11/96	1.91	657.63
MW-40	659.30	10/20/1901	3.61	655.69	06/05/1995	6.48	652.82	09/12/1995	7.46	651.84	1/11/96	4.44	654.86
MW-41D	694.02	11/24/1901			06/05/1995	8.48	685.54	09/12/1995	8.76	685.26	1/11/96	7.32	686.7
MW-42D	683.04				06/05/1995	5.97	677.07	09/12/1995	8.34	674.70	1/11/96	4.02	679.02
MW-43	657.73				06/05/1995	4.72	653.01	09/12/1995	5.73	652.00	1/11/96	Frozen	NA
MW-44A	653.85				06/05/1995	Destroyed							
MW-45	650.90	03/17/1995	3.05	647.85	06/05/1995	5.26	645.64	09/12/1995	6.34	644.56	1/11/96	Frozen	NA
MW-46	650.41				06/05/1995	7.06	643.35	09/12/1995	7.96	642.45	1/11/96	6.16	644.25
MW-47	628.06	03/16/1995	2.84	625.22	06/05/1995	6.48	621.58	09/12/1995	5.96	622.10	1/11/96	Frozen	NA
MW-48	648.32	03/17/1995	3.1	645.22	06/05/1995	6.13	642.19	09/12/1995	6.86	641.46	1/11/96	3.7	644.62
MW-49D	650.50				06/05/1995	7.1	643.4	09/12/1995	7.88	642.62	1/11/96	6.09	644.41
MW-50D	649.38				06/05/1995	6.88	643	09/12/1995	7.69	642.19	1/11/96	6.02	643.86
MW-51D	628.24				06/05/1995	6.63	621.61	09/12/1995	6.12	622.12	1/11/96		628.24
MW-52D	626.35				06/05/1995	6.12	620.23	09/12/1995	5.68	620.67	1/11/96	3	623.35
MW-53	639.41				06/05/1995	8.45	630.96	09/12/1995	8.94	630.47	1/11/96	7.86	631.55
MW-54D	639.11				06/05/1995	8.3	630.81	09/12/1995	8.76	630.35	1/11/96	7.66	631.45
MW-55D	639.16				06/05/1995	8.18	630.98	09/12/1995	8.62	630.54	1/11/96	7.42	631.74
MW-56	630.51	03/16/1995	2.95	627.56	06/05/1995	4.14	626.37	09/12/1995	4.31	626.20	1/11/96	Frozen	NA
MW-57D	629.82				06/05/1995	3.79	626.03	09/12/1995	3.7	626.12	1/11/96	2.42	627.4
MW-58D	629.69				06/05/1995	3.6	626.09	09/12/1995	3.52	626.17	1/11/96	2.2	627.49
MW-59	656.83	03/17/1995	1.9	654.93	06/05/1995	3.26	653.57	09/12/1995	4.58	652.25	1/11/96	2.14	654.69
MW-60	660.15	03/17/1995	2.02	658.13	06/05/1995	3.83	656.32	09/12/1995	5.33	654.82	1/11/96	2.34	657.81
MWT-1	637.24												
MWT-2	637.19												
MWT-3	637.31												
MWT-4	637.68												
MWT-5	637.72												
MWT-6	637.59												
MWT-7	638.34												
MWT-8	638.40												
MWT-9	638.08												
MWT-10	636.07												
MWT-11	638.90												

APPENDIX A
HISTORICAL GROUNDWATER ELEVATION DATA
GROUNDWATER MONITORING - ASH LANDFILL
SENECA ARMY DEPOT ACTIVITY

		First Quarter 1996			Second Quarter 1996			Third Quarter 1996			Fourth Quarter 1996		
Monitoring Well	Top of Riser Elevation (ft)	Date	of Riser (ft.)	Water Level (ft.)	Date	of Riser (ft.)	Water Level (ft.)	Date	of Riser (ft.)	Water Level (ft.)	Date	of Riser (ft.)	Water Level (ft.)
PT-10	681.52	03/14/1996	7.26	674.26	06/20/1996	9.65	671.87	09/23/1996	6.62	674.9	01/06/1997	5.31	676.21
PT-11	658.22	03/14/1996	4.44	653.78	06/20/1996	6.54	651.68	09/23/1996	6.15	652.07	01/06/1997	4.19	654.03
PT-12A	652.15	03/14/1996	7.94	644.21	06/20/1996	7.88	644.27	09/23/1996	7.31	644.84	01/06/1997	4.25	647.9
PT-15	637.76	03/14/1996	5.73	632.03	06/20/1996	7.7	630.06	09/23/1996	8.04	629.72	01/06/1997	5.05	632.71
PT-16	637.51	03/14/1996	2.66	634.85	06/20/1996	3.2	634.31	09/23/1996	3.62	633.89	01/06/1997	3.02	634.49
PT-17	640.14	03/14/1996	5.04	635.1	06/20/1996	6.36	633.78	09/23/1996	4.99	635.15	01/06/1997	4.7	635.44
PT-18	656.68	03/14/1996	7.08	649.6	06/20/1996	7.4	649.28	09/23/1996	7.44	649.24	01/06/1997	4.97	651.71
PT-19	645.26	03/14/1996	2.62	642.64	06/20/1996	6.27	638.99	09/23/1996	6.34	638.92	01/06/1997	3.18	642.08
PT-20	647.28	03/14/1996	6.64	640.64	06/20/1996	6.89	640.39	09/23/1996	5.92	641.36	01/06/1997	5.74	641.54
PT-21A	647.73	03/14/1996	8.16	639.57	06/20/1996	8.47	639.26	09/23/1996	7.02	640.71	01/06/1997	6.09	641.64
MW-22	648.61	03/14/1996	8.66	639.95	06/20/1996	8.97	639.64	09/23/1996	Not Measured		01/06/1997	6.5	642.11
PT-23	641.58	03/14/1996	4.17	637.41	06/20/1996	6.15	635.43	09/23/1996	5.11	636.47	01/06/1997	3.44	638.14
PT-24	636.40	03/14/1996	4.48	631.92	06/20/1996	5.07	631.33	09/23/1996	4.8	631.6	01/06/1997	4.64	631.76
PT-25	637.09	03/14/1996	4.04	633.05	06/20/1996	6.54	630.55	09/23/1996	6.16	630.93	01/06/1997	3.96	633.13
PT-26	614.64	03/14/1996	Not Measured		06/20/1996	6.72	607.92	09/23/1996	Not Measured		01/06/1997	Not Measured	
MW-27	639.32	03/14/1996	5.7	633.62	06/20/1996	6.58	632.74	09/23/1996	5.54	633.78	01/06/1997	5.21	634.11
MW-28	637.21	03/14/1996	5.23	631.98	06/20/1996	5.76	631.45	09/23/1996	5.35	631.86	01/06/1997	5.22	631.99
MW-29	637.31	03/14/1996	6.2	631.01	06/20/1996	6.96	630.35	09/23/1996	6.34	630.97	01/06/1997	6.14	631.17
MW-30	640.32	03/14/1996	5.88	634.44	06/20/1996	6.9	633.42	09/23/1996	7.17	633.15	01/06/1997	4.2	636.12
MW-31	636.70	03/14/1996	3.38	633.32	06/20/1996	5.86	630.84	09/23/1996	5.26	631.44	01/06/1997	2.92	633.78
MW-32	641.68	03/14/1996	5.45	636.23	06/20/1996	7.02	634.66	09/23/1996	7.42	634.26	01/06/1997	4.53	637.15
MW-33	639.56	03/14/1996	4.96	634.6	06/20/1996	8.05	631.51	09/23/1996	7.4	632.16	01/06/1997	4.29	635.27
MW-34	632.89	03/14/1996	3.16	629.73	06/20/1996	5.33	627.56	09/23/1996	4.99	627.9	01/06/1997	3.07	629.82
MW-35D	631.82	03/14/1996	2.38	629.44	06/20/1996	5.33	626.49	09/23/1996	Not Measured		01/06/1997	Not Measured	
MW-36	631.79	03/14/1996	2.32	629.47	06/20/1996	3.00	628.79	09/23/1996	3.30	628.49	01/06/1997	3.30	628.49
MW-37	632.89	03/14/1996	2.24	630.65	06/20/1996	3.4	629.49	09/23/1996	4.34	628.55	01/06/1997	2.48	630.41
MW-38D	637.90	03/14/1996	3.47	634.43	06/20/1996	4.09	633.81	09/23/1996	4.26	633.64	01/06/1997	3.7	634.2
MW-39	659.54	03/14/1996	Frozen		06/20/1996	1.82	Frozen	09/23/1996	2.16	657.38	01/06/1997	2.06	657.48
MW-40	659.30	03/14/1996	3.81		06/20/1996	6.2	653.1	09/23/1996	4.78	654.52	01/06/1997	3.64	655.66
MW-41D	694.02	03/14/1996	7	687.02	06/20/1996	8.16	685.86	09/23/1996	7.82	686.2	01/06/1997	6.1	687.92
MW-42D	683.04	03/14/1996	3.53	679.51	06/20/1996	5.54	677.5	09/23/1996	4.79	678.25	01/06/1997	4.79	678.25
MW-43	657.73	03/14/1996	Frozen		06/20/1996	3.03	654.7	09/23/1996	3.16	654.57	01/06/1997	2.9	654.83
MW-44A	653.85	03/14/1996	8.93	644.92	06/20/1996	8.05	645.8	09/23/1996	9.66	644.19	01/06/1997	3.74	650.11
MW-45	650.90	03/14/1996	Frozen		06/20/1996	3.47	647.43	09/23/1996	3.23	647.67	01/06/1997	2.94	647.96
MW-46	650.41	03/14/1996	5.72	644.69	06/20/1996	5.75	644.66	09/23/1996	5.94	644.47	01/06/1997	3.72	646.69
MW-47	628.06	03/14/1996	Frozen		06/20/1996	3.6	624.46	09/23/1996	4.34	623.72	01/06/1997	2.88	625.18
MW-48	648.32	03/14/1996	Frozen		06/20/1996	4.77	643.55	09/23/1996	3.72	644.6	01/06/1997	3.26	645.06
MW-49D	650.50	03/14/1996	5.71	644.79	06/20/1996	5.87	644.63	09/23/1996	5.9	644.6	01/06/1997	3.6	646.9
MW-50D	649.88	03/14/1996	5.78	644.1	06/20/1996	6.2	643.68	09/23/1996	5.71	644.17	01/06/1997	3.6	646.28
MW-51D	628.24	03/14/1996	2.78	625.46	06/20/1996	3.7	624.54	09/23/1996	4.42	623.82	01/06/1997	2.99	625.25
MW-52D	626.35	03/14/1996	Frozen		06/20/1996	3.66	622.69	09/23/1996	4.03	622.32	01/06/1997	2.38	623.97
MW-53	639.41	03/14/1996	6.98	632.43	06/20/1996	8.28	631.13	09/23/1996	7.02	632.39	01/06/1997	6.6	632.81
MW-54D	639.11	03/14/1996	6.97	632.14	06/20/1996	8.08	631.03	09/23/1996	6.92	632.19	01/06/1997	6.55	632.56
MW-55D	639.16	03/14/1996	6.88	632.28	06/20/1996	7.91	631.25	09/23/1996	6.78	632.38	01/06/1997	6.34	632.82
MW-56	630.51	03/14/1996	Frozen		06/20/1996	3.01	627.5	09/23/1996	3.2	627.31	01/06/1997	3.09	627.42
MW-57D	629.82	03/14/1996	1.91	627.91	06/20/1996	2.2	627.62	09/23/1996	2.29	627.53	01/06/1997	1.82	628
MW-58D	629.69	03/14/1996	2.25	627.44	06/20/1996	2.09	627.6	09/23/1996	2.06	627.63	01/06/1997	1.51	628.18
MW-59	656.83	03/14/1996	Frozen		06/20/1996	1.91	654.92	09/23/1996	2.69	654.14	01/06/1997	2.1	654.73
MW-60	660.15	03/14/1996	Frozen		06/20/1996	2.58	Frozen	09/23/1996	2.46	657.69	01/06/1997	1.97	658.18
MWT-1	637.24												
MWT-2	637.19												
MWT-3	637.31												
MWT-4	637.68												
MWT-5	637.72												
MWT-6	637.59												
MWT-7	638.34												
MWT-8	638.40												
MWT-9	638.08												
MWT-10	636.07												
MWT-11	635.90												

APPENDIX A
HISTORICAL GROUNDWATER ELEVATION DATA
GROUNDWATER MONITORING - ASH LANDFILL
SENECA ARMY DEPOT ACTIVITY

		First Quarter 1997			Second Quarter 1997			First Quarter 1998			Second Quarter 1998		
Monitoring Well	Top of Riser Elevation (ft)	Date	of Riser (ft.)	Water Level (ft.)	Date	of Riser (ft.)	Water Level (ft.)	Date	of Riser (ft.)	Water Level (ft.)	Date	of Riser (ft.)	Water Level (ft.)
PT-10	681.52	03/18/1997	5.3	676.22	06/17/1997	9.03	672.49	03/23/98	4.63	676.9	06/16/98	6.3	675.22
PT-11	658.22	03/18/1997	4.41	653.81	06/17/1997	6.23	651.99	03/23/98	4.24	653.98	06/16/98	4.43	653.79
PT-12A	652.15	03/18/1997	5.85	646.3	06/17/1997	7.53	644.62	03/23/98	3.14	649.01	06/16/98	5.25	646.9
PT-15	637.76	03/18/1997	4.59	633.17	06/17/1997	6.48	631.28	03/23/98	1.02	633.74	06/16/98	7.14	630.62
PT-16	637.51	03/18/1997	2.93	634.58	06/17/1997	4.05	633.46	03/23/98	2.8	634.71	06/16/98	3.8	633.71
PT-17	640.14	03/18/1997	4.75	635.39	06/17/1997	7.4	632.74	03/23/98	4.29	635.85	06/16/98	4.97	635.17
PT-18	656.68	03/18/1997	5.55	651.13	06/17/1997	7.09	649.59	03/23/98	4.4	652.28	06/16/98	6.34	650.34
PT-19	645.26	03/18/1997	3.34	641.92	06/17/1997	5.34	639.92	03/23/98	2.17	643.09	06/16/98	4.9	640.36
PT-20	647.28	03/18/1997	5.72	641.56	06/17/1997	7.21	640.07	03/23/98	4.94	642.34	06/16/98	5.69	641.59
PT-21A	647.73	03/18/1997	5.19	642.54	06/17/1997	8.21	639.52	03/23/98	3.89	643.84	06/16/98	6.46	641.27
MW-22	648.61	03/18/1997	6.63	641.98	06/17/1997	7.61	641	03/23/98	4.31	644.3	06/16/98	6.96	641.65
PT-23	641.58	03/18/1997	3.94	637.64	06/17/1997	6.37	635.21	03/23/98	3.66	637.92	06/16/98	4.02	637.56
PT-24	636.40	03/18/1997	4.69	631.71	06/17/1997	5.04	631.36	03/23/98	3.64	632.76	06/16/98	4.69	631.71
PT-25	637.09	03/18/1997	3.92	633.17	06/17/1997	5.96	631.13	03/23/98	3.58	633.51	06/16/98	4.48	632.61
PT-26	614.64	03/18/1997	Not Measured		06/17/1997	Not Measured		03/23/98	3.04	611.6	06/16/98	Not Measured	
MW-27	639.32	03/18/1997	5.25	634.07	06/17/1997	6.48	632.84	03/23/98	4.44	634.88	06/16/98	5.36	633.96
MW-28	637.21	03/18/1997	5.18	632.03	06/17/1997	5.61	631.6	03/23/98	4.64	632.57	06/16/98	5.14	632.07
MW-29	637.31	03/18/1997	6.09	631.22	06/17/1997	6.65	630.66	03/23/98	6.1	631.21	06/16/98	6.39	630.92
MW-30	640.32	03/18/1997	4.33	635.99	06/17/1997	8.35	631.97	03/23/98	3.94	636.38	06/16/98	5.32	635
MW-31	636.70	03/18/1997	2.96	633.74	06/17/1997	5.3	631.4	03/23/98	2.48	634.22	06/16/98	3.62	633.08
MW-32	641.68	03/18/1997	4.95	636.73	06/17/1997	7.93	633.75	03/23/98	3.84	637.84	06/16/98	6.23	635.45
MW-33	639.56	03/18/1997	4.44	635.12	06/17/1997	7.45	632.11	03/23/98	3.91	635.65	06/16/98	6.17	633.39
MW-34	632.89	03/18/1997	3.22	629.67	06/17/1997	4.63	628.26	03/23/98	2.74	630.15	06/16/98	3.73	629.16
MW-35D	631.82	03/18/1997	Not Measured		06/17/1997	Not Measured		03/23/98	2.6	629.22	06/16/98	2.4	629.22
MW-36	631.79	03/18/1997	2.46	629.33	06/17/1997	3.58	628.21	03/23/98	2.60	629.19	06/16/98	2.57	629.22
MW-37	632.89	03/18/1997	2.59	630.3	06/17/1997	Not Measured		03/23/98	2.51	630.38	06/16/98	2.75	630.38
MW-38D	637.90	03/18/1997	3.61	634.29	06/17/1997	Not Measured		03/23/98	3.48	635.39	06/16/98	3.65	635.39
MW-39	659.54	03/18/1997	1.78	657.76	06/17/1997	2.09	657.45	03/23/98	1.7	657.84	06/16/98	1.82	657.72
MW-40	659.30	03/18/1997	3.64	655.66	06/17/1997	5.78	653.52	03/23/98	3.45	655.85	06/16/98	4.14	655.16
MW-41D	694.02	03/18/1997	6.45	687.57	06/17/1997	Not Measured		03/23/98	8.12	685.9	06/16/98	Not Measured	
MW-42D	683.04	03/18/1997	2.61	680.43	06/17/1997	4.73	678.31	03/23/98	2.5	680.67	06/16/98	3.34	679.7
MW-43	657.73	03/18/1997	3.84	653.89	06/17/1997	3.72	654.01	03/23/98	2.6	655.13	06/16/98	2.81	654.92
MW-44A	653.85	03/18/1997	4.7	649.15	06/17/1997	6.9	646.95	03/23/98	3.48	650.37	06/16/98	6.73	647.12
MW-45	650.90	03/18/1997	2.83	648.07	06/17/1997	3.9	647	03/23/98	2.85	648.05	06/16/98	2.83	648.07
MW-46	650.41	03/18/1997	4.51	645.9	06/17/1997	6.06	644.35	03/23/98	2.88	647.53	06/16/98	4.12	646.29
MW-47	628.06	03/18/1997	2.88	625.18	06/17/1997	4.22	623.84	03/23/98	2.3	625.76	06/16/98	3.06	625
MW-48	648.32	03/18/1997	3.31	645.01	06/17/1997	5.3	643.02	03/23/98	2.86	645.46	06/16/98	3.29	645.03
MW-49D	650.50	03/18/1997	4.32	646.18	06/17/1997	5.91	644.59	03/23/98	2.88	647.62	06/16/98	4.07	646.43
MW-50D	649.88	03/18/1997	4.09	645.79	06/17/1997	5.98	644	03/23/98	2.41	647.4	06/16/98	4.09	645.89
MW-51D	628.24	03/18/1997	3	625.24	06/17/1997	4.35	623.89	03/23/98	2.35	625.89	06/16/98	3.14	625.1
MW-52D	626.35	03/18/1997	2.6	623.75	06/17/1997	3.62	622.73	03/23/98	2.3	624.05	06/16/98	2.73	623.62
MW-53	639.41	03/18/1997	6.6	632.81	06/17/1997	7.7	631.71	03/23/98	5.78	633.63	06/16/98	7.01	632.4
MW-54D	639.11	03/18/1997	6.56	632.55	06/17/1997	7.69	631.42	03/23/98	5.92	633.19	06/16/98	6.94	632.17
MW-55D	639.16	03/18/1997	6.36	632.8	06/17/1997	7.47	631.69	03/23/98	5.86	633.3	06/16/98	6.84	632.32
MW-56	630.51	03/18/1997	3.05	627.46	06/17/1997	3.45	627.03	03/23/98	3.13	627.38	06/16/98	3.17	627.34
MW-57D	629.82	03/18/1997	1.95	627.87	06/17/1997	2.76	627.06	03/23/98	1.69	628.13	06/16/98	1.95	627.87
MW-58D	629.69	03/18/1997	1.73	627.96	06/17/1997	2.56	627.13	03/23/98	1.32	628.37	06/16/98	1.66	628.03
MW-59	656.83	03/18/1997	2.16	654.67	06/17/1997	2.15	654.68	03/23/98	2.13	654.7	06/16/98	2	654.83
MW-60	660.15	03/18/1997	2.14	658.01	06/17/1997	2.98	657.17	03/23/98	1.95	658.2	06/16/98	2.14	658.01
MWT-1	637.24												
MWT-2	637.19												
MWT-3	637.31												
MWT-4	637.68												
MWT-5	637.72												
MWT-6	637.59												
MWT-7	638.34												
MWT-8	638.40												
MWT-9	638.08												
MWT-10	636.07												
MWT-11	635.90												

APPENDIX A
HISTORICAL GROUNDWATER ELEVATION DATA
GROUNDWATER MONITORING - ASH LANDFILL
SENECA ARMY DEPOT ACTIVITY

		Third Quarter 1998			Measured on 10/7/99			Measured on 10/27/99			Round 2 (1/3/00)		
Monitoring Well	Top of Riser Elevation (ft)	Date	of Riser (ft.)	Water Level (ft.)	Date	of Riser (ft.)	Water Level (ft.)	Date	of Riser (ft.)	Water Level (ft.)	Date	of Riser (ft.)	Water Level (ft.)
PT-10	681.52	09/18/98	10.29	671.23	10/07/1999	8.10	673.42	10/27/1999	9.26	672.26	01/03/2000	6.84	674.68
PT-11	658.22	09/18/98	9.57	648.65	10/07/1999	10.03	648.19	10/27/1999	9.39	648.83	01/03/2000	5.36	652.86
PT-12A	652.15	09/18/98	9.29	642.86	10/07/1999	7.00	645.15	10/27/1999	7.60	644.55	01/03/2000	6.62	645.53
PT-15	637.76	09/18/98	9.82	627.94	10/07/1999	10.36	627.4	10/27/1999	DRY		01/03/2000	6.04	631.72
PT-16	637.51	09/18/98	6.52	630.99	10/07/1999	7.20	630.31	10/27/1999	6.64	630.87	01/03/2000	3.10	634.41
PT-17	640.14	09/18/98	9.96	630.18	10/07/1999	7.26	632.88	10/27/1999	7.90	632.24	01/03/2000	5.08	635.06
PT-18	656.68	09/18/98	9.06	647.62	10/07/1999	9.40	647.28	10/27/1999	8.23	648.45	01/03/2000	6.34	650.34
PT-19	645.26	09/18/98	7.83	637.43	10/07/1999	7.33	637.93	10/27/1999	7.22	638.04	01/03/2000	3.94	641.32
PT-20	647.28	09/18/98	9.87	637.41	10/07/1999	7.58	639.7	10/27/1999	7.60	639.68	01/03/2000	6.76	640.52
PT-21A	647.73	09/18/98	9.79	637.94	10/07/1999	9.12	638.61	10/27/1999	8.14	639.59	01/03/2000	7.08	640.65
MW-22	648.61	09/18/98	10.35	638.26	10/07/1999	9.80	638.81	10/27/1999	8.65	639.96	01/03/2000	7.54	641.07
PT-23	641.58	09/18/98	8.47	633.11	10/07/1999	7.92	633.66	10/27/1999	7.76	633.82	01/03/2000	4.10	637.48
PT-24	636.40	09/18/98	7.1	629.3	10/07/1999	7.44	628.96	10/27/1999	6.12	630.28	01/03/2000	4.88	631.52
PT-25	637.09	09/18/98	11.35	625.74	10/07/1999	8.92	628.17	10/27/1999	8.31	628.78	01/03/2000	5.26	631.83
PT-26	614.64	09/18/98	10.54	604.1	10/07/1999	13.11	601.53	10/27/1999	12.16	602.48	01/03/2000	6.88	607.76
MW-27	639.32	09/18/98	7.67	631.65	10/07/1999	5.92	633.4	10/27/1999	6.64	632.68	01/03/2000	5.46	633.86
MW-28	637.21	09/18/98	7.46	629.75	10/07/1999	7.44	629.77	10/27/1999	6.36	630.85	01/03/2000	5.16	632.05
MW-29	637.31	09/18/98	9.9	627.41	10/07/1999	10.01	627.3	10/27/1999	8.00	629.31	01/03/2000	6.34	630.97
MW-30	640.32	09/18/98	10.44	629.88	10/07/1999	8.94	631.38	10/27/1999	9.30	631.02	01/03/2000	6.76	633.56
MW-31	636.70	09/18/98	9.68	627.02	10/07/1999	7.91	628.79	10/27/1999	7.29	629.41	01/03/2000	4.48	632.22
MW-32	641.68	09/18/98	8.98	632.7	10/07/1999	7.55	634.13	10/27/1999	8.30	633.38	01/03/2000	6.16	635.52
MW-33	639.56	09/18/98	9.84	629.72	10/07/1999	8.74	630.82	10/27/1999	9.50	630.06	01/03/2000	6.04	633.52
MW-34	632.89	09/18/98	10.53	622.36	10/07/1999	10.42	622.47	10/27/1999	9.10	623.79	01/03/2000	4.64	628.25
MW-35D	631.82	09/18/98	7.2	624.62	10/07/1999	6.86	624.96	10/27/1999	5.20	626.62	01/03/2000	2.76	629.06
MW-36	631.79	09/18/98	7.81	623.98	10/07/1999	7.57	624.22	10/27/1999	5.63	626.16	01/03/2000	2.94	628.85
MW-37	632.89		Not Measured		10/07/1999	7.12	625.77	10/27/1999	6.47	626.42	01/03/2000	3.40	629.49
MW-38D	637.90	09/18/98	7.29	630.61	10/07/1999	7.78	630.12	10/27/1999	7.28	630.62	01/03/2000	3.78	634.12
MW-39	659.54	09/18/98	6.47	653.07	10/07/1999	3.98	655.56	10/27/1999	3.74	655.8	01/03/2000	1.94	657.6
MW-40	659.30	09/18/98	8.22	651.08	10/07/1999	7.96	651.34	10/27/1999	6.62	652.68	01/03/2000	4.08	655.22
MW-41D	694.02		Not Measured		10/07/1999	8.81	685.21	10/27/1999	n/a	n/a	01/03/2000	7.24	686.78
MW-42D	683.04		Not Measured		10/07/1999	11.65	671.39	10/27/1999	9.78	673.26	01/03/2000	3.72	679.32
MW-43	657.73	09/18/98	6.5	651.23	10/07/1999	7.00	650.73	10/27/1999	5.86	651.87	01/03/2000	2.84	654.89
MW-44A	653.85	09/18/98	10.42	643.43	10/07/1999	11.43	642.42	10/27/1999	10.08	643.77	01/03/2000	5.50	648.35
MW-45	650.90	09/18/98	6.93	643.97	10/07/1999	7.78	643.12	10/27/1999	4.99	645.91	01/03/2000	2.78	648.12
MW-46	650.41	09/18/98	8.49	641.92	10/07/1999	8.84	641.57	10/27/1999	7.35	643.06	01/03/2000	4.18	646.23
MW-47	628.06	09/18/98	8.18	619.88	10/07/1999	7.70	620.36	10/27/1999	5.42	622.64	01/03/2000	3.32	624.74
MW-48	648.32	09/18/98	7.42	640.9	10/07/1999	7.78	640.54	10/27/1999	6.70	641.62	01/03/2000	3.32	645
MW-49D	650.50	09/18/98	7.32	643.18	10/07/1999	8.74	641.76	10/27/1999	7.32	643.18	01/03/2000	4.10	646.4
MW-50D	649.88	09/18/98	7.27	642.61	10/07/1999	8.48	641.4	10/27/1999	16.00	633.88	01/03/2000	5.90	643.98
MW-51D	628.24		Not Measured		10/07/1999	7.75	620.49	10/27/1999	5.60	622.64	01/03/2000	3.48	624.76
MW-52D	626.35	09/18/98	7.68	618.67	10/07/1999	7.24	619.11	10/27/1999	5.10	621.25	01/03/2000	2.18	624.17
MW-53	639.41	09/18/98	9.95	629.46	10/07/1999	9.48	629.93	10/27/1999	8.72	630.69	01/03/2000	6.70	632.71
MW-54D	639.11	09/18/98	10.4	628.71	10/07/1999	9.52	629.59	10/27/1999	8.58	630.53	01/03/2000	6.74	632.37
MW-55D	639.16	09/18/98	10.06	629.1	10/07/1999	9.40	629.76	10/27/1999	11.20	627.96	01/03/2000	6.68	632.48
MW-56	630.51	09/18/98	8.85	621.66	10/07/1999	5.61	624.9	10/27/1999	4.42	626.09	01/03/2000	3.46	627.05
MW-57D	629.82	09/18/98	8.06	621.76	10/07/1999	4.67	625.15	10/27/1999	3.52	626.3	01/03/2000	2.30	627.52
MW-58D	629.69	09/18/98	4.9	624.79	10/07/1999	4.46	625.23	10/27/1999	3.33	626.36	01/03/2000	2.06	627.63
MW-59	656.83	09/18/98	5.83	651	10/07/1999	5.10	651.73	10/27/1999	4.19	652.64	01/03/2000	2.16	654.67
MW-60	660.15	09/18/98	6.9	653.25	10/07/1999	3.32	656.83	10/27/1999	3.86	656.29	01/03/2000	2.16	657.99
MWT-1	637.24												
MWT-2	637.19												
MWT-3	637.31												
MWT-4	637.68												
MWT-5	637.72												
MWT-6	637.59												
MWT-7	638.34												
MWT-8	638.40												
MWT-9	638.08												
MWT-10	636.07												
MWT-11	635.90												

