



THE MEMPHIS DEPOT TENNESSEE

ADMINISTRATIVE RECORD COVER SHEET

AR File Number 777

**SEMI-ANNUAL GROUNDWATER QUALITY REPORT
(YEAR THREE, SECOND HALF)
GROUNDWATER INTERIM REMEDIAL ACTION**

DUNN FIELD

MEMPHIS DEFENSE DEPOT, TENNESSEE

PREPARED FOR



MOBILE DISTRICT COE

CONTRACT NO. DACA01-99-D-0040

BY

JACOBS ENGINEERING GROUP

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1.0 INTRODUCTION

This report summarizes the results of Year Three, Second Half (Y3S2) monitoring of the Groundwater Interim Remedial Action (IRA) system at the Dunn Field area of the Memphis Defense Depot, Memphis, Tennessee (DDMT).

1.1 Scope of Work

This report summarizes a sampling event of October, 2001 and presents the groundwater surface data through November. System monitoring was performed in accordance with "Groundwater Interim Remedial Action, Defense Depot Memphis, Tennessee, Operations and Maintenance Plan," Amendment Number 1 (dated September, 1999) and Amendment Number 2 (dated December 21, 2000 and effective February 1, 2001), all prepared by CH2MHill. This plan contains an overview of the recovery system and its functions. Start-up, operation, and shutdown procedures are detailed in this plan. Requirements for sampling, monitoring and reporting are also specified.

1.2 Site Description and Background

DDMT covers 642 acres in Shelby County, Tennessee (Figure 1). The facility is approximately four miles southeast of the central business district and one mile northwest of Memphis International Airport. Operations began in 1942 with the mission to inventory and supply materials for the United States Army. In 1964, its mission was expanded to serve as one of the principal distribution centers for a complete range of military commodities. Past activities at DDMT included a wide range of storage, distribution, and maintenance practices. DDMT has been closed since 1997 and is maintained by the Memphis Depot Caretaker Division, under the control of the Defense Depot, Susquehanna, Pennsylvania/Defense Logistics Agency (DLA). DDMT is currently undergoing Base Realignment and Closure (BRAC) activities.

Dunn Field, also called OU-1, consists of 68 acres of land located north of the main installation, across Dunn Road (Figure 1). The northwestern quadrant of Dunn Field was used as a landfill area. The southwestern and southeastern quadrants were used as a storage area for mineral stockpiles. The northeastern portion was used as a pistol range and later as a pesticide storage area. Until 1970, Army supplies, including hazardous and non-hazardous materials were burned or buried primarily in the northwest portion of Dunn Field. These materials potentially included oil and grease, paint, paint thinner, methyl bromide, pesticides, herbicides, and food supplies. Disposal operations at Dunn Field have created a plume of contaminated groundwater, in the shallow fluvial aquifer, along the western and northern portion of Dunn Field. Groundwater monitoring performed during the 1989 and 1990 remedial investigation/feasibility study (RI/FS) identified concentrations of dissolved volatile organic compounds (VOCs) and heavy metals above regulatory limits. Identified VOCs included, but were not limited to tetrachloroethene, trichloroethene, dichloroethene, carbon tetrachloride, chloroform and 1,1,2,2 – trichloroethane.

The DDMT facility is classified as a Superfund Site under the Comprehensive Environmental Response, Compensation, and Liability Act of 1990 (CERCLA) Section 120 (Federal Facilities).

1.3 Hydrogeology

DDMT is underlain by a layer of wind blown deposits (loess) about 20 to 30 feet thick. Underlying the loess, to a depth of generally 70 to 95 feet below land surface (bls), is a series of terrace deposits consisting primarily of silty to gravelly sands with some thin clay interbeds. The lower saturated portion of the terrace deposits is referred to as a fluvial aquifer, which is the uppermost aquifer beneath DDMT. The Jackson Formation, Upper Claiborne Group, which generally consists of high plasticity clay of variable thickness (5 to 75 feet), composes the base of the fluvial aquifer. The saturated thickness of the fluvial aquifer varies from 2 to 20 feet and is controlled, in part, by the topography of the Jackson Formation, Upper Claiborne Group.

Beneath the Jackson Formation, Upper Claiborne Group lies the Memphis Sand Aquifer, which is the primary source of drinking water for the City of Memphis. The Jackson Formation, Upper Claiborne Group clays serve as both the confining unit for the Memphis Sand Aquifer and the base of the fluvial aquifer.

1.4 Remedial Objectives

The DDMT facility, including Dunn Field, was placed on the National Priority List (NPL) in 1992 primarily because of the EPA's final Hazard Ranking System (HRS) Scoring Package of 58.06. In August 1995, CH2M-Hill submitted a Record of Decision (ROD) for a Groundwater IRA at Dunn Field to the regulatory agencies for approval. The ROD provided the basis of design for the components associated with the IRA for Dunn Field. The following remedial objectives were identified in the ROD and O&M Plan:

- Install recovery wells along the leading edge of the groundwater plume.
- Operate the system of recovery wells until contaminant concentrations are reduced to acceptable levels or until the final remedy is in place.
- Perform chemical analysis to monitor the quality of the discharge in accordance with city discharge permit requirements.
- Create a hydraulic barrier to prevent any further migration of contaminated groundwater offsite.

1.5 System Description

Seven groundwater extraction wells, one pre-cast concrete building, an underground conveyance system, a flow measurement and control system, and associated components were installed at Dunn Field in 1997. Equipment, process controls, operational requirements, recovery well sizes and depths, pumping rates, and construction drawings

are defined in the Technical Specifications prepared by CH2M-Hill. The system location and layout is shown in Figure 1.

Four additional wells (RW-1, RW-1A, RW-1B, and RW-2) were completed in the first half of 2001. Startup of these wells occurred the first week in March 2001. These additional monitoring wells are located in a line to the south (along the perimeter of Dunn Field) of RW-3.

2.0 SYSTEM MONITORING METHODOLOGY

2.1 Groundwater Level Measurements

Water level measurements were recorded twice a month during this operational period from a select number of monitoring wells located both on and off Dunn Field. During this monitoring period, transducers were removed from MW-14, 32, 34, 37 and 70 and relocated to MW-4, 45, 55, 84, 95 in accordance with Amendment #2 of the Operations and Maintenance Plan. These transducers are downloaded monthly. Representative water levels from these transducers are included in Appendix A. Complete transducer data files are submitted monthly with the operation and maintenance report. Newly installed wells were incorporated into the monitoring program the second half of 2001. These wells include MW-73, 74, 75, 76, 77, 78, 79, 84, 87, 91 and 95.

Amendment # 2 to the Groundwater Interim Remedial Action resulted in a change in the frequency and sampling regimen of the monitoring wells and became effective in February, 2001.

The updated monitoring scheme is shown below. Monitoring wells requiring bi-weekly measurement are in plain type. Wells requiring monthly measurement are in bold type.

MW-3	MW-30	MW-56	MW-79*
MW-4 ^T	MW-31	MW-57	MW-80*
MW-5	MW-32	MW-58	MW-84* ^T
MW-6	MW-33	MW-59	MW-87*
MW-7	MW-34	MW-60	MW-89*
MW-8	MW-35	MW-61	MW-90*
MW-9	MW-36	MW-65	MW-91*
MW-10	MW-37	MW-68	MW-95* ^T
MW-11	MW-38	MW-69	PZ-02
MW-12	MW-41	MW-70	RW-01
MW-13 ^T	MW-42	MW-71	RW-01A
MW-14	MW-43	MW-73*	RW-01B
MW-15	MW-45 ^T	MW-74*	RW-02
MW-18	MW-46	MW-75*	RW-03
MW-19	MW-49	MW-76*	RW-04
MW-27	MW-51	MW-77*	RW-05
MW-28	MW-53	MW-78*	RW-06
MW-29	MW-54		RW-07
	MW-55 ^T		RW-08
			RW-09

*New wells installed in October through December 2000

^T Wells with transducers installed

All wells requiring water level measurements were monitored in accordance with the requirements of Exhibit 5-1 of the Amendment #1 to the Groundwater Interim Remedial Action, Defense Depot Memphis, Tennessee Updated Operation and Maintenance Plan

dated September 1999 (Updated O&M). Figure 2 shows the locations of all monitored wells. Previous measurement data for past sampling events were submitted to the USACE, DLA, TDEC and USEPA separately with their respective groundwater quality reports. A complete set of the Y3S2 measurement data is given in Appendix A. Flow rates and water levels in the recovery wells have been collected during site visits, with this information summarized in the monthly Operation and Maintenance Reports.

2.2 Groundwater Sample Collection and Analyses

Groundwater samples were collected in October, 2001. The second half of 2001 marked the first occasion of the use of diffusion bag samplers. Using diffusion bags, discrete depth intervals could be sampled in each well. Bags were filled with distilled water and placed in the well so that there was a two-foot diffusion bag sampler for each five feet of screened interval in the wells. Diffusion samplers were placed in the wells on 11 September and retrieved on 3 October 2001. Samples were collected from 26 monitoring wells, and 11 recovery wells as shown below:

Well Type	Well No.	Analyses/Method at Each Well	Date Performed
Down-Gradient Groundwater Monitoring Wells	MW-30	Semi-Annual: PH/Field Probe Conductivity/Field Probe Volatile Organics/SW8260B	03 Oct 01
	MW-31		
	MW-32		
	MW-33		
	MW-34		
	MW-37		
	MW-40		
	MW-42		
	MW-43		
	MW-44		
	MW-51		
	MW-54		
	MW-56		
	MW-57		
	MW-58		
	MW-67		
	MW-68		
	MW-69		
	MW-70		
	MW-71		
	MW-76		
	MW-77		
	MW-78		
	MW-79		
	MW-80		
	MW-95		
Recovery Wells	RW-01	Semi-Annual: PH/Field Probe Conductivity/Field Probe Volatile Organics/SW8260B	18 Oct 01
	RW-1A		
	RW-1B		
	RW-02		
	RW-03		
	RW-04		
	RW-05		
	RW-06		
	RW-07		
	RW-08		
	RW-09		

Cumulative analytical results for sampled monitoring wells presented in Table 1 include the current sampling episode plus the previous three sets of data. Cumulative analytical results for the sampled recovery wells presented in Table 2 also include the current set of data and the three previous data sets. Laboratory analytical reports are provided in Appendix B. A discussion of the results is presented in Section 3.0 of this report.

2.3 System Discharge Sample Collection and Analyses

Per agreement with the City of Memphis, effluent samples, which had been collected monthly, will now be collected quarterly beginning in 2001. All effluent samples are collected from the groundwater extraction system at a location approximately 200 feet upstream from the final discharge point. The discharge point is a manhole located on Kyle Street at the north property line of the Depot.

The samples were analyzed in accordance with Section F.1 of the Industrial Wastewater Discharge Agreement for Volatile Organic Compounds (VOCs) in each quarter. Semi-Volatile Organic Compounds (SVOCs) and Metals shall also be analyzed on an annual basis.

Analysis of the samples was performed to evaluate compliance with the City of Memphis Industrial Wastewater Discharge Agreement and subsequent revisions. A copy of this agreement was provided in the Year One Operations and Maintenance Report. Analytical results for each effluent sample are presented in Table 3. Laboratory analytical reports are provided in Appendix C. A discussion of the results is presented in Section 3.0 of this report.

2.4 Field and Laboratory Quality Assurance/Quality Control Samples

As part of the Quality Assurance/Quality Control (QA/QC) Program, a variety of field and laboratory QA/QC samples were collected and analyzed during each sampling event. Groundwater was the only matrix analyzed; however, samples were collected from three different sources: groundwater monitoring wells, groundwater extraction recovery wells, and groundwater extraction effluent. A discussion of data validation and quality control issues is included in Appendix D.

QA/QC samples collected in the field during this semi-annual sampling event included 2 equipment blanks, 4 double blind duplicates, 2 field blanks, temperature blanks, and trip blanks. A trip blank and temperature blank was typically included in every cooler delivered to the laboratory. One double blind duplicate was collected for approximately every ten samples while one equipment blank and one field blank were collected for approximately every 20 samples. Laboratory QA/QC included surrogate spikes to show control of organic analyses, a method blank and laboratory control sample, and matrix spike and matrix spike duplicate (MS/MSD) samples.

2.5 Sample Packaging and Handling

Upon collection, samples and associated field QA/QC samples were immediately placed on ice in a cooler. Stored samples were checked periodically and ice was replaced as needed to maintain a 4 degree Celsius temperature. Samples were segregated by sealed plastic bubble-wrap bags and placed in a cooler with the chain-of-custody forms. Samples were typically hand delivered the same day of collection to the laboratory, Environmental Testing and Consulting, Inc. (ETC) in Memphis, TN.

3.0 MONITORING RESULTS

This section discusses results of the Y3S2 remedial action groundwater monitoring at DDMT in October 2001. Figure 2 shows the locations of monitoring and recovery wells at the site.

3.1 Groundwater Elevation and Hydraulic Gradient

Groundwater level measurements at the site have been collected approximately twice a month at monitoring wells locations discussed in Section 2.0 since system start-up in November 1998. A new monitoring scheme as shown in Section 2.0 was put into place in February, 2001. Groundwater elevation data for Y3S2 that was collected for the Dunn Field area on November 1, 2001 was used as the basis for this report. The ground water interpolation for the second half 2001 data was prepared by the Waterways Experiment Station (WES) in Vicksburg, Mississippi. A detailed description of the interpolation technique and tables of groundwater elevations are included in Appendix E. The groundwater contour map generated from the data is shown in Figure 3.

The groundwater flow direction during the Y3S2 groundwater measurement event was generally to the west. In general, the baseline calculated hydraulic gradient varied from 0.04 ft/ft in the northern part of Dunn Field to 0.004 ft/ft across the southernmost section of Dunn Field. Groundwater level measurements of monitoring wells that are sampled are provided in Table 4. Groundwater measurement data from all monitored wells is provided in Appendix A.

3.2 Groundwater Analytical Results

This section discusses analytical results of effluent samples of water discharged to the Publicly Owned Treatment Works (POTW) as well as groundwater samples collected from recovery wells and select monitoring wells. A copy of the laboratory analytical reports for Y3S2 monitoring/recovery wells, including chain-of-custody documentation, is provided in Appendix B. A copy of the laboratory analytical reports and chain-of-custody documentation for the monthly effluent samples is provided in Appendix C. Figure 4 shows analytical data for seven chemicals of concern on the site map. Chemicals chosen for display include Tetrachloroethene (PCE), Trichloroethene (TCE), and breakdown products including 1,1,2,2 – Tetrachloroethane (1,1,2,2-PCA), Cis 1,2-Dichloroethene (Cis 1,2-DCE), 1,1-Dichloroethene (1,1-DCE) and Chloroform. Carbon Tetrachloride was also chosen to be shown.

3.2.1 Effluent Analytical Results Summary

During the Y3S2 monitoring period, an effluent discharge sample was collected in September and December, 2001 from the groundwater recovery system in compliance with the latest City of Memphis Discharge Permit. The samples were analyzed for TCL Volatile Organics (Method 8260B) (in September) and added TCL Semi-Volatile Organics (Method 8270C) in December. Effluent analytical reports are provided in

Appendix C. In accordance with the new discharge agreement, VOCs shall be collected on a quarterly basis and SVOCs and Metals shall be collected annually. There was one exceedance of the discharge permit levels during the Y3S2 period in December for Cis 1,2 – dichloroethene. The detected concentration of 53.6 ug/L was acceptable according to the one day maximum level (100 ug/L), but exceeded the monthly average level (50 ug/L). As the monthly grab sample is more closely representative of a one-day maximum level, discharge permit compliance is still observed. Table 3 presents effluent sample analytical results from system startup through December 2001.

3.2.2 Recovery Well Analytical Results Summary

Y3S2 groundwater samples were collected from the all eleven recovery wells on October 18, 2001. The groundwater samples were analyzed for TCL Volatile Organics (Method 8260B). Results are provided in Tables 2. Y3S2 recovery well laboratory analytical results are provided in Appendix B.

Only compounds that have been detected are reported. Trichloroethene has consistently exceeded MCLs in all of the recovery wells, and exceeded the MCL this monitoring period in all of the recovery wells except for RW-09. Carbon Tetrachloride has been consistently detected at concentrations exceeding MCLs in the four new recovery wells (RW-1, 1A, 1B, and 2) and in RW-3. All of these wells are located from the western mid-section of Dunn Field southward.

As in previous sample periods, Cis 1,2 Dichloroethene has been consistently detected above MCLs in Recovery Wells RW-3, RW-7, and RW-8. Tetrachloroethene was detected above MCLs in RW-1A, RW-4, RW-5, RW-6, RW-7, and RW-8. The compound 1,1 Dichloroethene was detected above MCLs in RW-8 and RW-9.

RW-01 Two compounds (Carbon Tetrachloride and TCE) were detected at concentrations exceeding the MCL. Both of these compounds have exceeded in the MCLs in each of the previous sampling events. Carbon Tetrachloride showed a decrease over the previous sample from 46.1 to 11.4 ug/L. TCE remained relatively unchanged from the previous sample at 28.6 ug/L.

RW-01A Three compounds (Carbon Tetrachloride, PCE and TCE) exceeded the MCLs during the Y2S3 sample event. Carbon Tetrachloride and TCE showed an increase from the previous sample (15.6 to 43.8 ug/L and 66.4 to 265 ug/L respectively). PCE exceeded the MCL for the first time in this well and showed an increase in concentration from 2.62 to 11.5 ug/L.

Two other compounds which do not have established MCL limits (chloroform and 1,1,2,2 – PCA) were detected at high concentrations (889 and 226 ug/L respectively).

RW-01B Two compounds (Carbon Tetrachloride and TCE) exceeded the MCLs during the Y2S3 sample event. Carbon Tetrachloride exhibited a slight decrease from the last sample (20.1 to 18.5 ug/L). TCE increased slightly from 21.1 to 25.6 ug/L.

RW-2 Two compounds (Carbon Tetrachloride and TCE) exceeded the MCLs during the Y2S3 sample event. Carbon Tetrachloride exhibited a slight decrease from the last sample (23.8 to 14.1 ug/L). TCE increased from 17.2 to 53.3 ug/L.

RW-03 Two compounds (Carbon Tetrachloride and TCE) exceeded the MCLs during the Y2S3 sample event. Carbon Tetrachloride exhibited a slight decrease from the last sample (16.0 to 10.4 ug/L). TCE increased from 62.1 to 75.8 ug/L. Cis 1,2-DCE had exceeded the MCL in each of the last two sampling periods but was below the limit during the current sampling period.

RW-04 Two compounds (PCE and TCE) were detected at concentrations exceeding MCLs during Y3S2. TCE has exceeded MCLs during each of the sampling events. During Y3S2 TCE increased from 337 to 717 ug/L. PCE exceeded the MCL for the first time in the last four sampling events. The concentration increased from 4.98 to 7.67 ug/L.

RW-05 PCE and TCE exceeded MCLs during this sample event. PCE was detected at 6.88 ug/L and TCE was detected at 757 ug/L. These two constituents have exceeded MCLs in the majority of past sampling events.

RW-06 PCE and TCE exceeded the MCL during this sample event. PCE was detected at 20.4 ug/L and TCE was found at 34.5 ug/L. Both constituents have consistently exceeded the MCL in previous events.

RW-06 also showed a high level of chloroform at 293 ug/L.

RW-07 PCE and TCE exceeded MCLs during this sample event with PCE showing a slight decrease from 9.3 to 6.17 ug/L over the previous sample and TCE decreasing from 101 to 73.5 ug/L. Cis 1,2 - DCE had exceeded the MCL in the previous two samples, but has decreased to 58.1 ug/L this period.

RW-08 Four compounds (1,1 - DCE, Cis 1,2 - DCE, PCE, and TCE) exceeded the MCL concentration during the Y3S2 sampling event. TCE has consistently exceeded MCLs in each of the previous events. TCE increased from 105 to 148 ug/L. PCE, which had consistently exceeded MCLs, decreased slightly from 7.22 ug/L to 5.78 ug/L. Cis 1,2 Dichloroethene has also consistently exceeded MCLs although it did exhibit a decrease from 118 to 96.4 ug/L this period. 1,1 - DCE exceeded the MCL at this location for the first time with a concentration of 9.83 ug/L. 1,1,2,2 - PCA was also detected at a concentration of 120 ug/L.

RW-09 Only one compound (1,1-DCE) exceeded the MCL this period, showing a slight increase from 46.1 to 56 ug/L. Two other compounds (PCE and TCE) which had

consistently exceeded the MCLs in previous sampling events dropped below MCLs for the first time at this location.

3.2.3 Monitoring Well Analytical Results Summary

Y3S2 groundwater samples were collected from select monitoring wells at the site. The samples were analyzed for TCL Volatile Organics (Method (8260B). Y3S2 monitoring well laboratory analytical reports are contained in Appendix B.

Table 1 presents TCL Volatile Organics analytical results from all monitoring wells sampled during the Y3S2 event. Only compounds detected during any sampling event have been reported in the tables. This event marked the first usage of diffusion bag samplers. These samplers allow determination of stratification of contaminants in the well. One diffusion bag sampler was used for each five foot section of well screen, so multiple samples were collected from many of the wells depending on the screen length and water table elevation.

MW-30 No VOCs have been detected at concentrations exceeding MCLs for this and all previous sampling events.

MW-31 Two compounds (1,1 – DCE and TCE) were detected above MCLs. TCE has exceeded MCLs in all previous sampling events and showed a slight decrease from 233 to 227 ug/L since the last sample event. 1,1 DCE increased from 7.98 to 31.2 ug/L.

Significant vertical stratification of TCE was noted in this well, with the highest concentration in the upper 5 ft of screened interval at 227 ug/L. The level then decreased to 38.1 ug/L in the lower 5 ft of screened interval.

MW-32 Two compounds (Carbon Tetrachloride and TCE) were detected at concentrations exceeding the MCLs. Both Carbon Tetrachloride and TCE have been detected at concentrations exceeding MCLs in each of the prior sampling events. Carbon Tetrachloride increased from 19.7 to 42.7 ug/L and TCE increased from 60.4 to 238 ug/L. As noted in the summary, the Carbon Tetrachloride plume is confined to the central southwest and southwest area of Dunn Field. Migration has occurred in a west northwest direction.

Two additional chemicals of concern (chloroform and 1,1,2,2 PCA) have been detected at this well in steadily increasing concentrations. It should be noted that concentrations for most of the detected compounds except PCA have been steadily increasing at this location.

MW-33 No compounds have been detected at concentrations exceeding MCLs during this and all prior sampling events.

MW-34 No compounds have been detected at concentrations exceeding MCLs during this and all prior sampling events.

MW-37 No constituents were detected which exceeded the MCLs.

MW-40 No compounds have been detected at concentrations exceeding MCLs during this and all previous sampling events.

MW-42 No constituents were detected which exceeded the MCLs.

MW-43 No constituents were detected which exceeded the MCLs.

MW-44 Carbon Tetrachloride was the only constituent detected which exceeded the MCL. It was not detected in the previous sampling round, but was found at a concentration of 6.47 ug/L during Y2S3. Some vertical stratification is apparent in the well, with the middle and lower five ft screened intervals showing detections of Carbon Tetrachloride, while it was not detected in the uppermost monitored screen interval.

MW-51 Two compounds (1,1 - DCE and TCE) were detected at concentrations exceeding the MCLs during Y3S2. 1,1 - DCE concentrations have exceeded MCLs in each event except for Y2Q1 and increased from 15.8 to 31.4 ug/L. TCE has exceeded MCLs for the fourth consecutive sampling event and increased slightly from 6.09 to 10.7 ug/L. There was no apparent vertical stratification of contaminants in the well, with detected concentrations matching closely between the upper and lower five ft of screen length.

MW-54 Two VOC compounds (Carbon Tetrachloride and TCE) were detected at concentrations exceeding MCLs during the Y3S2 sampling event. Carbon Tetrachloride increased slightly from 11.2 to 19.7 ug/L and TCE showed a significant increase from 28.3 to 259 ug/L. TCE has exceeded MCLs in each of the previous sampling events.

Some stratification is occurring in this well with both Carbon Tetrachloride and TCE showing an increase with screen depth.. TCE especially showed a significant increase with depth with middle five ft screened interval a factor of five higher and the lowest screened interval exceeding the shallow interval by a factor of approximately 13.

Chloroform and 1,1,2,2 PCA have also been detected in this well at near stable concentrations of 5 to 20 ug/L over the past sampling events.

MW-56 No compounds have been detected at concentrations exceeding MCLs during this and all previous sampling events. Chloroform has been detected in this well during several previous events and was found at a concentration of 27.8 ug/L in Y3S2.

MW-57 Three compounds (Carbon Tetrachloride, PCE, and TCE) were detected at concentrations exceeding MCLs. Carbon Tetrachloride decreased slightly from 44.4 to 37.5 ug/L. TCE increased from 28.3 to 77.4 ug/L. Each of these compounds has exceeded MCLs in each of the prior four sampling events. PCE increased slightly from 5.01 to 5.24 ug/L. Additionally, chloroform was detected at a concentration of 28 ug/L.

There was no apparent vertical stratification of contaminants in the well, with detected concentrations matching closely between the upper and lower five ft of screen length.

MW-58 No VOCs have been detected at concentrations exceeding MCLs during this and all previous sampling events.

MW-67 This well was sampled for the first time in several monitoring periods. A lodged sampling pump had prevented sample collection. No contaminants were found which exceeded the MCLs.

MW-68 One compound (TCE) was detected at a concentration exceeding the MCL. TCE decreased slightly from the previous sample round (9.67 to 6.56 ug/L). TCE was primarily concentrated in the bottom 5 ft. of screened interval.

MW-69 No compounds were detected this quarter that exceeded the MCL. This well has shown a decreasing trend, especially TCE which had exceeded the MCLs in each of the prior three sampling events.

MW-70 Two compounds (Cis-DCE, and TCE) were detected at concentrations exceeding MCLs. Concentrations of the detected compounds were increased from the previous sampling event, although PCE was not detected during this event and had been previously. Cis-DCE increased 34.3 to 92.8 ug/L. TCE increased from 544 to 2340 ug/L. The sampling results have varied considerably over time in this well. Some vertical stratification was noted, with the lower five ft of screen exhibiting somewhat lower concentrations.

It should also be noted that 1,1,2,2 – PCA has also appeared in high concentrations in this well, with the current concentration at 1320 ug/L.

MW-71 Two VOC compounds (Carbon Tetrachloride and TCE) were detected at concentrations exceeding MCLs during Y3S2. Carbon Tetrachloride and TCE have exceeded the MCLs in each of the prior sampling events in which this well was sampled. Carbon Tetrachloride decreased slightly from 24.9 to 22.6 ug/L. TCE increased from 77.8 to 186 ug/L. There was no significant change in concentrations with depth.

Two additional compounds for which there is no established MCL were also detected at high concentrations. Chloroform was found at a concentration of 857 ug/L and 1,1,2,2 – PCA was detected at a concentration of 268 ug/L.

MW-76 This well was added to the monitoring scheme beginning with the Y3S1 report. As in the previous sample round, one compound (TCE) was detected at a concentration exceeding the MCL. TCE decreased in concentration from 258 to 117 ug/L. The higher concentration of TCE was detected in the lowest screened interval (the upper screen interval had a concentration of 72.2 ug/L).

Additionally, 1,1,2,2 TCE (for which there is no MCL) was detected at a relatively high concentration of 332 ug/L.

MW-77 This well was added to the monitoring scheme beginning with this reporting period. One compound (TCE) exceeded the MCL with a concentration of 1620 ug/L. 1,1,2,2 PCA was also detected at a high concentration of 1820 ug/L.

MW-78 As in the previous sampling event, no constituents were detected which exceeded the MCLs.

MW-79 Three compounds (1,1 DCE, PCE, and TCE) were detected at concentrations exceeding the MCLs. 1,1 DCE showed a slight increase from 30.1 to 37.6 ug/L. PCE also increased slightly from 14 to 16.6 ug/L and TCE increased from 9.6 to 11.9 ug/L. This well has 20 ft of saturated screen, and each of the four five-ft screened intervals was monitored. There was no significant change in concentration with depth.

MW-80 No constituents were detected which exceeded the MCLs.

MW-95 No constituents were detected which exceeded the MCLs.

3.3 QA/QC Results

The data validation process indicated that the data is useable and is of good quality. It was noted that Carbon Disulfide had previously been detected at the site, but was suspected to be an artifact. Based on this sample event, it appears that conclusion may have been premature, and that there may be some occurrence of the compound. Future sampling rounds will indicate if there is a continued trend of detection of carbon disulfide, or if it is a product of laboratory contamination. A complete discussion of the QA/QC validation process is given in Appendix D of this report.

4.0 CONCLUSIONS

Conclusions to this quarterly groundwater quality report have been developed from the review of groundwater monitoring results. The two major system monitoring methods included analytical sample results and groundwater level measurements.