APPENDIX A
HISTORICAL GROUNDWATER ELEVATION DATA
GROUNDWATER MONITORING - ASH LANDFILL
SENECA ARMY DEPOT ACTIVITY

Monitoring Well	Top of Riser Elevation (ft)	3Q 2001 Data				2Q 2002 Data				3Q 2002 Data			
		Date Measured	Saturated Thickness (ft)	Depth to Groundwater (ft)	Water Level Elevation (ft)	Date Measured	Saturated Thickness (ft)	Depth to Groundwater (ft)	Water Level Elevation (ft)	Date Measured	Saturated Thickness (ft)	Depth to Groundwater (ft)	Water Level Elevation (ft)
PT-10	681.52	NA	NA	Not Measured		04/08/2002	41.09	5.27	676.25	08/15/2002	37.66	8.70	672.82
PT-11	658.22	08/27/2001	9.12	10.43	647.79	04/08/2002	14.77	4.78	653.44	08/15/2002	9.25	10.30	647.92
PT-12A	652.15	08/27/2001	3.49	9.89	642.26	04/08/2002	9.22	4.16	647.99	08/15/2002	3.87	9.51	642.64
PT-15	637.76	08/27/2001	9.12	10.38	627.38	04/08/2002	15.35	4.15	633.61	08/15/2002	9.40	10.10	627.66
PT-16	637.51	08/27/2001	3.36	7.68	629.83	04/08/2002	7.12	3.92	633.59	08/15/2002	3.89	7.15	630.36
PT-17	640.14	08/27/2001	0.56	11.09	629.05	04/08/2002	7.12	4.53	635.61	08/15/2002	0.90	10.75	629.39
PT-18	656.68	08/28/2001	1.32	10.38	646.30	04/08/2002	6.84	4.86	651.82	08/15/2002	3.07	8.63	648.05
PT-19	645.26	08/27/2001	3.01	8.69	636.57	04/08/2002	8.71	2.99	642.27	08/15/2002	1.45	10.25	635.01
PT-20	647.28	08/27/2001	0.00	Dry		04/08/2002	5.81	5.99	641.29	08/15/2002		Dry	
PT-21A	647.73	08/27/2001	8.95	10.51	637.22	04/08/2002	14.02	5.44	642.29	08/15/2002	9.21	10.25	637.48
MW-22	648.61	08/27/2001	0.71	11.10	637.51	04/08/2002	5.88	5.93	642.68	08/15/2002	0.96	10.85	637.76
PT-23	641.58	08/27/2001	2.85	9.23	632.35	04/08/2002	8.20	3.88	637.7	NA	NA	Not Measured	
PT-24	636.40	08/27/2001	3.47	8.41	627.99	04/08/2002	7.39	4.49	631.91	08/15/2002	4.53	7.35	629.05
PT-25	637.09	08/27/2001	0.00	Dry		04/08/2002	8.13	3.90	633.19	08/15/2002	0.58	11.45	625.64
PT-26	614.64	NA	NA	Not Measured		NA	NA	Not Measured		NA	NA	Not Measured	
MW-27	639.32	08/27/2001	1.31	9.23	630.09	04/08/2002	5.66	4.88	634.44	08/15/2002	1.69	8.85	630.47
MW-28	637.21	08/27/2001	1.89	8.50	628.71	04/09/2002	5.61	4.78	632.43	08/15/2002	2.79	7.60	629.61
MW-29	637.31	08/27/2001	0.00	Dry		04/08/2002	5.33	5.21	632.1	08/15 2002	0.99	9.55	627.76
MW-30	640.32	08/27/2001	0.00	Dry		04/10/2002	5.74	4.78	635.54	08/15/2002		Dry	
MW-31	636.70	08/27/2001	0.00	Dry		04/08/2002	7.41	2.94	633.76	08/15/2002		Dry	
MW-32	641.68	08/27/2001	0.00	Dry		04/08/2002	6.13	4.24	637.44	08/15 2002		Dry	
MW-33	639.56	08/27/2001	0.00	Dry		04/08/2002	6.13	4.26	635.3	08/15/2002		Dry	
MW-34	632.89	NA	NA	Not Measured		04/08/2002	14.30	3.85	629.04	NA	NA	Not Measured	
MW-35D	631.82	NA	NA	Not Measured		04/08/2002	53.72	2.92	628.9	NA	NA	Removed	
MW-36	631.79	08/28/2001	7.05	9.53	622.26	04/08/2002	12.97	3.61	628.18	NA	NA	Removed	
MW-37	632.89	NA	NA	Not Measured		04/08/2002	10.57	3.05	629.84	NA	NA	Not Measured	
MW-38D	637.90	NA	NA	Not Measured		04/08/2002	28.63	3.61	634.29	08/15 2002	24.44	7.80	630.1
MW-39	659.54	08/27/2001	2.82	9.07	650.47	04/08/2002	10.02	1.87	657.67	NA	NA	Not Measured	
MW-40	659.30	08/28/2001	5.57	9.14	650.16	04/08/2002	10.95	3.76	655.54	NA	NA	Not Measured	
MW-41D	694.02	NA	NA	Not Measured		NA	NA	Not Measured		NA	NA	Not Measured	
MW-42D	683.04	NA	NA	Not Measured		04/08/2002	44.85	2.53	680.51	NA	NA	Not Measured	
MW-43	657.73	NA	NA	Not Measured		04/08/2002	4.55	2.92	654.81	08 15 2002	0.52	6.95	650.78
MW-44A	653.85	08/27/2001	1.60	10.88	642.97	04/08/2002	8.46	4.02	649.83	08/15/2002	1.81	10.67	643.18
MW-45	650.90	08/27/2001	NA	Not Measured		04/08/2002	5.60	2.74	648.16	08/15 2002	0.74	7.60	643.3
MW-46	650.41	08/27/2001	2.16	9.29	641.12	04/08/2002	8.11	3.34	647.07	08/15 2002	2.31	9.14	641.27
MW-47	628.06	08/28/2001	0.41	8.15	619.91	04/08/2002	5.65	2.91	625.15	08 15 2002	0.39	8.17	619.89
MW-48	648.32	08/27/2001	3.12	8.38	639.94	04/08/2002	8.60	2.90	645.42	08/15/2002	3.65	7.85	640.47
MW-49D	650.50	NA	NA	Not Measured		04/08/2002	34.24	3.30	647.2	08/15 2002	28.59	8.95	641.55
MW-50D	649.88	NA	NA	Not Measured		04/08 2002	56.36	3.30	646.58	08/15 2002	50.96	8.70	641.18
MW-51D	628.24	NA	NA	Not Measured		04/08/2002	33.07	3.80	624.44	NA	NA	Not Measured	
MW-52D	626.35	NA	NA	Not Measured		04/08/2002	56.79	2.57	623.78	NA	NA	Not Measured	
MW-53	639.41	08/27/2001	0.45	9.90	629.51	04/08/2002	4.78	5.57	633.84	08/15 2002	0.45	9.90	629.51
MW-54D	639.11	NA	NA	Not Measured		04/08/2002	29.31	5.68	633.43	08/15/2002	24.54	10.45	628.66
MW-55D	639.16	NA	NA	Not Measured		04/08/2002	52.43	5.75	633.41	08/15/2002	47.98	10.20	628.96
MW-56	630.51	08/28/2001	0.32	6.56	623.95	04/10/2002	3.13	3.75	626.76	08/15/2002	0.00	Dry	
MW-57D	629.82	NA	NA	Not Measured		04/08/2002	33.13	1.96	627.86	08/15/2002	29.14	5.95	623.87
MW-58D	629.69	NA	NA	Not Measured		04 08 2002	55.67	1.62	628.07	08 15 2002	51.54	5.75	623.94
MW-59	656.83	08/27 2001	2.12	6.98	649.85	04/08/2002	6.89	2.21	654.62	NA	NA	Not Measured	
MW-60	660.15	08/27/2001	1.58	7.92	652 23	04 08 2002	7.40	2.10	658.05	08 15 2002	2.30	7.20	652.95
MWT-1	637.24	08 27 2001	1.57	8.18	629.06	04 09 2002	4 98	4.77	632.47	08 15 2002	2.55	7.20	630.04
MWT-2	637.19	NA	NA	Not Measured		04 08 2002	4.63	4.92	632.27	08 15 2002	2.30	7.25	629.94
MWT-3	637.31	08/27 2001	1.68	8.32	628 99	04 09 2002	4.89	5 11	632.2	08/15 2002	2.65	7.35	629.96
MWT-4	637.68	08/27 2001	2.03	10.40	627 28	04 09 2002	7.22	5.21	632.47	08 15 2002	3 68	8 75	628.93
MWT-5	637.72	NA	NA	Not Measured		04 08 2002	6 68	5.27	632.45	08 15 2002	2 90	9 05	628.67
MWT-6	637.59	08/27 2001	1.93	10.35	627 24	04 09 2002	7.07	5.21	632.38	08 15 2002	3 28	9 00	628.59
MWT-7	638.34	08 27 2001	2.21	11.76	626.58	04 09 2002	8 50	5 47	632 87	08 15 2002	3 72	10 25	628.09
MWT-8	638.40	NA	NA	Not Measured		04 08 2002	6 73	5.82	632 58	08 15 2002	2 10	10 45	627 95
MWT-9	638.08	08 27 2001	2.10	12.04	626 04	04 09 2002	8.48	5 66	632 42	NA	NA	Not Measured	
MWT-10	636 07	08 27 2001	2.43	6.52	629 55	04 09 2002	5 11	3 84	632 23	08 15 2002	3 20	5 75	630 32
MWT-11	635.90	08 28 2001	0 97	8 98	626 92	04 10 2002	7 00	2 95	632 95	08 15 2002	1 74	8 21	627 69

APPENDIX A
HISTORICAL GROUNDWATER ELEVATION DATA
GROUNDWATER MONITORING - ASH LANDFILL
SENECA ARMY DEPOT ACTIVITY

Monitoring Well	Top of Riser Elevation (ft)	1Q 2003 Data				2Q2003				Historical Data			
		Date Measured	Saturated Thickness (ft)	Depth to Groundwater (ft)	Water Level Elevation (ft)	Date Measured	Saturated Thickness (ft)	Depth to Groundwater (ft)	Water Level Elevation (ft)	Groundwater Elevation (ft)			Well Depth (ft)
										Maximum	Minimum	Range	
PT-10	681.52									676.90	671.02	5.88	46.36
PT-11	658.22					7/7/2003	11.82	7.73	650.49	654.03	647.79	6.24	19.55
PT-12A	652.15	3/14/2003	8.13	5.25	646.9	7/7/2003	4.91	8.47	643.68	649.01	642.26	6.75	13.38
PT-15	637.76					7/7/2003	11.46	8.04	629.72	633.74	627.38	6.36	19.50
PT-16	637.51					7/7/2003	6.17	4.87	632.64	634.85	629.83	5.02	11.04
PT-17	640.14	3/14/2003	7.02	4.63	635.51	7/7/2003	3.55	8.10	632.04	635.85	629.05	6.80	11.65
PT-18	656.68	3/14/2003	6.48	5.22	651.46					652.28	646.30	5.98	11.70
PT-19	645.26	3/14/2003	10.05	1.65	643.61	7/7/2003	4.93	6.77	638.49	643.61	635.01	8.60	11.70
PT-20	647.28	3/14/2003	6.05	5.75	641.53	7/7/2003	2.69	9.11	638.17	642.34	637.41	4.93	11.80
PT-21A	647.73	3/14/2003	13.79	5.67	642.06	7/7/2003	10.52	8.94	638.79	643.84	637.22	6.62	19.46
MW-22	648.61	3/14/2003	5.61	6.2	642.41	7/7/2003	2.23	9.58	639.03	644.30	637.51	6.79	11.81
PT-23	641.58	3/14/2003	7.92	4.16	637.42	7/7/2003	4.39	7.69	633.89	638.14	632.35	5.79	12.08
PT-24	636.40	3/14/2003	7.24	4.64	631.76	7/7/2003	6.36	5.52	630.88	632.76	627.99	4.77	11.88
PT-25	637.09	3/14/2003	8.01	4.02	633.07	7/7/2003	4.54	7.49	629.6	633.51	625.64	7.87	12.03
PT-26	614.64									611.60	601.53	10.07	14.00
MW-27	639.32	3/14/2003	5.39	5.15	634.17	7/7/2003	3.70	6.84	632.48	634.88	630.09	4.79	10.54
MW-28	637.21	3/14/2003	5.70	4.69	632.52	7/7/2003	4.51	5.88	631.33	632.57	628.71	3.86	10.39
MW-29	637.31	3/14/2003	5.28	5.26	632.05	7/7/2003	4.00	6.54	630.77	632.10	627.30	4.80	10.54
MW-30	640.32	3/14/2003	6.62	3.9	636.42	7/7/2003	0.95	9.57	630.75	636.42	629.88	6.54	10.52
MW-31	636.70	3/14/2003	7.36	2.99	633.71	7/7/2003	3.66	6.69	630.01	634.22	627.02	7.20	10.35
MW-32	641.68	3/14/2003	6.12	4.25	637.43	7/7/2003	1.30	9.07	632.61	637.84	632.61	5.23	10.37
MW-33	639.56	3/14/2003	6.06	4.33	635.23	7/7/2003	0.86	9.53	630.03	635.65	629.72	5.93	10.39
MW-34	632.89									630.15	622.36	7.79	18.15
MW-35D	631.82					7/7/2003	52.52	4.12	627.7	629.44	624.62	4.82	56.64
MW-36	631.79	3/14/2003	13.91	2.67	629.12	7/7/2003	12.57	4.01	627.78	629.47	622.26	7.21	16.58
MW-37	632.89									630.65	625.77	4.88	13.62
MW-38D	637.90					7/7/2003	26.74	5.50	632.4	635.39	628.99	6.40	32.24
MW-39	659.54					7/7/2003	7.42	4.47	655.07	657.84	650.47	7.37	11.89
MW-40	659.30	3/14/2003	10.97	3.74	655.56	7/7/2003	7.98	6.73	652.57	655.85	650.16	5.69	14.71
MW-41D	694.02									687.92	685.21	2.71	47.02
MW-42D	683.04									680.67	671.39	9.28	47.38
MW-43	657.73	3/14/2003	5.10	2.37	655.36	7/7/2003	2.23	5.24	652.49	655.36	650.73	4.63	7.47
MW-44A	653.85	3/14/2003	7.74	4.74	649.11	7/7/2003	4.56	7.92	645.93	650.37	642.42	7.95	12.48
MW-45	650.90	3/14/2003	6.24	2.1	648.8	7/7/2003	2.02	6.32	644.58	648.80	643.12	5.68	8.34
MW-46	650.41	3/14/2003	9.07	2.38	648.03	7/7/2003	4.00	7.45	642.96	648.03	641.12	6.91	11.45
MW-47	628.06	3/14/2003	6.21	2.35	625.71	7/7/2003	3.03	5.53	622.53	625.76	619.88	5.88	8.56
MW-48	648.32	3/14/2003	8.75	2.75	645.57	7/7/2003	5.18	6.32	642	645.57	639.94	5.63	11.50
MW-49D	650.50					7/7/2003	30.29	7.25	643.25	647.62	641.55	6.07	37.54
MW-50D	649.88					7/7/2003	52.58	7.08	642.8	647.40	633.88	13.52	59.66
MW-51D	628.24					7/7/2003	31.05	5.82	622.42	628.24	620.49	7.75	36.87
MW-52D	626.35					7/7/2003	54.06	5.30	621.05	624.17	618.67	5.50	59.36
MW-53	639.41	3/14/2003	4.69	5.66	633.75	7/7/2003	2.71	7.64	631.77	633.84	629.46	4.38	10.35
MW-54D	639.11					7/7/2003	27.39	7.60	631.51	633.43	628.66	4.77	34.99
MW-55D	639.16					7/7/2003	50.41	7.77	631.39	633.41	627.96	5.45	58.18
MW-56	630.51	3/14/2003	3.88	3	627.51	7/7/2003	2.09	4.79	625.72	627.56	621.66	5.90	6.88
MW-57D	629.82					7/7/2003	31.02	4.07	625.75	628.13	621.76	6.37	35.09
MW-58D	629.69					7/7/2003	53.44	3.85	625.84	628.37	623.94	4.43	57.29
MW-59	656.83					7/7/2003	5.11	3.99	652.84	654.93	649.85	5.08	9.10
MW-60	660.15					7/7/2003	5.12	4.38	655.77	658.20	652.23	5.97	9.50
MWT-1	637.24	3/14/2003	4.83	4.92	632.32	7/7/2003	4.29	5.46	631.78	632.47	629.06	3.41	9.75
MWT-2	637.19	3/14/2003	4.45	5.1	632.09	7/7/2003	4.00	5.55	631.64	632.27	629.94	2.33	9.55
MWT-3	637.31	3/14/2003	4.72	5.28	632.03	7/7/2003	4.31	5.69	631.62	632.20	628.99	3.21	10.00
MWT-4	637.68	3/14/2003	7.33	5.1	632.58	7/7/2003	6.13	6.30	631.38	632.58	627.28	5.30	12.43
MWT-5	637.72	3/14/2003	6.60	5.35	632.37	7/7/2003	5.32	6.63	631.09	632.45	628.67	3.78	11.95
MWT-6	637.59	3/14/2003	7.01	5.27	632.32	7/7/2003	5.70	6.58	631.01	632.38	627.24	5.14	12.28
MWT-7	638.34	3/14/2003	8.55	5.42	632.92	7/7/2003	7.00	6.97	631.37	632.92	626.58	6.34	13.97
MWT-8	638.40	3/14/2003	10.05	2.5	635.9	7/7/2003	5.10	7.45	630.95	635.90	627.95	7.95	12.55
MWT-9	638.08	3/14/2003	8.46	5.68	632.4	7/7/2003	6.93	7.21	630.87	632.42	626.04	6.38	14.14
MWT-10	636.07	3/14/2003	4.95	4	632.07	7/7/2003	4.50	4.45	631.62	632.23	629.55	2.68	8.95
MWT-11	635.90	3/14/2003	7.87	2.08	633.82	7/7/2003	5.12	4.83	631.07	633.82	626.92	6.90	9.95

APPENDIX B

SECOND QUARTER 2003 LABORATORY REPORTS

General Environmental Laboratories (GEL)

CASE NARRATIVE
for
Parsons Infrastructure & Technology Group, Inc.
Ash Landfill
SDG# 83934

August 8, 2003

Laboratory Identification:

General Engineering Laboratories, LLC

Mailing Address:

P.O. Box 30712
Charleston, South Carolina 29417

Express Mail Delivery and Shipping Address:

2040 Savage Road
Charleston, South Carolina 29414

Telephone Number:

(843) 556-8171

Summary:

Sample receipt

The samples arrived at General Engineering Laboratories, LLC (GEL) Charleston, South Carolina on July 11, 2003, for Environmental Analyses. All sample containers arrived without any visible signs of tampering or breakage. The samples were delivered with chain of custody documentation and signatures.

The laboratory received the following samples:

Laboratory Identification	Sample Description
83934001	ARD-2208
83934002	ARD-2209
83934003	ARD-0034
83934004	ARD-2210
83934005	ARD-2211
83934006	ARD-2207

83934007	ARD-2206
83934008	ARD-0035

Case Narrative

Sample analyses were conducted using methodology as outlined in General Engineering Laboratories (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are listed below by analytical parameter.

Internal Chain of Custody:

Custody was maintained for all samples.

Data Package:

The enclosed data package contains the following sections: Case Narrative, Qualifier Flag Definitions, Chain of Custody, Cooler Receipt Checklist, and GC/MS Volatile Analysis.

This data package, to the best of my knowledge, is in compliance with technical and administrative requirements.

Valerie S. Davis
Project Manager

GENERAL ENGINEERING LABORATORIES, LLC
a Member of THE GEL GROUP, INC.
P.O. Box 30712 • Charleston, SC 29417 • 2040 Savage Road (29407)
Phone (843) 556-8171 • Fax (843) 766-1178 • www.gel.com

CHAIN OF CUSTODY

Page: 1 of 2
Project #: 743155 - 02200
GEL Quote #:
COC Number (1): ARD - 001C
PO Number: 743155-0030000

GEL Chain of Custody and Analytical Request

General Engineering Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Parsons — Phone #: 617-457-7900
Project/Site Name: Ash Landfill — Fax #: 617-457-7979
Address: 100 Summer Street Floor 8 Boston MA 02110
Collected by: — Send Results To: Jennifer Lossmann

Sample Analysis Requested (5) (Fill in the number of containers for each test)

	Sample ID	Date Collected (mm-dd-yy)	Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	HA VOC CLP524.2	NA HCL 524.2	<-- Preservative Type (6)	Comments
	83938			N		GW			3				Note: extra sample is required for sample specific QC
01	ARD-2208	07-08-03	1405	N	N	GW			3	X			
02	ARD-2209		1550						3	X			
03	ARD-0034		1700	FB		FB			3	X			
04	ARD-2210	07-09-03	0915	N		GW			3	X			
05	ARD-2211		1045							X			
06	ARD-2207		1420							X			
07	ARD-2206		1605							X			
08	ARD-2207MS		1420	MS		GW				X			
09	ARD-2207MSD		1420	MSD						X			

2003074504

TAT Requested: Normal: X Rush: ____ Specify: ____ (Subject to Surcharge) | Fax Results: Yes / No | Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	Jennifer Lossmann	07-10-03	1230	[illegible]	7/10/03	0915
2						
3						

Sample Shipping and Delivery Details

GEL PM: Valerie Davis
Method of Shipment: Fedex — Date Shipped: 07/10/03
Airbill #: 8382 9070 9861
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes: N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite
3.) Field Filtered: For liquid matrices, indicate with a - Y - for yes the sample was field filtered or - N - for sample was not field filtered.
4.) Matrix Codes: DW = Drinking Water, GW = Groundwater, SW = Surface Water, WW = Waste Water, W = Water, SO = Soil, SD = Sediment, SL = Sludge, SS = Solid Waste, O = Oil, F = Filter, P = Wipe, U = Urine, F = Fecal, N = Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1).
6.) Preservative Type: HA = Hydrochloric Acid, NI = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfuric Acid, AA = Ascorbic Acid, HX = Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact? YES NO
Cooler Temp: 3 °C

WHITE = LABORATORY YELLOW = FILE PINK = CLIENT

Page: 2 of 2
Project #: 743155 - 022000
GEL Quote #:
COC Number (1): ARD-COC
PO Number: 743155 - 0030000

GEL Chain of Custody and Analytical Request

General Engineering Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Parsons — Phone #: 617-457-7900
Project/Site Name: Ash Landfill — Fax #: 617-457-7979
Address: 100 Summer St 8th Floor Boston MA 02110
Collected by: Jennifer Rossmann — Send Results To: Jennifer Rossmann

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID 83935	Date Collected (mm-dd-yy)	Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	HA — VOC CAP 5440	HA — VOC 524.2	<-- Preservative Type (6)
~~ARD-2205~~	~~07-10-03~~	0930	N	N	GW			3	~~X~~	X	
~~ARD-2212~~	~~07-10-03~~	1055	N					3	~~X~~	X	
~~ARD-2213~~	~~07-10-03~~	1055	N					3	X		
ARD-0035	07-08-03	1700	TB		TB			2	X		
	~~07-08-03~~	1700	TB		TB					X	

Comments
Note: extra sample is required for sample specific QC

TAT Requested: Normal: X Rush: ____ Specify: ____ (Subject to Surcharge) | Fax Results: Yes / No | Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	[signature]	7-10-03	1230	[signature]	7/10/03	0915
2						
3						

Sample Shipping and Delivery Details

GEL PM: Valerie Davis
Method of Shipment: Fedex — Date Shipped: 07/10/03
Airbill #: 8352 7070 4864
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes: N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite
3.) Field Filtered: For liquid matrices, indicate with a - Y - for yes the sample was field filtered or - N - for sample was not field filtered.
4.) Matrix Codes: DW = Drinking Water, GW = Groundwater, SW = Surface Water, WW = Waste Water, W = Water, SO = Soil, SD = Sediment, SL = Sludge, SS = Solid Waste, O = Oil, F = Filter, P = Wipe, U = Urine, F = Fecal, N = Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1).
6.) Preservative Type: HA = Hydrochloric Acid, NI = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfuric Acid, AA = Ascorbic Acid, HX = Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank.

For Lab Receiving Use Only
Custody Seal Intact? YES NO
Cooler Temp: 3 C

WHITE = LABORATORY YELLOW = FILE PINK = CLIENT

∞

COOLER RECEIPT CHECKLIST

SAMPLE RECEIPT & REVIEW FORM

Date 7-11-03 Client PARSONS Received by MK

	SAMPLE REVIEW CRITERIA	YES	NO	N/A	COMMENTS/QUALIFIERS
1	Were shipping containers received intact and sealed? If no, notify the Project Manager	✓			
2	Were chain of custody documents included?	✓			
3	Shipping container temperature(s) checked?	✓			3°
4	Is temperature documented on Chain of Custody?	✓			
5	Was shipping container temperature within specifications (4 +/- 2 C)? If no, notify Project Manager	✓			
6	Are any of the samples identified by the client as radioactive? If yes, complete radioactive receipt form		✓		
	Any samples not indentified by the client as radioactive must be screened for radioactivitiy.				32 observed background CPM
	If screening results indicate > x2 background inform the RSO.				32 Max observed sample CPM
7	Were chain of custody documents completed correctly? (Ink, signed, match containers)	✓			
8	Were sample containers received intact and sealed? If no, notify the Project Manager	✓			
9	Were all sample containers properly labeled?	✓			
10	Were correct sample containers received?	✓			
11	Preserved samples checked for pH?			✓	VOA
12	Were samples preserved correctly? If no, notify Project Manager	✓			
13	Were samples received within holding time? If No, notify Project Manager	✓			
14	Were VOA vials free of headspace?	✓			
15	ARCOC#				
16	SDG#				

PM(A) Review: VSD Date Reviewed: 7/11/03

Cooler Air Bill #'s, Associated Temperatures, Instrument Serial #'s, & Additional Comments:

	Temp Device Serial # (Cooler)
FED EX # 8381 9070 4861	2211 9311 2211 9053 1001)

GC/MS VOLATILE ANALYSIS

GC/MS Volatile Organics
Parsons Engineering Science, Inc. DACA87-02-D-0005 (PARS)
SDG 83934

Method/Analysis Information

Procedure:	Volatile Organic Compounds (VOC) by Gas Chromatograph/Mass Spectrometer
Analytical Method:	SW846 8260B
Prep Method:	SW846 5030B
Analytical Batch Number:	263072

Sample Analysis

The following client and quality control samples were analyzed to complete this sample delivery group/work order using the methods referenced in the Analysis Information section:

Sample ID	Client ID
83934001	ARD-2208
83934002	ARD-2209
83934003	ARD-0034
83934004	ARD-2210
83934005	ARD-2211
83934006	ARD-2207
83934007	ARD-2206
83934008	ARD-0035
1200454735	Method Blank (MB)
1200454736	Laboratory Control Sample (LCS)
1200457600	Method Blank (MB)
1200457601	Laboratory Control Sample (LCS)
1200458341	Method Blank (MB)
1200458342	Laboratory Control Sample (LCS)

1200454737	83934006(ARD-2207) Matrix Spike (MS)
1200454738	83934006(ARD-2207) Matrix Spike Duplicate (MSD)

Preparation/Analytical Method Verification

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-038 REV.8.

Calibration Information
Due to software limitations, all the data files comprising the initial calibration curve may not be listed on the initial calibration summary form. All calibration files are listed in the calibration history report in the "Standard Data" section.

Initial Calibration
All the initial calibration requirements were met.

Continuing Calibration Verification Requirements
All the continuing calibration verification (CCV) requirements were met. In addition, the CCV was evaluated in accordance with DoD QC requirements. The criteria states that all target analytes should have a %D (Difference of Drift) of ≤25%. In the following CCV(s), the following target analyte(s) did not meet this criteria:

Date of CCV	Target Analyte(s)
07/18/03	Dibromochloromethane (28.8%)
	Bromoform (40.3%)

The response factor for vinyl acetate in the CCV was greater than the average response factor in the initial calibration. Detection and quantitation of this analytes in samples would be considered biased high.