4.1 Summary of Monitoring Results

- Carbon Tetrachloride originates primarily from the southwest area of Dunn Field, with the highest concentration near MW-58. Carbon Tetrachloride has migrated in a west-northwest direction toward wells MW-32 and MW-54.
- Chloroform is widespread at low concentrations, but higher concentrations are found primarily in two areas. In the west southwest section of Dunn Field, near RW-1A, the highest concentrations of chloroform are found. Chloroform appears to have migrated west-northwest with high concentrations also noted in MW-71 and MW-32. The deeper nested well MW-37 adjacent to MW-32 shows no sign of contamination. The second area of high chloroform levels is found in the vicinity of RW-06, and currently is limited to that area.
- TCE and PCE are widespread across the monitored area, but the highest concentrations continue to be found in the vicinity of MW-70. With the current groundwater flow direction, the source area for these high concentrations is likely just to the east and south of MW-70 on Dunn Field. TCE and PCE appear to be migrating west northwest, with MW-77, 76, 31 and 32 showing impact.
- The groundwater flow during this quarter is generally to the west. Since system startup, the flow direction has remained generally to the west and southwest, with a west-northwest component from the southern end of Dunn Field. The hydraulic gradient was seen to vary across the site from 0.04 ft/ft in the north to 0.004 ft/ft in the south.
- Cis 1,2-dichloroethene exceeded the effluent discharge permit limit to the POTW in December. The detected concentration of 53.6 ug/L was acceptable according to the one day maximum level (100 ug/L), but exceeded the monthly average level (50 ug/L). As the monthly grab sample is more closely representative of a one-day maximum level, discharge permit compliance is still observed.
- Since the recovery well system has become fully operational, it is exerting significant influence on the groundwater flow on the west edge of Dunn Field.
- Well MW-44 has now shown concentrations of several target compounds for the fourth consecutive monitoring period. Since this is one of the boundary wells on the west side of Dunn Field, a new or different boundary well may need to be considered in the future.

- For the first time, use of diffusion bags allowed the determination of vertical changes in concentration with depth. Some stratification was noted, especially in wells 31, 44 and 54. At other locations, no significant changes in concentration with screen depth were noted.

TABLES

TABLE 1
Semi-Annual Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Laboratory Analyses	DL	Units	Sample Identification Number		MW-30-Y2Q3		MW-30-Y2Q4		MW-30-Y3S1		MW-30-Y3S2		Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1999)
			Laboratory & Lab Sample ID No.	Date Sample Collected	22-Aug-00	07-Nov-00	0011216-08	0102408-01	03-Oct-01	03-Oct-01	0110129-19	0110129-20		
				Sample Depth Interval	NA	NA	NA	NA	NA	49.2-51.2	56.2-58.2			
TCL Volatile Organics (Method 8260B)														
Acetone	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	NS	6100
Benzene	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	5	0.32
Bromodichloromethane	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	NS	0.17
Carbon Disulfide	1	ug/L			ND	ND	ND	6.47	ND	ND	ND	ND	NS	1000
Carbon Tetrachloride	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	5	0.16
Chlorobenzene	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	100	110
Chloroform	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	NS	0.15
Chloromethane	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	NS	3.6
1,1-Dichloroethane	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	NS	800
1,2-Dichloroethane	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	5	0.12
1,1,1-Trichloroethane	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	7	0.044
Trans 1,2-Dichloroethene	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	100	120
Cis 1,2-Dichloroethene	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	70	61
1,1,2,2-Tetrachloroethane	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	NS	0.053
Tetrachloroethene	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	5	1.1
Toluene	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	1000	750
1,2,4-Trichlorobenzene	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	70	190
1,1,1-Trichloroethane	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	200	540
1,1,2-Trichloroethane	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	5	0.19
Trichloroethene	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	5	1.6
Vinyl Chloride	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	2	0.019

Only compounds detected are listed

ug/L = micrograms per liter

DL = Detection Limit

TCL = Target Compound List

BDL = Below Detection Limit

MCL = Maximum Contaminant Level - Primary Drinking

Water Standards

RBCs = Risk Based Contaminants

NS = no standard NP = not performed

NA = not available

B = Analyte detected in associated method and/or equipment blank

J = Estimated value - presence of the compound was confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside acceptance ranges

E = Concentration exceeds the established method calibration range but is w/in instrument working range.

TABLE 1
Semi-Annual Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Laboratory Analyses	DL	Units	Sample Identification Number		MW-31-Y2Q3		MW-31-Y2Q4		MW-31-Y3S1		MW-31-Y3S2		Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1999)
			Laboratory & Lab Sample ID No.	Date Sample Collected	23-Aug-00	07-Nov-00	01-Dec-00	14-Feb-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01		
				Sample Depth Interval	NA	NA	NA	NA	72.2-74.2	77.5-79.5				
TCL Volatile Organics (Method 8260B)														
Acetone	1	ug/L			ND	ND	ND	ND	ND	ND	ND	NS	6100	
Benzene	1	ug/L			ND	ND	ND	ND	ND	ND	ND	5	0.32	
Bromodichloromethane	1	ug/L			ND	ND	ND	ND	ND	ND	ND	NS	0.17	
Carbon Disulfide	1	ug/L			ND	ND	ND	8.97	ND	ND	ND	NS	1000	
Carbon Tetrachloride	1	ug/L			0.40 J	ND	ND	2.76	1.25	ND	ND	5	0.16	
Chlorobenzene	1	ug/L			ND	ND	ND	ND	ND	ND	ND	100	110	
Chloroform	1	ug/L			ND	ND	ND	25.1	1.61	ND	ND	NS	0.15	
Chloromethane	1	ug/L			ND	ND	ND	ND	ND	ND	ND	NS	3.6	
1,1-Dichloroethane	1	ug/L			18.9	ND	ND	ND	ND	0.54 J	ND	NS	800	
1,2-Dichloroethane	1	ug/L			9.58	ND	ND	ND	ND	ND	ND	5	0.12	
1,1,1-Trichloroethane	1	ug/L			ND	31.5	7.98	ND	20.6	31.2	ND	7	0.044	
Trans 1,2-Dichloroethane	1	ug/L			ND	4.53	49.3	ND	34.4	4.83	ND	100	120	
Cis 1,2-Dichloroethane	1	ug/L			12.3	4.24	148	ND	44.2	5.53	ND	70	61	
1,1,2,2-Tetrachloroethane	1	ug/L			ND	ND	14.8	ND	ND	ND	ND	NS	0.053	
Tetrachloroethene	1	ug/L			2.08	0.92 J	5.02	ND	2.1	4.19	ND	5	1.1	
Toluene	1	ug/L			ND	ND	ND	ND	ND	ND	ND	1000	750	
1,2,4 - Trichlorobenzene	1	ug/L			ND	ND	ND	ND	ND	ND	ND	70	190	
1,1,1-Trichloroethane	1	ug/L			0.42 J	ND	ND	ND	ND	0.70 J	ND	200	540	
1,1,2-Trichloroethane	1	ug/L			ND	ND	1.2	ND	ND	ND	ND	5	0.19	
Trichloroethene	1	ug/L			68.1	18.5	233	ND	227	38.1	ND	5	1.6	
Vinyl Chloride	1	ug/L			ND	ND	ND	ND	ND	ND	ND	2	0.019	

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TCL = Target Compound List

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Water Standards

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J = Estimated value - presence of the compound was confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside acceptance ranges

E = Concentration exceeds the established method calibration range but is within instrument working range.

TABLE 1
Semi-Annual Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Laboratory Analyses	Sample Identification Number Laboratory & Lab Sample ID No. Date Sample Collected Sample Depth Interval	DL	Units	MW-32-Y2Q2 0005523-18 16-May-00	MW-32-Y2Q3 0008574-06 24-Aug-00	MW-32-Y3S1 0102556-11 20-Feb-01	MW-32-Y3S2 0110130-06 03-Oct-01	Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1999)
				NA	NA	NA	64.5-66.5		
TCL Volatile Organics (Method 8260B)									
Acetone	1	ug/L		ND	ND	ND	ND	NS	6100
Benzene	1	ug/L		ND	ND	ND	ND	5	0.32
Bromodichloromethane	1	ug/L		<1.00	ND	ND	ND	NS	0.17
Carbon Disulfide	1	ug/L		ND	ND	ND	ND	NS	1000
Carbon Tetrachloride	1	ug/L		37	47.2	19.7	42.7	5	0.16
Chlorobenzene	1	ug/L		<1.00	ND	ND	ND	100	110
Chloroform	1	ug/L		117	171	434	828	NS	0.15
Chloromethane	1	ug/L		<1.00	ND	ND	ND	NS	3.6
1,1-Dichloroethane	1	ug/L		<1.00	ND	ND	ND	NS	800
1,2-Dichloroethane	1	ug/L		<1.00	ND	ND	ND	5	0.12
1,1,1-Trichloroethane	1	ug/L		<1.00	ND	ND	ND	7	0.044
Trans 1,2-Dichloroethane	1	ug/L		2	2.68	2.42	5.82 J	100	120
Cis 1,2-Dichloroethane	1	ug/L		6.61	5.66	9.44	12.6 J	70	61
1,1,2,2-Tetrachloroethane	1	ug/L		<1.00	2.12	68.2	216	NS	0.053
Tetrachloroethane	1	ug/L		3.94	5.9	3.74	ND	5	1.1
Toluene	1	ug/L		<1.00	ND	ND	ND	1000	750
1,2,4 - Trichlorobenzene	1	ug/L		ND	ND	ND	ND	70	190
1,1,1-Trichloroethane	1	ug/L		<1.00	ND	ND	ND	200	540
1,1,2-Trichloroethane	1	ug/L		<1.00	ND	ND	ND	5	0.19
Trichloroethane	1	ug/L		58.2	89.2	60.4	238	5	1.6
Vinyl Chloride	1	ug/L		<1.00	ND	ND	ND	2	0.019

Only compounds detected are listed

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DL = Detection Limit

TCL = Target Compound List

BDL = Below Detection Limit

MCL = Maximum Contaminant Level - Primary Drinking

Water Standards

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NS = no standard NP = not performed

NA = not available

B = Analyte detected in associated method and/or
equipment blank

J = Estimated value - presence of the compound was
confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside
acceptance ranges

E = Concentration exceeds the established method cal-
ibration range but is within instrument working range.

TABLE 1
Semi-Annual Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Laboratory Analyses	DL	Units	Sample Identification Number Laboratory & Lab Sample ID No. Date Sample Collected Sample Depth Interval		MW-33-Y2Q3	MW-33-Y2Q4	MW-33-Y3S1	MW-33-Y3S2	Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1999)
					0008592-06 22-Aug-00 NA	0011258-05 08-Nov-00 NA	0102451-11 15-Feb-01 NA	0110130-27 03-Oct-01 58-60		
TCL Volatile Organics (Method 8260B)										
Acetone	1	ug/L			ND	ND	ND	ND	NS	6100
Benzene	1	ug/L			ND	ND	ND	ND	5	0.32
Bromodichloromethane	1	ug/L			ND	ND	ND	ND	NS	0.17
Carbon Disulfide	1	ug/L			ND	ND	ND	ND	NS	1000
Carbon Tetrachloride	1	ug/L			ND	ND	ND	ND	5	0.16
Chlorobenzene	1	ug/L			ND	ND	ND	ND	100	110
Chloroform	1	ug/L			ND	ND	ND	ND	NS	0.15
Chloromethane	1	ug/L			ND	ND	ND	ND	NS	3.6
1,1-Dichloroethane	1	ug/L			ND	ND	ND	ND	NS	800
1,2-Dichloroethane	1	ug/L			ND	ND	ND	ND	5	0.12
1,1,1-Trichloroethane	1	ug/L			ND	ND	ND	ND	7	0.044
Trans 1,2-Dichloroethene	1	ug/L			ND	ND	ND	ND	100	120
Cis 1,2-Dichloroethene	1	ug/L			ND	ND	ND	ND	70	61
1,1,2,2-Tetrachloroethane	1	ug/L			ND	ND	ND	ND	NS	0.053
Tetrachloroethene	1	ug/L			ND	ND	ND	ND	5	1.1
Toluene	1	ug/L			ND	ND	ND	ND	1000	750
1,2,4-Trichlorobenzene	1	ug/L			ND	ND	ND	ND	70	190
1,1,1-Trichloroethane	1	ug/L			ND	ND	ND	ND	200	540
1,1,2-Trichloroethane	1	ug/L			ND	ND	ND	ND	5	0.19
Trichloroethene	1	ug/L			ND	ND	ND	ND	5	1.6
Vinyl Chloride	1	ug/L			ND	ND	ND	ND	2	0.019

Only compounds detected are listed

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NA = not available

B = Analyte detected in associated method and/or equipment blank

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confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside

acceptance ranges

E = Concentration exceeds the established method calibration range but is within instrument working range.

TABLE 1
Semi-Annual Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number													
Laboratory & Lab Sample ID No.													
Date Sample Collected													
Sample Depth Interval													
MW-34-Y2Q3	MW-34-Y2Q4	MW-34-Y3S1	MW-34-Y3S2		Maximum								
0008674-07	0011216-09	0102556-09	0110129-16	0110129-17	0110129-18	Contaminant Level							
24-Aug-00	07-Nov-00	20-Feb-01	03-Oct-01	03-Oct-01	03-Oct-01	(MCL)-Primary							
NA	NA	NA	146-148	149.5-151.5	155.5-157.5	Drinking Water							
Standard													
USEPA Region III													
RBCs-Tap Water													
(October 7, 1999)													

Only compounds detected are listed

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J = Estimated value - presence of the compound was

confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside

acceptance ranges

E = Concentration exceeds the established method cali-

bration range but is w/in instrument working range.

TABLE 1
Semi-Annual Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number Laboratory & Lab Sample ID No. Date Sample Collected Sample Depth Interval				MW-37-Y3S1		MW-37-Y3S2		MW-37-Y3S2		Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1999)
				0102556-10 20-Feb-01 NA		0110130-07 03-Oct-01 172.5-174.5		0110130-08 03-Oct-01 177.5-179.5		0110130-09 03-Oct-01 182.5-184.5	
Laboratory Analyses				DL	Units						
TCL Volatile Organics (Method 8260B)											
Acetone	1		ug/L	ND		ND		ND		NS	6100
Benzene	1		ug/L	ND		ND		ND		5	0.32
Bromodichloromethane	1		ug/L	ND		ND		ND		NS	0.17
Carbon Disulfide	1		ug/L	3.41		ND		ND		NS	1000
Carbon Tetrachloride	1		ug/L	ND		ND		ND		5	0.16
Chlorobenzene	1		ug/L	ND		ND		ND		100	110
Chloroform	1		ug/L	ND		ND		ND		NS	0.15
Chloromethane	1		ug/L	ND		ND		ND		NS	3.6
1,1-Dichloroethane	1		ug/L	ND		ND		ND		NS	800
1,2-Dichloroethane	1		ug/L	ND		ND		ND		5	0.12
1,1,1-Trichloroethane	1		ug/L	ND		ND		ND		7	0.044
Trans 1,2-Dichloroethane	1		ug/L	ND		ND		ND		100	120
Cis 1,2-Dichloroethane	1		ug/L	ND		ND		ND		70	61
1,1,2,2-Tetrachloroethane	1		ug/L	ND		ND		ND		NS	0.053
Tetrachloroethene	1		ug/L	ND		ND		ND		5	1.1
Toluene	1		ug/L	ND		ND		ND		1000	750
1,2,4 - Trichlorobenzene	1		ug/L	ND		ND		ND		70	190
1,1,1-Trichloroethane	1		ug/L	ND		ND		ND		200	540
1,1,2-Trichloroethane	1		ug/L	ND		ND		ND		5	0.19
Trichloroethane	1		ug/L	ND		ND		ND		5	1.6
Vinyl Chloride	1		ug/L	ND		ND		ND		2	0.019

Only compounds detected are listed

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E = Concentration exceeds the established method cali-
bration range but is w/in instrument working range.

TABLE 1
Semi-Annual Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number Laboratory & Lab Sample ID No. Date Sample Collected Sample Depth Interval	MW-40-Y2Q3 0008634-05 23-Aug-00 NA				MW-40-Y2Q4 0011258-03 07-Nov-00 NA	MW-40-Y3S1 0102408-04 14-Feb-01 NA	MW-40-Y3S2 0110129-30 03-Oct-01 91.5-83.5	Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1999)
Laboratory Analyses		DL	Units						
TCL Volatile Organics (Method 8260B)									
Acetone	1	ug/L	ND	ND	ND	ND	ND	NS	6100
Benzene	1	ug/L	ND	ND	ND	ND	ND	5	0.32
Bromodichloromethane	1	ug/L	ND	ND	ND	ND	ND	NS	0.17
Carbon Disulfide	1	ug/L	ND	ND	ND	4.73	ND	NS	1000
Carbon Tetrachloride	1	ug/L	ND	ND	ND	ND	ND	5	0.16
Chlorobenzene	1	ug/L	ND	ND	ND	ND	ND	100	110
Chloroform	1	ug/L	ND	ND	ND	ND	ND	NS	0.15
Chloromethane	1	ug/L	ND	ND	ND	ND	ND	NS	3.6
1,1-Dichloroethane	1	ug/L	ND	ND	ND	ND	ND	NS	800
1,2-Dichloroethane	1	ug/L	ND	ND	ND	ND	ND	5	0.12
1,1-Dichloroethene	1	ug/L	ND	ND	ND	ND	ND	7	0.044
Trans 1,2-Dichloroethene	1	ug/L	ND	ND	ND	ND	ND	100	120
Cis 1,2-Dichloroethene	1	ug/L	ND	ND	ND	ND	ND	70	61
1,1,2,2-Tetrachloroethane	1	ug/L	ND	ND	ND	ND	ND	NS	0.053
Tetrachloroethene	1	ug/L	ND	ND	ND	ND	ND	5	1.1
Toluene	1	ug/L	ND	ND	ND	ND	ND	1000	750
1,2,4 - Trichlorobenzene	1	ug/L	ND	ND	ND	ND	ND	70	190
1,1,1-Trichloroethane	1	ug/L	ND	ND	ND	ND	ND	200	540
1,1,2-Trichloroethane	1	ug/L	ND	ND	ND	ND	ND	5	0.19
Trichloroethene	1	ug/L	ND	ND	ND	ND	ND	5	1.6
Vinyl Chloride	1	ug/L	ND	ND	ND	ND	ND	2	0.019

Only compounds detected are listed

ug/L = micrograms per liter

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TABLE 1
Semi-Annual Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number												
Laboratory & Lab Sample ID No.												
Date Sample Collected												
Sample Depth Interval												
MW-42-Y3S1												
MW-42-Y3S2												
MW-43-Y3S1												
MW-43-Y3S2												
Maximum Contaminant Level (MCL)-Primary Drinking Water Standard												
USEPA Region III RBCs-Tap Water (October 7, 1999)												
Laboratory Analyses												
TCL Volatile Organics (Method 8250B)												
Acetone	1	ug/L	61.8	ND	6360	ND	ND	ND	ND	NS	6100	
Benzene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	5	0.32	
Bromodichloromethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	NS	0.17	
Carbon Disulfide	1	ug/L	ND	ND	6.26	ND	ND	ND	ND	NS	1000	
Carbon Tetrachloride	1	ug/L	ND	ND	ND	ND	ND	ND	ND	5	0.16	
Chlorobenzene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	100	110	
Chloroform	1	ug/L	ND	ND	ND	ND	ND	ND	ND	NS	0.15	
Chloromethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	NS	3.6	
1,1-Dichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	NS	800	
1,2-Dichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	5	0.12	
1,1-Dichloroethene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	7	0.044	
Trans 1,2-Dichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	100	120	
Cis 1,2-Dichloroethene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	70	61	
1,1,2,2-Tetrachloroethane	1	ug/L	ND	ND	9.59	ND	ND	ND	ND	NS	0.053	
Tetrachloroethene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	5	1.1	
Toluene	1	ug/L	36.8	ND	ND	ND	ND	ND	ND	1000	750	
1,2,4 - Trichlorobenzene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	70	190	
1,1,1-Trichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	200	540	
1,1,2-Trichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	5	0.19	
Trichloroethene	1	ug/L	ND	ND	1.02	ND	ND	ND	ND	5	1.6	
Vinyl Chloride	1	ug/L	ND	ND	ND	ND	ND	ND	ND	2	0.019	

Only compounds detected are listed

ug/L = micrograms per liter

DL = Detection Limit

TCL = Target Compound List

BDL = Below Detection Limit

MCL = Maximum Contaminant Level - Primary Drinking

Water Standards

RBCs = Risk Based Contaminants

NS = no standard NP = not performed

NA = not available

B = Analyte detected in associated method and/or equipment blank

J = Estimated value - presence of the compound was confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside acceptance ranges

E = Concentration exceeds the established method calibration range but is w/in instrument working range.

TABLE 1
Semi-Annual Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Laboratory Analyses	Sample Identification Number Laboratory & Lab Sample ID No. Date Sample Collected Sample Depth Interval	DL	Units	MW-44-Y2Q3					MW-44-Y2Q4				MW-44-Y2Q5				MW-44-Y2Q6				Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1999)
				0008674-10	0011258-04	008-Nov-00	NA	NA	0110129-05	0110129-06	0110129-07	0102451-07	03-Oct-01	03-Oct-01	03-Oct-01	65-67	70-72	03-Oct-01	03-Oct-01	70-72		
TCL Volatile Organics (Method 8260B)																						
Acetone	1	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	6100
Benzene	1	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	0.32
Bromodichloromethane	1	ug/L		ND	1.66	ND	94.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	0.17
Carbon Disulfide	1	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	1000
Carbon Tetrachloride	1	ug/L		5.3	2.1	ND	ND	ND	ND	6.47	ND	ND	ND	ND	ND	2.84	ND	ND	ND	ND	5	0.16
Chlorobenzene	1	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	110
Chloroform	1	ug/L		3.62	1.23	ND	ND	ND	2.05	5.04	ND	ND	ND	ND	ND	2.78	ND	ND	ND	ND	NS	0.15
Chloromethane	1	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	3.6
1,1-Dichloroethane	1	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	800
1,2-Dichloroethane	1	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	0.12
1,1,1-Trichloroethane	1	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7	0.044
Trans 1,2-Dichloroethene	1	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	120
Cis 1,2-Dichloroethene	1	ug/L		1.35	0.62 J	ND	0.40 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	70	61
1,1,2,2-Tetrachloroethane	1	ug/L		ND	ND	ND	12.7	ND	1.26	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	0.053
Tetrachloroethene	1	ug/L		4.92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	1.1
Toluene	1	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1000	750
1,2,4-Trichlorobenzene	1	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	70	190
1,1,1-Trichloroethane	1	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	200	540
1,1,2-Trichloroethane	1	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	0.19
Trichloroethene	1	ug/L		ND	0.79 J	ND	3.76	ND	ND	2.77	ND	ND	ND	ND	ND	1.26	ND	ND	ND	ND	5	1.6
Vinyl Chloride	1	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	0.019

Only compounds detected are listed

ug/L = micrograms per liter

DL = Detection Limit

TCL = Target Compound List

BDL = Below Detection Limit

MCL = Maximum Contaminant Level - Primary Drinking

Water Standards

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NS = no standard NP = not performed

NA = not available

B = Analyte detected in associated method and/or
equipment blank

J = Estimated value - presence of the compound was
confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside
acceptance ranges

E = Concentration exceeds the established method cali-
bration range but is w/in instrument working range.

TABLE 1
Semi-Annual Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number Laboratory & Lab Sample ID No. Date Sample Collected Sample Depth Interval			DL	Units	MW-51-Y2Q3 0008874-14 24-Aug-00 NA	MW-51-Y2Q4 0011258-01 08-Nov-00 NA	MW-51-Y3S1 0102558-08 20-Feb-01 NA	MW-51-Y3S2 0110130-12 03-Oct-01 58 5-60.5 0110130-13 03-Oct-01 63 5-65.5		Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1999)
Laboratory Analyses											
TCL Volatile Organics (Method 8260B)											
Acetone	1	ug/L			ND	ND	ND	ND	ND	NS	6100
Benzene	1	ug/L			ND	ND	ND	ND	ND	5	0.32
Bromodichloromethane	1	ug/L			ND	ND	ND	ND	ND	NS	0.17
Carbon Disulfide	1	ug/L			ND	ND	ND	ND	ND	NS	1000
Carbon Tetrachloride	1	ug/L			ND	ND	ND	ND	ND	5	0.16
Chlorobenzene	1	ug/L			ND	ND	ND	ND	ND	100	110
Chloroform	1	ug/L			ND	ND	ND	ND	ND	NS	0.15
Chloromethane	1	ug/L			ND	ND	ND	ND	ND	NS	3.6
1,1-Dichloroethane	1	ug/L			ND	ND	ND	ND	ND	NS	800
1,2-Dichloroethane	1	ug/L			ND	ND	ND	ND	ND	5	0.12
1,1-Dichloroethene	1	ug/L			12.9	57.9	15.8	31.4	26.9	7	0.044
Trans 1,2-Dichloroethene	1	ug/L			ND	ND	ND	ND	ND	100	120
Cis 1,2-Dichloroethene	1	ug/L			ND	ND	ND	ND	ND	70	61
1,1,2,2-Tetrachloroethane	1	ug/L			ND	ND	ND	ND	ND	NS	0.053
Tetrachloroethene	1	ug/L			1.49	3.51	1.86	2.13	1	5	1.1
Toluene	1	ug/L			ND	ND	ND	ND	ND	1000	750
1,2,4-Trichlorobenzene	1	ug/L			ND	ND	ND	ND	ND	190	190
1,1,1-Trichloroethane	1	ug/L			ND	1.79	ND	0.71 J	0.74 J	200	540
1,1,2-Trichloroethane	1	ug/L			ND	ND	ND	ND	ND	5	0.19
Trichloroethene	1	ug/L			6.33	13.2	6.09	9.88	10.7	5	1.6
Vinyl Chloride	1	ug/L			ND	ND	ND	ND	ND	2	0.019

Only compounds detected are listed

ug/L = micrograms per liter

DL = Detection Limit

TCL = Target Compound List

BDL = Below Detection Limit

MCL = Maximum Contaminant Level - Primary Drinking

Water Standards

RBCs = Risk Based Contaminants

NS = no standard NP = not performed

NA = not available

B = Analyte detected in associated method and/or equipment blank

J = Estimated value - presence of the compound was confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside acceptance ranges

E = Concentration exceeds the established method calibration range but is w/in instrument working range.

TABLE 1
Semi-Annual Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number Laboratory & Lab Sample ID No. Date Sample Collected Sample Depth Interval				MW-54-Y2Q3										MW-54-Y2Q4				MW-54-Y3S1				MW-54-Y3S2				Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1999)
				MW-54-Y2Q3		MW-54-Y2Q4		MW-54-Y3S1		MW-54-Y3S2		MW-54-Y3S2		MW-54-Y3S2													
				0008592-07		0011216-06		0102451-10		0110129-23		0110129-24		0110129-25													
				22-Aug-00		07-Nov-00		15-Feb-01		03-Oct-01		03-Oct-01		03-Oct-01													
				NA		NA		NA		81.8-83.8		84-86		91-93													
Laboratory Analyses				DL		Units																					
TCL Volatile Organics (Method 8260B)																											
Acetone	1	ug/L		ND		ND		ND		ND		ND		ND		ND		ND		ND		NS	6100				
Benzene	1	ug/L		0.33 J		ND		ND		ND		ND		ND		ND		ND		ND		5	0.32				
Bromodichloromethane	1	ug/L		ND		ND		ND		ND		ND		ND		ND		ND		ND		NS	0.17				
Carbon Disulfide	1	ug/L		ND		ND		ND		249		ND		ND		ND		ND		ND		NS	1000				
Carbon Tetrachloride	1	ug/L		7.97		12.8		11.2		1.79		7.7		19.7		5		0.16									
Chlorobenzene	1	ug/L		ND		ND		ND		ND		ND		ND		100		110									
Chloroform	1	ug/L		13.8		19.8		14.2		6.87		11.9		12		NS		0.15									
Chloromethane	1	ug/L		ND		ND		ND		ND		ND		ND		NS		3.6									
1,1-Dichloroethane	1	ug/L		ND		ND		ND		ND		ND		ND		NS		800									
1,2-Dichloroethane	1	ug/L		ND		ND		ND		ND		ND		ND		5		0.12									
1,1,1-Trichloroethane	1	ug/L		ND		ND		ND		ND		ND		ND		7		0.044									
Trans 1,2-Dichloroethane	1	ug/L		1.39		2.58		1.79		1.13		4.15		5.28		100		120									
Cis 1,2-Dichloroethane	1	ug/L		14.9		34.6		21.1		11.3		27.8		31.4		70		61									
1,1,2,2-Tetrachloroethane	1	ug/L		4.9		22.7		37		3.93		8.67		11		NS		0.053									
Tetrachloroethane	1	ug/L		0.74 J		0.91 J		0.80 J		ND		ND		1.89		5		1.1									
Toluene	1	ug/L		ND		ND		ND		ND		ND		ND		1000		750									
1,2,4-Trichlorobenzene	1	ug/L		ND		ND		ND		ND		ND		ND		70		190									
1,1,1-Trichloroethane	1	ug/L		ND		ND		ND		ND		ND		ND		200		540									
1,1,2-Trichloroethane	1	ug/L		0.56 J		1.24		ND		ND		ND		ND		5		0.19									
Trichloroethane	1	ug/L		28.1		29.2		28.3		20.2		105		259		5		1.6									
Vinyl Chloride	1	ug/L		ND		ND		ND		ND		ND		ND		2		0.019									

Only compounds detected are listed

ug/L = micrograms per liter

DL = Detection Limit

TCL = Target Compound List

BDL = Below Detection Limit

MCL = Maximum Contaminant Level - Primary Drinking

Water Standards

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equipment blank

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J* = estimated value - quality control recoveries outside
acceptance ranges

E = Concentration exceeds the established method cali-
bration range but is w/in instrument working range.