Quality Control (QC) Information

Method Blank Acceptance
Target analytes were not detected above the reporting limit in the blanks.

Surrogate Recoveries
Surrogate recoveries, in all samples and quality control samples, were within the acceptance limits.

Laboratory Control Sample Recovery Statement (LCS)
All the required analyte recoveries in the LCS(s) were within the acceptance limits.

QC Sample Designation
The following sample was designated for spike analysis: 83934006 (ARD-2207).

Spike Recovery Statement
All the required spike recoveries were within the acceptance limits.

Spike Duplicate Recovery Statement
All the required spike recoveries were within the acceptance limits.

Relative Percent Difference Statement (RPD)
The RPD between spike recoveries were within the acceptance limits.

Internal Standard (ISTD) Acceptance
The internal standard responses, in all samples and quality control samples, met the required acceptance criteria.

Technical Information

Holding Time Specifications
All the samples were prepared and/or analyzed within the required holding time period.

Sample Preservation and Integrity
All samples met the sample preservation and integrity requirements.

Preparation/Analytical Method Verification
All procedures were performed as stated in the SOP.

Sample Dilutions
The following samples were diluted because target analyte concentrations exceeded the calibration range:
83934004 (ARD-2210) 1:50
83934007 (ARD-2206) 1:10

Sample Re-prep/Re-analysis
Samples in this sample delivery group were re-analyzed for reasons of dilutions.

Miscellaneous Information

Electronic Package Comment
The following package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory is developing systems to eventually generate all data packages electronically. The following change from traditional packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative of each electronic package will indicate the analyst, reviewer, and report specialist names associated with the generation of the data and package. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Nonconformance (NCR) Documentation
A nonconformance report was not required for this sample delivery group/work order.

Manual Integrations
Data files associated with the initial calibration, continuing calibration check, and samples did not require manual integrations.

TIC Comment
Tentatively identified compounds (TIC) were not required for this sample delivery group/work order.

Additional Comments
There were no additional comments.

System Configuration
The laboratory utilizes the following GC/MS configurations:

Chromatographic Columns
Chromatographic separation of volatile components is accomplished through analysis on one of the following columns:

Column ID	Column Description
J&W1	DB-624, 60m x 0.25mm, 1.4um
J&W2	DB-624, 75m x 0.53mm, 3.0um

Instrument Configuration
Instrument systems are reference in the raw data and individual form headers by the Instrument ID designations below:

Instrument ID	System Configuration	Chromatographic Column	P & T Trap
VOA1	HP6890/HP5973	J&W1	Trap C
VOA2	HP6890/HP5973	J&W1	Trap C
VOA4	HP5890/HP5972	J&W1	Trap K
VOA5	HP5890/HP5972	J&W1	Trap C
VOA7	HP5890/HP5972	J&W2	Trap K
VOA8	HP6890/HP5973	J&W1	Trap K
VOA9	HP6890/HP5973	J&W1	Trap C

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

Reviewer: Charles Wilson Date: 08-07-03

Roadmap for PARS 83934 VOA

This roadmap was analyzed by Michael Penny on 07-22-2003, 11:11.
This roadmap was reviewed by Sara Jones on 07-31-2003, 15:52.
This roadmap was packaged by LySandra Gathers on 08-04-2003, 17:07.

Sample

exclude	manual	datafile	smpid	clientid	injdate	injtime	sublist	dilution	comment
☐	N	/chem/VOA2.i/071403v2.b/2s119.d	83934001	ARD-2208	14-JUL-2003	15:16	83934.sub	1	
☐	N	/chem/VOA2.i/071403v2.b/2s120.d	83934002	ARD-2209	14-JUL-2003	15:43	83934.sub	1	
■	N	/chem/VOA2.i/071403v2.b/2s121.d	83934003	ARD-0034	14-JUL-2003	16:10	83934.sub	1	
☐	N	/chem/VOA2.i/071403v2.b/2s122.d	83934004	ARD-2210	14-JUL-2003	16:36	83934.sub	1	
■	N	/chem/VOA2.i/071403v2.b/2s123.d	83934005	ARD-2211	14-JUL-2003	17:03	83934.sub	1	
☐	N	/chem/VOA2.i/071403v2.b/2s124.d	83934006	ARD-2207	14-JUL-2003	17:30	83934.sub	1	
☐	N	/chem/VOA2.i/071403v2.b/2s125.d	83934007	ARD-2206	14-JUL-2003	17:56	83934.sub	1	
■	N	/chem/VOA2.i/071403v2.b/2s126.d	83934008	ARD-0035	14-JUL-2003	18:23	83934.sub	1	
☐	N	/chem/VOA2.i/071703v2.b/2s419.d	83934003	ARD-0034	17-JUL-2003	14:31	83934.sub	1	
☐	N	/chem/VOA2.i/071703v2.b/2s420.d	83934005	ARD-2211	17-JUL-2003	14:59	83934.sub	1	
☐	N	/chem/VOA2.i/071703v2.b/2s421.d	83934008	ARD-0035	17-JUL-2003	15:26	83934.sub	1	
☐	N	/chem/VOA2.i/071703v2.b/2s422.d	83934007	ARD-2206DL	17-JUL-2003	15:54	83934.sub	10	
■	N	/chem/VOA2.i/071703v2.b/2s423.d	83934004	ARD-2210	17-JUL-2003	16:21	83934.sub	50	
☐	N	/chem/VOA2.i/071803v2.b/2s512.d	83934004	ARD-2210DL	18-JUL-2003	14:57	83934.sub	50	

QC Sample

exclude	manual	datafile	smpid	clientid	sampletype	injdate	injtime	sublist	dilution	comment

☐	N	/chem/VOA2.i/071403v2.b/2s103WPA.d	1200454736	VBLK01LCS	lcs	14-JUL-2003	07:59	83934.sub	1	
☐	N	/chem/VOA2.i/071403v2.b/2s106WPA.d	1200454735	VBLK01	mb	14-JUL-2003	09:19	83934.sub	1	
☐	N	/chem/VOA2.i/071703v2.b/2s403PA.d	1200457601	VBLK02LCS	lcs	17-JUL-2003	07:19	83934.sub	1	
☐	N	/chem/VOA2.i/071703v2.b/2s406PA.d	1200457600	VBLK02	mb	17-JUL-2003	08:38	83934.sub	1	
☐	N	/chem/VOA2.i/071703v2.b/2s425.d	1200454737	ARD-2207MS	ms	17-JUL-2003	17:16	83934.sub	1	
☐	N	/chem/VOA2.i/071703v2.b/2s426.d	1200454738	ARD-2207MSD	msd	17-JUL-2003	17:43	83934.sub	1	
☐	N	/chem/VOA2.i/071803v2.b/2s503PA.d	1200458342	VBLK03LCS	lcs	18-JUL-2003	10:19	83934.sub	1	
☐	N	/chem/VOA2.i/071803v2.b/2s506PA.d	1200458341	VBLK03	mb	18-JUL-2003	12:02	83934.sub	1	

SAMPLE DATA SUMMARY

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD-0034

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix: (soil/water) WATER Lab Sample ID: 83934003

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2S419

Level: (low/med) LOW Date Received: 07/11/03

% Moisture: not dec. _____ Date Analyzed: 07/17/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-35-4	1,1-Dichloroethylene	1.0	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	4.9	J
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethylene	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	5.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethylene	1.0	U
67-66-3	Chloroform	5.7	
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethylene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	2.9	
10061-01-5	cis-1,3-Dichloropropylene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropylene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
591-78-6	2-Hexanone	5.0	U
127-18-4	Tetrachloroethylene	1.0	U
124-48-1	Dibromochloromethane	0.88	J
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
87-61-6	Xylenes (total)	1.0	U
100-42-5	Styrene	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD-0034

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix: (soil/water) WATER Lab Sample ID: 83934003

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2S419

Level: (low/med) LOW Date Received: 07/11/03

% Moisture: not dec. _____ Date Analyzed: 07/17/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-25-2	Bromoform	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD-0035

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix: (soil/water) WATER Lab Sample ID: 83934008

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2S421

Level: (low/med) LOW Date Received: 07/11/03

% Moisture: not dec. _____ Date Analyzed: 07/17/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-35-4	1,1-Dichloroethylene	1.0	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethylene	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	5.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethylene	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethylene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropylene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropylene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
591-78-6	2-Hexanone	5.0	U
127-18-4	Tetrachloroethylene	1.0	U
124-48-1	Dibromochloromethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
87-61-6	Xylenes (total)	1.0	U
100-42-5	Styrene	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD-0035

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix: (soil/water) WATER Lab Sample ID: 83934008

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2S421

Level: (low/med) LOW Date Received: 07/11/03

% Moisture: not dec. _____ Date Analyzed: 07/17/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-25-2	Bromoform	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD-2206

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix: (soil/water) WATER Lab Sample ID: 83934007

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2S125

Level: (low/med) LOW Date Received: 07/11/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	176	E
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-35-4	1,1-Dichloroethylene	0.62	J
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethylene	2.7	
75-34-3	1,1-Dichloroethane	5.7	
108-05-4	Vinyl acetate	5.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethylene	416	E
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.4	
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	0.36	J
71-43-2	Benzene	0.48	J
79-01-6	Trichloroethylene	10.9	
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropylene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropylene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
591-78-6	2-Hexanone	5.0	U
127-18-4	Tetrachloroethylene	1.0	U
124-48-1	Dibromochloromethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
87-61-6	Xylenes (total)	1.0	U
100-42-5	Styrene	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD-2206

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix: (soil/water) WATER Lab Sample ID: 83934007

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2S125

Level: (low/med) LOW Date Received: 07/11/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-25-2	Bromoform	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD-2206DL

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix: (soil/water) WATER Lab Sample ID: 83934007

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2S422

Level: (low/med) LOW Date Received: 07/11/03

% Moisture: not dec. _____ Date Analyzed: 07/17/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 10.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.0	U
75-01-4	Vinyl chloride	162	D
74-83-9	Bromomethane	10.0	U
75-00-3	Chloroethane	10.0	U
75-35-4	1,1-Dichloroethylene	10.0	U
67-64-1	Acetone	50.0	U
75-15-0	Carbon disulfide	50.0	U
75-09-2	Methylene chloride	50.0	U
156-60-5	trans-1,2-Dichloroethylene	10.0	U
75-34-3	1,1-Dichloroethane	10.0	U
108-05-4	Vinyl acetate	50.0	U
78-93-3	2-Butanone	50.0	U
156-59-2	cis-1,2-Dichloroethylene	478	D
67-66-3	Chloroform	10.0	U
71-55-6	1,1,1-Trichloroethane	10.0	U
56-23-5	Carbon tetrachloride	10.0	U
107-06-2	1,2-Dichloroethane	10.0	U
71-43-2	Benzene	10.0	U
79-01-6	Trichloroethylene	10.0	D
78-87-5	1,2-Dichloropropane	10.0	U
75-27-4	Bromodichloromethane	10.0	U
10061-01-5	cis-1,3-Dichloropropylene	10.0	U
108-10-1	4-Methyl-2-pentanone	50.0	U
108-88-3	Toluene	10.0	U
10061-02-6	trans-1,3-Dichloropropylene	10.0	U
79-00-5	1,1,2-Trichloroethane	10.0	U
591-78-6	2-Hexanone	50.0	U
127-18-4	Tetrachloroethylene	10.0	U
124-48-1	Dibromochloromethane	10.0	U
108-90-7	Chlorobenzene	10.0	U
100-41-4	Ethylbenzene	10.0	U
87-61-6	Xylenes (total)	10.0	U
100-42-5	Styrene	10.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD-2206DL

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix: (soil/water) WATER Lab Sample ID: 83934007

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2S422

Level: (low/med) LOW Date Received: 07/11/03

% Moisture: not dec. _____ Date Analyzed: 07/17/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 10.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-25-2	Bromoform	10.0	U
79-34-5	1,1,2,2-Tetrachloroethane	10.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD-2207

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix: (soil/water) WATER Lab Sample ID: 83934006

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2S124

Level: (low/med) LOW Date Received: 07/11/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-35-4	1,1-Dichloroethylene	1.0	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethylene	2.3	
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	5.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethylene	47.0	
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethylene	40.8	
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropylene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropylene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
591-78-6	2-Hexanone	5.0	U
127-18-4	Tetrachloroethylene	1.0	U
124-48-1	Dibromochloromethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
87-61-6	Xylenes (total)	1.0	U
100-42-5	Styrene	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD-2207

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix: (soil/water) WATER Lab Sample ID: 83934006

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2S124

Level: (low/med) LOW Date Received: 07/11/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-25-2	Bromoform	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD-2208

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix: (soil/water) WATER Lab Sample ID: 83934001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2S119

Level: (low/med) LOW Date Received: 07/11/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-35-4	1,1-Dichloroethylene	1.0	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethylene	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	5.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethylene	18.6	
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethylene	2.0	
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropylene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropylene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
591-78-6	2-Hexanone	5.0	U
127-18-4	Tetrachloroethylene	1.0	U
124-48-1	Dibromochloromethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
87-61-6	Xylenes (total)	1.0	U
100-42-5	Styrene	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD-2208

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix: (soil/water) WATER Lab Sample ID: 83934001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2S119

Level: (low/med) LOW Date Received: 07/11/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-25-2	Bromoform	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD-2209

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix: (soil/water) WATER Lab Sample ID: 83934002

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2S120

Level: (low/med) LOW Date Received: 07/11/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-35-4	1,1-Dichloroethylene	1.0	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethylene	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	5.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethylene	1.6	
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethylene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropylene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropylene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
591-78-6	2-Hexanone	5.0	U
127-18-4	Tetrachloroethylene	1.0	U
124-48-1	Dibromochloromethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
87-61-6	Xylenes (total)	1.0	U
100-42-5	Styrene	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD-2209

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix: (soil/water) WATER Lab Sample ID: 83934002

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2S120

Level: (low/med) LOW Date Received: 07/11/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-25-2	Bromoform	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD-2210

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix: (soil/water) WATER Lab Sample ID: 83934004

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2S122

Level: (low/med) LOW Date Received: 07/11/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	165	E
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-35-4	1,1-Dichloroethylene	6.3	
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethylene	20.2	
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	5.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethylene	1600	E
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	0.49	J
79-01-6	Trichloroethylene	778	E
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropylene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropylene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
591-78-6	2-Hexanone	5.0	U
127-18-4	Tetrachloroethylene	1.0	U
124-48-1	Dibromochloromethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
87-61-6	Xylenes (total)	1.0	U
100-42-5	Styrene	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD-2210

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix: (soil/water) WATER Lab Sample ID: 83934004

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2S122

Level: (low/med) LOW Date Received: 07/11/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume:_____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-25-2	Bromoform	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD-2210DL

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix: (soil/water) WATER Lab Sample ID: 83934004

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2S512

Level: (low/med) LOW Date Received: 07/11/03

% Moisture: not dec. _____ Date Analyzed: 07/18/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 50.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	50.0	U
75-01-4	Vinyl chloride	168	D
74-83-9	Bromomethane	50.0	U
75-00-3	Chloroethane	50.0	U
75-35-4	1,1-Dichloroethylene	50.0	U
67-64-1	Acetone	250	U
75-15-0	Carbon disulfide	250	U
75-09-2	Methylene chloride	250	U
156-60-5	trans-1,2-Dichloroethylene	23.6	DJ
75-34-3	1,1-Dichloroethane	50.0	U
108-05-4	Vinyl acetate	250	U
78-93-3	2-Butanone	250	U
156-59-2	cis-1,2-Dichloroethylene	3180	D
67-66-3	Chloroform	50.0	U
71-55-6	1,1,1-Trichloroethane	50.0	U
56-23-5	Carbon tetrachloride	50.0	U
107-06-2	1,2-Dichloroethane	50.0	U
71-43-2	Benzene	50.0	U
79-01-6	Trichloroethylene	1280	D
78-87-5	1,2-Dichloropropane	50.0	U
75-27-4	Bromodichloromethane	50.0	U
10061-01-5	cis-1,3-Dichloropropylene	50.0	U
108-10-1	4-Methyl-2-pentanone	250	U
108-88-3	Toluene	50.0	U
10061-02-6	trans-1,3-Dichloropropylene	50.0	U
79-00-5	1,1,2-Trichloroethane	50.0	U
591-78-6	2-Hexanone	250	U
127-18-4	Tetrachloroethylene	50.0	U
124-48-1	Dibromochloromethane	50.0	U
108-90-7	Chlorobenzene	50.0	U
100-41-4	Ethylbenzene	50.0	U
87-61-6	Xylenes (total)	50.0	U
100-42-5	Styrene	50.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD-2210DL

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix: (soil/water) WATER Lab Sample ID: 83934004

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2S512

Level: (low/med) LOW Date Received: 07/11/03

% Moisture: not dec. _____ Date Analyzed: 07/18/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 50.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-25-2	Bromoform	50.0	U
79-34-5	1,1,2,2-Tetrachloroethane	50.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD-2211

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix: (soil/water) WATER Lab Sample ID: 83934005

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2S420

Level: (low/med) LOW Date Received: 07/11/03

% Moisture: not dec. _____ Date Analyzed: 07/17/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-35-4	1,1-Dichloroethylene	1.0	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethylene	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	5.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethylene	0.70	J
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethylene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropylene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropylene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
591-78-6	2-Hexanone	5.0	U
127-18-4	Tetrachloroethylene	1.0	U
124-48-1	Dibromochloromethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
87-61-6	Xylenes (total)	1.0	U
100-42-5	Styrene	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD-2211

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix: (soil/water) WATER Lab Sample ID: 83934005

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2S420

Level: (low/med) LOW Date Received: 07/11/03

% Moisture: not dec. _____ Date Analyzed: 07/17/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-25-2	Bromoform	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U

QUALITY CONTROL SUMMARY

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

	EPA SAMPLE NO.	SMC1 (DBF) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER	TOT OUT
01	VBLK01LCS	116	109	115		0
02	VBLK01	105	101	109		0
03	ARD-2208	104	100	108		0
04	ARD-2209	116	108	118		0
05	ARD-2210	113	108	118		0
06	ARD-2207	106	100	111		0
07	ARD-2206	114	104	115		0
08	VBLK02LCS	107	100	113		0
09	VBLK02	111	104	113		0
10	ARD-0034	108	98	110		0
11	ARD-2211	118	102	118		0
12	ARD-0035	120	106	118		0
13	ARD-2206DL	110	97	110		0
14	ARD-2207MS	111	97	110		0
15	ARD-2207MSD	110	98	111		0
16	VBLK03LCS	130	125	132		0
17	VBLK03	128	117	130		0
18	ARD-2210DL	126	113	123		0
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		QC LIMITS
SMC1 (DBF)	= Dibromofluoromethane	(74-144)
SMC2 (TOL)	= Toluene-d8	(76-129)
SMC3 (BFB)	= Bromofluorobenzene	(69-137)

Column to be used to flag recovery values

* Values outside of contract required QC limits

3A
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix Spike - EPA Sample No.: VBLK01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
o-Xylene	50.0	0.0	47.9	96	81-118
m,p-Xylenes	100	0.0	90.8	91	79-119
Chloromethane	50.0	0.0	42.3	85	72-142
Vinyl chloride	50.0	0.0	48.3	97	67-141
Bromomethane	50.0	0.0	43.2	86	61-144
Chloroethane	50.0	0.0	43.5	87	68-132
1,1-Dichloroethylene	50.0	0.0	43.3	87	66-132
Acetone	250	0.0	257	103	71-139
Carbon disulfide	250	0.0	216	86	68-120
Methylene chloride	50.0	0.0	43.4	87	73-112
trans-1,2-Dichloroethyl	50.0	0.0	45.4	91	78-125
1,1-Dichloroethane	50.0	0.0	47.2	94	80-119
Vinyl acetate	250	0.0	262	105	67-136
2-Butanone	250	0.0	229	92	64-134
cis-1,2-Dichloroethylen	50.0	0.0	47.8	96	80-117
Chloroform	50.0	0.0	49.8	100	80-124
1,1,1-Trichloroethane	50.0	0.0	46.4	93	72-136
Carbon tetrachloride	50.0	0.0	50.1	100	66-141
1,2-Dichloroethane	50.0	0.0	47.2	94	67-131
Benzene	50.0	0.0	45.3	91	78-116
Trichloroethylene	50.0	0.0	45.4	91	83-122
1,2-Dichloropropane	50.0	0.0	45.5	91	75-119
Bromodichloromethane	50.0	0.0	50.4	101	78-127
cis-1,3-Dichloropropyle	50.0	0.0	50.4	101	77-129
4-Methyl-2-pentanone	250	0.0	233	93	69-127
Toluene	50.0	0.0	47.6	95	79-118
trans-1,3-Dichloropropy	50.0	0.0	52.1	104	67-132
1,1,2-Trichloroethane	50.0	0.0	47.8	96	76-119

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

3A
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix Spike - EPA Sample No.: VBLK01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
2-Hexanone	250	0.0	234	94	60-136
Tetrachloroethylene	50.0	0.0	45.4	91	78-126
Dibromochloromethane	50.0	0.0	53.1	106	81-129
Chlorobenzene	50.0	0.0	49.8	100	82-118
Ethylbenzene	50.0	0.0	47.6	95	80-120
Xylenes (total)	150	0.0	139	93	70-130
Styrene	50.0	0.0	47.0	94	82-121
Bromoform	50.0	0.0	57.7	115	79-141
1,1,2,2-Tetrachloroetha	50.0	0.0	44.3	89	66-127

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 37 outside limits

COMMENTS: _____

3A
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix Spike - EPA Sample No.: VBLK02

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Chloromethane	50.0	0.0	38.9	78	72-142
Vinyl chloride	50.0	0.0	45.7	91	67-141
Bromomethane	50.0	0.0	42.8	86	61-144
Chloroethane	50.0	0.0	44.4	89	68-132
1,1-Dichloroethylene	50.0	0.0	44.1	88	66-132
Acetone	250	0.0	265	106	71-139
Carbon disulfide	250	0.0	213	85	68-120
Methylene chloride	50.0	0.0	42.4	85	73-112
trans-1,2-Dichloroethyl	50.0	0.0	46.0	92	78-125
1,1-Dichloroethane	50.0	0.0	47.7	95	80-119
Vinyl acetate	250	0.0	263	105	67-136
2-Butanone	250	0.0	226	90	64-134
cis-1,2-Dichloroethylen	50.0	0.0	46.4	93	80-117
Chloroform	50.0	0.0	49.8	100	80-124
1,1,1-Trichloroethane	50.0	0.0	46.3	93	72-136
Carbon tetrachloride	50.0	0.0	49.6	99	66-141
1,2-Dichloroethane	50.0	0.0	47.9	96	67-131
Benzene	50.0	0.0	45.6	91	78-116
Trichloroethylene	50.0	0.0	45.0	90	83-122
1,2-Dichloropropane	50.0	0.0	45.0	90	75-119
Bromodichloromethane	50.0	0.0	50.5	101	78-127
cis-1,3-Dichloropropyle	50.0	0.0	50.5	101	77-129
4-Methyl-2-pentanone	250	0.0	237	95	69-127
Toluene	50.0	0.0	47.4	95	79-118
trans-1,3-Dichloropropy	50.0	0.0	52.6	105	67-132
1,1,2-Trichloroethane	50.0	0.0	47.5	95	76-119
2-Hexanone	250	0.0	234	94	60-136
Tetrachloroethylene	50.0	0.0	45.3	91	78-126

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

3A
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix Spike - EPA Sample No.: VBLK02

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dibromochloromethane	50.0	0.0	54.0	108	81-129
Chlorobenzene	50.0	0.0	49.6	99	82-118
Ethylbenzene	50.0	0.0	48.0	96	80-120
m,p-Xylenes	100	0.0	92.9	93	79-119
o-Xylene	50.0	0.0	47.2	94	81-118
Xylenes (total)	150	0.0	140	93	70-130
Styrene	50.0	0.0	46.6	93	82-121
Bromoform	50.0	0.0	59.9	120	79-141
1,1,2,2-Tetrachloroetha	50.0	0.0	46.2	92	66-127

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 37 outside limits

COMMENTS: _____

3A

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix Spike - EPA Sample No.: VBLK03

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
o-Xylene	50.0	0.0	55.2	110	81-118
m,p-Xylenes	100	0.0	108	108	79-119
Chloromethane	50.0	0.0	42.3	85	72-142
Vinyl chloride	50.0	0.0	49.8	100	67-141
Bromomethane	50.0	0.0	47.8	96	61-144
Chloroethane	50.0	0.0	48.6	97	68-132
1,1-Dichloroethylene	50.0	0.0	47.0	94	66-132
Acetone	250	0.0	310	124	71-139
Carbon disulfide	250	0.0	231	92	68-120
Methylene chloride	50.0	0.0	50.0	100	73-112
trans-1,2-Dichloroethyl	50.0	0.0	51.3	103	78-125
1,1-Dichloroethane	50.0	0.0	53.0	106	80-119
Vinyl acetate	250	0.0	291	116	67-136
2-Butanone	250	0.0	268	107	64-134
cis-1,2-Dichloroethylen	50.0	0.0	53.6	107	80-117
Chloroform	50.0	0.0	55.9	112	80-124
1,1,1-Trichloroethane	50.0	0.0	51.4	103	72-136
Carbon tetrachloride	50.0	0.0	54.6	109	66-141
1,2-Dichloroethane	50.0	0.0	55.2	110	67-131
Benzene	50.0	0.0	51.3	103	78-116
Trichloroethylene	50.0	0.0	50.1	100	83-122
1,2-Dichloropropane	50.0	0.0	52.0	104	75-119
Bromodichloromethane	50.0	0.0	57.9	116	78-127
cis-1,3-Dichloropropyle	50.0	0.0	57.9	116	77-129
4-Methyl-2-pentanone	250	0.0	293	117	69-127
Toluene	50.0	0.0	54.1	108	79-118
trans-1,3-Dichloropropy	50.0	0.0	61.2	122	67-132
1,1,2-Trichloroethane	50.0	0.0	55.6	111	76-119

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

3A
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix Spike - EPA Sample No.: VBLK03

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
2-Hexanone	250	0.0	284	114	60-136
Tetrachloroethylene	50.0	0.0	50.2	100	78-126
Dibromochloromethane	50.0	0.0	64.4	129	81-129
Chlorobenzene	50.0	0.0	57.8	116	82-118
Ethylbenzene	50.0	0.0	55.3	111	80-120
Xylenes (total)	150	0.0	163	109	70-130
Styrene	50.0	0.0	54.6	109	82-121
Bromoform	50.0	0.0	70.2	140	79-141
1,1,2,2-Tetrachloroetha	50.0	0.0	53.9	108	66-127

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 37 outside limits

COMMENTS: _____

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix Spike - EPA Sample No.: ARD-2207

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethylene	50.0	0.0	44.8	90	60-124
Benzene	50.0	0.0	44.5	89	71-116
Trichloroethylene	50.0	40.8	82.2	83	74-122
Toluene	50.0	0.0	44.5	89	72-116
Chlorobenzene	50.0	0.0	48.7	97	77-114

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethylene	50.0	43.9	88	2	20	60-124
Benzene	50.0	43.2	86	3	20	71-116
Trichloroethylene	50.0	81.2	81	2	20	74-122
Toluene	50.0	44.3	89	0	20	72-116
Chlorobenzene	50.0	46.1	92	5	20	77-114

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK01

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Lab File ID: 2S106WPA Lab Sample ID: 1200454735

Date Analyzed: 07/14/03 Time Analyzed: 0919

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

Instrument ID: VOA2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VBLK01LCS	1200454736	2S103WPA	0759
02	ARD-2208	83934001	2S119	1516
03	ARD-2209	83934002	2S120	1543
04	ARD-2210	83934004	2S122	1636
05	ARD-2207	83934006	2S124	1730
06	ARD-2206	83934007	2S125	1756
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4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK02

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Lab File ID: 2S406PA Lab Sample ID: 1200457600

Date Analyzed: 07/17/03 Time Analyzed: 0838

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

Instrument ID: VOA2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VBLK02LCS	1200457601	2S403PA	0719
02	ARD-0034	83934003	2S419	1431
03	ARD-2211	83934005	2S420	1459
04	ARD-0035	83934008	2S421	1526
05	ARD-2206DL	83934007	2S422	1554
06	ARD-2207MS	1200454737	2S425	1716
07	ARD-2207MSD	1200454738	2S426	1743
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4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK03

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Lab File ID: 2S506PA Lab Sample ID: 1200458341

Date Analyzed: 07/18/03 Time Analyzed: 1202

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

Instrument ID: VOA2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VBLK03LCS	1200458342	2S503PA	1019
02	ARD-2210DL	83934004	2S512	1457
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5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Lab File ID: 2Q101 BFB Injection Date: 06/30/03