TABLE 1
Semi-Annual Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Laboratory Analyses	DL	Units	Sample Identification Number Laboratory & Lab Sample ID No.		Date Sample Collected Sample Depth Interval		MW-56-Y2Q3 0008592-05	MW-56-Y2Q4 0011216-05	MW-56-Y3S1 0102556-06	MW-56-Y3S2 0110129-15	Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1998)
							22-Aug-00	07-Nov-00	19-Feb-01	03-Oct-01		
							NA	NA	NA	88.1-70.1		
TCL Volatile Organics (Method 8260B)												
Acetone	1	ug/L					ND	ND	ND	ND	NS	6100
Benzene	1	ug/L					ND	ND	ND	ND	5	0.32
Bromodichloromethane	1	ug/L					ND	ND	ND	ND	NS	0.17
Carbon Disulfide	1	ug/L					ND	ND	ND	ND	NS	1000
Carbon Tetrachloride	1	ug/L					ND	ND	0.71 J	ND	5	0.16
Chlorobenzene	1	ug/L					ND	ND	ND	ND	100	110
Chloroform	1	ug/L					1.67	39.4	ND	27.8	NS	0.15
Chloromethane	1	ug/L					ND	ND	ND	ND	NS	3.6
1,1-Dichloroethane	1	ug/L					ND	ND	ND	ND	NS	800
1,2-Dichloroethane	1	ug/L					ND	ND	ND	ND	5	0.12
1,1,1-Trichloroethane	1	ug/L					ND	ND	ND	ND	7	0.044
Trans 1,2-Dichloroethane	1	ug/L					ND	ND	ND	ND	100	120
Cis 1,2-Dichloroethane	1	ug/L					ND	ND	ND	ND	70	61
1,1,2,2-Tetrachloroethane	1	ug/L					ND	ND	ND	ND	NS	0.053
Tetrachloroethane	1	ug/L					0.41 J	ND	0.71 J	ND	5	1.1
Toluene	1	ug/L					ND	ND	ND	ND	1000	750
1,2,4-Trichlorobenzene	1	ug/L					ND	1.6	ND	ND	70	190
1,1,1-Trichloroethane	1	ug/L					ND	ND	ND	ND	200	540
1,1,2-Trichloroethane	1	ug/L					ND	ND	ND	ND	5	0.19
Trichloroethene	1	ug/L					0.74 J	1.54	1.99	1.18	5	1.6
Vinyl Chloride	1	ug/L					ND	ND	ND	ND	2	0.019

Only compounds detected are listed

ug/L = micrograms per liter

DL = Detection Limit

TCL = Target Compound List

BDL = Below Detection Limit

MCL = Maximum Contaminant Level - Primary Drinking

Water Standards

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B = Analyte detected in associated method and/or
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confirmed but less than the reported DL

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acceptance ranges

E = Concentration exceeds the established method cali-
bration range but is w/in instrument working range.

TABLE 1
Semi-Annual Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number Laboratory & Lab Sample ID No. Date Sample Collected Sample Depth Interval					DL		Units	MW-57-Y2Q3 0008592-02 22-Aug-00 NA					MW-57-Y2Q4 0011216-01 07-Nov-00 NA		MW-57-Y3S1 0102451-16 15-Feb-01 NA		MW-57-Y3S2 0110129-12 03-Oct-01 65-67		0110129-13 03-Oct-01 67.5-69.5		Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1999)
Laboratory Analyses																						
TCL Volatile Organics (Method 8260B)																						
Acetone	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	6100	
Benzene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	0.32	
Bromodichloromethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	0.17	
Carbon Disulfide	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	1000	
Carbon Tetrachloride	1	ug/L	45.7	48.3	44.4	37.1	37.5												5	0.16		
Chlorobenzene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	110		
Chloroform	1	ug/L	11.3	8.93	11.8	25.9	28												NS	0.15		
Chloromethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	3.6		
1,1-Dichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	800		
1,2-Dichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	0.12		
1,1,1-Trichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7	0.044		
Trans 1,2-Dichloroethane	1	ug/L	1.83	1.5	1.42	1.73	1.68												100	120		
Cis 1,2-Dichloroethane	1	ug/L	0.53 J	0.41 J	0.44 J	0.86 J	0.97 J												70	61		
1,1,2,2-Tetrachloroethane	1	ug/L	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.053		
Tetrachloroethane	1	ug/L	5.86	5.07	5.01	5.24	4.58												5	1.1		
Toluene	1	ug/L	ND	ND	ND	ND	ND	1000	750	190	540	200	5	0.19					1000	750		
1,2,4-Trichlorobenzene	1	ug/L	ND	ND	ND	ND	ND	70	190	540	200	5	0.19						200	540		
1,1,1-Trichloroethane	1	ug/L	ND	ND	ND	ND	ND	200	540	200	5	0.19							70	190		
1,1,2-Trichloroethane	1	ug/L	ND	ND	ND	ND	ND	5	0.19										5	0.19		
Trichloroethene	1	ug/L	49.2	30.9	28.3	73.4	77.4												5	1.6		
Vinyl Chloride	1	ug/L	ND	ND	ND	ND	ND	2	0.019										2	0.019		

Only compounds detected are listed

ug/L = micrograms per liter

DL = Detection Limit

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BOL = Below Detection Limit

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Water Standards

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acceptance ranges

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TABLE 1
Semi-Annual Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number Laboratory & Lab Sample ID No. Date Sample Collected Sample Depth Interval	MW-58-Y2Q3 0008592-04 22-Aug-00	MW-58-Y2Q4 0011216-04 08-Nov-00	MW-58-Y3S1 0102556-05 19-Feb-01	MW-58-Y3S2 0110129-14 03-Oct-01	Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1999)
	NA	NA	NA	65-67		
Laboratory Analyses	DL	Units				
TCL Volatile Organics (Method 8260B)						
Acetone	1	ug/L	ND	ND	NS	6100
Benzene	1	ug/L	ND	ND	5	0.32
Bromodichloromethane	1	ug/L	ND	ND	NS	0.17
Carbon Disulfide	1	ug/L	ND	ND	NS	1000
Carbon Tetrachloride	1	ug/L	0.26 J	0.43 J	5	0.16
Chlorobenzene	1	ug/L	ND	ND	100	110
Chloroform	1	ug/L	2.42	2.05	NS	0.15
Chloromethane	1	ug/L	ND	ND	NS	3.6
1,1-Dichloroethane	1	ug/L	ND	ND	NS	800
1,2-Dichloroethane	1	ug/L	ND	ND	5	0.12
1,1,1-Trichloroethane	1	ug/L	ND	ND	7	0.044
Trans 1,2-Dichloroethane	1	ug/L	ND	ND	100	120
Cis 1,2-Dichloroethane	1	ug/L	ND	ND	70	61
1,1,2,2-Tetrachloroethane	1	ug/L	ND	ND	NS	0.053
Tetrachloroethene	1	ug/L	0.41 J	0.40 J	5	1.1
Toluene	1	ug/L	ND	ND	1000	750
1,2,4-Trichlorobenzene	1	ug/L	ND	ND	70	190
1,1,1-Trichloroethane	1	ug/L	ND	ND	200	540
1,1,2-Trichloroethane	1	ug/L	ND	ND	5	0.19
Trichloroethene	1	ug/L	1.44	2.47	5	1.6
Vinyl Chloride	1	ug/L	ND	ND	2	0.019

Only compounds detected are listed

ug/L = micrograms per liter

DL = Detection Limit

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TABLE 1
Semi-Annual Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Laboratory Analyses	Sample Identification Number		DL	Units	MW-67-Y3S1			MW-67-Y3S2			Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1999)
	Laboratory & Lab Sample ID No.				NP	NP	NP	NP	NP	NP		
	Date Sample Collected											
	Sample Depth Interval											
TCL Volatile Organics (Method 8260B)												
Acetone	1	ug/L										6100
Benzene	1	ug/L										0.32
Bromodichloromethane	1	ug/L										0.17
Carbon Disulfide	1	ug/L										1000
Carbon Tetrachloride	1	ug/L										0.16
Chlorobenzene	1	ug/L										110
Chloroform	1	ug/L										0.15
Chloromethane	1	ug/L										3.6
1,1-Dichloroethane	1	ug/L										800
1,2-Dichloroethane	1	ug/L										0.12
1,1-Dichloroethene	1	ug/L										0.044
Trans 1,2-Dichloroethene	1	ug/L										120
Cis 1,2-Dichloroethene	1	ug/L										61
1,1,2,2-Tetrachloroethane	1	ug/L										0.053
Tetrachloroethene	1	ug/L										1.1
Toluene	1	ug/L										750
1,2,4 - Trichlorobenzene	1	ug/L										190
1,1,1-Trichloroethane	1	ug/L										540
1,1,2-Trichloroethane	1	ug/L										0.19
Trichloroethene	1	ug/L										1.6
Vinyl Chloride	1	ug/L										0.019

Only compounds detected are listed

ug/L = micrograms per liter

DL = Detection Limit

TCL = Target Compound List

BDL = Below Detection Limit

MCL = Maximum Contaminant Level - Primary Drinking

Water Standards

RBCs = Risk Based Contaminants

NS = no standard NP = not performed

NA = not available

B = Analyte detected in associated method and/or
equipment blank

J = Estimated value - presence of the compound was
confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside
acceptance ranges

E = Concentration exceeds the established method cali-
bration range but is w/in instrument working range.

TABLE 1
Semi-Annual Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number			MW-68-Y2Q3										MW-68-Y2Q4		MW-68-Y3S1		MW-68-Y3S2		Maximum	USEPA Region III RBCs-Tap Water (October 7, 1999)
Laboratory & Lab Sample ID No.			0008634-09		0011259-06		0102408-06		0110130-17		0110130-18		Contaminant Level (MCL)-Primary Drinking Water Standard							
Date Sample Collected			23-Aug-00		08-Nov-00		14-Feb-01		03-Oct-01		03-Oct-01									
Sample Depth Interval			NA		NA		NA		74.5-76.5		79.5-81.5									
Laboratory Analyses			DL	Units																
TCL Volatile Organics (Method 8260B)																				
Acetone	1	ug/L			ND	ND	789	ND	ND	ND	ND	ND	NS	6100						
Benzene	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	5	0.32						
Bromodichloromethane	1	ug/L			ND	0.47 J	ND	ND	ND	ND	ND	ND	NS	0.17						
Carbon Disulfide	1	ug/L			ND	ND	1.73	ND	ND	ND	ND	ND	NS	1000						
Carbon Tetrachloride	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	5	0.16						
Chlorobenzene	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	100	110						
Chloroform	1	ug/L			ND	ND	ND	ND	ND	ND	3.5	ND	NS	0.15						
Chloromethane	1	ug/L			1.81	ND	ND	ND	ND	ND	ND	ND	NS	3.6						
1,1-Dichloroethane	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	NS	800						
1,2-Dichloroethane	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	5	0.12						
1,1-Dichloroethene	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	7	0.044						
Trans 1,2-Dichloroethene	1	ug/L			9.36	1.4	4.14	ND	ND	ND	0.78 J	ND	100	120						
Cis 1,2-Dichloroethene	1	ug/L			31	1.9	4.38	ND	ND	ND	3.12	ND	70	61						
1,1,2,2-Tetrachloroethane	1	ug/L			6.55	ND	ND	ND	ND	ND	4.15	ND	NS	0.053						
Tetrachloroethene	1	ug/L			8.35	0.40 J	0.92 J	ND	ND	ND	1.6	ND	5	1.1						
Toluene	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	1000	750						
1,2,4 - Trichlorobenzene	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	70	190						
1,1,1-Trichloroethane	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	200	540						
1,1,2-Trichloroethane	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	5	0.19						
Trichloroethene	1	ug/L			48.9	3.21	9.67	0.50 J	ND	ND	6.56	ND	5	1.6						
Vinyl Chloride	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	2	0.019						

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Water Standards

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NA = not available

B = Analyte detected in associated method and/or equipment blank

J = Estimated value - presence of the compound was

confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside acceptance ranges

E = Concentration exceeds the established method calibration range but is within instrument working range.