Instrument ID: VOA2 BFB Injection Time: 1130

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.9
75	30.0 - 60.0% of mass 95	46.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 100.0% of mass 95	71.5
175	5.0 - 9.0% of mass 174	5.3 (7.4)1
176	95.0 - 101.0% of mass 174	68.4 (95.7)1
177	5.0 - 9.0% of mass 176	4.5 (6.5)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0005	W2V030630-08	2Q103	06/30/03	1220
02	VSTD001	W2V030630-01	2Q104	06/30/03	1247
03	VSTD002	W2V030630-02	2Q106	06/30/03	1341
04	VSTD005	W2V030630-03	2Q107	06/30/03	1408
05	VSTD010	W2V030630-04	2Q108	06/30/03	1435
06	VSTD020	W2V030630-05	2Q109	06/30/03	1503
07	VSTD050	W2V030630-06	2Q110	06/30/03	1529
08	VSTD100	W2V030630-07	2Q111	06/30/03	1556
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5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Lab File ID: 2S101 BFB Injection Date: 07/14/03

Instrument ID: VOA2 BFB Injection Time: 0710

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.8
75	30.0 - 60.0% of mass 95	46.8
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.2 (0.3)1
174	50.0 - 100.0% of mass 95	71.8
175	5.0 - 9.0% of mass 174	5.2 (7.3)1
176	95.0 - 101.0% of mass 174	69.7 (97.2)1
177	5.0 - 9.0% of mass 176	4.5 (6.5)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	W2V030714-01	2S102	07/14/03	0732
02	VBLK01LCS	1200454736	2S103WPA	07/14/03	0759
03	VBLK01	1200454735	2S106WPA	07/14/03	0919
04	ARD-2208	83934001	2S119	07/14/03	1516
05	ARD-2209	83934002	2S120	07/14/03	1543
06	ARD-2210	83934004	2S122	07/14/03	1636
07	ARD-2207	83934006	2S124	07/14/03	1730
08	ARD-2206	83934007	2S125	07/14/03	1756
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5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Lab File ID: 2S401 BFB Injection Date: 07/17/03

Instrument ID: VOA2 BFB Injection Time: 0630

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	21.3
75	30.0 - 60.0% of mass 95	47.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 100.0% of mass 95	71.1
175	5.0 - 9.0% of mass 174	4.8 (6.7)1
176	95.0 - 101.0% of mass 174	68.5 (96.4)1
177	5.0 - 9.0% of mass 176	4.4 (6.4)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	W2V030717-01	2S402	07/17/03	0652
02	VBLK02LCS	1200457601	2S403PA	07/17/03	0719
03	VBLK02	1200457600	2S406PA	07/17/03	0838
04	ARD-0034	83934003	2S419	07/17/03	1431
05	ARD-2211	83934005	2S420	07/17/03	1459
06	ARD-0035	83934008	2S421	07/17/03	1526
07	ARD-2206DL	83934007	2S422	07/17/03	1554
08	ARD-2207MS	1200454737	2S425	07/17/03	1716
09	ARD-2207MSD	1200454738	2S426	07/17/03	1743
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22					

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Lab File ID: 2S502BFB BFB Injection Date: 07/18/03

Instrument ID: VOA2 BFB Injection Time: 0952

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.2
75	30.0 - 60.0% of mass 95	46.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 100.0% of mass 95	73.2
175	5.0 - 9.0% of mass 174	5.2 (7.1)1
176	95.0 - 101.0% of mass 174	71.4 (97.5)1
177	5.0 - 9.0% of mass 176	4.7 (6.6)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	UVM030619-01D	2S503	07/18/03	1019
02	VBLK03LCS	1200458342	2S503PA	07/18/03	1019
03	VBLK03	1200458341	2S506PA	07/18/03	1202
04	ARD-2210DL	83934004	2S512	07/18/03	1457
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8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Lab File ID (Standard): 2S102 Date Analyzed: 07/14/03

Instrument ID: VOA2 Time Analyzed: 0732

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

		IS1(FLB) AREA #	RT #	IS2(CBZ) AREA #	RT #	IS3(DCB) AREA #	RT #
	12 HOUR STD	1263933	10.79	981061	14.10	509834	16.59
	UPPER LIMIT	2527866	11.29	1962122	14.60	1019668	17.09
	LOWER LIMIT	631966	10.29	490530	13.60	254917	16.09
	EPA SAMPLE NO.						
01	VBLK01LCS	1230223	10.79	964899	14.10	503224	16.59
02	VBLK01	1267311	10.78	984535	14.10	497284	16.59
03	ARD-2208	1229906	10.78	963441	14.10	485254	16.59
04	ARD-2209	1131232	10.79	887025	14.10	452525	16.58
05	ARD-2210	1134204	10.78	875774	14.10	446918	16.58
06	ARD-2207	1226496	10.79	942481	14.10	479319	16.59
07	ARD-2206	1094174	10.79	869528	14.10	443896	16.58
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22							

IS1 (FLB) = Fluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Lab File ID (Standard): 2S402 Date Analyzed: 07/17/03

Instrument ID: VOA2 Time Analyzed: 0652

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

		IS1(FLB) AREA #	RT #	IS2(CBZ) AREA #	RT #	IS3(DCB) AREA #	RT #
	12 HOUR STD	1173036	10.78	918338	14.10	448087	16.59
	UPPER LIMIT	2346072	11.28	1836676	14.60	896174	17.09
	LOWER LIMIT	586518	10.28	459169	13.60	224044	16.09
	EPA SAMPLE NO.						
01	VBLK02LCS	1193457	10.79	934329	14.10	466975	16.59
02	VBLK02	1149446	10.78	897000	14.10	462207	16.59
03	ARD-0034	1071303	10.79	831010	14.10	420526	16.59
04	ARD-2211	996713	10.79	790086	14.10	397839	16.59
05	ARD-0035	944503	10.79	767621	14.10	391976	16.59
06	ARD-2206DL	1034740	10.79	823190	14.10	412506	16.59
07	ARD-2207MS	1053289	10.79	844276	14.10	440477	16.59
08	ARD-2207MSD	1074632	10.78	860535	14.10	442064	16.59
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22							

IS1 (FLB) = Fluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Lab File ID (Standard): 2S503 Date Analyzed: 07/18/03

Instrument ID: VOA2 Time Analyzed: 1019

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

		IS1(FLB) AREA #	RT #	IS2(CBZ) AREA #	RT #	IS3(DCB) AREA #	RT #
	12 HOUR STD	981815	10.79	758752	14.10	389697	16.59
	UPPER LIMIT	1963630	11.29	1517504	14.60	779394	17.09
	LOWER LIMIT	490908	10.29	379376	13.60	194848	16.09
	EPA SAMPLE NO.						
01	VBLK03LCS	981815	10.79	758752	14.10	389697	16.59
02	VBLK03	942460	10.79	751292	14.10	375426	16.59
03	ARD-2210DL	926223	10.79	751021	14.10	381437	16.58
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22							

IS1 (FLB) = Fluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

Received 8/25/03

GC/MS Volatile Organics
Parsons Engineering Science, Inc. DACA87-02-D-0005 (PARS)
SDG 83731

Method/Analysis Information

Procedure:	Volatile Organic Compounds by Gas Chromatograph/Mass Spectrometer
Analytical Method:	EPA 524.2
Prep Method:	EPA 524.2
Analytical Batch Number:	262685

Sample Analysis

The following client and quality control samples were analyzed to complete this sample delivery group/work order using the methods referenced in the Analysis Information section:

Sample ID	Client ID
83731001	TR2122
83731002	TR2118
83731003	TR2120
83731004	TR2115
83731005	TR2117
83731006	TR2123
83731007	TR0045
1200453837	Method Blank (MB)
1200453838	Laboratory Control Sample (LCS)
1200455116	Method Blank (MB)
1200455117	Laboratory Control Sample (LCS)
1200453839	83731001(TR2122) Matrix Spike (MS)
1200453840	83731001(TR2122) Matrix Spike Duplicate (MSD)

Preparation/Analytical Method Verification

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-022 REV.3.

Calibration Information

Due to software limitations, all the data files comprising the initial calibration curve may not be listed on the initial calibration summary form. All calibration files are listed in the calibration history report in the "Standard Data" section.

Initial Calibration
All the initial calibration requirements were met.

Continuing Calibration Verification Requirements
All the continuing calibration verification (CCV) requirements were met.

Quality Control (QC) Information

Method Blank Acceptance
Target analytes were not detected above the reporting limit in the blank.

Surrogate Recoveries
Surrogate recoveries, in all samples and quality control samples, were within the acceptance limits.

Laboratory Control Sample Recovery Statement (LCS)
All the required analyte recoveries in the LCS were within the acceptance limits.

QC Sample Designation
The following sample was designated for spike analysis: 83731001 (TR2122).

Spike Recovery Statement
All the required spike recoveries were within the acceptance limits.

Spike Duplicate Recovery Statement
All the required spike recoveries were within the acceptance limits.

Relative Percent Difference Statement (RPD)
The RPD between spike recoveries were within the acceptance limits.

Internal Standard (ISTD) Acceptance
The internal standard responses, in all samples and quality control samples, met the required acceptance criteria.

Technical Information

Holding Time Specifications
All the samples were prepared and/or analyzed within the required holding time period.

Sample Preservation and Integrity
All samples met the sample preservation and integrity requirements.

Preparation/Analytical Method Verification
All procedures were performed as stated in the SOP.

Sample Dilutions
The following samples were diluted because target analyte concentrations exceeded the calibration range:
83731002 (TR2118) 1:20
83731003 (TR2120) 1:2

Sample Re-prep/Re-analysis
Re-analyses were not required for samples in this sample delivery group/work order.

Miscellaneous Information

Electronic Package Comment
The following package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory is developing systems to eventually generate all data packages electronically. The following change from traditional packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative of each electronic package will indicate the analyst, reviewer, and report specialist names associated with the generation of the data and package. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Nonconformance (NCR) Documentation
A nonconformance report was not required for this sample delivery group/work order.

Manual Integrations
Data files associated with the initial calibration, continuing calibration check, and samples did not require manual integrations.

TIC Comment
Tentatively identified compounds (TIC) were not required for this sample delivery group/work order.

Additional Comments
There were no additional comments.

System Configuration
The laboratory utilizes the following GC/MS configurations:

Chromatographic Columns
Chromatographic columns of volatile components is accomplished through analysis on one of the following columns:

The Volatile Organics analysis was performed on a HP Mass Spectrometer.

Instrument ID	System Configuration	Column ID	Column Description	P & T Trap
VOA8.I	HP6890/HP5973	RESTEK	RTX-Volatiles, 30m x 0.25 mm, 1.0 um	Trap 10

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

CASE NARRATIVE
for
Parsons Infrastructure & Technology Group, Inc.
Ash Landfill
SDG# 83731

August 6, 2003

Laboratory Identification:

General Engineering Laboratories, LLC

Mailing Address:

P.O. Box 30712
Charleston, South Carolina 29417

Express Mail Delivery and Shipping Address:

2040 Savage Road
Charleston, South Carolina 29414

Telephone Number:

(843) 556-8171

Summary:

Sample receipt

The samples arrived at General Engineering Laboratories, LLC (GEL) Charleston, South Carolina on July 8, 2003, for Environmental Analyses. All sample containers arrived without any visible signs of tampering or breakage. The samples were delivered with chain of custody documentation and signatures.

The laboratory received the following samples:

Laboratory Identification	Sample Description
84835001	20030721Y00027
84835002	20030724Y00037

Case Narrative

Sample analyses were conducted using methodology as outlined in General Engineering Laboratories (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are listed below by analytical parameter.

Internal Chain of Custody:

Custody was maintained for all samples.

Data Package:

The enclosed data package contains the following sections: Case Narrative, Qualifier Flag Definitions, Chain of Custody, Cooler Receipt Checklist, and GC/MS Volatile Analysis.

This data package, to the best of my knowledge, is in compliance with technical and administrative requirements.

Valerie S. Davis
Project Manager

GENERAL ENGINEERING LABORATORIES, LLC
a Member of THE GEL GROUP, INC.
P.O. Box 30712 • Charleston, SC 29417 • 2040 Savage Road (29407)
Phone (843) 556-8171 • Fax (843) 766-1178 • www.gel.com

CHAIN OF CUSTODY

Page: 1 of 1
Project #: 743155-02200
GEL Quote #:
COC Number (1):
PO Number: 743155-9030000

GEL Chain of Custody and Analytical Request

General Engineering Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Parsons Phone #: 617-457-7900
Project/Site Name: Ash Landfill Fax #: 617-457-7979
Address: 100 Summer St #8 Floor Boston MA 02110
Collected by: Send Results To:

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID 83731%	Date Collected (mm-dd-yy)	Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	HA	VOC (524.2)	<-- Preservative Type (6)	Comments
01 TR2122	07/07/03	0910	N		GW			3	X			Note: extra sample is required for sample specific QC
02 TR2118	↓	1610	↓		↓			3	X			
03 TR2120	↓	1740						3	X			
04 TR2115	07/08/03	0930						3	X			
05 TR2117	07/08/03	1045						3	X			
06 TR2123	07/08/03	0930	↓		↓			3	X			
07 TRIP045	07/08/03	—	TB		TB			2	X			

TAT Requested: Normal: X Rush: ____ Specify: ____ (Subject to Surcharge) Fax Results: Yes / No

Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

TB is old one.

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	[signature]	07/08/03	1230	[signature]	7-9-03	0930
2						
3						

Sample Shipping and Delivery Details

GEL PM: Valerie Davis
Method of Shipment: Fedex Date Shipped: 07/08/03
Airbill #: 841676169906
Airbill #:

1) Chain of Custody Number = Client Determined
2) QC Codes: N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite
3) Field Filtered. For liquid matrices, indicate with a - Y - for yes the sample was field filtered or - N - for sample was not field filtered.
4) Matrix Codes. DW = Drinking Water, GW = Groundwater, SW = Surface Water, WW = Waste Water, W = Water, SO = Soil, SD = Sediment, SL = Sludge, SS = Solid Waste, O = Oil, F = Filter, P = Wipe, U = Urine, F = Fecal, N = Nasal
5) Sample Analysis Requested. Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1).
6) Preservative Type: HA = Hydrochloric Acid, NI = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfuric Acid, AA = Ascorbic Acid, HX = Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact? YES NO
Cooler Temp: 3 C

WHITE = LABORATORY YELLOW = FILE PINK = CLIENT

COOLER RECEIPT CHECKLIST

SAMPLE RECEIPT & REVIEW FORM

Date 7-9-03 Client PARSONS Received by AV

	SAMPLE REVIEW CRITERIA	YES	NO	N/A	COMMENTS/QUALIFIERS
1	Were shipping containers received intact and sealed? If no, notify the Project Manager	✓			
2	Were chain of custody documents included?	✓			
3	Shipping container temperature(s) checked?	✓			3C
4	Is temperature documented on Chain of Custody?	✓			
5	Was shipping container temperature within specifications (4 +/- 2 C)? If no, notify Project Manager	✓			
6	Are any of the samples identified by the client as radioactive? If yes, complete radioactive receipt form		✓		
	Any samples not indentified by the client as radioactive must be screened for radioactivitiy.		30		observed background CPM
	If screening results indicate > x2 background inform the RSO.		30		Max. observed sample CPM
7	Were chain of custody documents completed correctly? (Ink, signed, match containers)	✓			
8	Were sample containers received intact and sealed? If no, notify the Project Manager	✓			
9	Were all sample containers properly labeled?	✓			
10	Were correct sample containers received?	✓			
11	Preserved samples checked for pH?			✓	VOA's
12	Were samples preserved correctly? If no, notify Project Manager	✓			
13	Were samples received within holding time? If No, notify Project Manager	✓			
14	Were VOA vials free of headspace?	✓			
15	ARCOC#				
16	SDG#				

PM(A) Review: JSD Date Reviewed: 7/9/03

Cooler Air Bill #'s, Associated Temperatures, Instrument Serial #'s, & Additional Comments:

	Temp Device Serial # (Circle)
Fed Ex 8416 7669 9417	[illegible]

GC/MS VOLATILE ANALYSIS

GC/MS Volatile Organics
Parsons Engineering Science, Inc. DACA87-02-D-0005 (PARS)
SDG 83731

Method/Analysis Information

Procedure:	Low Level Volatile Organic Compounds by Gas Chromatograph/Mass Spectrometer
Analytical Method:	EPA 524.2
Prep Method:	EPA 524.2
Analytical Batch Number:	262685

Sample Analysis

The following client and quality control samples were analyzed to complete this sample delivery group/work order using the methods referenced in the Analysis Information section:

Sample ID	Client ID
83731001	TR2122
83731002	TR2118
83731003	TR2120
83731004	TR2115
83731005	TR2117
83731006	TR2123
83731007	TR0045
1200453837	Method Blank (MB)
1200453838	Laboratory Control Sample (LCS)
1200455116	Method Blank (MB)
1200455117	Laboratory Control Sample (LCS)
1200453839	83731001(TR2122) Matrix Spike (MS)
1200453840	83731001(TR2122) Matrix Spike Duplicate (MSD)

Preparation/Analytical Method Verification

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-022 REV.3.

Calibration Information
Due to software limitations, all the data files comprising the initial calibration curve may not be listed on the initial calibration summary form. All calibration files are listed in the calibration history report in the "Standard Data" section.

Initial Calibration
All the initial calibration requirements were met.

Continuing Calibration Verification Requirements
All the continuing calibration verification (CCV) requirements were met.

Quality Control (QC) Information

Method Blank Acceptance
Target analytes were not detected above the reporting limit in the blanks.

Surrogate Recoveries
Surrogate recoveries, in all samples and quality control samples, were within the acceptance limits.

Laboratory Control Sample Recovery Statement (LCS)
All the required analyte recoveries in the LCS(s) were within the acceptance limits.

QC Sample Designation
The following sample was designated for spike analysis: 83731001 (TR2122).

Spike Recovery Statement
All the required spike recoveries were within the acceptance limits.

Spike Duplicate Recovery Statement
All the required spike recoveries were within the acceptance limits.

Relative Percent Difference Statement (RPD)
The RPD between spike recoveries were within the acceptance limits.

Internal Standard (ISTD) Acceptance
The internal standard responses, in all samples and quality control samples, met the required acceptance criteria.

Technical Information

Holding Time Specifications
All the samples were prepared and/or analyzed within the required holding time period.

Sample Preservation and Integrity
All samples met the sample preservation and integrity requirements.

Preparation/Analytical Method Verification
All procedures were performed as stated in the SOP.

Sample Dilutions
The following samples were diluted because target analyte concentrations exceeded the calibration range:
83731002 (TR2118) 1:20
83731003 (TR2120) 1:2

Sample Re-prep/Re-analysis
Samples in this sample delivery group were re-analyzed for reasons of dilutions.

Miscellaneous Information

Electronic Package Comment
The following package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory is developing systems to eventually generate all data packages electronically. The following change from traditional packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative of each electronic package will indicate the analyst, reviewer, and report specialist names associated with the generation of the data and package. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Nonconformance (NCR) Documentation
A nonconformance report was not required for this sample delivery group/work order.

Manual Integrations
Data files associated with the initial calibration, continuing calibration check, and samples did not require manual integrations.

TIC Comment
Tentatively identified compounds (TIC) were not required for this sample delivery group/work order.

Additional Comments
There were no additional comments.

System Configuration
The laboratory utilizes the following GC/MS configurations:

Chromatographic Columns
Chromatographic separation of volatile components is accomplished through analysis on one of the following columns:

Column ID	Column Description
J&W1	DB-624, 60m x 0.25mm, 1.4um
J&W2	DB-624, 75m x 0.53mm, 3.0um

Instrument Configuration
Instrument systems are reference in the raw data and individual form headers by the Instrument ID designations below:

Instrument ID	System Configuration	Chromatographic Column	P & T Trap
VOA1	HP6890/HP5973	J&W1	Trap C
VOA2	HP6890/HP5973	J&W1	Trap C
VOA4	HP5890/HP5972	J&W1	Trap K
VOA5	HP5890/HP5972	J&W1	Trap C
VOA7	HP5890/HP5972	J&W2	Trap K
VOA8	HP6890/HP5973	J&W1	Trap K
VOA9	HP6890/HP5973	J&W1	Trap C

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

Reviewer: Charles Wilson Date: 08-06-03

Roadmap for PARS 83731 VOA

This roadmap was analyzed by Debbie Smith on 07-15-2003, 14:59.
This roadmap was reviewed by Anson Walsh on 07-30-2003, 13:05.
This roadmap was packaged by LySandra Gathers on 08-04-2003, 09:14.

Sample

exclude	manual	datafile	smpid	clientid	injdate	injtime	sublist	dilution	comment
☐	N	/chem/VOA8.i/071103v8.b/8p2r507.d	83731001	TR2122	11-JUL-2003	10:15	83731.sub	1	
☐	N	/chem/VOA8.i/071103v8.b/8p2r510.d	83731002	TR2118	11-JUL-2003	11:33	83731.sub	1	
■	N	/chem/VOA8.i/071103v8.b/8p2r511.d	83731003	TR2120	11-JUL-2003	11:58	83731.sub	1	
■	N	/chem/VOA8.i/071103v8.b/8p2r512.d	83731004	TR2115	11-JUL-2003	12:24	83731.sub	1	
■	N	/chem/VOA8.i/071103v8.b/8p2r513.d	83731005	TR2117	11-JUL-2003	12:50	83731.sub	1	
☐	N	/chem/VOA8.i/071103v8.b/8p2r514.d	83731006	TR2123	11-JUL-2003	13:16	83731.sub	1	
☐	N	/chem/VOA8.i/071103v8.b/8p2r515.d	83731007	TR0045	11-JUL-2003	13:42	83731.sub	1	
☐	N	/chem/VOA8.i/071403v8.b/8p2s104.d	83731002	TR2118DL	14-JUL-2003	11:07	83731.sub	20	
☐	N	/chem/VOA8.i/071403v8.b/8p2s105.d	83731003	TR2120	14-JUL-2003	11:33	83731.sub	2	
☐	N	/chem/VOA8.i/071403v8.b/8p2s106.d	83731004	TR2115	14-JUL-2003	11:59	83731.sub	1	
☐	N	/chem/VOA8.i/071403v8.b/8p2s107.d	83731005	TR2117	14-JUL-2003	12:25	83731.sub	1	

QC Sample

exclude	manual	datafile	smpid	clientid	sampletype	injdate	injtime	sublist	dilution	comment
☐	N	/chem/VOA8.i/071103v8.b/8p2r502LCSPB.d	1200453838	VBLK01LCS	lcs	11-JUL-2003	07:42	83731.sub	1	
☐	N	/chem/VOA8.i/071103v8.b/8p2r503B.d	1200453837	VBLK01	mb	11-JUL-2003	08:08	83731.sub	1	
☐	N	/chem/VOA8.i/071103v8.b/8p2r508.d	1200453839	TR2122MS	ms	11-JUL-2003	10:41	83731.sub	1	
☐	N	/chem/VOA8.i/071103v8.b/8p2r509.d	1200453840	TR2122MSD	msd	11-JUL-2003	11:07	83731.sub	1	

☐	N	/chem/VOA8.i/071403v8.b/8p2s102LCSA.d	1200455117	VBLK02LCS	lcs	14-JUL-2003	10:07	83731.sub	1	
☐	N	/chem/VOA8.i/071403v8.b/8p2s103A.d	1200455116	VBLK02	mb	14-JUL-2003	10:33	83731.sub	1	

SAMPLE DATA SUMMARY

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR0045

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Matrix: (soil/water) WATER Lab Sample ID: 83731007

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2R515

Level: (low/med) LOW Date Received: 07/09/03

% Moisture: not dec. _____ Date Analyzed: 07/11/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-97-5	Bromochloromethane	0.50	U
74-87-3	Chloromethane	0.50	U
74-83-9	Bromomethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
75-00-3	Chloroethane	0.50	U
75-09-2	Methylene chloride	0.50	U
75-35-4	1,1-Dichloroethylene	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
67-66-3	Chloroform	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
156-60-5	trans-1,2-Dichloroethylene	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
75-27-4	Bromodichloromethane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
10061-01-5	cis-1,3-Dichloropropylene	0.50	U
156-59-2	cis-1,2-Dichloroethylene	0.50	U
79-01-6	Trichloroethylene	0.50	U
124-48-1	Dibromochloromethane	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
71-43-2	Benzene	0.50	U
10061-02-6	trans-1,3-Dichloropropylene	0.50	U
75-25-2	Bromoform	0.50	U
127-18-4	Tetrachloroethylene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
108-88-3	Toluene	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
100-42-5	Styrene	0.50	U
107-06-2	Dichlorodifluoromethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR0045

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Matrix: (soil/water) WATER Lab Sample ID: 83731007

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2R515

Level: (low/med) LOW Date Received: 07/09/03

% Moisture: not dec. _____ Date Analyzed: 07/11/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
95-50-1	1,2-Dichlorobenzene	0.50	U
95-47-6	o-Xylene	0.50	U
	m,p-Xylenes	0.50	U
1330-20-1	Xylenes (total)	0.50	U
594-20-7	2,2-Dichloropropane	0.50	U
563-58-6	1,1-Dichloropropene	0.50	U
74-95-3	Dibromomethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
142-28-9	1,3-Dichloropropane	0.50	U
630-20-6	1,1,1,2-Tetrachloroethane	0.50	U
98-82-8	Isopropylbenzene	0.50	U
108-86-1	Bromobenzene	0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	U
103-65-1	n-Propylbenzene	0.50	U
95-49-8	2-Chlorotoluene	0.50	U
108-67-8	1,3,5-Trimethylbenzene	0.50	U
106-43-4	4-Chlorotoluene	0.50	U
98-06-6	tert-Butylbenzene	0.50	U
95-63-6	1,2,4-Trimethylbenzene	0.50	U
135-98-8	sec-Butylbenzene	0.50	U
99-87-6	4-Isopropyltoluene	0.50	U
104-51-8	n-Butylbenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-68-3	Hexachlorobutadiene	0.50	U
91-20-3	Naphthalene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U
108-05-4	Vinyl acetate	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR2115

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Matrix: (soil/water) WATER Lab Sample ID: 83731004

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S106

Level: (low/med) LOW Date Received: 07/09/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-97-5	Bromochloromethane	0.50	U
74-87-3	Chloromethane	0.50	U
74-83-9	Bromomethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
75-00-3	Chloroethane	0.50	U
75-09-2	Methylene chloride	0.50	U
75-35-4	1,1-Dichloroethylene	0.50	U
75-34-3	1,1-Dichloroethane	0.49	J
67-66-3	Chloroform	0.50	U
107-06-2	1,2-Dichloroethane	0.31	J
156-60-5	trans-1,2-Dichloroethylene	0.35	J
71-55-6	1,1,1-Trichloroethane	1.4	
56-23-5	Carbon tetrachloride	0.50	U
75-27-4	Bromodichloromethane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
10061-01-5	cis-1,3-Dichloropropylene	0.50	U
156-59-2	cis-1,2-Dichloroethylene	76.6	
79-01-6	Trichloroethylene	3.2	
124-48-1	Dibromochloromethane	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
71-43-2	Benzene	0.50	U
10061-02-6	trans-1,3-Dichloropropylene	0.50	U
75-25-2	Bromoform	0.50	U
127-18-4	Tetrachloroethylene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
108-88-3	Toluene	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
100-42-5	Styrene	0.50	U
107-06-2	Dichlorodifluoromethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR2115

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Matrix: (soil/water) WATER Lab Sample ID: 83731004

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S106

Level: (low/med) LOW Date Received: 07/09/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
95-50-1	1,2-Dichlorobenzene	0.50	U
95-47-6	o-Xylene	0.50	U
----------	m,p-Xylenes	0.50	U
1330-20-1	Xylenes (total)	0.50	U
594-20-7	2,2-Dichloropropane	0.50	U
563-58-6	1,1-Dichloropropene	0.50	U
74-95-3	Dibromomethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
142-28-9	1,3-Dichloropropane	0.50	U
630-20-6	1,1,1,2-Tetrachloroethane	0.50	U
98-82-8	Isopropylbenzene	0.50	U
108-86-1	Bromobenzene	0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	U
103-65-1	n-Propylbenzene	0.50	U
95-49-8	2-Chlorotoluene	0.50	U
108-67-8	1,3,5-Trimethylbenzene	0.50	U
106-43-4	4-Chlorotoluene	0.50	U
98-06-6	tert-Butylbenzene	0.50	U
95-63-6	1,2,4-Trimethylbenzene	0.50	U
135-98-8	sec-Butylbenzene	0.50	U
99-87-6	4-Isopropyltoluene	0.50	U
104-51-8	n-Butylbenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-68-3	Hexachlorobutadiene	0.50	U
91-20-3	Naphthalene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U
108-05-4	Vinyl acetate	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR2117

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Matrix: (soil/water) WATER Lab Sample ID: 83731005

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S107

Level: (low/med) LOW Date Received: 07/09/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-97-5	Bromochloromethane	0.50	U
74-87-3	Chloromethane	0.50	U
74-83-9	Bromomethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
75-00-3	Chloroethane	0.50	U
75-09-2	Methylene chloride	0.50	U
75-35-4	1,1-Dichloroethylene	0.50	U
75-34-3	1,1-Dichloroethane	0.38	J
67-66-3	Chloroform	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
156-60-5	trans-1,2-Dichloroethylene	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
75-27-4	Bromodichloromethane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
10061-01-5	cis-1,3-Dichloropropylene	0.50	U
156-59-2	cis-1,2-Dichloroethylene	10.0	
79-01-6	Trichloroethylene	0.50	U
124-48-1	Dibromochloromethane	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
71-43-2	Benzene	0.53	
10061-02-6	trans-1,3-Dichloropropylene	0.50	U
75-25-2	Bromoform	0.50	U
127-18-4	Tetrachloroethylene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
108-88-3	Toluene	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
100-42-5	Styrene	0.50	U
107-06-2	Dichlorodifluoromethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR2117

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Matrix: (soil/water) WATER Lab Sample ID: 83731005

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S107

Level: (low/med) LOW Date Received: 07/09/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
95-50-1	1,2-Dichlorobenzene	0.50	U
95-47-6	o-Xylene	0.50	U
----------	m,p-Xylenes	0.50	U
1330-20-1	Xylenes (total)	0.50	U
594-20-7	2,2-Dichloropropane	0.50	U
563-58-6	1,1-Dichloropropene	0.50	U
74-95-3	Dibromomethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
142-28-9	1,3-Dichloropropane	0.50	U
630-20-6	1,1,1,2-Tetrachloroethane	0.50	U
98-82-8	Isopropylbenzene	0.50	U
108-86-1	Bromobenzene	0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	U
103-65-1	n-Propylbenzene	0.50	U
95-49-8	2-Chlorotoluene	0.50	U
108-67-8	1,3,5-Trimethylbenzene	0.50	U
106-43-4	4-Chlorotoluene	0.50	U
98-06-6	tert-Butylbenzene	0.50	U
95-63-6	1,2,4-Trimethylbenzene	0.50	U
135-98-8	sec-Butylbenzene	0.50	U
99-87-6	4-Isopropyltoluene	0.50	U
104-51-8	n-Butylbenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-68-3	Hexachlorobutadiene	0.50	U
91-20-3	Naphthalene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U
108-05-4	Vinyl acetate	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR2118

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Matrix: (soil/water) WATER Lab Sample ID: 83731002

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2R510

Level: (low/med) LOW Date Received: 07/09/03

% Moisture: not dec. _____ Date Analyzed: 07/11/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-97-5	Bromochloromethane	0.50	U
74-87-3	Chloromethane	0.50	U
74-83-9	Bromomethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
75-00-3	Chloroethane	0.50	U
75-09-2	Methylene chloride	0.50	U
75-35-4	1,1-Dichloroethylene	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
67-66-3	Chloroform	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
156-60-5	trans-1,2-Dichloroethylene	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
75-27-4	Bromodichloromethane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
10061-01-5	cis-1,3-Dichloropropylene	0.50	U
156-59-2	cis-1,2-Dichloroethylene	29.3	
79-01-6	Trichloroethylene	341	E
124-48-1	Dibromochloromethane	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
71-43-2	Benzene	0.50	U
10061-02-6	trans-1,3-Dichloropropylene	0.50	U
75-25-2	Bromoform	0.50	U
127-18-4	Tetrachloroethylene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
108-88-3	Toluene	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
100-42-5	Styrene	0.50	U
107-06-2	Dichlorodifluoromethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR2118

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Matrix: (soil/water) WATER Lab Sample ID: 83731002

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2R510

Level: (low/med) LOW Date Received: 07/09/03

% Moisture: not dec. _____ Date Analyzed: 07/11/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
95-50-1	1,2-Dichlorobenzene	0.50	U
95-47-6	o-Xylene	0.50	U
----------	m,p-Xylenes	0.50	U
1330-20-1	Xylenes (total)	0.50	U
594-20-7	2,2-Dichloropropane	0.50	U
563-58-6	1,1-Dichloropropene	0.50	U
74-95-3	Dibromomethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
142-28-9	1,3-Dichloropropane	0.50	U
630-20-6	1,1,1,2-Tetrachloroethane	0.50	U
98-82-8	Isopropylbenzene	0.50	U
108-86-1	Bromobenzene	0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	U
103-65-1	n-Propylbenzene	0.50	U
95-49-8	2-Chlorotoluene	0.50	U
108-67-8	1,3,5-Trimethylbenzene	0.50	U
106-43-4	4-Chlorotoluene	0.50	U
98-06-6	tert-Butylbenzene	0.50	U
95-63-6	1,2,4-Trimethylbenzene	0.50	U
135-98-8	sec-Butylbenzene	0.50	U
99-87-6	4-Isopropyltoluene	0.50	U
104-51-8	n-Butylbenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-68-3	Hexachlorobutadiene	0.50	U
91-20-3	Naphthalene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U
108-05-4	Vinyl acetate	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR2118DL

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Matrix: (soil/water) WATER Lab Sample ID: 83731002

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S104

Level: (low/med) LOW Date Received: 07/09/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 20.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-97-5	Bromochloromethane	10.0	U
74-87-3	Chloromethane	10.0	U
74-83-9	Bromomethane	10.0	U
75-01-4	Vinyl chloride	10.0	U
75-00-3	Chloroethane	10.0	U
75-09-2	Methylene chloride	10.0	U
75-35-4	1,1-Dichloroethylene	10.0	U
75-34-3	1,1-Dichloroethane	10.0	U
67-66-3	Chloroform	10.0	U
107-06-2	1,2-Dichloroethane	10.0	U
156-60-5	trans-1,2-Dichloroethylene	10.0	U
71-55-6	1,1,1-Trichloroethane	10.0	U
56-23-5	Carbon tetrachloride	10.0	U
75-27-4	Bromodichloromethane	10.0	U
78-87-5	1,2-Dichloropropane	10.0	U
10061-01-5	cis-1,3-Dichloropropylene	10.0	U
156-59-2	cis-1,2-Dichloroethylene	29.6	D
79-01-6	Trichloroethylene	506	D
124-48-1	Dibromochloromethane	10.0	U
79-00-5	1,1,2-Trichloroethane	10.0	U
71-43-2	Benzene	10.0	U
10061-02-6	trans-1,3-Dichloropropylene	10.0	U
75-25-2	Bromoform	10.0	U
127-18-4	Tetrachloroethylene	10.0	U
79-34-5	1,1,2,2-Tetrachloroethane	10.0	U
108-88-3	Toluene	10.0	U
108-90-7	Chlorobenzene	10.0	U
100-41-4	Ethylbenzene	10.0	U
100-42-5	Styrene	10.0	U
107-06-2	Dichlorodifluoromethane	10.0	U
75-69-4	Trichlorofluoromethane	10.0	U
541-73-1	1,3-Dichlorobenzene	10.0	U
106-46-7	1,4-Dichlorobenzene	10.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR2118DL

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Matrix: (soil/water) WATER Lab Sample ID: 83731002

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S104

Level: (low/med) LOW Date Received: 07/09/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 20.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
95-50-1	1,2-Dichlorobenzene	10.0	U
95-47-6	o-Xylene	10.0	U
----------	m,p-Xylenes	10.0	U
1330-20-1	Xylenes (total)	10.0	U
594-20-7	2,2-Dichloropropane	10.0	U
563-58-6	1,1-Dichloropropene	10.0	U
74-95-3	Dibromomethane	10.0	U
106-93-4	1,2-Dibromoethane	10.0	U
142-28-9	1,3-Dichloropropane	10.0	U
630-20-6	1,1,1,2-Tetrachloroethane	10.0	U
98-82-8	Isopropylbenzene	10.0	U
108-86-1	Bromobenzene	10.0	U
96-18-4	1,2,3-Trichloropropane	10.0	U
103-65-1	n-Propylbenzene	10.0	U
95-49-8	2-Chlorotoluene	10.0	U
108-67-8	1,3,5-Trimethylbenzene	10.0	U
106-43-4	4-Chlorotoluene	10.0	U
98-06-6	tert-Butylbenzene	10.0	U
95-63-6	1,2,4-Trimethylbenzene	10.0	U
135-98-8	sec-Butylbenzene	10.0	U
99-87-6	4-Isopropyltoluene	10.0	U
104-51-8	n-Butylbenzene	10.0	U
96-12-8	1,2-Dibromo-3-chloropropane	10.0	U
120-82-1	1,2,4-Trichlorobenzene	10.0	U
87-68-3	Hexachlorobutadiene	10.0	U
91-20-3	Naphthalene	10.0	U
87-61-6	1,2,3-Trichlorobenzene	10.0	U
108-05-4	Vinyl acetate	20.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR2120

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Matrix: (soil/water) WATER Lab Sample ID: 83731003

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S105

Level: (low/med) LOW Date Received: 07/09/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 2.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-97-5	Bromochloromethane	1.0	U
74-87-3	Chloromethane	1.0	U
74-83-9	Bromomethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
75-00-3	Chloroethane	1.0	U
75-09-2	Methylene chloride	1.0	U
75-35-4	1,1-Dichloroethylene	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
67-66-3	Chloroform	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
156-60-5	trans-1,2-Dichloroethylene	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
75-27-4	Bromodichloromethane	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
10061-01-5	cis-1,3-Dichloropropylene	1.0	U
156-59-2	cis-1,2-Dichloroethylene	57.8	
79-01-6	Trichloroethylene	171	
124-48-1	Dibromochloromethane	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
71-43-2	Benzene	1.0	U
10061-02-6	trans-1,3-Dichloropropylene	1.0	U
75-25-2	Bromoform	1.0	U
127-18-4	Tetrachloroethylene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-88-3	Toluene	1.0	U
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
100-42-5	Styrene	1.0	U
107-06-2	Dichlorodifluoromethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR2120

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Matrix: (soil/water) WATER Lab Sample ID: 83731003

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S105

Level: (low/med) LOW Date Received: 07/09/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 2.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
95-50-1	1,2-Dichlorobenzene	1.0	U
95-47-6	o-Xylene	1.0	U
----------	m,p-Xylenes	1.0	U
1330-20-1	Xylenes (total)	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
74-95-3	Dibromomethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
98-82-8	Isopropylbenzene	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
91-20-3	Naphthalene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
108-05-4	Vinyl acetate	2.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR2122

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Matrix: (soil/water) WATER Lab Sample ID: 83731001

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2R507

Level: (low/med) LOW Date Received: 07/09/03

% Moisture: not dec. _____ Date Analyzed: 07/11/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-97-5	Bromochloromethane	0.50	U
74-87-3	Chloromethane	0.50	U
74-83-9	Bromomethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
75-00-3	Chloroethane	0.50	U
75-09-2	Methylene chloride	0.50	U
75-35-4	1,1-Dichloroethylene	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
67-66-3	Chloroform	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
156-60-5	trans-1,2-Dichloroethylene	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
75-27-4	Bromodichloromethane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
10061-01-5	cis-1,3-Dichloropropylene	0.50	U
156-59-2	cis-1,2-Dichloroethylene	0.50	U
79-01-6	Trichloroethylene	0.34	J
124-48-1	Dibromochloromethane	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
71-43-2	Benzene	0.50	U
10061-02-6	trans-1,3-Dichloropropylene	0.50	U
75-25-2	Bromoform	0.50	U
127-18-4	Tetrachloroethylene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
108-88-3	Toluene	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
100-42-5	Styrene	0.50	U
107-06-2	Dichlorodifluoromethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR2122

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Matrix: (soil/water) WATER Lab Sample ID: 83731001

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2R507

Level: (low/med) LOW Date Received: 07/09/03

% Moisture: not dec. _____ Date Analyzed: 07/11/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
95-50-1	1,2-Dichlorobenzene	0.50	U
95-47-6	o-Xylene	0.50	U
----------	m,p-Xylenes	0.50	U
1330-20-1	Xylenes (total)	0.50	U
594-20-7	2,2-Dichloropropane	0.50	U
563-58-6	1,1-Dichloropropene	0.50	U
74-95-3	Dibromomethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
142-28-9	1,3-Dichloropropane	0.50	U
630-20-6	1,1,1,2-Tetrachloroethane	0.50	U
98-82-8	Isopropylbenzene	0.50	U
108-86-1	Bromobenzene	0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	U
103-65-1	n-Propylbenzene	0.50	U
95-49-8	2-Chlorotoluene	0.50	U
108-67-8	1,3,5-Trimethylbenzene	0.50	U
106-43-4	4-Chlorotoluene	0.50	U
98-06-6	tert-Butylbenzene	0.50	U
95-63-6	1,2,4-Trimethylbenzene	0.50	U
135-98-8	sec-Butylbenzene	0.50	U
99-87-6	4-Isopropyltoluene	0.50	U
104-51-8	n-Butylbenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-68-3	Hexachlorobutadiene	0.50	U
91-20-3	Naphthalene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U
108-05-4	Vinyl acetate	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR2123

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Matrix: (soil/water) WATER Lab Sample ID: 83731006

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2R514

Level: (low/med) LOW Date Received: 07/09/03

% Moisture: not dec. _____ Date Analyzed: 07/11/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-97-5	Bromochloromethane	0.50	U
74-87-3	Chloromethane	0.50	U
74-83-9	Bromomethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
75-00-3	Chloroethane	0.50	U
75-09-2	Methylene chloride	0.50	U
75-35-4	1,1-Dichloroethylene	0.50	U
75-34-3	1,1-Dichloroethane	0.44	J
67-66-3	Chloroform	0.50	U
107-06-2	1,2-Dichloroethane	0.32	J
156-60-5	trans-1,2-Dichloroethylene	0.34	J
71-55-6	1,1,1-Trichloroethane	1.3	
56-23-5	Carbon tetrachloride	0.50	U
75-27-4	Bromodichloromethane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
10061-01-5	cis-1,3-Dichloropropylene	0.50	U
156-59-2	cis-1,2-Dichloroethylene	78.8	
79-01-6	Trichloroethylene	3.2	
124-48-1	Dibromochloromethane	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
71-43-2	Benzene	0.50	U
10061-02-6	trans-1,3-Dichloropropylene	0.50	U
75-25-2	Bromoform	0.50	U
127-18-4	Tetrachloroethylene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
108-88-3	Toluene	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
100-42-5	Styrene	0.50	U
107-06-2	Dichlorodifluoromethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR2123

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Matrix: (soil/water) WATER Lab Sample ID: 83731006

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2R514

Level: (low/med) LOW Date Received: 07/09/03

% Moisture: not dec. _____ Date Analyzed: 07/11/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
95-50-1	1,2-Dichlorobenzene	0.50	U
95-47-6	o-Xylene	0.50	U
----------	m,p-Xylenes	0.50	U
1330-20-1	Xylenes (total)	0.50	U
594-20-7	2,2-Dichloropropane	0.50	U
563-58-6	1,1-Dichloropropene	0.50	U
74-95-3	Dibromomethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
142-28-9	1,3-Dichloropropane	0.50	U
630-20-6	1,1,1,2-Tetrachloroethane	0.50	U
98-82-8	Isopropylbenzene	0.50	U
108-86-1	Bromobenzene	0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	U
103-65-1	n-Propylbenzene	0.50	U
95-49-8	2-Chlorotoluene	0.50	U
108-67-8	1,3,5-Trimethylbenzene	0.50	U
106-43-4	4-Chlorotoluene	0.50	U
98-06-6	tert-Butylbenzene	0.50	U
95-63-6	1,2,4-Trimethylbenzene	0.50	U
135-98-8	sec-Butylbenzene	0.50	U
99-87-6	4-Isopropyltoluene	0.50	U
104-51-8	n-Butylbenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-68-3	Hexachlorobutadiene	0.50	U
91-20-3	Naphthalene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U
108-05-4	Vinyl acetate	1.0	U

QUALITY CONTROL SUMMARY

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DBF) #	OTHER	TOT OUT
01	VBLK01LCS	100	99	106		0
02	VBLK01	97	90	110		0
03	TR2122	100	105	110		0
04	TR2122MS	100	95	113		0
05	TR2122MSD	93	86	113		0
06	TR2118	100	103	117		0
07	TR2123	105	103	118		0
08	TR0045	100	104	109		0
09	VBLK02LCS	99	101	109		0
10	VBLK02	92	86	104		0
11	TR2118DL	98	96	107		0
12	TR2120	100	100	106		0
13	TR2115	101	102	109		0
14	TR2117	98	104	110		0
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

	QC LIMITS
SMC1 (TOL) = Toluene-d8	(73-112)
SMC2 (BFB) = Bromofluorobenzene	(73-123)
SMC3 (DBF) = Dibromofluoromethane	(81-126)

Column to be used to flag recovery values

* Values outside of contract required QC limits

3A

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Matrix Spike - EPA Sample No.: VBLK01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Bromochloromethane	5.0	0.0	5.1	102	70-130
Chloromethane	5.0	0.0	4.0	80	70-130
Bromomethane	5.0	0.0	4.5	90	70-130
Vinyl chloride	5.0	0.0	4.4	88	70-130
Chloroethane	5.0	0.0	4.6	92	70-130
Methylene chloride	5.0	0.0	5.3	106	70-130
1,1-Dichloroethylene	5.0	0.0	4.6	92	70-130
1,1-Dichloroethane	5.0	0.0	5.2	104	70-130
Chloroform	5.0	0.0	5.6	112	70-130
1,2-Dichloroethane	5.0	0.0	5.3	106	70-130
trans-1,2-Dichloroethyl	5.0	0.0	5.1	102	70-130
1,1,1-Trichloroethane	5.0	0.0	5.3	106	70-130
Carbon tetrachloride	5.0	0.0	5.6	112	70-130
Bromodichloromethane	5.0	0.0	5.5	110	70-130
1,2-Dichloropropane	5.0	0.0	4.8	96	70-130
cis-1,3-Dichloropropyle	5.0	0.0	5.2	104	70-130
cis-1,2-Dichloroethylen	5.0	0.0	5.2	104	70-130
Trichloroethylene	5.0	0.0	5.0	100	70-130
Dibromochloromethane	5.0	0.0	5.0	100	70-130
1,1,2-Trichloroethane	5.0	0.0	4.9	98	70-130
Benzene	5.0	0.0	5.2	104	70-130
trans-1,3-Dichloropropy	5.0	0.0	5.0	100	70-130
Bromoform	5.0	0.0	4.8	96	70-130
Tetrachloroethylene	5.0	0.0	5.0	100	70-130
1,1,2,2-Tetrachloroetha	5.0	0.0	4.3	86	70-130
Toluene	5.0	0.0	5.1	102	70-130
Chlorobenzene	5.0	0.0	5.2	104	70-130
Ethylbenzene	5.0	0.0	5.3	106	70-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

3A
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Matrix Spike - EPA Sample No.: VBLK01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Styrene	5.0	0.0	5.1	102	70-130
Dichlorodifluoromethane	5.0	0.0	4.4	88	70-130
Trichlorofluoromethane	5.0	0.0	4.1	82	70-130
1,3-Dichlorobenzene	5.0	0.0	5.3	106	70-130
1,4-Dichlorobenzene	5.0	0.0	5.0	100	70-130
1,2-Dichlorobenzene	5.0	0.0	4.9	98	70-130
o-Xylene	5.0	0.0	5.3	106	70-130
m,p-Xylenes	10.0	0.0	10.5	105	70-130
Xylenes (total)	15.0	0.0	15.8	105	70-130
2,2-Dichloropropane	5.0	0.0	5.5	110	70-130
1,1-Dichloropropene	5.0	0.0	5.1	102	70-130
Dibromomethane	5.0	0.0	5.3	106	70-130
1,2-Dibromoethane	5.0	0.0	5.0	100	70-130
1,3-Dichloropropane	5.0	0.0	4.8	96	70-130
1,1,1,2-Tetrachloroetha	5.0	0.0	5.0	100	70-130
Isopropylbenzene	5.0	0.0	4.9	98	70-130
Bromobenzene	5.0	0.0	4.9	98	70-130
1,2,3-Trichloropropane	5.0	0.0	4.3	86	70-130
n-Propylbenzene	5.0	0.0	4.9	98	70-130
2-Chlorotoluene	5.0	0.0	5.3	106	70-130
1,3,5-Trimethylbenzene	5.0	0.0	5.0	100	70-130
4-Chlorotoluene	5.0	0.0	5.0	100	70-130
tert-Butylbenzene	5.0	0.0	5.0	100	70-130
1,2,4-Trimethylbenzene	5.0	0.0	5.0	100	70-130
sec-Butylbenzene	5.0	0.0	5.0	100	70-130
4-Isopropyltoluene	5.0	0.0	5.2	104	70-130
n-Butylbenzene	5.0	0.0	5.1	102	70-130
1,2-Dibromo-3-chloropro	5.0	0.0	4.0	80	70-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

3A
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Matrix Spike - EPA Sample No.: VBLK01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
1,2,4-Trichlorobenzene	5.0	0.0	4.9	98	70-130
Hexachlorobutadiene	5.0	0.0	4.5	90	70-130
Naphthalene	5.0	0.0	4.5	90	70-130
1,2,3-Trichlorobenzene	5.0	0.0	5.0	100	70-130
Vinyl acetate	25.0	0.0	20.9	84	70-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 61 outside limits

COMMENTS: _____

3A

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Matrix Spike - EPA Sample No.: VBLK02

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Bromochloromethane	5.0	0.0	5.0	100	70-130
Chloromethane	5.0	0.0	3.8	76	70-130
Bromomethane	5.0	0.0	4.4	88	70-130
Vinyl chloride	5.0	0.0	4.2	84	70-130
Chloroethane	5.0	0.0	4.6	92	70-130
Methylene chloride	5.0	0.0	5.0	100	70-130
1,1-Dichloroethylene	5.0	0.0	4.6	92	70-130
1,1-Dichloroethane	5.0	0.0	5.0	100	70-130
Chloroform	5.0	0.0	5.4	108	70-130
1,2-Dichloroethane	5.0	0.0	5.2	104	70-130
trans-1,2-Dichloroethyl	5.0	0.0	5.0	100	70-130
1,1,1-Trichloroethane	5.0	0.0	5.1	102	70-130
Carbon tetrachloride	5.0	0.0	5.3	106	70-130
Bromodichloromethane	5.0	0.0	5.3	106	70-130
1,2-Dichloropropane	5.0	0.0	4.7	94	70-130
cis-1,3-Dichloropropyle	5.0	0.0	5.0	100	70-130
cis-1,2-Dichloroethylen	5.0	0.0	5.4	108	70-130
Trichloroethylene	5.0	0.0	5.0	100	70-130
Dibromochloromethane	5.0	0.0	5.2	104	70-130
1,1,2-Trichloroethane	5.0	0.0	5.0	100	70-130
Benzene	5.0	0.0	5.0	100	70-130
trans-1,3-Dichloropropy	5.0	0.0	5.2	104	70-130
Bromoform	5.0	0.0	5.2	104	70-130
Tetrachloroethylene	5.0	0.0	5.0	100	70-130
1,1,2,2-Tetrachloroetha	5.0	0.0	4.5	90	70-130
Toluene	5.0	0.0	4.8	96	70-130
Chlorobenzene	5.0	0.0	5.0	100	70-130
Ethylbenzene	5.0	0.0	5.2	104	70-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

3A

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Matrix Spike - EPA Sample No.: VBLK02

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Styrene	5.0	0.0	5.0	100	70-130
Dichlorodifluoromethane	5.0	0.0	4.1	82	70-130
Trichlorofluoromethane	5.0	0.0	4.4	88	70-130
1,3-Dichlorobenzene	5.0	0.0	5.2	104	70-130
1,4-Dichlorobenzene	5.0	0.0	5.1	102	70-130
1,2-Dichlorobenzene	5.0	0.0	5.0	100	70-130
o-Xylene	5.0	0.0	5.2	104	70-130
m,p-Xylenes	10.0	0.0	10.4	104	70-130
Xylenes (total)	15.0	0.0	15.6	104	70-130
2,2-Dichloropropane	5.0	0.0	5.4	108	70-130
1,1-Dichloropropene	5.0	0.0	4.9	98	70-130
Dibromomethane	5.0	0.0	5.4	108	70-130
1,2-Dibromoethane	5.0	0.0	5.1	102	70-130
1,3-Dichloropropane	5.0	0.0	5.0	100	70-130
1,1,1,2-Tetrachloroetha	5.0	0.0	4.9	98	70-130
Isopropylbenzene	5.0	0.0	4.9	98	70-130
Bromobenzene	5.0	0.0	4.7	94	70-130
1,2,3-Trichloropropane	5.0	0.0	4.8	96	70-130
n-Propylbenzene	5.0	0.0	4.9	98	70-130
2-Chlorotoluene	5.0	0.0	5.3	106	70-130
1,3,5-Trimethylbenzene	5.0	0.0	4.9	98	70-130
4-Chlorotoluene	5.0	0.0	5.0	100	70-130
tert-Butylbenzene	5.0	0.0	4.9	98	70-130
1,2,4-Trimethylbenzene	5.0	0.0	5.0	100	70-130
sec-Butylbenzene	5.0	0.0	5.1	102	70-130
4-Isopropyltoluene	5.0	0.0	5.2	104	70-130
n-Butylbenzene	5.0	0.0	5.2	104	70-130
1,2-Dibromo-3-chloropro	5.0	0.0	4.2	84	70-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

3A

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Matrix Spike - EPA Sample No.: VBLK02

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
1,2,4-Trichlorobenzene	5.0	0.0	4.7	94	70-130
Hexachlorobutadiene	5.0	0.0	4.6	92	70-130
Naphthalene	5.0	0.0	4.8	96	70-130
1,2,3-Trichlorobenzene	5.0	0.0	5.1	102	70-130
Vinyl acetate	25.0	0.0	21.8	87	70-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 61 outside limits

COMMENTS: _____

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Matrix Spike - EPA Sample No.: TR2122

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethylene	5.0	0.0	4.8	96	64-123
Trichloroethylene	5.0	0.34	5.4	101	78-122
Benzene	5.0	0.0	5.4	108	80-124
Toluene	5.0	0.0	5.3	106	79-126
Chlorobenzene	5.0	0.0	5.5	110	82-120

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethylene	5.0	4.9	98	2	13	64-123
Trichloroethylene	5.0	5.4	101	0	15	78-122
Benzene	5.0	5.4	108	0	11	80-124
Toluene	5.0	4.9	98	8	13	79-126
Chlorobenzene	5.0	5.1	102	8	13	82-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK01

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Lab File ID: 8P2R503B Lab Sample ID: 1200453837

Date Analyzed: 07/11/03 Time Analyzed: 0808

GC Column: RTX-VOLATILESID: 0.25 (mm) Heated Purge: (Y/N) Y

Instrument ID: VOA8

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VBLK01LCS	1200453838	8P2R502LCSPB	0742
02	TR2122	83731001	8P2R507	1015
03	TR2122MS	1200453839	8P2R508	1041
04	TR2122MSD	1200453840	8P2R509	1107
05	TR2118	83731002	8P2R510	1133
06	TR2123	83731006	8P2R514	1316
07	TR0045	83731007	8P2R515	1342
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4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK02

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Lab File ID: 8P2S103A Lab Sample ID: 1200455116

Date Analyzed: 07/14/03 Time Analyzed: 1033

GC Column: RTX-VOLATILESID: 0.25 (mm) Heated Purge: (Y/N) Y

Instrument ID: VOA8

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VBLK02LCS	1200455117	8P2S102LCSA	1007
02	TR2118DL	83731002	8P2S104	1107
03	TR2120	83731003	8P2S105	1133
04	TR2115	83731004	8P2S106	1159
05	TR2117	83731005	8P2S107	1225
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5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Lab File ID: 8P2K101 BFB Injection Date: 05/19/03

Instrument ID: VOA8 BFB Injection Time: 1334

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.4
75	30.0 - 60.0% of mass 95	44.1
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 100.0% of mass 95	85.1
175	5.0 - 9.0% of mass 174	6.2 (7.3)1
176	95.0 - 101.0% of mass 174	83.7 (98.4)1
177	5.0 - 9.0% of mass 176	5.3 (6.3)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0002	W8V030519-09	8P2K103	05/19/03	1422
02	VSTD0005	W8V030519-01	8P2K104	05/19/03	1448
03	VSTD001	W8V030519-02	8P2K105	05/19/03	1514
04	VSTD002	W8V030519-03	8P2K106	05/19/03	1540
05	VSTD005	W8V030519-04	8P2K107	05/19/03	1606
06	VSTD010	W8V030519-05	8P2K108	05/19/03	1632
07	VSTD020	W8V030519-06	8P2K109	05/19/03	1657
08	VSTD050	W8V030519-07	8P2K110	05/19/03	1723
09	VSTD100	W8V030519-08	8P2K111	05/19/03	1749
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5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Lab File ID: 8P2R501 BFB Injection Date: 07/11/03