TABLE 1
Semi-Annual Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Laboratory Analyses	DL	Units	Sample Identification Number		MW-69-Y2Q3		MW-69-Y2Q4		MW-69-Y3S1		MW-69-Y3S2		Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1996)
			Laboratory & Lab Sample ID No.	Date Sample Collected	24-Aug-00	09-Nov-00	011335-01	0102451-15	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01		
				Sample Depth Interval	NA	NA	NA	NA	85 5-87.5	85 5-87.5	91.5-93.5			
TCL Volatile Organics (Method 8260B)														
Acetone	1	ug/L			ND	ND	ND	ND	ND	ND	ND	NS	6100	
Benzene	1	ug/L			ND	ND	ND	ND	ND	ND	ND	5	0.32	
Bromodichloromethane	1	ug/L			ND	ND	ND	ND	ND	ND	ND	NS	0.17	
Carbon Disulfide	1	ug/L			ND	ND	ND	ND	ND	ND	ND	NS	1000	
Carbon Tetrachloride	1	ug/L			ND	ND	ND	ND	ND	ND	ND	5	0.16	
Chlorobenzene	1	ug/L			ND	ND	ND	ND	ND	ND	ND	100	110	
Chloroform	1	ug/L			ND	2.12	ND	ND	ND	ND	ND	NS	0.15	
Chloromethane	1	ug/L			ND	ND	ND	ND	ND	ND	ND	NS	3.6	
1,1-Dichloroethane	1	ug/L			ND	ND	ND	ND	ND	ND	ND	NS	800	
1,2-Dichloroethane	1	ug/L			ND	ND	ND	ND	ND	ND	ND	5	0.12	
1,1,1-Trichloroethane	1	ug/L			ND	ND	ND	ND	ND	ND	ND	7	0.044	
Trans 1,2-Dichloroethane	1	ug/L			0.86 J	12.3	ND	1.41	ND	ND	ND	100	120	
Cis 1,2-Dichloroethane	1	ug/L			2.26	23.1	ND	3.11	ND	ND	ND	70	61	
1,1,2,2-Tetrachloroethane	1	ug/L			4.36	ND	ND	ND	ND	ND	ND	NS	0.053	
Tetrachloroethene	1	ug/L			0.68 J	6.39	ND	0.95 J	ND	ND	ND	5	1.1	
Toluene	1	ug/L			ND	ND	ND	ND	ND	ND	ND	1000	750	
1,2,4 - Trichlorobenzene	1	ug/L			ND	ND	ND	ND	ND	ND	ND	70	190	
1,1,1-Trichloroethane	1	ug/L			ND	ND	ND	ND	ND	ND	ND	200	540	
1,1,2-Trichloroethane	1	ug/L			ND	ND	ND	ND	ND	ND	ND	5	0.19	
Trichloroethene	1	ug/L			50.4	464	ND	42.2	101	ND	ND	5	1.6	
Vinyl Chloride	1	ug/L			ND	ND	ND	ND	ND	ND	ND	2	0.019	

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J = Estimated value - presence of the compound was confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside acceptance ranges

E = Concentration exceeds the established method calibration range but is w/in instrument working range.

TABLE 1
Semi-Annual Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number Laboratory & Lab Sample ID No. Date Sample Collected Sample Depth Interval					DL	Units	MW-70-Y2Q3 0008674-01 24-Aug-00 NA	MW-70-Y2Q4 0011335-10 09-Nov-00 NA	MW-70-Y3S1 0102451-13 15-Feb-01 NA	MW-70-Y3S2 0110130-02 03-Oct-01 85-87		0110130-03 03-Oct-01 90-92	Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1999)	
Laboratory Analyses															
TCL Volatile Organics (Method 8260B)															
Acetone	1	ug/L	ND	ND	50.4	ND	ND	50.4	ND	ND	ND	ND	NS	6100	
Benzene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	0.32	
Bromodichloromethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	0.17	
Carbon Disulfide	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	1000	
Carbon Tetrachloride	1	ug/L	2.46	1.81	0.45 J	ND	1.81	0.45 J	ND	ND	ND	ND	5	0.16	
Chlorobenzene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	110	
Chloroform	1	ug/L	8.46	9.37	1.47	ND	9.37	1.47	ND	ND	ND	ND	NS	0.15	
Chloromethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	3.6	
1,1-Dichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	800	
1,2-Dichloroethane	1	ug/L	ND	1	ND	ND	1	ND	ND	ND	ND	ND	5	0.12	
1,1-Dichloroethene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7	0.044	
Trans 1,2-Dichloroethene	1	ug/L	50.4	57.3	7.65	ND	57.3	7.65	ND	ND	ND	ND	100	120	
Cis 1,2-Dichloroethene	1	ug/L	211	247	34.3	ND	247	34.3	92.8 J	55.9 J	92.8 J	55.9 J	70	61	
1,1,2,2-Tetrachloroethane	1	ug/L	930	3370	482	ND	3370	482	1320	766	1320	766	NS	0.053	
Tetrachloroethane	1	ug/L	35.8	32.5	5.73	ND	32.5	5.73	ND	ND	ND	ND	5	1.1	
Toluene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1000	750	
1,2,4 - Trichlorobenzene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	70	190	
1,1,1-Trichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	200	540	
1,1,2-Trichloroethane	1	ug/L	15.2	16	1.99	ND	16	1.99	ND	ND	ND	ND	5	0.19	
Trichloroethane	1	ug/L	4240	4040	544	ND	4040	544	2340	1170	2340	1170	5	1.6	
Vinyl Chloride	1	ug/L	0.62 J	1.69	0.93 J	ND	1.69	0.93 J	ND	ND	ND	ND	2	0.019	

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E = Concentration exceeds the established method cali-
bration range but is w/in instrument working range.

TABLE 1
Semi-Annual Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number Laboratory & Lab Sample ID No. Date Sample Collected Sample Depth Interval		DL	Units	MW-71-Y203					MW-71-Y204		MW-71-Y3S1		MW-71-Y3S2		Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1999)	
				0008634-07 23-Aug-00		0011335-02 09-Nov-00		0102451-12 15-Feb-01		0110130-10 03-Oct-01		0110130-11 03-Oct-01		75-77			
NA				NA	NA	NA	NA	NA	NA	72-74							
Laboratory Analyses																	
TCL Volatile Organics (Method 8260B)																	
Acetone	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	6100	
Benzene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	0.32	
Bromodichloromethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	0.17	
Carbon Disulfide	1	ug/L	ND	ND	ND	ND	ND	1.49	24.9	21.8	22.6	225	22.6	22.6	NS	1000	
Carbon Tetrachloride	1	ug/L	32.9	26.5	24.9	21.8	24.9	21.8	22.6	22.6	22.6	22.6	22.6	22.6	5	0.16	
Chlorobenzene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	110	
Chloroform	1	ug/L	989*	605**	624	839	624	839	857	857	857	857	857	857	NS	0.15	
Chloromethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	3.6	
1,1-Dichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	800	
1,2-Dichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	0.12	
1,1,1-Trichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7	0.044	
Trans 1,2-Dichloroethane	1	ug/L	2.94	2.29	1.87	2.91 J	1.87	2.91 J	2.91 J	2.91 J	2.91 J	2.91 J	2.91 J	2.91 J	100	120	
Cis 1,2-Dichloroethane	1	ug/L	8.94	6.49	6.89	7.94 J	6.89	7.94 J	7.94 J	7.94 J	7.94 J	7.94 J	7.94 J	7.94 J	70	61	
1,1,2,2-Tetrachloroethane	1	ug/L	168	108	66.2	268	66.2	268	268	268	262	262	262	262	NS	0.053	
Tetrachloroethene	1	ug/L	7.02	4.09	5.16	5.16	5.16	5.16	5.16	5.16	5.16	5.16	5.16	5.16	5	1.1	
Toluene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1000	750	
1,2,4 - Trichlorobenzene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	70	190	
1,1,1-Trichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	200	540	
1,1,2-Trichloroethane	1	ug/L	4.04	2.99	1.98	5.17 J	1.98	5.17 J	5.17 J	5.17 J	5.17 J	5.17 J	5.17 J	5.17 J	5	0.19	
Trichloroethene	1	ug/L	142	95.6	77.8	159	77.8	159	159	159	186	186	186	186	5	1.6	
Vinyl Chloride	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	0.019	

Only compounds detected are listed

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TABLE 1
Semi-Annual Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number Laboratory & Lab Sample ID No. Date Sample Collected Sample Depth Interval				MW-76-Y3S1	MW-76-Y3S2	MW-77-Y3S2	MW-78-Y3S1	MW-78-Y3S2				Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1999)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
				MW-76-Y3S1	MW-76-Y3S2	MW-77-Y3S2	MW-78-Y3S1	0110130-21	0110130-22	0110130-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct-01	03-Oct

Only compounds detected are listed

ug/L = micrograms per liter

DL = Detection Limit

TCL = Target Compound List

BDL = Below Detection Limit

MCL = Maximum Contaminant Level - Primary Drinking

Water Standards

RBCs = Risk Based Contaminants

NS = no standard NP = not performed

NA = not available

B = Analyte detected in associated method and/or
equipment blank

J = Estimated value - presence of the compound was
confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside
acceptance ranges

E = Concentration exceeds the established method cali-
bration range but is within instrument working range.

TABLE 1
Semi-Annual Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number Laboratory & Lab Sample ID No. Date Sample Collected Sample Depth Interval				MW-79-Y3S1										MW-79-Y3S2										Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1999)								
				0102556-01					0110129-26					0110129-27					0110129-28							0110129-29							
				19-Feb-01					03-Oct-01					03-Oct-01					03-Oct-01					03-Oct-01					03-Oct-01				
				NA					85-87					90-92					95-97					100-102									
Laboratory Analyses				DL		Units																											
TCL Volatile Organics (Method 8260B)																																	
Acetone	1	ug/L		97.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	6100							
Benzene	1	ug/L		13.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	0.32							
Bromodichloromethane	1	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	0.17							
Carbon Disulfide	1	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	1000							
Carbon Tetrachloride	1	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	0.16							
Chlorobenzene	1	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	110							
Chloroform	1	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	0.15							
Chloromethane	1	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	3.6							
1,1-Dichloroethane	1	ug/L		1.02	0.41 J	0.43 J	0.40 J	0.40 J	0.40 J	0.40 J	0.40 J	0.40 J	0.40 J	0.40 J	0.40 J	0.40 J	0.40 J	0.40 J	0.40 J	0.40 J	0.40 J	0.40 J	0.40 J	0.40 J	NS	800							
1,2-Dichloroethane	1	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	0.12							
1,1-Dichloroethene	1	ug/L		30.1	21	22.8	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	7	0.044							
Trans 1,2-Dichloroethene	1	ug/L		ND	0.75 J	0.96 J	0.59 J	0.59 J	0.59 J	0.59 J	0.59 J	0.59 J	0.59 J	0.59 J	0.59 J	0.59 J	0.59 J	0.59 J	0.59 J	0.59 J	0.59 J	0.59 J	0.59 J	0.59 J	100	120							
Cis 1,2-Dichloroethene	1	ug/L		2.52	0.62 J	0.88 J	0.57 J	0.57 J	0.57 J	0.57 J	0.57 J	0.57 J	0.57 J	0.57 J	0.57 J	0.57 J	0.57 J	0.57 J	0.57 J	0.57 J	0.57 J	0.57 J	0.57 J	0.57 J	70	61							
1,1,2,2-Tetrachloroethane	1	ug/L		3.34	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	0.053							
Tetrachloroethene	1	ug/L		14	6.28	6.85	6.53	6.53	6.53	6.53	6.53	6.53	6.53	6.53	6.53	6.53	6.53	6.53	6.53	6.53	6.53	6.53	6.53	6.53	5	1.1							
Toluene	1	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1000	750							
1,2,4 - Trichlorobenzene	1	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	70	190							
1,1,1-Trichloroethane	1	ug/L		ND	0.35 J	0.39 J	0.35 J	0.35 J	0.35 J	0.35 J	0.35 J	0.35 J	0.35 J	0.35 J	0.35 J	0.35 J	0.35 J	0.35 J	0.35 J	0.35 J	0.35 J	0.35 J	0.35 J	0.35 J	200	540							
1,1,2-Trichloroethane	1	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	0.19							
Trichloroethene	1	ug/L		9.6	8.8	10.8	8.27	8.27	8.27	8.27	8.27	8.27	8.27	8.27	8.27	8.27	8.27	8.27	8.27	8.27	8.27	8.27	8.27	8.27	5	1.6							
Vinyl Chloride	1	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	0.019							

Only compounds detected are listed

ug/L = micrograms per liter

DL = Detection Limit

TCL = Target Compound List

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MCL = Maximum Contaminant Level - Primary Drinking

Water Standards

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B = Analyte detected in associated method and/or
equipment blank

J = Estimated value - presence of the compound was
confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside
acceptance ranges

E = Concentration exceeds the established method cali-
bration range but is w/in instrument working range.

TABLE 1
Semi-Annual Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Laboratory Analyses	DL	Units	Sample Identification Number		MW-80-Y3S1		MW-80-Y3S2				Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1999)
			Laboratory & Lab Sample ID No.	Date Sample Collected	0102556-02	19-Feb-01	0110129-02	03-Oct-01	0110129-03	0110129-04		
				Sample Depth Interval		NA	61 2-63.2	65.2-67.2	67.2-69.2	67.2-69.2		
TCL Volatile Organics (Method 8260B)												
Acetone	1	ug/L			ND		ND		ND	ND	NS	6100
Benzene	1	ug/L			ND		ND		ND	ND	5	0.32
Bromodichloromethane	1	ug/L			ND		ND		ND	ND	NS	0.17
Carbon Disulfide	1	ug/L			ND		ND		ND	ND	NS	1000
Carbon Tetrachloride	1	ug/L			ND		ND		ND	ND	5	0.16
Chlorobenzene	1	ug/L			ND		ND		ND	ND	100	110
Chloroform	1	ug/L			ND		ND		1.07	ND	NS	0.15
Chloromethane	1	ug/L			ND		ND		ND	ND	NS	3.6
1,1-Dichloroethane	1	ug/L			ND		ND		ND	ND	NS	800
1,2-Dichloroethane	1	ug/L			ND		ND		ND	ND	5	0.12
1,1,1-Trichloroethane	1	ug/L			ND		ND		ND	ND	7	0.044
Trans 1,2-Dichloroethene	1	ug/L			ND		ND		ND	ND	100	120
Cis 1,2-Dichloroethene	1	ug/L			ND		ND		ND	ND	70	61
1,1,2,2-Tetrachloroethane	1	ug/L			ND		ND		ND	ND	NS	0.053
Tetrachloroethene	1	ug/L			ND		ND		ND	ND	5	1.1
Toluene	1	ug/L			ND		ND		ND	ND	1000	750
1,2,4 - Trichlorobenzene	1	ug/L			ND		ND		ND	ND	70	190
1,1,1-Trichloroethane	1	ug/L			ND		ND		ND	ND	200	540
1,1,2-Trichloroethane	1	ug/L			ND		ND		ND	ND	5	0.19
Trichloroethene	1	ug/L			ND		ND		ND	ND	5	1.6
Vinyl Chloride	1	ug/L			ND		ND		ND	ND	2	0.019

Only compounds detected are listed

ug/L = micrograms per liter

DL = Detection Limit

TCL = Target Compound List

BDL = Below Detection Limit

MCL = Maximum Contaminant Level - Primary Drinking

Water Standards

RBCs = Risk Based Contaminants

NS = no standard NP = not performed

NA = not available

B = Analyte detected in associated method and/or equipment blank

J = Estimated value - presence of the compound was

confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside

acceptance ranges

E = Concentration exceeds the established method calibration range but is w/in instrument working range.