Instrument ID: VOA8 BFB Injection Time: 0728

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	21.2
75	30.0 - 60.0% of mass 95	47.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.0
173	Less than 2.0% of mass 174	0.2 (0.3)1
174	50.0 - 100.0% of mass 95	81.3
175	5.0 - 9.0% of mass 174	6.1 (7.5)1
176	95.0 - 101.0% of mass 174	79.0 (97.2)1
177	5.0 - 9.0% of mass 176	5.4 (6.8)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD005	UVM030619-01C	8P2R502	07/11/03	0742
02	VBLK01LCS	1200453838	8P2R502LCSPB	07/11/03	0742
03	VBLK01	1200453837	8P2R503B	07/11/03	0808
04	TR2122	83731001	8P2R507	07/11/03	1015
05	TR2122MS	1200453839	8P2R508	07/11/03	1041
06	TR2122MSD	1200453840	8P2R509	07/11/03	1107
07	TR2118	83731002	8P2R510	07/11/03	1133
08	TR2123	83731006	8P2R514	07/11/03	1316
09	TR0045	83731007	8P2R515	07/11/03	1342
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5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Lab File ID: 8P2S101 BFB Injection Date: 07/14/03

Instrument ID: VOA8 BFB Injection Time: 0951

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.9
75	30.0 - 60.0% of mass 95	44.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.1
173	Less than 2.0% of mass 174	0.4 (0.5)1
174	50.0 - 100.0% of mass 95	83.3
175	5.0 - 9.0% of mass 174	6.1 (7.3)1
176	95.0 - 101.0% of mass 174	82.1 (98.5)1
177	5.0 - 9.0% of mass 176	5.7 (6.9)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD005	UVM030619-01C	8P2S102	07/14/03	1007
02	VBLK02LCS	1200455117	8P2S102LCSA	07/14/03	1007
03	VBLK02	1200455116	8P2S103A	07/14/03	1033
04	TR2118DL	83731002	8P2S104	07/14/03	1107
05	TR2120	83731003	8P2S105	07/14/03	1133
06	TR2115	83731004	8P2S106	07/14/03	1159
07	TR2117	83731005	8P2S107	07/14/03	1225
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8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Lab File ID (Standard): 8P2R502 Date Analyzed: 07/11/03

Instrument ID: VOA8 Time Analyzed: 0742

GC Column: RTX-VOLATILES ID: 0.25 (mm) Heated Purge: (Y/N) Y

		IS1(FLB) AREA #	RT #	IS2(CBZ) AREA #	RT #	IS3(DCB) AREA #	RT #
	12 HOUR STD	527820	4.50	394335	6.77	215837	8.88
	UPPER LIMIT	1055640	5.00	788670	7.27	431674	9.38
	LOWER LIMIT	263910	4.00	197168	6.27	107918	8.38
	EPA SAMPLE NO.						
01	VBLK01LCS	527820	4.50	394335	6.77	215837	8.88
02	VBLK01	518677	4.50	396241	6.77	210135	8.88
03	TR2122	510121	4.50	374479	6.77	190793	8.88
04	TR2122MS	534158	4.50	397920	6.78	222849	8.88
05	TR2122MSD	533207	4.50	427461	6.78	256767	8.88
06	TR2118	506962	4.50	393476	6.78	196681	8.88
07	TR2123	485230	4.51	354527	6.78	179361	8.89
08	TR0045	488636	4.50	361718	6.78	187508	8.88
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IS1 (FLB) = Fluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83731

Lab File ID (Standard): 8P2S102 Date Analyzed: 07/14/03

Instrument ID: VOA8 Time Analyzed: 1007

GC Column: RTX-VOLATILES ID: 0.25 (mm) Heated Purge: (Y/N) Y

		IS1 (FLB) AREA	#	RT	#	IS2 (CBZ) AREA	#	RT	#	IS3 (DCB) AREA	#	RT	#
	12 HOUR STD	549607		4.50		409614		6.77		221841		8.88	
	UPPER LIMIT	1099214		5.00		819228		7.27		443682		9.38	
	LOWER LIMIT	274804		4.00		204807		6.27		110920		8.38	
	EPA SAMPLE NO.												
01	VBLK02LCS	549607		4.50		409614		6.77		221841		8.88	
02	VBLK02	537951		4.50		415232		6.77		229278		8.88	
03	TR2118DL	530772		4.50		397431		6.77		213755		8.88	
04	TR2120	531716		4.50		388897		6.77		193192		8.88	
05	TR2115	520606		4.50		387108		6.77		191246		8.88	
06	TR2117	514943		4.50		381890		6.77		190460		8.88	
07													
08													
09													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													

IS1 (FLB) = Fluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

GC/MS Volatile Organics
Parsons Engineering Science, Inc. DACA87-02-D-0005 (PARS)
SDG 83988

Method/Analysis Information

Procedure:	Volatile Organic Compounds (VOC) by Gas Chromatograph/Mass Spectrometer
Analytical Method:	SW846 8260B
Prep Method:	SW846 5030B
Analytical Batch Number:	263072

Sample Analysis

The following client and quality control samples were analyzed to complete this sample delivery group/work order using the methods referenced in the Analysis Information section:

Sample ID	Client ID
83988001	TR2112
83988002	ARD2213
83988003	ARD0036
1200454735	Method Blank (MB)
1200454736	Laboratory Control Sample (LCS)
1200457600	Method Blank (MB)
1200457601	Laboratory Control Sample (LCS)

Preparation/Analytical Method Verification

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-038 REV.8.

Calibration Information

Due to software limitations, all the data files comprising the initial calibration curve may not be listed on the initial calibration summary form. All calibration files are listed in the calibration history report in the "Standard Data" section.

Initial Calibration
All the initial calibration requirements were met.

Continuing Calibration Verification Requirements
All the continuing calibration verification (CCV) requirements were met.

Quality Control (QC) Information

Method Blank Acceptance
Target analytes were not detected above the reporting limit in the blanks.

Surrogate Recoveries
Surrogate recoveries, in all samples and quality control samples, were within the acceptance limits.

Laboratory Control Sample Recovery Statement (LCS)
All the required analyte recoveries in the LCS(s) were within the acceptance limits.

QC Sample Designation
Matrix spikes were analyzed on a sample of similar matrix in PARS sample delivery group, # 83934.

Spike Recovery Statement
All the required spike recoveries were within the acceptance limits.

Spike Duplicate Recovery Statement
All the required spike recoveries were within the acceptance limits.

Relative Percent Difference Statement (RPD)
The RPD between spike recoveries were within the acceptance limits.

Internal Standard (ISTD) Acceptance
The internal standard responses, in all samples and quality control samples, met the required acceptance criteria.

Technical Information

Holding Time Specifications
All the samples were prepared and/or analyzed within the required holding time period.

Sample Preservation and Integrity
All samples met the sample preservation and integrity requirements.

Preparation/Analytical Method Verification
All procedures were performed as stated in the SOP.

Sample Dilutions
The samples in this sample delivery group/work order did not require dilutions.

Sample Re-prep/Re-analysis
Re-analyses were not required for samples in this sample delivery group/work order.

Miscellaneous Information

Electronic Package Comment
The following package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory is developing systems to eventually generate all data packages electronically. The following change from traditional packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative of each electronic package will indicate the analyst, reviewer, and report specialist names associated with the generation of the data and package. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Nonconformance (NCR) Documentation
A nonconformance report was not required for this sample delivery group/work order.

Manual Integrations
Data files associated with the initial calibration, continuing calibration check, and samples did not require manual integrations.

TIC Comment
Tentatively identified compounds (TIC) were not required for this sample delivery group/work order.

Additional Comments
There were no additional comments.

System Configuration
The laboratory utilizes the following GC/MS configurations:

Chromatographic Columns
Chromatographic separation of volatile components is accomplished through analysis on one of the following columns:

Column ID	Column Description
J&W1	DB-624, 60m x 0.25mm, 1.4um
J&W2	DB-624, 75m x 0.53mm, 3.0um

Instrument Configuration
Instrument systems are reference in the raw data and individual form headers by the Instrument ID designations below:

Instrument ID	System Configuration	Chromatographic Column	P & T Trap
VOA1	HP6890/HP5973	J&W1	Trap C
VOA2	HP6890/HP5973	J&W1	Trap C
VOA4	HP5890/HP5972	J&W1	Trap K

VOA5	HP5890/HP5972	J&W1	Trap C
VOA7	HP5890/HP5972	J&W2	Trap K
VOA8	HP6890/HP5973	J&W1	Trap K
VOA9	HP6890/HP5973	J&W1	Trap C

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

Reviewer: Charles Wilson Date: 08-07-03

Roadmap for PARS 83988 VOA

This roadmap was analyzed by Michael Penny on 07-22-2003, 11:17.
This roadmap was reviewed by Sara Jones on 07-31-2003, 15:53.
This roadmap was packaged by LySandra Gathers on 08-05-2003, 14:24.

Sample

exclude	manual	datafile	smpid	clientid	injdate	injtime	sublist	dilution	comment
☐	N	/chem/VOA2.i/071403v2.b/2s116.d	83988001	TR2112	14-JUL-2003	13:56	83988.sub	1	
■	N	/chem/VOA2.i/071403v2.b/2s117.d	83988002	ARD2213	14-JUL-2003	14:23	83988.sub	1	
☐	N	/chem/VOA2.i/071403v2.b/2s118.d	83988003	ARD0036	14-JUL-2003	14:49	83988.sub	1	
☐	N	/chem/VOA2.i/071703v2.b/2s424.d	83988002	ARD2213	17-JUL-2003	16:49	83988.sub	1	

QC Sample

exclude	manual	datafile	smpid	clientid	sampletype	injdate	injtime	sublist	dilution	comment
☐	N	/chem/VOA2.i/071403v2.b/2s103WPB.d	1200454736	VBLK01LCS	lcs	14-JUL-2003	07:59	83988.sub	1	
☐	N	/chem/VOA2.i/071403v2.b/2s106WPB.d	1200454735	VBLK01	mb	14-JUL-2003	09:19	83988.sub	1	
☐	N	/chem/VOA2.i/071703v2.b/2s403PB.d	1200457601	VBLK02LCS	lcs	17-JUL-2003	07:19	83988.sub	1	
☐	N	/chem/VOA2.i/071703v2.b/2s406PB.d	1200457600	VBLK02	mb	17-JUL-2003	08:38	83988.sub	1	

SAMPLE DATA SUMMARY

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD0036

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83988

Matrix: (soil/water) WATER Lab Sample ID: 83988003

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2S118

Level: (low/med) LOW Date Received: 07/12/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-35-4	1,1-Dichloroethylene	1.0	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethylene	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	5.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethylene	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethylene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropylene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropylene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
591-78-6	2-Hexanone	5.0	U
127-18-4	Tetrachloroethylene	1.0	U
124-48-1	Dibromochloromethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
87-61-6	Xylenes (total)	1.0	U
100-42-5	Styrene	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD0036

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83988

Matrix: (soil/water) WATER Lab Sample ID: 83988003

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2S118

Level: (low/med) LOW Date Received: 07/12/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-25-2	Bromoform	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD2213

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83988

Matrix: (soil/water) WATER Lab Sample ID: 83988002

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2S424

Level: (low/med) LOW Date Received: 07/12/03

% Moisture: not dec. _____ Date Analyzed: 07/17/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-35-4	1,1-Dichloroethylene	1.0	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethylene	0.43	J
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	5.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethylene	83.4	
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethylene	15.9	
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropylene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropylene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
591-78-6	2-Hexanone	5.0	U
127-18-4	Tetrachloroethylene	1.0	U
124-48-1	Dibromochloromethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
87-61-6	Xylenes (total)	1.0	U
100-42-5	Styrene	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD2213

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83988

Matrix: (soil/water) WATER Lab Sample ID: 83988002

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2S424

Level: (low/med) LOW Date Received: 07/12/03

% Moisture: not dec. _____ Date Analyzed: 07/17/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-25-2	Bromoform	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

TR2112

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83988

Matrix: (soil/water) WATER Lab Sample ID: 83988001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2S116

Level: (low/med) LOW Date Received: 07/12/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-35-4	1,1-Dichloroethylene	1.0	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethylene	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	5.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethylene	74.7	
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethylene	15.2	
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropylene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropylene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
591-78-6	2-Hexanone	5.0	U
127-18-4	Tetrachloroethylene	1.0	U
124-48-1	Dibromochloromethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
87-61-6	Xylenes (total)	1.0	U
100-42-5	Styrene	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR2112

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83988

Matrix: (soil/water) WATER Lab Sample ID: 83988001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2S116

Level: (low/med) LOW Date Received: 07/12/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-25-2	Bromoform	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U

QUALITY CONTROL SUMMARY

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83988

	EPA SAMPLE NO.	SMC1 (DBF) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER	TOT OUT
01	VBLK01LCS	116	109	115		0
02	VBLK01	105	101	109		0
03	TR2112	107	101	107		0
04	ARD0036	106	100	113		0
05	VBLK02LCS	107	100	113		0
06	VBLK02	111	104	113		0
07	ARD2213	127	111	123		0
08						
09						
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		QC LIMITS
SMC1 (DBF)	= Dibromofluoromethane	(74-144)
SMC2 (TOL)	= Toluene-d8	(76-129)
SMC3 (BFB)	= Bromofluorobenzene	(69-137)

Column to be used to flag recovery values

* Values outside of contract required QC limits

3A

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83988

Matrix Spike - EPA Sample No.: VBLK01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	#	QC. LIMITS REC.
o-Xylene	50.0	0.0	47.9	96		81-118
m,p-Xylenes	100	0.0	90.8	91		79-119
Chloromethane	50.0	0.0	42.3	85		72-142
Vinyl chloride	50.0	0.0	48.3	97		67-141
Bromomethane	50.0	0.0	43.2	86		61-144
Chloroethane	50.0	0.0	43.5	87		68-132
1,1-Dichloroethylene	50.0	0.0	43.3	87		66-132
Acetone	250	0.0	257	103		71-139
Carbon disulfide	250	0.0	216	86		68-120
Methylene chloride	50.0	0.0	43.4	87		73-112
trans-1,2-Dichloroethyl	50.0	0.0	45.4	91		78-125
1,1-Dichloroethane	50.0	0.0	47.2	94		80-119
Vinyl acetate	250	0.0	262	105		67-136
2-Butanone	250	0.0	229	92		64-134
cis-1,2-Dichloroethylen	50.0	0.0	47.8	96		80-117
Chloroform	50.0	0.0	49.8	100		80-124
1,1,1-Trichloroethane	50.0	0.0	46.4	93		72-136
Carbon tetrachloride	50.0	0.0	50.1	100		66-141
1,2-Dichloroethane	50.0	0.0	47.2	94		67-131
Benzene	50.0	0.0	45.3	91		78-116
Trichloroethylene	50.0	0.0	45.4	91		83-122
1,2-Dichloropropane	50.0	0.0	45.5	91		75-119
Bromodichloromethane	50.0	0.0	50.4	101		78-127
cis-1,3-Dichloropropyle	50.0	0.0	50.4	101		77-129
4-Methyl-2-pentanone	250	0.0	233	93		69-127
Toluene	50.0	0.0	47.6	95		79-118
trans-1,3-Dichloropropy	50.0	0.0	52.1	104		67-132
1,1,2-Trichloroethane	50.0	0.0	47.8	96		76-119

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

3A

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83988

Matrix Spike - EPA Sample No.: VBLK01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
2-Hexanone	250	0.0	234	94	60-136
Tetrachloroethylene	50.0	0.0	45.4	91	78-126
Dibromochloromethane	50.0	0.0	53.1	106	81-129
Chlorobenzene	50.0	0.0	49.8	100	82-118
Ethylbenzene	50.0	0.0	47.6	95	80-120
Xylenes (total)	150	0.0	139	93	70-130
Styrene	50.0	0.0	47.0	94	82-121
Bromoform	50.0	0.0	57.7	115	79-141
1,1,2,2-Tetrachloroetha	50.0	0.0	44.3	89	66-127

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 37 outside limits

COMMENTS: _____

3A
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83988

Matrix Spike - EPA Sample No.: VBLK02

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Chloromethane	50.0	0.0	38.9	78	72-142
Vinyl chloride	50.0	0.0	45.7	91	67-141
Bromomethane	50.0	0.0	42.8	86	61-144
Chloroethane	50.0	0.0	44.4	89	68-132
1,1-Dichloroethylene	50.0	0.0	44.1	88	66-132
Acetone	250	0.0	265	106	71-139
Carbon disulfide	250	0.0	213	85	68-120
Methylene chloride	50.0	0.0	42.4	85	73-112
trans-1,2-Dichloroethyl	50.0	0.0	46.0	92	78-125
1,1-Dichloroethane	50.0	0.0	47.7	95	80-119
Vinyl acetate	250	0.0	263	105	67-136
2-Butanone	250	0.0	226	90	64-134
cis-1,2-Dichloroethylen	50.0	0.0	46.4	93	80-117
Chloroform	50.0	0.0	49.8	100	80-124
1,1,1-Trichloroethane	50.0	0.0	46.3	93	72-136
Carbon tetrachloride	50.0	0.0	49.6	99	66-141
1,2-Dichloroethane	50.0	0.0	47.9	96	67-131
Benzene	50.0	0.0	45.6	91	78-116
Trichloroethylene	50.0	0.0	45.0	90	83-122
1,2-Dichloropropane	50.0	0.0	45.0	90	75-119
Bromodichloromethane	50.0	0.0	50.5	101	78-127
cis-1,3-Dichloropropyle	50.0	0.0	50.5	101	77-129
4-Methyl-2-pentanone	250	0.0	237	95	69-127
Toluene	50.0	0.0	47.4	95	79-118
trans-1,3-Dichloropropy	50.0	0.0	52.6	105	67-132
1,1,2-Trichloroethane	50.0	0.0	47.5	95	76-119
2-Hexanone	250	0.0	234	94	60-136
Tetrachloroethylene	50.0	0.0	45.3	91	78-126

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

3A
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83988

Matrix Spike - EPA Sample No.: VBLK02

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dibromochloromethane	50.0	0.0	54.0	108	81-129
Chlorobenzene	50.0	0.0	49.6	99	82-118
Ethylbenzene	50.0	0.0	48.0	96	80-120
m,p-Xylenes	100	0.0	92.9	93	79-119
o-Xylene	50.0	0.0	47.2	94	81-118
Xylenes (total)	150	0.0	140	93	70-130
Styrene	50.0	0.0	46.6	93	82-121
Bromoform	50.0	0.0	59.9	120	79-141
1,1,2,2-Tetrachloroetha	50.0	0.0	46.2	92	66-127

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 37 outside limits

COMMENTS: _____

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83934

Matrix Spike - EPA Sample No.: ARD-2207

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethylene	50.0	0.0	44.8	90	60-124
Benzene	50.0	0.0	44.5	89	71-116
Trichloroethylene	50.0	40.8	82.2	83	74-122
Toluene	50.0	0.0	44.5	89	72-116
Chlorobenzene	50.0	0.0	48.7	97	77-114

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethylene	50.0	43.9	88	2	20	60-124
Benzene	50.0	43.2	86	3	20	71-116
Trichloroethylene	50.0	81.2	81	2	20	74-122
Toluene	50.0	44.3	89	0	20	72-116
Chlorobenzene	50.0	46.1	92	5	20	77-114

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

4A

EPA SAMPLE NO.

VOLATILE METHOD BLANK SUMMARY

VBLK01

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83988

Lab File ID: 2S106WPB Lab Sample ID: 1200454735

Date Analyzed: 07/14/03 Time Analyzed: 0919

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

Instrument ID: VOA2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VBLK01LCS	1200454736	2S103WPB	0759
02	TR2112	83988001	2S116	1356
03	ARD0036	83988003	2S118	1449
04				
05				
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4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK02

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83988

Lab File ID: 2S406PB Lab Sample ID: 1200457600

Date Analyzed: 07/17/03 Time Analyzed: 0838

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

Instrument ID: VOA2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VBLK02LCS	1200457601	2S403PB	0719
02	ARD2213	83988002	2S424	1649
03				
04				
05				
06				
07				
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5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83988

Lab File ID: 2Q101 BFB Injection Date: 06/30/03

Instrument ID: VOA2 BFB Injection Time: 1130

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.9
75	30.0 - 60.0% of mass 95	46.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 100.0% of mass 95	71.5
175	5.0 - 9.0% of mass 174	5.3 (7.4)1
176	95.0 - 101.0% of mass 174	68.4 (95.7)1
177	5.0 - 9.0% of mass 176	4.5 (6.5)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0005	W2V030630-08	2Q103	06/30/03	1220
02	VSTD001	W2V030630-01	2Q104	06/30/03	1247
03	VSTD002	W2V030630-02	2Q106	06/30/03	1341
04	VSTD005	W2V030630-03	2Q107	06/30/03	1408
05	VSTD010	W2V030630-04	2Q108	06/30/03	1435
06	VSTD020	W2V030630-05	2Q109	06/30/03	1503
07	VSTD050	W2V030630-06	2Q110	06/30/03	1529
08	VSTD100	W2V030630-07	2Q111	06/30/03	1556
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5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83988

Lab File ID: 2S101 BFB Injection Date: 07/14/03

Instrument ID: VOA2 BFB Injection Time: 0710

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.8
75	30.0 - 60.0% of mass 95	46.8
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.2 (0.3)1
174	50.0 - 100.0% of mass 95	71.8
175	5.0 - 9.0% of mass 174	5.2 (7.3)1
176	95.0 - 101.0% of mass 174	69.7 (97.2)1
177	5.0 - 9.0% of mass 176	4.5 (6.5)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	W2V030714-01	2S102	07/14/03	0732
02	VBLK01LCS	1200454736	2S103WPB	07/14/03	0759
03	VBLK01	1200454735	2S106WPB	07/14/03	0919
04	TR2112	83988001	2S116	07/14/03	1356
05	ARD0036	83988003	2S118	07/14/03	1449
06					
07					
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5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83988

Lab File ID: 2S401 BFB Injection Date: 07/17/03

Instrument ID: VOA2 BFB Injection Time: 0630

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	21.3
75	30.0 - 60.0% of mass 95	47.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 100.0% of mass 95	71.1
175	5.0 - 9.0% of mass 174	4.8 (6.7)1
176	95.0 - 101.0% of mass 174	68.5 (96.4)1
177	5.0 - 9.0% of mass 176	4.4 (6.4)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	W2V030717-01	2S402	07/17/03	0652
02	VBLK02LCS	1200457601	2S403PB	07/17/03	0719
03	VBLK02	1200457600	2S406PB	07/17/03	0838
04	ARD2213	83988002	2S424	07/17/03	1649
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8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83988

Lab File ID (Standard): 2S102 Date Analyzed: 07/14/03

Instrument ID: VOA2 Time Analyzed: 0732

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

		IS1(FLB) AREA #	RT #	IS2(CBZ) AREA #	RT #	IS3(DCB) AREA #	RT #
	12 HOUR STD	1263933	10.79	981061	14.10	509834	16.59
	UPPER LIMIT	2527866	11.29	1962122	14.60	1019668	17.09
	LOWER LIMIT	631966	10.29	490530	13.60	254917	16.09
	EPA SAMPLE NO.						
01	VBLK01LCS	1230223	10.79	964899	14.10	503224	16.59
02	VBLK01	1267311	10.78	984535	14.10	497284	16.59
03	TR2112	1292903	10.79	1001257	14.10	519165	16.59
04	ARD0036	1239489	10.79	941703	14.10	471264	16.59
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IS1 (FLB) = Fluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83988

Lab File ID (Standard): 2S402 Date Analyzed: 07/17/03

Instrument ID: VOA2 Time Analyzed: 0652

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

		IS1(FLB) AREA #	RT #	IS2(CBZ) AREA #	RT #	IS3(DCB) AREA #	RT #
	12 HOUR STD	1173036	10.78	918338	14.10	448087	16.59
	UPPER LIMIT	2346072	11.28	1836676	14.60	896174	17.09
	LOWER LIMIT	586518	10.28	459169	13.60	224044	16.09
	EPA SAMPLE NO.						
01	VBLK02LCS	1193457	10.79	934329	14.10	466975	16.59
02	VBLK02	1149446	10.78	897000	14.10	462207	16.59
03	ARD2213	921751	10.79	733646	14.10	373720	16.59
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IS1 (FLB) = Fluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

Received 8/25/03

GC/MS Volatile Organics
Parsons Engineering Science, Inc. DACA87-02-D-0005 (PARS)
SDG 83987

Method/Analysis Information

Procedure:	Volatile Organic Compounds by Gas Chromatograph/Mass Spectrometer
Analytical Method:	EPA 524.2
Prep Method:	EPA 524.2
Analytical Batch Number:	263188

Sample Analysis

The following client and quality control samples were analyzed to complete this sample delivery group/work order using the methods referenced in the Analysis Information section:

Sample ID	Client ID
83987001	ARD2205
83987002	ARD2212
83987003	TR2121
83987004	TR2114
83987005	TR2113
83987006	TR2116
83987007	TR2119
83987008	TR0046
83987009	TR0044
1200454971	Method Blank (MB)
1200454972	Laboratory Control Sample (LCS)
1200455765	Method Blank (MB)
1200455766	Laboratory Control Sample (LCS)

1200454973	83987003(TR2121) Matrix Spike (MS)
1200454974	83987003(TR2121) Matrix Spike Duplicate (MSD)

Preparation/Analytical Method Verification

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-022 REV.3.

Calibration Information
Due to software limitations, all the data files comprising the initial calibration curve may not be listed on the initial calibration summary form. All calibration files are listed in the calibration history report in the "Standard Data" section.

Initial Calibration
All the initial calibration requirements were met.

Continuing Calibration Verification Requirements
All the continuing calibration verification (CCV) requirements were met.

Quality Control (QC) Information

Method Blank Acceptance
Target analytes were not detected above the reporting limit in the blank.

Surrogate Recoveries
Surrogate recoveries, in all samples and quality control samples, were within the acceptance limits.

Laboratory Control Sample Recovery Statement (LCS)
All the required analyte recoveries in the LCS were within the acceptance limits.

QC Sample Designation
The following sample was designated for spike analysis: 83987003 (TR2121).

Spike Recovery Statement
All the required spike recoveries were within the acceptance limits.

Spike Duplicate Recovery Statement
All the required spike recoveries were within the acceptance limits.

Relative Percent Difference Statement (RPD)
The RPD between spike recoveries were within the acceptance limits.

Internal Standard (ISTD) Acceptance
The internal standard responses, in all samples and quality control samples, met the required acceptance criteria.

Technical Information

Holding Time Specifications
All the samples were prepared and/or analyzed within the required holding time period.

Sample Preservation and Integrity
All samples met the sample preservation and integrity requirements.

Preparation/Analytical Method Verification
All procedures were performed as stated in the SOP.

Sample Dilutions
The following sample was diluted because target analyte concentrations exceeded the calibration range:

83987007 (TR2119) 1:10

Sample Re-prep/Re-analysis
Re-analyses were not required for samples in this sample delivery group/work order.

Miscellaneous Information

Electronic Package Comment
The following package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory is developing systems to eventually generate all data packages electronically. The following change from traditional packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative of each electronic package will indicate the analyst, reviewer, and report specialist names associated with the generation of the data and package. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Nonconformance (NCR) Documentation
A nonconformance report was not required for this sample delivery group/work order.

Manual Integrations
Data files associated with the initial calibration, continuing calibration check, and samples did not require manual integrations.

TIC Comment
Tentatively identified compounds (TIC) were not required for this sample delivery group/work order.

Additional Comments
There were no additional comments.

System Configuration
The laboratory utilizes the following GC/MS configurations:

Chromatographic Columns
Chromatographic columns of volatile components is accomplished through analysis on one of the following

columns:

The Volatile Organics analysis was performed on a HP Mass Spectrometer.

Instrument ID	System Configuration	Column ID	Column Description	P & T Trap
VOA8.I	HP6890/HP5973	RESTEK	RTX-Volatiles, 30m x 0.25 mm, 1.0 um	Trap 10

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

CASE NARRATIVE
for
Parsons Infrastructure & Technology Group, Inc.
Ash Landfill
SDG#s 83987/83988

August 8, 2003

Laboratory Identification:

General Engineering Laboratories, LLC

Mailing Address:

P.O. Box 30712
Charleston, South Carolina 29417

Express Mail Delivery and Shipping Address:

2040 Savage Road
Charleston, South Carolina 29414

Telephone Number:

(843) 556-8171

Summary:

Sample receipt

The samples arrived at General Engineering Laboratories, LLC (GEL) Charleston, South Carolina on July 12, 2003, for Environmental Analyses. All sample containers arrived without any visible signs of tampering or breakage. The samples were delivered with chain of custody documentation and signatures.