TABLE 1
Semi-Annual Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number					MW-95-Y3S1				MW-95-Y3S2				Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1999)		
Laboratory & Lab Sample ID No. Date Sample Collected Sample Depth Interval					MW-95-Y3S1		MW-95-Y3S2		MW-95-Y3S2		MW-95-Y3S2					
					0102408-03	14-Feb-01	0110128-08	03-Oct-01	0110129-09	03-Oct-01	0110129-10	03-Oct-01			0110129-11	03-Oct-01
					NA				46.5-48.5		51.5-53.5		57.5-59.5			
Laboratory Analyses					DL		Units									
TCL Volatile Organics (Method 8260B)					1		ug/L		ND		ND		ND		NS	6100
					1		ug/L		ND		ND		ND		ND	
Bromodichloromethane					1		ug/L		ND		ND		ND		NS	0.17
					1		ug/L		190		ND		ND		ND	
Carbon Disulfide					1		ug/L		ND		ND		ND		5	0.16
					1		ug/L		ND		ND		ND		ND	
Chlorobenzene					1		ug/L		ND		ND		ND		NS	0.15
					1		ug/L		ND		ND		ND		ND	
Chloroform					1		ug/L		ND		ND		ND		NS	800
					1		ug/L		ND		ND		ND		ND	
1,1-Dichloroethane					1		ug/L		ND		ND		ND		7	0.044
					1		ug/L		ND		ND		ND		ND	
1,2-Dichloroethane					1		ug/L		ND		ND		ND		70	61
					1		ug/L		ND		ND		ND		ND	
Trans 1,2-Dichloroethene					1		ug/L		ND		ND		ND		5	1.1
					1		ug/L		ND		ND		ND		ND	
Cis 1,2-Dichloroethene					1		ug/L		ND		ND		ND		200	190
					1		ug/L		ND		ND		ND		ND	
1,1,2,2-Tetrachloroethane					1		ug/L		ND		ND		ND		5	0.19
					1		ug/L		ND		ND		ND		ND	
Tetrachloroethene					1		ug/L		ND		ND		ND		2	0.019
					1		ug/L		ND		ND		ND		ND	
Toluene					1		ug/L		ND		ND		ND			
					1		ug/L		ND		ND		ND		ND	
1,2,4 - Trichlorobenzene					1		ug/L		ND		ND		ND			
					1		ug/L		ND		ND		ND		ND	
1,1,1-Trichloroethane					1		ug/L		ND		ND		ND			
					1		ug/L		ND		ND		ND		ND	
1,1,2-Trichloroethane					1		ug/L		ND		ND		ND			
					1		ug/L		ND		ND		ND		ND	
Trichloroethene					1		ug/L		ND		ND		ND			
					1		ug/L		ND		ND		ND		ND	
Vinyl Chloride					1		ug/L		ND		ND		ND			
					1		ug/L		ND		ND		ND		ND	

Only compounds detected are listed

ug/L = micrograms per liter

DL = Detection Limit

TCL = Target Compound List

BDL = Below Detection Limit

MCL = Maximum Contaminant Level - Primary Drinking

Water Standards

RBCs = Risk Based Contaminants

NS = no standard NP = not performed

NA = not available

B = Analyte detected in associated method and/or equipment blank

J = Estimated value - presence of the compound was

confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside

acceptance ranges

E = Concentration exceeds the established method cali-

bration range but is w/in instrument working range.

TABLE 2
Semi-Annual Analytical Results for TCL Volatile Organics
on System Recovery Wells

Laboratory Analyses	Sample Identification Number Laboratory & Lab Sample ID No.	Date Sample Collected	DL	Units	RW-1A-Y203 0008634-08 8/23/00	RW-1A-Y204 0011335-06 11/9/00	RW-1A-Y3S1 NP	RW-1A-Y3S2 0110528-02 10/18/01	RW-1B-Y203 0008634-04 23-Aug-00	RW-1B-Y204 0011335-07 9-Nov-00	RW-1B-Y3S1 NP	RW-1B-Y3S2 0110528-03 10/18/01	Maximum Contaminant Level (MCL)-Primary	USEPA Region III RBCs-Tap Water
TCL Volatile Organics (Method 8260B)														
Acetone	20	ug/L			ND	ND	NP	ND	ND	ND	NP	ND	NS	6100
2-Butanone (MEK)	20	ug/L			ND	ND	NP	ND	ND	ND	NP	ND	NS	1900
Carbon Disulfide	10	ug/L			ND	ND	NP	86.80	ND	ND	NP	ND	NS	1000
Carbon Tetrachloride	1	ug/L			9.47	15.60	NP	43.80	26.10	20.10	NP	18.50	5	0.16
Chloroform	1	ug/L			292*	420**	NP	889.00	49.40	37.00	NP	29.80	NS	0.15
1,1-Dichloroethane	1	ug/L			ND	ND	NP	ND	ND	ND	NP	ND	NS	800
1,2-Dichloroethane	1	ug/L			ND	ND	NP	ND	ND	ND	NP	ND	5	0.12
1,1,1-Trichloroethane	1	ug/L			ND	ND	NP	ND	ND	ND	NP	ND	7	0.044
Trans 1,2-Dichloroethene	1	ug/L			0.96 J	1.59	NP	4.80 J	1.70	1.22	NP	1.76	100	120
Cis 1,2-Dichloroethene	1	ug/L			2.75	3.29	NP	12.6 J	5.57	3.66	NP	9.46	70	61
1,1,2,2-Tetrachloroethane	1	ug/L			35.30	43.90	NP	226.00	ND	ND	NP	1.30	NS	0.053
Tetrachloroethene	1	ug/L			2.20	2.62	NP	11.50	2.84	1.93	NP	2.01	5	1.1
1,1,1-Trichloroethane	1	ug/L			ND	ND	NP	ND	ND	ND	NP	ND	200	540
1,1,2-Trichloroethane	1	ug/L			1.08	1.39	NP	5.05 J	0.32 J	ND	NP	0.43 J	5	0.19
Trichloroethene	1	ug/L			73.90	66.40	NP	265.00	35.70	21.10	NP	25.60	5	1.6

Only compounds detected are listed

ug/L = micrograms per liter

DL = Detection Limit

TCL = Target Compound List

BDL = Below Detection Limit

MCL = Maximum Contaminant Level - Primary Drinking

Water Standards

RBCs = Risk Based Contaminants

NS = no standard NP = not performed

NA = not available

B = Analyte detected in associated method and/or

equipment blank

J = Estimated value - presence of the compound was

confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside

acceptance ranges

E = Concentration exceeds the established method

calibration range, but is within the working range of the

instrument

TABLE 2
Semi-Annual Analytical Results for TCL Volatile Organics
on System Recovery Wells

Sample Identification Number		Laboratory & Lab Sample ID No.		Date Sample Collected		DL	Units	RW-03-Y203	RW-03-Y204	RW-03-Y3S1	RW-03-Y3S2	RW-04-Y203	RW-04-Y204	RW-04-Y3S1	RW-04-Y3S2	Maximum Contaminant Level (MCL)-Primary	USEPA Region III RBCs-Tap Water	
Laboratory Analyses																		
TCL Volatile Organics (Method 8260B)																		
Acetone	20	ug/L		ND	ND	NP	NP	ND	ND	ND	ND	ND	180.00	ND	ND	NS	6100	
2-Butanone (MEK)	20	ug/L		ND	ND	NP	NP	ND	ND	ND	ND	2750**	ND	ND	ND	NS	1900	
Carbon Disulfide	10	ug/L		ND	ND	NP	NP	ND	ND	ND	ND	ND	ND	51.10	ND	NS	1000	
Carbon Tetrachloride	1	ug/L		13.80	16.00	NP	NP	5.83	ND	10.40	ND	ND	ND	3.12 J	ND	5	0.16	
Chloroform	1	ug/L		4.77	5.36	NP	NP	3.19	ND	3.19	ND	ND	ND	3.60	ND	NS	0.15	
1,1-Dichloroethane	1	ug/L		ND	ND	NP	NP	ND	ND	ND	ND	ND	ND	ND	ND	NS	800	
1,2-Dichloroethane	1	ug/L		ND	ND	NP	NP	ND	ND	ND	ND	ND	ND	ND	ND	5	0.12	
1,1-Dichloroethene	1	ug/L		ND	ND	NP	NP	ND	ND	ND	ND	ND	ND	ND	ND	7	0.044	
Trans 1,2-Dichloroethene	1	ug/L		4.78	7.53	NP	NP	2.09	ND	2.09	ND	4.72	3.08	5.90	7.44 J	100	120	
Cis 1,2-Dichloroethene	1	ug/L		70.80	160.00	NP	NP	19.50	ND	19.50	ND	29.60	17.80	29.60	29.00	70	81	
1,1,2,2-Tetrachloroethane	1	ug/L		59.60	97.50	NP	NP	22.10	ND	22.10	ND	20.20	14.90	20.60	ND	NS	0.053	
Tetrachloroethene	1	ug/L		0.84 J	ND	NP	NP	1.09	ND	1.09	ND	5.14	ND	4.98	7.67	5	1.1	
1,1,1-Trichloroethane	1	ug/L		ND	ND	NP	NP	ND	ND	ND	ND	ND	ND	ND	ND	200	540	
1,1,2-Trichloroethane	1	ug/L		2.39	ND	NP	NP	0.90 J	ND	0.90 J	ND	1.41	ND	ND	ND	5	0.19	
Trichloroethene	1	ug/L		57.40	62.10	NP	NP	75.80	438*	75.80	ND	204.00	337.00	717.00	717.00	5	1.6	

Only compounds detected are listed

ug/L = micrograms per liter

DL = Detection Limit

TCL = Target Compound List

BDL = Below Detection Limit

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RBCs = Risk Based Contaminants

NS = no standard NP = not performed

NA = not available

B = Analyte detected in associated method and/or equipment blank

J = Estimated value - presence of the compound was confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside acceptance ranges

E = Concentration exceeds the established method calibration range, but is within the working range of the instrument

TABLE 2
Semi-Annual Analytical Results for TCL Volatile Organics
on System Recovery Wells

Sample Identification Number Laboratory & Lab Sample ID No. Date Sample Collected				DL	Units	RW-05-Y203	RW-05-Y204	RW-05-Y3S1	RW-05-Y3S2	RW-06-Y203	RW-06-Y204	RW-06-Y3S1	RW-06-Y3S2	Maximum Contaminant Level (MCL)-Primary	USEPA Region III RBCs-Tap Water
Laboratory Analyses															
TCL Volatile Organics (Method 8260B)															
Acestone	20	ug/L				ND	ND	ND	ND	ND	ND	NP	ND	NS	6100
2-Butanone (MEK)	20	ug/L				ND	76.40	ND	ND	ND	47.90	NP	ND	NS	1900
Carbon Disulfide	10	ug/L				ND	ND	186.00		ND	ND	NP	ND	NS	1000
Carbon Tetrachloride	1	ug/L				2.65	ND	ND	ND	ND	ND	NP	ND	5	0.16
Chloroform	1	ug/L				1.29	ND	1.00	ND	1.98	2.38	NP	293.00	NS	0.15
1,1-Dichloroethane	1	ug/L				ND	ND	ND	ND	ND	ND	NP	ND	NS	800
1,2-Dichloroethane	1	ug/L				ND	ND	ND	ND	ND	ND	NP	ND	5	0.12
1,1-Dichloroethene	1	ug/L				ND	ND	ND	ND	ND	ND	NP	ND	7	0.044
Trans 1,2-Dichloroethene	1	ug/L				2.28	ND	10.10	9.28 J	2.28	1.25	NP	2.63	100	120
Cis 1,2-Dichloroethene	1	ug/L				17.90	ND	36.10	32.80	5.96	3.14	NP	6.64	70	61
1,1,2,2-Tetrachloroethane	1	ug/L				167.00	ND	381.00	1710.00	ND	ND	NP	ND	NS	0.053
Tetrachloroethene	1	ug/L				1.45	ND	6.19	6.88 J	5.90	2.18	NP	20.40	5	1.1
1,1,1-Trichloroethane	1	ug/L				ND	ND	ND	ND	ND	ND	NP	ND	200	540
1,1,2-Trichloroethane	1	ug/L				0.60 J	ND	ND	ND	ND	ND	NP	ND	5	0.19
Trichloroethene	1	ug/L				132.00	1.89	407.00	757.00	34.00	11.30	NP	34.50	5	1.6

Only compounds detected are listed

ug/L = micrograms per liter

DL = Detection Limit

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BDL = Below Detection Limit

MCL = Maximum Contaminant Level - Primary Drinking

Water Standards

RBCs = Risk Based Contaminants

NS = no standard NP = not performed

NA = not available

B = Analyte detected in associated method and/or equipment blank

J = Estimated value - presence of the compound was confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside acceptance ranges

E = Concentration exceeds the established method calibration range, but is within the working range of the instrument

TABLE 2
Semi-Annual Analytical Results for TCL Volatile Organics
on System Recovery Wells

Sample Identification Number Laboratory & Lab Sample ID No.		Date Sample Collected		DL		Units		RW-07-Y2Q3	RW-07-Y2Q4	RW-07-Y3S1	RW-07-Y3S2	RW-08-Y2Q3	RW-08-Y2Q4	RW-08-Y3S1	RW-08-Y3S2	Maximum Contaminant Level (MCL)-Primary		USEPA Region III RBCs-Tap Water	
Laboratory Analyses		Date Sample Collected		DL		Units		Date Sample Collected		Date Sample Collected		Date Sample Collected		Date Sample Collected		Date Sample Collected		Date Sample Collected	
TCL Volatile Organics (Method 8260B)		Date Sample Collected		DL		Units		Date Sample Collected		Date Sample Collected		Date Sample Collected		Date Sample Collected		Date Sample Collected		Date Sample Collected	
Acetone	20	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	6100	
2-Butanone (MEK)	20	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	1900	
Carbon Disulfide	10	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	1000	
Carbon Tetrachloride	1	ug/L	ND	0.43 J	ND	ND	ND	0.43 J	ND	ND	ND	0.94 J	ND	1.05	ND	ND	5	0.16	
Chloroform	1	ug/L	ND	3.08	ND	ND	ND	3.08	ND	ND	ND	8.72	ND	11.40	ND	ND	NS	0.15	
1,1-Dichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	800	
1,2-Dichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	0.12	
1,1,1-Trichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.10	ND	5.65	ND	ND	7	0.044	
Trans 1,2-Dichloroethane	1	ug/L	ND	22.90	ND	ND	ND	22.90	ND	ND	ND	39.70	ND	30.50	ND	ND	100	120	
Cis 1,2-Dichloroethane	1	ug/L	70.60	86.60	ND	ND	86.60	ND	ND	ND	ND	128.00	ND	118.00	ND	ND	70	61	
1,1,2,2-Tetrachloroethane	1	ug/L	65.80	49.80	ND	ND	49.80	ND	ND	ND	ND	109.00	ND	166.00	ND	ND	NS	0.053	
Tetrachloroethane	1	ug/L	10.70	9.30	ND	ND	9.30	ND	ND	ND	ND	5.66	ND	7.22	ND	ND	5	1.1	
1,1,1-Trichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	200	540	
1,1,2-Trichloroethane	1	ug/L	1.44	1.88	ND	ND	1.88	ND	ND	ND	ND	1.97	ND	2.09	ND	ND	5	0.19	
Trichloroethene	1	ug/L	98.90	101.00	ND	ND	101.00	ND	ND	ND	ND	190.00	56.90	105.00	148.00	ND	5	1.6	