The laboratory received the following samples:

Laboratory Identification	Sample Description
83987001	ARD2205
83987002	ARD2212
83987003	TR2121
83987004	TR2114
83987005	TR2113
83987006	TR2116

83987007	TR2119
83987008	TR0046
83987009	TR0044
83988001	TR2112
83988002	ARD2213
83988003	ARD0036

Case Narrative

Sample analyses were conducted using methodology as outlined in General Engineering Laboratories (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are listed below by analytical parameter.

Internal Chain of Custody:

Custody was maintained for all samples.

Data Package:

The enclosed data package contains the following sections: Case Narrative, Qualifier Flag Definitions, Chain of Custody, Cooler Receipt Checklist, and GC/MS Volatile Analysis.

This data package, to the best of my knowledge, is in compliance with technical and administrative requirements.

Valerie S. Davis
Project Manager

CHAIN OF CUSTODY

Page: 1 of 2
Project #: 743155-02200
GEL Quote #:
COC Number (1): ARD-002C
PO Number: 743155-00 30000

GEL Chain of Custody and Analytical Request

General Engineering Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Parsons | Phone #: 617-457-7900
Project/Site Name: Ash Landfill | Fax #: 617-457-7717
Address: 100 Summer St 8th Floor Boston, MA 02110
Collected by: JK/HC | Send Results To: Jennifer Rossmann

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID (83987/1-079, 83988/1-003)	Date Collected (mm-dd-yy)	Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	VOC 524.2	VOC CLP 8260	HA	<-- Preservative Type (6)	Comments
ARD2205	07-10-03	0930	N	N	GW			3	X				Note: extra sample is required for sample specific QC
ARD2212	07-10-03	1055	N	↓	↓			3	X				
TR2112	07-10-03	1415	N	↓	↓			3		X			
~~TR2112MS~~								3		X			
~~TR2112MSD~~								3		X			
TR2121	07-10-03	1700	N	N	GW			3	X				
TR2121MS	07-10-03	1700	MS	↓	↓			3	X				
TR2121MSD	07-10-03	1700	MSD	↓	↓			3	X				
ARD2213	07-10-03	1415	N	↓	↓			3		X			
TR2114	07-10-03	1530	N	↓	↓			3	X				

TAT Requested: Normal: X Rush: ____ Specify: ____ (Subject to Surcharge) | Fax Results: Yes / No | Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	[signature]	7/11/03	1230	Rachael [illegible]	7/12/03	9:30
2						
3						

Sample Shipping and Delivery Details

GEL PM: Valerie Davis
Method of Shipment: FedEx | Date Shipped: 07/11/03
Airbill #: 5382 9070 98 72
Airbill #:

1) Chain of Custody Number = Client Determined
2.) QC Codes: N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite
3) Field Filtered: For liquid matrices, indicate with a - Y - for yes the sample was field filtered or - N - for sample was not field filtered
4.) Matrix Codes: DW = Drinking Water, GW = Groundwater, SW = Surface Water, WW = Waste Water, W = Water, SO = Soil, SD = Sediment, SL = Sludge, SS = Solid Waste, O = Oil, F = Filter, P = Wipe, U = Urine, F = Fecal, N = Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1).
6.) Preservative Type: HA = Hydrochloric Acid, NI = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfuric Acid, AA = Ascorbic Acid, HX = Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact? YES NO
Cooler Temp. ____ C

WHITE = LABORATORY YELLOW = FILE PINK = CLIENT

Page: 2 of 2
Project #: 743155-022000
GEL Quote #:
COC Number (1): ARD-002C
PO Number: 743155-003000

GEL Chain of Custody and Analytical Request

General Engineering Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Parsons Phone #: 617-457-7900
Project/Site Name: Ash Landfill Fax #: 617-457-7979
Address: 100 Summer St 8th Floor Boston MA 02110
Collected by: JLC/AR Send Results To: Jennifer Rossmann

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID	Date Collected (mm-dd-yy)	Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	HA (VOC 524.2)	HA (VOC CLP8260)	Comments
83987/001→005, 83988/001-003											Note: extra sample is required for sample specific QC
05 TR2113	07-11-03	0900	N	N	GW			3	X		
04 TR2116	07-11-03	0950	N					3	X		
07 TR2119	07-11-03	1055	N					3	X		
08 TR0046	07-08-03	1700	TB					2	X		
13 ARD0036	07-08-03	1700	TB					2		X	
09 TR0044	07-10-03	1615	EB					3	X		

<-- Preservative Type (6)

TAT Requested: Normal: X Rush: ____ Specify: ____ (Subject to Surcharge) Fax Results: Yes / No

Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	[signature]	7/11/03	1230	Rachael [signature]	7/12/03	9:30
2						
3						

Sample Shipping and Delivery Details

GEL PM: Valerie Davis
Method of Shipment: FedEx Date Shipped: 07/11/03
Airbill #: 8382 9070 4872
Airbill #:

1) Chain of Custody Number = Client Determined
2) QC Codes: N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite
3) Field Filtered: For liquid matrices, indicate with a - Y - for yes the sample was field filtered or - N - for sample was not field filtered.
4) Matrix Codes: DW = Drinking Water, GW = Groundwater, SW = Surface Water, WW = Waste Water, W = Water, SO = Soil, SD = Sediment, SL = Sludge, SS = Solid Waste, O = Oil, F = Filter, P = Wipe, U = Urine, F = Fecal, N = Nasal
5) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1).
6.) Preservative Type: HA = Hydrochloric Acid, NI = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfuric Acid, AA = Ascorbic Acid, HX = Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact? YES NO
Cooler Temp: ____ C

WHITE = LABORATORY YELLOW = FILE PINK = CLIENT

COOLER RECEIPT CHECKLIST

SAMPLE RECEIPT & REVIEW FORM

Date 7/12/03 Client Parsons Received by Rachael Quezada

	SAMPLE REVIEW CRITERIA	YES	NO	N/A	COMMENTS/QUALIFIERS
1	Were shipping containers received intact and sealed? If no, notify the Project Manager	✓			
2	Were chain of custody documents included?	✓			
3	Shipping container temperature(s) checked?	✓			
4	Is temperature documented on Chain of Custody?		—		
5	Was shipping container temperature within specifications (4 +/- 2 C)? If no, notify Project Manager	✓			4°
6	Are any of the samples identified by the client as radioactive? If yes, complete radioactive receipt form				
	Any samples not indentified by the client as radioactive must be screened for radioactivitiy.				observed background CPM
	If screening results indicate > x2 background inform the RSO.				Max. observed sample CPM
7	Were chain of custody documents completed correctly? (Ink, signed, match containers)	✓			
8	Were sample containers received intact and sealed? If no, notify the Project Manager	✓			
9	Were all sample containers properly labeled?	✓			
10	Were correct sample containers received?	✓			
11	Preserved samples checked for pH?	✓			
12	Were samples preserved correctly? If no, notify Project Manager	✓			
13	Were samples received within holding time? If No, notify Project Manager	✓			
14	Were VOA vials free of headspace?	✓			
15	ARCOC#			—	
16	SDG#			—	

PM(A) Review:_____ Date Reviewed:_____

Cooler Air Bill #'s, Associated Temperatures, Instrument Serial #'s, & Additional Comments:

FedEx# 8382 9070 4872

Temp Device Serial #
(Circle)

GC/MS VOLATILE ANALYSIS

GC/MS Volatile Organics
Parsons Engineering Science, Inc. DACA87-02-D-0005 (PARS)
SDG 83987

Method/Analysis Information

Procedure:	Low Level Volatile Organic Compounds by Gas Chromatograph/Mass Spectrometer
Analytical Method:	EPA 524.2
Prep Method:	EPA 524.2
Analytical Batch Number:	263188

Sample Analysis

The following client and quality control samples were analyzed to complete this sample delivery group/work order using the methods referenced in the Analysis Information section:

Sample ID	Client ID
83987001	ARD2205
83987002	ARD2212
83987003	TR2121
83987004	TR2114
83987005	TR2113
83987006	TR2116
83987007	TR2119
83987008	TR0046
83987009	TR0044
1200454971	Method Blank (MB)
1200454972	Laboratory Control Sample (LCS)
1200455765	Method Blank (MB)
1200455766	Laboratory Control Sample (LCS)

1200454973	83987003(TR2121) Matrix Spike (MS)
1200454974	83987003(TR2121) Matrix Spike Duplicate (MSD)

Preparation/Analytical Method Verification

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-022 REV.3.

Calibration Information
Due to software limitations, all the data files comprising the initial calibration curve may not be listed on the initial calibration summary form. All calibration files are listed in the calibration history report in the "Standard Data" section.

Initial Calibration
All the initial calibration requirements were met.

Continuing Calibration Verification Requirements
All the continuing calibration verification (CCV) requirements were met.

Quality Control (QC) Information

Method Blank Acceptance
Target analytes were not detected above the reporting limit in the blanks.

Surrogate Recoveries
Surrogate recoveries, in all samples and quality control samples, were within the acceptance limits.

Laboratory Control Sample Recovery Statement (LCS)
All the required analyte recoveries in the LCS(s) were within the acceptance limits.

QC Sample Designation
The following sample was designated for spike analysis: 83987003 (TR2121).

Spike Recovery Statement
All the required spike recoveries were within the acceptance limits.

Spike Duplicate Recovery Statement
All the required spike recoveries were within the acceptance limits.

Relative Percent Difference Statement (RPD)
The RPD between spike recoveries were within the acceptance limits.

Internal Standard (ISTD) Acceptance
The internal standard responses, in all samples and quality control samples, met the required acceptance criteria.

Technical Information

Holding Time Specifications
All the samples were prepared and/or analyzed within the required holding time period.

Sample Preservation and Integrity
All samples met the sample preservation and integrity requirements.

Preparation/Analytical Method Verification
All procedures were performed as stated in the SOP.

Sample Dilutions
The following samples were diluted because target analyte concentrations exceeded the calibration range:
83987007 (TR2119) 1:10

Sample Re-prep/Re-analysis
Samples in this sample delivery group were re-analyzed for reasons of dilutions.

Miscellaneous Information

Electronic Package Comment
The following package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory is developing systems to eventually generate all data packages electronically. The following change from traditional packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative of each electronic package will indicate the analyst, reviewer, and report specialist names associated with the generation of the data and package. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Nonconformance (NCR) Documentation
A nonconformance report was not required for this sample delivery group/work order.

Manual Integrations
Data files associated with the initial calibration, continuing calibration check, and samples did not require manual integrations.

TIC Comment
Tentatively identified compounds (TIC) were not required for this sample delivery group/work order.

Additional Comments
There were no additional comments.

System Configuration
The laboratory utilizes the following GC/MS configurations:

Chromatographic Columns
Chromatographic separation of volatile components is accomplished through analysis on one of the following columns:

Column ID	Column Description
J&W1	DB-624, 60m x 0.25mm, 1.4um
J&W2	DB-624, 75m x 0.53mm, 3.0um

Instrument Configuration
Instrument systems are reference in the raw data and individual form headers by the Instrument ID designations below:

Instrument ID	System Configuration	Chromatographic Column	P & T Trap
VOA1	HP6890/HP5973	J&W1	Trap C
VOA2	HP6890/HP5973	J&W1	Trap C
VOA4	HP5890/HP5972	J&W1	Trap K
VOA5	HP5890/HP5972	J&W1	Trap C
VOA7	HP5890/HP5972	J&W2	Trap K
VOA8	HP6890/HP5973	J&W1	Trap K
VOA9	HP6890/HP5973	J&W1	Trap C

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

Reviewer: Charles Wilson Date: 08-07-03

Roadmap for PARS 83987 VOA

This roadmap was analyzed by Debbie Smith on 07-16-2003, 09:58.
This roadmap was reviewed by Michael Penny on 07-30-2003, 13:56.
This roadmap was packaged by LySandra Gathers on 08-05-2003, 14:43.

Sample

exclude	manual	datafile	smpid	clientid	injdate	injtime	sublist	dilution	comment
☐	N	/chem/VOA8.i/071403v8.b/8p2s108.d	83987001	ARD2205	14-JUL-2003	12:51	83987.sub	1	
☐	N	/chem/VOA8.i/071403v8.b/8p2s109.d	83987002	ARD2212	14-JUL-2003	13:17	83987.sub	1	
☐	N	/chem/VOA8.i/071403v8.b/8p2s110.d	83987003	TR2121	14-JUL-2003	13:42	83987.sub	1	
☐	N	/chem/VOA8.i/071403v8.b/8p2s113.d	83987004	TR2114	14-JUL-2003	15:00	83987.sub	1	
☐	N	/chem/VOA8.i/071403v8.b/8p2s114.d	83987005	TR2113	14-JUL-2003	15:26	83987.sub	1	
☐	N	/chem/VOA8.i/071403v8.b/8p2s115.d	83987006	TR2116	14-JUL-2003	15:52	83987.sub	1	
☐	N	/chem/VOA8.i/071403v8.b/8p2s116.d	83987007	TR2119	14-JUL-2003	16:18	83987.sub	1	
☐	N	/chem/VOA8.i/071403v8.b/8p2s117.d	83987008	TR0046	14-JUL-2003	16:45	83987.sub	1	
☐	N	/chem/VOA8.i/071403v8.b/8p2s118.d	83987009	TR0044	14-JUL-2003	17:11	83987.sub	1	
☐	N	/chem/VOA8.i/071503v8.b/8p2s204.d	83987007	TR2119DL	15-JUL-2003	10:29	83987.sub	10	

QC Sample

exclude	manual	datafile	smpid	clientid	sampletype	injdate	injtime	sublist	dilution	comment
☐	N	/chem/VOA8.i/071403v8.b/8p2s102LCSC.d	1200454972	VBLK01LCS	lcs	14-JUL-2003	10:07	83987.sub	1	
☐	N	/chem/VOA8.i/071403v8.b/8p2s103C.d	1200454971	VBLK01	mb	14-JUL-2003	10:33	83987.sub	1	
☐	N	/chem/VOA8.i/071403v8.b/8p2s111.d	1200454973	TR2121MS	ms	14-JUL-2003	14:08	83987.sub	1	
☐	N	/chem/VOA8.i/071403v8.b/8p2s112.d	1200454974	TR2121MSD	msd	14-JUL-2003	14:34	83987.sub	1	
☐	N	/chem/VOA8.i/071503v8.b/8p2s202LCSA.d	1200455766	VBLK02LCS	lcs	15-JUL-2003	09:24	83987.sub	1	

☐	N	/chem/VOA8.i/071503v8.b/8p2s203A.d	1200455765	VBLK02	mb	15-JUL-2003	09:51	83987.sub	1	

SAMPLE DATA SUMMARY

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD2205

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Matrix: (soil/water) WATER Lab Sample ID: 83987001

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S108

Level: (low/med) LOW Date Received: 07/12/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-97-5	Bromochloromethane	0.50	U
74-87-3	Chloromethane	0.50	U
74-83-9	Bromomethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
75-00-3	Chloroethane	0.50	U
75-09-2	Methylene chloride	0.50	U
75-35-4	1,1-Dichloroethylene	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
67-66-3	Chloroform	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
156-60-5	trans-1,2-Dichloroethylene	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
75-27-4	Bromodichloromethane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
10061-01-5	cis-1,3-Dichloropropylene	0.50	U
156-59-2	cis-1,2-Dichloroethylene	14.4	
79-01-6	Trichloroethylene	20.3	
124-48-1	Dibromochloromethane	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
71-43-2	Benzene	0.50	U
10061-02-6	trans-1,3-Dichloropropylene	0.50	U
75-25-2	Bromoform	0.50	U
127-18-4	Tetrachloroethylene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
108-88-3	Toluene	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
100-42-5	Styrene	0.50	U
107-06-2	Dichlorodifluoromethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD2205

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Matrix: (soil/water) WATER Lab Sample ID: 83987001

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S108

Level: (low/med) LOW Date Received: 07/12/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
95-50-1	1,2-Dichlorobenzene	0.50	U
95-47-6	o-Xylene	0.50	U
----------	m,p-Xylenes	0.50	U
1330-20-1	Xylenes (total)	0.50	U
594-20-7	2,2-Dichloropropane	0.50	U
563-58-6	1,1-Dichloropropene	0.50	U
74-95-3	Dibromomethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
142-28-9	1,3-Dichloropropane	0.50	U
630-20-6	1,1,1,2-Tetrachloroethane	0.50	U
98-82-8	Isopropylbenzene	0.50	U
108-86-1	Bromobenzene	0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	U
103-65-1	n-Propylbenzene	0.50	U
95-49-8	2-Chlorotoluene	0.50	U
108-67-8	1,3,5-Trimethylbenzene	0.50	U
106-43-4	4-Chlorotoluene	0.50	U
98-06-6	tert-Butylbenzene	0.50	U
95-63-6	1,2,4-Trimethylbenzene	0.50	U
135-98-8	sec-Butylbenzene	0.50	U
99-87-6	4-Isopropyltoluene	0.50	U
104-51-8	n-Butylbenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-68-3	Hexachlorobutadiene	0.50	U
91-20-3	Naphthalene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U
108-05-4	Vinyl acetate	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD2212

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Matrix: (soil/water) WATER Lab Sample ID: 83987002

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S109

Level: (low/med) LOW Date Received: 07/12/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-97-5	Bromochloromethane	0.50	U
74-87-3	Chloromethane	0.50	U
74-83-9	Bromomethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
75-00-3	Chloroethane	0.50	U
75-09-2	Methylene chloride	0.50	U
75-35-4	1,1-Dichloroethylene	0.50	U
75-34-3	1,1-Dichloroethane	0.60	
67-66-3	Chloroform	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
156-60-5	trans-1,2-Dichloroethylene	0.34	J
71-55-6	1,1,1-Trichloroethane	0.39	J
56-23-5	Carbon tetrachloride	0.50	U
75-27-4	Bromodichloromethane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
10061-01-5	cis-1,3-Dichloropropylene	0.50	U
156-59-2	cis-1,2-Dichloroethylene	58.2	
79-01-6	Trichloroethylene	4.6	
124-48-1	Dibromochloromethane	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
71-43-2	Benzene	0.50	U
10061-02-6	trans-1,3-Dichloropropylene	0.50	U
75-25-2	Bromoform	0.50	U
127-18-4	Tetrachloroethylene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
108-88-3	Toluene	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
100-42-5	Styrene	0.50	U
107-06-2	Dichlorodifluoromethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ARD2212

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Matrix: (soil/water) WATER Lab Sample ID: 83987002

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S109

Level: (low/med) LOW Date Received: 07/12/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
95-50-1	1,2-Dichlorobenzene	0.50	U
95-47-6	o-Xylene	0.50	U
----------	m,p-Xylenes	0.50	U
1330-20-1	Xylenes (total)	0.50	U
594-20-7	2,2-Dichloropropane	0.50	U
563-58-6	1,1-Dichloropropene	0.50	U
74-95-3	Dibromomethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
142-28-9	1,3-Dichloropropane	0.50	U
630-20-6	1,1,1,2-Tetrachloroethane	0.50	U
98-82-8	Isopropylbenzene	0.50	U
108-86-1	Bromobenzene	0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	U
103-65-1	n-Propylbenzene	0.50	U
95-49-8	2-Chlorotoluene	0.50	U
108-67-8	1,3,5-Trimethylbenzene	0.50	U
106-43-4	4-Chlorotoluene	0.50	U
98-06-6	tert-Butylbenzene	0.50	U
95-63-6	1,2,4-Trimethylbenzene	0.50	U
135-98-8	sec-Butylbenzene	0.50	U
99-87-6	4-Isopropyltoluene	0.50	U
104-51-8	n-Butylbenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-68-3	Hexachlorobutadiene	0.50	U
91-20-3	Naphthalene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U
108-05-4	Vinyl acetate	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR0044

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Matrix: (soil/water) WATER Lab Sample ID: 83987009

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S118

Level: (low/med) LOW Date Received: 07/12/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-97-5	Bromochloromethane	0.50	U
74-87-3	Chloromethane	0.50	U
74-83-9	Bromomethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
75-00-3	Chloroethane	0.50	U
75-09-2	Methylene chloride	0.50	U
75-35-4	1,1-Dichloroethylene	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
[redacted]	Chloroform	[redacted]	
107-06-2	1,2-Dichloroethane	0.50	U
156-60-5	trans-1,2-Dichloroethylene	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
[redacted]	Bromodichloromethane	[redacted]	
78-87-5	1,2-Dichloropropane	0.50	U
10061-01-5	cis-1,3-Dichloropropylene	0.50	U
156-59-2	cis-1,2-Dichloroethylene	0.50	U
79-01-6	Trichloroethylene	0.50	U
[redacted]	Dibromochloromethane	[redacted]	
79-00-5	1,1,2-Trichloroethane	0.50	U
71-43-2	Benzene	0.50	U
10061-02-6	trans-1,3-Dichloropropylene	0.50	U
75-25-2	Bromoform	0.50	U
127-18-4	Tetrachloroethylene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
108-88-3	Toluene	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
100-42-5	Styrene	0.50	U
107-06-2	Dichlorodifluoromethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR0044

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Matrix: (soil/water) WATER Lab Sample ID: 83987009

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S118

Level: (low/med) LOW Date Received: 07/12/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume:_____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
95-50-1	1,2-Dichlorobenzene	0.50	U
95-47-6	o-Xylene	0.50	U
----------	m,p-Xylenes	0.50	U
1330-20-1	Xylenes (total)	0.50	U
594-20-7	2,2-Dichloropropane	0.50	U
563-58-6	1,1-Dichloropropene	0.50	U
74-95-3	Dibromomethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
142-28-9	1,3-Dichloropropane	0.50	U
630-20-6	1,1,1,2-Tetrachloroethane	0.50	U
98-82-8	Isopropylbenzene	0.50	U
108-86-1	Bromobenzene	0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	U
103-65-1	n-Propylbenzene	0.50	U
95-49-8	2-Chlorotoluene	0.50	U
108-67-8	1,3,5-Trimethylbenzene	0.50	U
106-43-4	4-Chlorotoluene	0.50	U
98-06-6	tert-Butylbenzene	0.50	U
95-63-6	1,2,4-Trimethylbenzene	0.50	U
135-98-8	sec-Butylbenzene	0.50	U
99-87-6	4-Isopropyltoluene	0.50	U
104-51-8	n-Butylbenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-68-3	Hexachlorobutadiene	0.50	U
91-20-3	Naphthalene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U
108-05-4	Vinyl acetate	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR0046

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Matrix: (soil/water) WATER Lab Sample ID: 83987008

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S117

Level: (low/med) LOW Date Received: 07/12/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-97-5	Bromochloromethane	0.50	U
74-87-3	Chloromethane	0.50	U
74-83-9	Bromomethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
75-00-3	Chloroethane	0.50	U
75-09-2	Methylene chloride	0.50	U
75-35-4	1,1-Dichloroethylene	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
67-66-3	Chloroform	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
156-60-5	trans-1,2-Dichloroethylene	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
75-27-4	Bromodichloromethane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
10061-01-5	cis-1,3-Dichloropropylene	0.50	U
156-59-2	cis-1,2-Dichloroethylene	0.50	U
79-01-6	Trichloroethylene	0.50	U
124-48-1	Dibromochloromethane	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
71-43-2	Benzene	0.50	U
10061-02-6	trans-1,3-Dichloropropylene	0.50	U
75-25-2	Bromoform	0.50	U
127-18-4	Tetrachloroethylene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
108-88-3	Toluene	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
100-42-5	Styrene	0.50	U
107-06-2	Dichlorodifluoromethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR0046

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Matrix: (soil/water) WATER Lab Sample ID: 83987008

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S117

Level: (low/med) LOW Date Received: 07/12/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
95-50-1	1,2-Dichlorobenzene	0.50	U
95-47-6	o-Xylene	0.50	U
----------	m,p-Xylenes	0.50	U
1330-20-1	Xylenes (total)	0.50	U
594-20-7	2,2-Dichloropropane	0.50	U
563-58-6	1,1-Dichloropropene	0.50	U
74-95-3	Dibromomethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
142-28-9	1,3-Dichloropropane	0.50	U
630-20-6	1,1,1,2-Tetrachloroethane	0.50	U
98-82-8	Isopropylbenzene	0.50	U
108-86-1	Bromobenzene	0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	U
103-65-1	n-Propylbenzene	0.50	U
95-49-8	2-Chlorotoluene	0.50	U
108-67-8	1,3,5-Trimethylbenzene	0.50	U
106-43-4	4-Chlorotoluene	0.50	U
98-06-6	tert-Butylbenzene	0.50	U
95-63-6	1,2,4-Trimethylbenzene	0.50	U
135-98-8	sec-Butylbenzene	0.50	U
99-87-6	4-Isopropyltoluene	0.50	U
104-51-8	n-Butylbenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-68-3	Hexachlorobutadiene	0.50	U
91-20-3	Naphthalene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U
108-05-4	Vinyl acetate	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR2113

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Matrix: (soil/water) WATER Lab Sample ID: 83987005

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S114

Level: (low/med) LOW Date Received: 07/12/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-97-5	Bromochloromethane	0.50	U
74-87-3	Chloromethane	0.50	U
74-83-9	Bromomethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
75-00-3	Chloroethane	0.50	U
75-09-2	Methylene chloride	0.50	U
75-35-4	1,1-Dichloroethylene	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
67-66-3	Chloroform	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
156-60-5	trans-1,2-Dichloroethylene	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
75-27-4	Bromodichloromethane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
10061-01-5	cis-1,3-Dichloropropylene	0.50	U
156-59-2	cis-1,2-Dichloroethylene	12.8	
79-01-6	Trichloroethylene	1.3	
124-48-1	Dibromochloromethane	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
71-43-2	Benzene	0.81	
10061-02-6	trans-1,3-Dichloropropylene	0.50	U
75-25-2	Bromoform	0.50	U
127-18-4	Tetrachloroethylene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
108-88-3	Toluene	0.49	J
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
100-42-5	Styrene	0.50	U
107-06-2	Dichlorodifluoromethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR2113

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Matrix: (soil/water) WATER Lab Sample ID: 83987005

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S114

Level: (low/med) LOW Date Received: 07/12/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
95-50-1	1,2-Dichlorobenzene	0.50	U
95-47-6	o-Xylene	0.50	U
----------	m,p-Xylenes	0.50	U
1330-20-1	Xylenes (total)	0.50	U
594-20-7	2,2-Dichloropropane	0.50	U
563-58-6	1,1-Dichloropropene	0.50	U
74-95-3	Dibromomethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
142-28-9	1,3-Dichloropropane	0.50	U
630-20-6	1,1,1,2-Tetrachloroethane	0.50	U
98-82-8	Isopropylbenzene	0.50	U
108-86-1	Bromobenzene	0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	U
103-65-1	n-Propylbenzene	0.50	U
95-49-8	2-Chlorotoluene	0.50	U
108-67-8	1,3,5-Trimethylbenzene	0.50	U
106-43-4	4-Chlorotoluene	0.50	U
98-06-6	tert-Butylbenzene	0.50	U
95-63-6	1,2,4-Trimethylbenzene	0.50	U
135-98-8	sec-Butylbenzene	0.50	U
99-87-6	4-Isopropyltoluene	0.50	U
104-51-8	n-Butylbenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-68-3	Hexachlorobutadiene	0.50	U
91-20-3	Naphthalene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U
108-05-4	Vinyl acetate	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR2114

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Matrix: (soil/water) WATER Lab Sample ID: 83987004

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S113

Level: (low/med) LOW Date Received: 07/12/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-97-5	Bromochloromethane	0.50	U
74-87-3	Chloromethane	0.50	U
74-83-9	Bromomethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
75-00-3	Chloroethane	0.50	U
75-09-2	Methylene chloride	0.50	U
75-35-4	1,1-Dichloroethylene	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
67-66-3	Chloroform	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
156-60-5	trans-1,2-Dichloroethylene	0.44	J
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
75-27-4	Bromodichloromethane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
10061-01-5	cis-1,3-Dichloropropylene	0.50	U
156-59-2	cis-1,2-Dichloroethylene	31.7	
79-01-6	Trichloroethylene	6.4	
124-48-1	Dibromochloromethane	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
71-43-2	Benzene	0.27	J
10061-02-6	trans-1,3-Dichloropropylene	0.50	U
75-25-2	Bromoform	0.50	U
127-18-4	Tetrachloroethylene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
108-88-3	Toluene	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
100-42-5	Styrene	0.50	U
107-06-2	Dichlorodifluoromethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR2114

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Matrix: (soil/water) WATER Lab Sample ID: 83987004

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S113

Level: (low/med) LOW Date Received: 07/12/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
95-50-1	1,2-Dichlorobenzene	0.50	U
95-47-6	o-Xylene	0.50	U
----------	m,p-Xylenes	0.50	U
1330-20-1	Xylenes (total)	0.50	U
594-20-7	2,2-Dichloropropane	0.50	U
563-58-6	1,1-Dichloropropene	0.50	U
74-95-3	Dibromomethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
142-28-9	1,3-Dichloropropane	0.50	U
630-20-6	1,1,1,2-Tetrachloroethane	0.50	U
98-82-8	Isopropylbenzene	0.50	U
108-86-1	Bromobenzene	0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	U
103-65-1	n-Propylbenzene	0.50	U
95-49-8	2-Chlorotoluene	0.50	U
108-67-8	1,3,5-Trimethylbenzene	0.50	U
106-43-4	4-Chlorotoluene	0.50	U
98-06-6	tert-Butylbenzene	0.50	U
95-63-6	1,2,4-Trimethylbenzene	0.50	U
135-98-8	sec-Butylbenzene	0.50	U
99-87-6	4-Isopropyltoluene	0.50	U
104-51-8	n-Butylbenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-68-3	Hexachlorobutadiene	0.50	U
91-20-3	Naphthalene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U
108-05-4	Vinyl acetate	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR2116

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Matrix: (soil/water) WATER Lab Sample ID: 83987006

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S115

Level: (low/med) LOW Date Received: 07/12/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-97-5	Bromochloromethane	0.50	U
74-87-3	Chloromethane	0.50	U
74-83-9	Bromomethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
75-00-3	Chloroethane	0.50	U
75-09-2	Methylene chloride	0.50	U
75-35-4	1,1-Dichloroethylene	0.50	U
75-34-3	1,1-Dichloroethane	0.40	J
67-66-3	Chloroform	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
156-60-5	trans-1,2-Dichloroethylene	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
75-27-4	Bromodichloromethane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
10061-01-5	cis-1,3-Dichloropropylene	0.50	U
156-59-2	cis-1,2-Dichloroethylene	7.7	
79-01-6	Trichloroethylene	0.50	U
124-48-1	Dibromochloromethane	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
71-43-2	Benzene	0.62	
10061-02-6	trans-1,3-Dichloropropylene	0.50	U
75-25-2	Bromoform	0.50	U
127-18-4	Tetrachloroethylene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
108-88-3	Toluene	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
100-42-5	Styrene	0.50	U
107-06-2	Dichlorodifluoromethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR2116

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Matrix: (soil/water) WATER Lab Sample ID: 83987006

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S115

Level: (low/med) LOW Date Received: 07/12/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
95-50-1	1,2-Dichlorobenzene	0.50	U
95-47-6	o-Xylene	0.50	U
----------	m,p-Xylenes	0.50	U
1330-20-1	Xylenes (total)	0.50	U
594-20-7	2,2-Dichloropropane	0.50	U
563-58-6	1,1-Dichloropropene	0.50	U
74-95-3	Dibromomethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
142-28-9	1,3-Dichloropropane	0.50	U
630-20-6	1,1,1,2-Tetrachloroethane	0.50	U
98-82-8	Isopropylbenzene	0.50	U
108-86-1	Bromobenzene	0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	U
103-65-1	n-Propylbenzene	0.50	U
95-49-8	2-Chlorotoluene	0.50	U
108-67-8	1,3,5-Trimethylbenzene	0.50	U
106-43-4	4-Chlorotoluene	0.50	U
98-06-6	tert-Butylbenzene	0.50	U
95-63-6	1,2,4-Trimethylbenzene	0.50	U
135-98-8	sec-Butylbenzene	0.50	U
99-87-6	4-Isopropyltoluene	0.50	U
104-51-8	n-Butylbenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-68-3	Hexachlorobutadiene	0.50	U
91-20-3	Naphthalene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U
108-05-4	Vinyl acetate	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR2119

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Matrix: (soil/water) WATER Lab Sample ID: 83987007

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S116

Level: (low/med) LOW Date Received: 07/12/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-97-5	Bromochloromethane	0.50	U
74-87-3	Chloromethane	0.50	U
74-83-9	Bromomethane	0.50	U
75-01-4	Vinyl chloride	1.5	
75-00-3	Chloroethane	0.50	U
75-09-2	Methylene chloride	0.47	J
75-35-4	1,1-Dichloroethylene	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
67-66-3	Chloroform	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
156-60-5	trans-1,2-Dichloroethylene	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
75-27-4	Bromodichloromethane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
10061-01-5	cis-1,3-Dichloropropylene	0.50	U
156-59-2	cis-1,2-Dichloroethylene	110	E
79-01-6	Trichloroethylene	0.50	U
124-48-1	Dibromochloromethane	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
71-43-2	Benzene	0.51	
10061-02-6	trans-1,3-Dichloropropylene	0.50	U
75-25-2	Bromoform	0.50	U
127-18-4	Tetrachloroethylene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
108-88-3	Toluene	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
100-42-5	Styrene	0.50	U
107-06-2	Dichlorodifluoromethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR2119

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Matrix: (soil/water) WATER Lab Sample ID: 83987007

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S116

Level: (low/med) LOW Date Received: 07/12/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
95-50-1	1,2-Dichlorobenzene	0.50	U
95-47-6	o-Xylene	0.50	U
----------	m,p-Xylenes	0.50	U
1330-20-1	Xylenes (total)	0.50	U
594-20-7	2,2-Dichloropropane	0.50	U
563-58-6	1,1-Dichloropropene	0.50	U
74-95-3	Dibromomethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
142-28-9	1,3-Dichloropropane	0.50	U
630-20-6	1,1,1,2-Tetrachloroethane	0.50	U
98-82-8	Isopropylbenzene	0.50	U
108-86-1	Bromobenzene	0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	U
103-65-1	n-Propylbenzene	0.50	U
95-49-8	2-Chlorotoluene	0.50	U
108-67-8	1,3,5-Trimethylbenzene	0.50	U
106-43-4	4-Chlorotoluene	0.50	U
98-06-6	tert-Butylbenzene	0.50	U
95-63-6	1,2,4-Trimethylbenzene	0.50	U
135-98-8	sec-Butylbenzene	0.50	U
99-87-6	4-Isopropyltoluene	0.50	U
104-51-8	n-Butylbenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-68-3	Hexachlorobutadiene	0.50	U
91-20-3	Naphthalene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U
108-05-4	Vinyl acetate	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR2119DL

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Matrix: (soil/water) WATER Lab Sample ID: 83987007

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S204

Level: (low/med) LOW Date Received: 07/12/03

% Moisture: not dec. _____ Date Analyzed: 07/15/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 10.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-97-5	Bromochloromethane	5.0	U
74-87-3	Chloromethane	5.0	U
74-83-9	Bromomethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
75-00-3	Chloroethane	5.0	U
75-09-2	Methylene chloride	5.0	U
75-35-4	1,1-Dichloroethylene	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
67-66-3	Chloroform	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
156-60-5	trans-1,2-Dichloroethylene	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
75-27-4	Bromodichloromethane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
10061-01-5	cis-1,3-Dichloropropylene	5.0	U
156-59-2	cis-1,2-Dichloroethylene	97.8	D
79-01-6	Trichloroethylene	5.0	U
124-48-1	Dibromochloromethane	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
71-43-2	Benzene	5.0	U
10061-02-6	trans-1,3-Dichloropropylene	5.0	U
75-25-2	Bromoform	5.0	U
127-18-4	Tetrachloroethylene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
108-88-3	Toluene	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
100-42-5	Styrene	5.0	U
107-06-2	Dichlorodifluoromethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR2119DL

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Matrix: (soil/water) WATER Lab Sample ID: 83987007

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S204

Level: (low/med) LOW Date Received: 07/12/03

% Moisture: not dec. _____ Date Analyzed: 07/15/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 10.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
95-50-1	1,2-Dichlorobenzene	5.0	U
95-47-6	o-Xylene	5.0	U
----------	m,p-Xylenes	5.0	U
1330-20-1	Xylenes (total)	5.0	U
594-20-7	2,2-Dichloropropane	5.0	U
563-58-6	1,1-Dichloropropene	5.0	U
74-95-3	Dibromomethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
142-28-9	1,3-Dichloropropane	5.0	U
630-20-6	1,1,1,2-Tetrachloroethane	5.0	U
98-82-8	Isopropylbenzene	5.0	U
108-86-1	Bromobenzene	5.0	U
96-18-4	1,2,3-Trichloropropane	5.0	U
103-65-1	n-Propylbenzene	5.0	U
95-49-8	2-Chlorotoluene	5.0	U
108-67-8	1,3,5-Trimethylbenzene	5.0	U
106-43-4	4-Chlorotoluene	5.0	U
98-06-6	tert-Butylbenzene	5.0	U
95-63-6	1,2,4-Trimethylbenzene	5.0	U
135-98-8	sec-Butylbenzene	5.0	U
99-87-6	4-Isopropyltoluene	5.0	U
104-51-8	n-Butylbenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
91-20-3	Naphthalene	5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	U
108-05-4	Vinyl acetate	10.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR2121

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Matrix: (soil/water) WATER Lab Sample ID: 83987003

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S110

Level: (low/med) LOW Date Received: 07/12/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-97-5	Bromochloromethane	0.50	U
74-87-3	Chloromethane	0.50	U
74-83-9	Bromomethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
75-00-3	Chloroethane	0.50	U
75-09-2	Methylene chloride	0.42	J
75-35-4	1,1-Dichloroethylene	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
67-66-3	Chloroform	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
156-60-5	trans-1,2-Dichloroethylene	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
75-27-4	Bromodichloromethane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
10061-01-5	cis-1,3-Dichloropropylene	0.50	U
156-59-2	cis-1,2-Dichloroethylene	3.1	
79-01-6	Trichloroethylene	0.50	U
124-48-1	Dibromochloromethane	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
71-43-2	Benzene	0.64	
10061-02-6	trans-1,3-Dichloropropylene	0.50	U
75-25-2	Bromoform	0.50	U
127-18-4	Tetrachloroethylene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
108-88-3	Toluene	0.35	J
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
100-42-5	Styrene	0.50	U
107-06-2	Dichlorodifluoromethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TR2121

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Matrix: (soil/water) WATER Lab Sample ID: 83987003

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 8P2S110

Level: (low/med) LOW Date Received: 07/12/03

% Moisture: not dec. _____ Date Analyzed: 07/14/03

GC Column: RTX-VOLATILES ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume:_____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
95-50-1	1,2-Dichlorobenzene	0.50	U
95-47-6	o-Xylene	0.50	U
----------	m,p-Xylenes	0.50	U
1330-20-1	Xylenes (total)	0.50	U
594-20-7	2,2-Dichloropropane	0.50	U
563-58-6	1,1-Dichloropropene	0.50	U
74-95-3	Dibromomethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
142-28-9	1,3-Dichloropropane	0.50	U
630-20-6	1,1,1,2-Tetrachloroethane	0.50	U
98-82-8	Isopropylbenzene	0.50	U
108-86-1	Bromobenzene	0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	U
103-65-1	n-Propylbenzene	0.50	U
95-49-8	2-Chlorotoluene	0.50	U
108-67-8	1,3,5-Trimethylbenzene	0.50	U
106-43-4	4-Chlorotoluene	0.50	U
98-06-6	tert-Butylbenzene	0.50	U
95-63-6	1,2,4-Trimethylbenzene	0.50	U
135-98-8	sec-Butylbenzene	0.50	U
99-87-6	4-Isopropyltoluene	0.50	U
104-51-8	n-Butylbenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-68-3	Hexachlorobutadiene	0.50	U
91-20-3	Naphthalene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U
108-05-4	Vinyl acetate	1.0	U

QUALITY CONTROL SUMMARY

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DBF) #	OTHER	TOT OUT
01	VBLK01LCS	99	101	109		0
02	VBLK01	92	86	104		0
03	ARD2205	98	101	111		0
04	ARD2212	101	104	116		0
05	TR2121	106	111	116		0
06	TR2121MS	99	95	112		0
07	TR2121MSD	96	102	116		0
08	TR2114	104	104	110		0
09	TR2113	102	106	116		0
10	TR2116	102	101	110		0
11	TR2119	101	107	115		0
12	TR0046	101	109	115		0
13	TR0044	96	100	121		0
14	VBLK02LCS	95	95	94		0
15	VBLK02	97	93	93		0
16	TR2119DL	96	94	94		0
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

		QC LIMITS
SMC1 (TOL)	= Toluene-d8	(73-112)
SMC2 (BFB)	= Bromofluorobenzene	(73-123)
SMC3 (DBF)	= Dibromofluoromethane	(81-126)

Column to be used to flag recovery values

* Values outside of contract required QC limits

3A

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Matrix Spike - EPA Sample No.: VBLK01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Bromochloromethane	5.0	0.0	5.0	100	70-130
Chloromethane	5.0	0.0	3.8	76	70-130
Bromomethane	5.0	0.0	4.4	88	70-130
Vinyl chloride	5.0	0.0	4.2	84	70-130
Chloroethane	5.0	0.0	4.6	92	70-130
Methylene chloride	5.0	0.0	5.0	100	70-130
1,1-Dichloroethylene	5.0	0.0	4.6	92	70-130
1,1-Dichloroethane	5.0	0.0	5.0	100	70-130
Chloroform	5.0	0.0	5.4	108	70-130
1,2-Dichloroethane	5.0	0.0	5.2	104	70-130
trans-1,2-Dichloroethyl	5.0	0.0	5.0	100	70-130
1,1,1-Trichloroethane	5.0	0.0	5.1	102	70-130
Carbon tetrachloride	5.0	0.0	5.3	106	70-130
Bromodichloromethane	5.0	0.0	5.3	106	70-130
1,2-Dichloropropane	5.0	0.0	4.7	94	70-130
cis-1,3-Dichloropropyle	5.0	0.0	5.0	100	70-130
cis-1,2-Dichloroethylen	5.0	0.0	5.4	108	70-130
Trichloroethylene	5.0	0.0	5.0	100	70-130
Dibromochloromethane	5.0	0.0	5.2	104	70-130
1,1,2-Trichloroethane	5.0	0.0	5.0	100	70-130
Benzene	5.0	0.0	5.0	100	70-130
trans-1,3-Dichloropropy	5.0	0.0	5.2	104	70-130
Bromoform	5.0	0.0	5.2	104	70-130
Tetrachloroethylene	5.0	0.0	5.0	100	70-130
1,1,2,2-Tetrachloroetha	5.0	0.0	4.5	90	70-130
Toluene	5.0	0.0	4.8	96	70-130
Chlorobenzene	5.0	0.0	5.0	100	70-130
Ethylbenzene	5.0	0.0	5.2	104	70-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

3A
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Matrix Spike - EPA Sample No.: VBLK01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Styrene	5.0	0.0	5.0	100	70-130
Dichlorodifluoromethane	5.0	0.0	4.1	82	70-130
Trichlorofluoromethane	5.0	0.0	4.4	88	70-130
1,3-Dichlorobenzene	5.0	0.0	5.2	104	70-130
1,4-Dichlorobenzene	5.0	0.0	5.1	102	70-130
1,2-Dichlorobenzene	5.0	0.0	5.0	100	70-130
o-Xylene	5.0	0.0	5.2	104	70-130
m,p-Xylenes	10.0	0.0	10.4	104	70-130
Xylenes (total)	15.0	0.0	15.6	104	70-130
2,2-Dichloropropane	5.0	0.0	5.4	108	70-130
1,1-Dichloropropene	5.0	0.0	4.9	98	70-130
Dibromomethane	5.0	0.0	5.4	108	70-130
1,2-Dibromoethane	5.0	0.0	5.1	102	70-130
1,3-Dichloropropane	5.0	0.0	5.0	100	70-130
1,1,1,2-Tetrachloroetha	5.0	0.0	4.9	98	70-130
Isopropylbenzene	5.0	0.0	4.9	98	70-130
Bromobenzene	5.0	0.0	4.7	94	70-130
1,2,3-Trichloropropane	5.0	0.0	4.8	96	70-130
n-Propylbenzene	5.0	0.0	4.9	98	70-130
2-Chlorotoluene	5.0	0.0	5.3	106	70-130
1,3,5-Trimethylbenzene	5.0	0.0	4.9	98	70-130
4-Chlorotoluene	5.0	0.0	5.0	100	70-130
tert-Butylbenzene	5.0	0.0	4.9	98	70-130
1,2,4-Trimethylbenzene	5.0	0.0	5.0	100	70-130
sec-Butylbenzene	5.0	0.0	5.1	102	70-130
4-Isopropyltoluene	5.0	0.0	5.2	104	70-130
n-Butylbenzene	5.0	0.0	5.2	104	70-130
1,2-Dibromo-3-chloropro	5.0	0.0	4.2	84	70-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

3A

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Matrix Spike - EPA Sample No.: VBLK01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
1,2,4-Trichlorobenzene	5.0	0.0	4.7	94	70-130
Hexachlorobutadiene	5.0	0.0	4.6	92	70-130
Naphthalene	5.0	0.0	4.8	96	70-130
1,2,3-Trichlorobenzene	5.0	0.0	5.1	102	70-130
Vinyl acetate	25.0	0.0	21.8	87	70-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 61 outside limits

COMMENTS: _____

3A

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Matrix Spike - EPA Sample No.: VBLK02

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Bromochloromethane	5.0	0.0	4.8	96	70-130
Chloromethane	5.0	0.0	3.8	76	70-130
Bromomethane	5.0	0.0	4.2	84	70-130
Vinyl chloride	5.0	0.0	4.5	90	70-130
Chloroethane	5.0	0.0	4.4	88	70-130
Methylene chloride	5.0	0.0	4.8	96	70-130
1,1-Dichloroethylene	5.0	0.0	4.4	88	70-130
1,1-Dichloroethane	5.0	0.0	4.9	98	70-130
Chloroform	5.0	0.0	5.1	102	70-130
1,2-Dichloroethane	5.0	0.0	4.8	96	70-130
trans-1,2-Dichloroethyl	5.0	0.0	4.9	98	70-130
1,1,1-Trichloroethane	5.0	0.0	4.8	96	70-130
Carbon tetrachloride	5.0	0.0	4.9	98	70-130
Bromodichloromethane	5.0	0.0	5.0	100	70-130
1,2-Dichloropropane	5.0	0.0	4.9	98	70-130
cis-1,3-Dichloropropyle	5.0	0.0	5.3	106	70-130
cis-1,2-Dichloroethylen	5.0	0.0	5.1	102	70-130
Trichloroethylene	5.0	0.0	4.6	92	70-130
Dibromochloromethane	5.0	0.0	5.0	100	70-130
1,1,2-Trichloroethane	5.0	0.0	5.0	100	70-130
Benzene	5.0	0.0	5.0	100	70-130
trans-1,3-Dichloropropy	5.0	0.0	5.2	104	70-130
Bromoform	5.0	0.0	5.2	104	70-130
Tetrachloroethylene	5.0	0.0	4.8	96	70-130
1,1,2,2-Tetrachloroetha	5.0	0.0	5.1	102	70-130
Toluene	5.0	0.0	5.0	100	70-130
Chlorobenzene	5.0	0.0	5.2	104	70-130
Ethylbenzene	5.0	0.0	5.3	106	70-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

3A

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Matrix Spike - EPA Sample No.: VBLK02

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Styrene	5.0	0.0	5.1	102	70-130
Dichlorodifluoromethane	5.0	0.0	4.0	80	70-130
Trichlorofluoromethane	5.0	0.0	3.7	74	70-130
1,3-Dichlorobenzene	5.0	0.0	5.2	104	70-130
1,4-Dichlorobenzene	5.0	0.0	5.3	106	70-130
1,2-Dichlorobenzene	5.0	0.0	5.1	102	70-130
o-Xylene	5.0	0.0	5.2	104	70-130
m,p-Xylenes	10.0	0.0	10.4	104	70-130
Xylenes (total)	15.0	0.0	15.6	104	70-130
2,2-Dichloropropane	5.0	0.0	5.0	100	70-130
1,1-Dichloropropene	5.0	0.0	4.8	96	70-130
Dibromomethane	5.0	0.0	5.4	108	70-130
1,2-Dibromoethane	5.0	0.0	5.2	104	70-130
1,3-Dichloropropane	5.0	0.0	5.0	100	70-130
1,1,1,2-Tetrachloroetha	5.0	0.0	4.9	98	70-130
Isopropylbenzene	5.0	0.0	5.0	100	70-130
Bromobenzene	5.0	0.0	5.0	100	70-130
1,2,3-Trichloropropane	5.0	0.0	5.1	102	70-130
n-Propylbenzene	5.0	0.0	5.3	106	70-130
2-Chlorotoluene	5.0	0.0	5.7	114	70-130
1,3,5-Trimethylbenzene	5.0	0.0	5.4	108	70-130
4-Chlorotoluene	5.0	0.0	5.4	108	70-130
tert-Butylbenzene	5.0	0.0	5.3	106	70-130
1,2,4-Trimethylbenzene	5.0	0.0	5.4	108	70-130
sec-Butylbenzene	5.0	0.0	5.4	108	70-130
4-Isopropyltoluene	5.0	0.0	5.6	112	70-130
n-Butylbenzene	5.0	0.0	5.4	108	70-130
1,2-Dibromo-3-chloropro	5.0	0.0	5.1	102	70-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

3A
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Matrix Spike - EPA Sample No.: VBLK02

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
1,2,4-Trichlorobenzene	5.0	0.0	5.2	104	70-130
Hexachlorobutadiene	5.0	0.0	4.6	92	70-130
Naphthalene	5.0	0.0	5.4	108	70-130
1,2,3-Trichlorobenzene	5.0	0.0	5.2	104	70-130
Vinyl acetate	25.0	0.0	21.9	88	70-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 61 outside limits

COMMENTS: _____

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Matrix Spike - EPA Sample No.: TR2121

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethylene	5.0	0.0	4.7	94	64-123
Trichloroethylene	5.0	0.0	5.1	102	78-122
Benzene	5.0	0.64	6.0	107	80-124
Toluene	5.0	0.35	5.4	101	79-126
Chlorobenzene	5.0	0.0	5.4	108	82-120

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethylene	5.0	4.7	94	0	13	64-123
Trichloroethylene	5.0	5.2	104	2	15	78-122
Benzene	5.0	6.2	111	4	11	80-124
Toluene	5.0	5.5	103	2	13	79-126
Chlorobenzene	5.0	5.5	110	2	13	82-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK01

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Lab File ID: 8P2S103C Lab Sample ID: 1200454971

Date Analyzed: 07/14/03 Time Analyzed: 1033

GC Column: RTX-VOLATILESID: 0.25 (mm) Heated Purge: (Y/N) Y

Instrument ID: VOA8

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VBLK01LCS	1200454972	8P2S102LCSC	1007
02	ARD2205	83987001	8P2S108	1251
03	ARD2212	83987002	8P2S109	1317
04	TR2121	83987003	8P2S110	1342
05	TR2121MS	1200454973	8P2S111	1408
06	TR2121MSD	1200454974	8P2S112	1434
07	TR2114	83987004	8P2S113	1500
08	TR2113	83987005	8P2S114	1526
09	TR2116	83987006	8P2S115	1552
10	TR2119	83987007	8P2S116	1618
11	TR0046	83987008	8P2S117	1645
12	TR0044	83987009	8P2S118	1711
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4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK02

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Lab File ID: 8P2S203A Lab Sample ID: 1200455765

Date Analyzed: 07/15/03 Time Analyzed: 0951

GC Column: RTX-VOLATILESID: 0.25 (mm) Heated Purge: (Y/N) Y

Instrument ID: VOA8

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VBLK02LCS	1200455766	8P2S202LCSA	0924
02	TR2119DL	83987007	8P2S204	1029
03				
04				
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5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Lab File ID: 8P2K101 BFB Injection Date: 05/19/03

Instrument ID: VOA8 BFB Injection Time: 1334

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.4
75	30.0 - 60.0% of mass 95	44.1
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 100.0% of mass 95	85.1
175	5.0 - 9.0% of mass 174	6.2 (7.3)1
176	95.0 - 101.0% of mass 174	83.7 (98.4)1
177	5.0 - 9.0% of mass 176	5.3 (6.3)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0002	W8V030519-09	8P2K103	05/19/03	1422
02	VSTD0005	W8V030519-01	8P2K104	05/19/03	1448
03	VSTD001	W8V030519-02	8P2K105	05/19/03	1514
04	VSTD002	W8V030519-03	8P2K106	05/19/03	1540
05	VSTD005	W8V030519-04	8P2K107	05/19/03	1606
06	VSTD010	W8V030519-05	8P2K108	05/19/03	1632
07	VSTD020	W8V030519-06	8P2K109	05/19/03	1657
08	VSTD050	W8V030519-07	8P2K110	05/19/03	1723
09	VSTD100	W8V030519-08	8P2K111	05/19/03	1749
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5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Lab File ID: 8P2S101 BFB Injection Date: 07/14/03

Instrument ID: VOA8 BFB Injection Time: 0951

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.9
75	30.0 - 60.0% of mass 95	44.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.1
173	Less than 2.0% of mass 174	0.4 (0.5)1
174	50.0 - 100.0% of mass 95	83.3
175	5.0 - 9.0% of mass 174	6.1 (7.3)1
176	95.0 - 101.0% of mass 174	82.1 (98.5)1
177	5.0 - 9.0% of mass 176	5.7 (6.9)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD005	UVM030619-01C	8P2S102	07/14/03	1007
02	VBLK01LCS	1200454972	8P2S102LCSC	07/14/03	1007
03	VBLK01	1200454971	8P2S103C	07/14/03	1033
04	ARD2205	83987001	8P2S108	07/14/03	1251
05	ARD2212	83987002	8P2S109	07/14/03	1317
06	TR2121	83987003	8P2S110	07/14/03	1342
07	TR2121MS	1200454973	8P2S111	07/14/03	1408
08	TR2121MSD	1200454974	8P2S112	07/14/03	1434
09	TR2114	83987004	8P2S113	07/14/03	1500
10	TR2113	83987005	8P2S114	07/14/03	1526
11	TR2116	83987006	8P2S115	07/14/03	1552
12	TR2119	83987007	8P2S116	07/14/03	1618
13	TR0046	83987008	8P2S117	07/14/03	1645
14	TR0044	83987009	8P2S118	07/14/03	1711
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5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Lab File ID: 8P2S201 BFB Injection Date: 07/15/03

Instrument ID: VOA8 BFB Injection Time: 0907

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.1
75	30.0 - 60.0% of mass 95	44.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.0
173	Less than 2.0% of mass 174	0.6 (0.7)1
174	50.0 - 100.0% of mass 95	83.0
175	5.0 - 9.0% of mass 174	6.0 (7.2)1
176	95.0 - 101.0% of mass 174	81.4 (98.0)1
177	5.0 - 9.0% of mass 176	5.4 (6.7)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD005	UVM030619-01D	8P2S202	07/15/03	0924
02	VBLK02LCS	1200455766	8P2S202LCSA	07/15/03	0924
03	VBLK02	1200455765	8P2S203A	07/15/03	0951
04	TR2119DL	83987007	8P2S204	07/15/03	1029
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8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Lab File ID (Standard): 8P2S102 Date Analyzed: 07/14/03

Instrument ID: VOA8 Time Analyzed: 1007

GC Column: RTX-VOLATILES ID: 0.25 (mm) Heated Purge: (Y/N) Y

		IS1(FLB) AREA #	RT #	IS2(CBZ) AREA #	RT #	IS3(DCB) AREA #	RT #
	12 HOUR STD	549607	4.50	409614	6.77	221841	8.88
	UPPER LIMIT	1099214	5.00	819228	7.27	443682	9.38
	LOWER LIMIT	274804	4.00	204807	6.27	110920	8.38
	EPA SAMPLE NO.						
01	VBLK01LCS	549607	4.50	409614	6.77	221841	8.88
02	VBLK01	537951	4.50	415232	6.77	229278	8.88
03	ARD2205	521564	4.50	380400	6.77	196448	8.88
04	ARD2212	504216	4.50	380381	6.77	192277	8.88
05	TR2121	494831	4.50	364676	6.77	180634	8.88
06	TR2121MS	505577	4.50	379094	6.77	208025	8.88
07	TR2121MSD	510226	4.50	397580	6.77	208386	8.89
08	TR2114	518719	4.50	371114	6.77	190505	8.88
09	TR2113	500077	4.50	373413	6.78	188842	8.88
10	TR2116	511785	4.50	366433	6.77	191416	8.88
11	TR2119	501775	4.50	376269	6.77	186980	8.89
12	TR0046	474443	4.50	358266	6.77	174928	8.88
13	TR0044	462096	4.50	358169	6.77	181431	8.88
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IS1 (FLB) = Fluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 83987

Lab File ID (Standard): 8P2S202 Date Analyzed: 07/15/03

Instrument ID: VOA8 Time Analyzed: 0924

GC Column: RTX-VOLATILES ID: 0.25 (mm) Heated Purge: (Y/N) Y

		IS1(FLB) AREA #	RT #	IS2(CBZ) AREA #	RT #	IS3(DCB) AREA #	RT #
	12 HOUR STD	736594	4.50	531139	6.77	275347	8.88
	UPPER LIMIT	1473188	5.00	1062278	7.27	550694	9.38
	LOWER LIMIT	368297	4.00	265570	6.27	137674	8.38
	EPA SAMPLE NO.						
01	VBLK02LCS	736594	4.50	531139	6.77	275347	8.88
02	VBLK02	690165	4.50	491277	6.77	255809	8.88
03	TR2119DL	695667	4.50	496419	6.77	260627	8.88
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IS1 (FLB) = Fluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.