Only compounds detected are listed

ug/L = micrograms per liter

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Water Standards

RBCs = Risk Based Contaminants

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equipment blank

J = Estimated value - presence of the compound was

confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside

acceptance ranges

E = Concentration exceeds the established method

calibration range, but is within the working range of the

instrument

TABLE 2
Semi-Annual Analytical Results for TCL Volatile Organics
on System Recovery Wells

Laboratory Analyses	Sample Identification Number Laboratory & Lab Sample ID No. Date Sample Collected		DL	Units	RW-09-Y2Q3	RW-09-Y2Q4	RW-09-Y3S1	RW-09-Y3S2	Maximum Contaminant Level (MCL)-Primary	USEPA Region III RBCs-Tap Water
	0008674-11 24-Aug-00	0011593-01 20-Nov-00			0102451-04 15-Feb-01	0110528-12 18-Oct-01				
TCL Volatile Organics (Method 8260B)										
Acetone	20	ug/L			ND	ND	ND	ND	NS	6100
2-Butanone (MEK)	20	ug/L			ND	131.00	ND	ND	NS	1900
Carbon Disulfide	10	ug/L			ND	ND	ND	ND	NS	1000
Carbon Tetrachloride	1	ug/L			1.17	ND	1.00	1.21	5	0.16
Chloroform	1	ug/L			12.50	13.30	13.70	15.80	NS	0.15
1,1-Dichloroethane	1	ug/L			1.18	1.82	1.49	1.33	NS	800
1,2-Dichloroethane	1	ug/L			ND	ND	ND	0.51 J	5	0.12
1,1-Dichloroethene	1	ug/L			45.40	52.50	46.10	56.00	7	0.044
Trans 1,2-Dichloroethene	1	ug/L			2.53	ND	1.42	1.61	100	120
Cis 1,2-Dichloroethene	1	ug/L			7.68	2.02	4.74	5.37	70	61
1,1,2,2-Tetrachloroethane	1	ug/L			2.55	ND	3.01	3.90	NS	0.053
Tetrachloroethene	1	ug/L			32.90	54.30	38.60	3.90	5	1.1
1,1,1-Trichloroethane	1	ug/L			1.25	1.92	1.39	1.44	200	540
1,1,2-Trichloroethane	1	ug/L			ND	ND	ND	ND	5	0.19
Trichloroethene	1	ug/L			35.50	36.30	22.40	3.51	5	1.6

Only compounds detected are listed

ug/L = micrograms per liter
DL = Detection Limit

TCL = Target Compound List

BDL = Below Detection Limit

MCL = Maximum Contaminant Level - Primary Drinking

Water Standards

RBCs = Risk Based Contaminants

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B = Analyte detected in associated method and/or
equipment blank

J = Estimated value - presence of the compound was
confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside
acceptance ranges

E = Concentration exceeds the established method
calibration range, but is within the working range of the
instrument

TABLE 3
Summary of Analytical Results for Total Effluent (through December 2001) of the Groundwater Recovery System
Dunn Field, Memphis Depot, Tennessee

Sample Identification Number	ST-EFF-01	ST-EFF-02*	ST-EFF-03	ST-EFF-04	ST-EFF-04A (Duplicate)	ST-EFF-05	ST-EFF-06	City of Memphis
Laboratory ID No.	9810817-01	9810819-01	9811263-01	9811478-01	9811478-04	9811705-01	9812045-01	Industrial Wastewater
Total System Effluent Sample Description	Week 1 of System Startup Testing	Week 2 of System Startup Testing	Week 1 of System Operation (O&M)	Week 2 of System Operation (O&M)	Week 2 of System Operation (O&M)	Week 3 of System Operation (O&M)	Week 4 of System Operation (O&M)	Discharge Max. Levels
Date Effluent Sample Collected	19-Oct-98	26-Oct-98	9-Nov-98	16-Nov-98	16-Nov-98	23-Nov-98	30-Nov-98	
Instantaneous Flow Rate	230 GPM/331,200 GPD	155 GPM/223,200 GPD	199 GPM/286,560 GPD	189 GPM/274,512 GPD	189 GPM/274,512 GPD	158.8 GPM/228,672 GPD	145.0 GPM/208,800 GPD	561,600 GPD
Totalized Flow	1,382,400 GAL	3,408,480 GAL	5,976,549 GAL	7,748,690 GAL	7,748,690 GAL	9,343,370 GAL	10,969,640 GAL	
LABORATORY ANALYSES	DL	Units	Units	Units	Units	Units	Units	Monthly Ave./One Day Max.
pH (Method 150.1)	5.6	5.9	5.8	5.6	5.9	5.6	5.8	mg/L
TAL Metals (EPA 200 Series)								mg/L
Aluminum (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	172
Arsenic (Method 206.2)	ND	ND	ND	ND	ND	ND	ND	0.04/0.1
Barium (Method 200.7)	0.104	0.107	0.109	0.118	0.117	0.112	0.124	NS
Cadmium (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	0.01/0.02
Calcium (Method 200.7)	23	21.6	24.7	25.3	25	24.8	26.5	NS
Chromium (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	0.2/0.4
Copper (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	0.2/0.4
Iron (Method 200.7)	0.07	0.046	0.022	0.019	0.019	0.036	0.01	10/20
Lead (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	0.15/0.3
Magnesium (Method 200.7)	11.7	11.3	12.6	13	12.8	12.5	13	NS
Manganese (Method 200.7)	ND	ND	ND	0.015	0.015	0.014	0.048	NS
Mercury (Method 245.1)	ND	ND	ND	ND	ND	ND	ND	0.001/0.002
Nickel (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	0.1/0.3
Potassium (Method 200.7)	0.916	0.781	0.883	0.975	1.15	0.9	0.703	NS
Sodium (Method 200.7)	27.8	28.3	27.7	27.9	28.7	26.6	26.1	NS
Zinc (Method 200.7)	0.047	0.129	0.095	0.098	0.095	0.053	0.062	0.3/1.0
TCL Volatiles Organics (Method 8260B)								ug/L
Carbon Tetrachloride	2.8	4.3	3.06	3.27	3.38	4.07	3.22	20/40
Chloroform	13.6	12.9	14.9	18.1	20.9	20.6	16.4	20/40
1,1-Dichloroethane	1	ND	ND	ND	ND	ND	ND	NS
1,1-Dichloroethene	11.6	5.42	9.99	13.9	15.6	20.3	14.6	50/100
Cis 1,2-Dichloroethene	29.2	43.8	30	33.3	36.8	37.3	32.8	50/100
Trans 1,2-Dichloroethene	5.96	9.27	6.68	7.47	7.92	8.42	7.47	50/100
Methylene Chloride	ND	ND	ND	ND	ND	ND	ND	10/20
1,1,2,2-Tetrachloroethane	87.1	159	234	234	257	272	176	500/1000
Tetrachloroethene	25.7	22.6	28.9	30	29.7	34.4	25.6	60/120
Toluene	ND	ND	ND	ND	ND	ND	ND	20/40
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	1	ND	10/20
1,1,2-Trichloroethane	1.81	2.82	1.59	1.46	1.5	1.3	1.1	50/100
Trichloroethene	108	226	195	225	220	217	160	400/800
TCL Semi-Volatiles Organics (Method 8270C)								ug/L
Bis(2-ethoxy)phthalate	ND	21.6B	ND	ND	ND	26B	ND	10/20
Di-n-butyl Phthalate	91.2	2.5J	ND	ND	ND	ND	ND	30/60
Naphthalene	ND	ND	ND	ND	ND	ND	ND	10/20
Phenol	ND	ND	ND	ND	ND	ND	ND	10/20

NOTE: Compounds included in this table are those listed in Section D.3 and detected as part of the analytical methods conducted per Section F.1 of Industrial Wastewater Discharge Agreement.

All analyses performed by Environmental Testing & Consulting, Inc., Memphis, TN

* = Recovery well RW-08 was not in operation at the time of sample collection

** = Recovery well RW-03 was not in operation at the time of sample collection

NS = no standard listed in the Industrial Wastewater Discharge Agreement

J = estimated value - presence of the compound was confirmed but less than the reported DL

* = estimated value, quality control recoveries outside acceptance ranges

ND = not detected

B = analyte detected in associated method and/or equipment blank

mg/L = milligrams per liter

DL = detection limit

GPD = gallons per day

A-Effluent meter zeroed out 03-Nov-98

91.2 = bold number indicates that value exceeds Discharge Max. Levels

TABLE 3
Summary of Analytical Results for Total Effluent (through December 2001) of the Groundwater Recovery System
Dunn Field, Memphis Depot, Tennessee

Sample Identification Number Laboratory ID No		ST-EFF-07*	ST-EFF-07A* (Duplicate)	ST-EFF-08	ST-EFF-09	ST-EFF-HG-09A	ST-EFF-HG-05 (Duplicate)	ST-EFF-HG-09B	ST-EFF-HG-09C	City of Memphis Industrial Wastewater	
		9812764-01	9812764-02	9901689-01	9902894-01	9902702-01	9902702-02	9902756-01	9902775-01	Discharge Max. Levels	
Total System Effluent Sample Description		Week 17 of System Operation (O&M)									
		Week 13 of System Operation (O&M)									
		Week 7 of System Operation (O&M)									
Data Effluent Sample Collected		18-Dec-98	26-Jan-99	22-Feb-99	23-Feb-99	24-Feb-99	25-Feb-99				
Instantaneous Flow Rate		98.4* GPM/141,696 GPD	116.7 GPM/169,048 GPD	108.1 GPM/155,664 GPD	80.7 GPM/116,208 GPD	76.2 GPM/111,048 GPD	104.2 GPM/150,048 GPD				
Totalized Flow		14,448,100 GAL	20,527,972 GAL	24,668,260 GAL	24,817,070 GAL	24,824,750 GAL	25,017,530 GAL				
LABORATORY ANALYSES		DL	Units							Monthly Ave / One Day Max.	
pH (Method 150.1)		5.8	5.9	6.5	6.1					5.5 to 10.0	
TOTAL Metals (EPA 300 Series)										mg/L	
Aluminum (Method 200.7)		0.06	ND	ND	ND					1 / 2	
Arsenic (Method 206.2)		0.003	ND	ND	ND					0.04 / 0.1	
Barium (Method 200.7)		0.003	0.114	0.119	0.109					NS	
Cadmium (Method 200.7)		0.005	ND	ND	ND					0.01 / 0.02	
Calcium (Method 200.7)		0.015	26.3	27.1	23.1					NS	
Chromium (Method 200.7)		0.009	ND	ND	ND					0.2 / 0.4	
Copper (Method 200.7)		0.008	ND	ND	ND					0.2 / 0.4	
Iron (Method 200.7)		0.009	0.014	0.044	0.151					10 / 20	
Lead (Method 200.7)		0.06	ND	ND	ND					0.15 / 0.3	
Magnesium (Method 200.7)		0.04	12.4	12.5	11.3					NS	
Manganese (Method 200.7)		0.003	0.101	0.175	0.049					NS	
Mercury (Method 245.1)		0.0002	ND	ND	ND					0.001 / 0.002	
Nickel (Method 200.7)		0.02	ND	ND	ND					0.1 / 0.3	
Potassium (Method 200.7)		0.25	0.818	0.927	0.951					NS	
Sodium (Method 200.7)		0.95	25.3	26.5	24.1					NS	
Zinc (Method 200.7)		0.01	0.115	0.048	0.065					0.3 / 1.0	
TC, Volatile Organics (Method 8260B)										ug/L	
Carbon Tetrachloride		1	4.50	2.32	2.53					20 / 40	
Chloroform		1	10.1	10.3	6.64					20 / 40	
1,1-Dichloroethane		1	ND	ND	ND					NS	
1,1-Dichloroethene		1	4.8	5.36	19.5					50 / 100	
Cis 1,2-Dichloroethene		1	43.4	46.7	36.2					50 / 100	
Trans 1,2-Dichloroethene		1	9.78	10.4	11					50 / 100	
Methylene Chloride		5	ND	ND	ND					10 / 20	
1,1,2,2-Tetrachloroethane		1/50/100	175	189	46.8					500 / 1000	
Tetrachloroethene		1	11.8	13.4	16.5					60 / 120	
Toluene		1	ND	ND	ND					20 / 40	
1,1,1-Trichloroethane		1	ND	ND	ND					10 / 20	
1,1,2-Trichloroethane		1	ND	ND	ND					50 / 100	
Trichloroethene		1/50/100	183	196	144					400 / 800	
TC, Semi-Volatile Organics (Method 8270C)										ug/L	
Bis(2-ethylhexyl)phthalate		10	11.6	ND	ND					10 / 20	
Di-n-butyl Phthalate		5	ND	ND	ND					30 / 60	
Naphthalene		2	ND	ND	ND					10 / 20	
Phenol		5	ND	ND	ND					10 / 20	

NOTE: Compounds included in this table are those listed in Section D.2 and detected as part of the analytical methods conducted per Section F.1 of Industrial Wastewater Discharge Agreement.

All analyses performed by Environmental Testing & Consulting, Inc., Memphis, TN

* = Recovery well RW-09 was not in operation at the time of sample collection

** = Recovery well RW-06 was not in operation at the time of sample collection

*** = Recovery well RW-03 was not in operation at the time of sample collection

NS = no standard listed in the Industrial Wastewater Discharge Agreement

J = estimated value - presence of the compound was confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside acceptance ranges

ND = not detected

mg/L = milligrams per liter

DL = detection limit

GPD = gallons per day

A=Effluent meter zeroed out 03-Nov-99

B = analyte detected in associated method and/or equipment blank

ug/L = micrograms per liter

GPM = gallons per minute

81.2 = bold number indicates that value exceeds Discharge Max. Levels

TABLE 3
Summary of Analytical Results for Total Effluent (through December 2001) of the Groundwater Recovery System
Dunn Field, Memphis Depot, Tennessee

Sample Identification Number	ST-EFF-10	ST-EFF-11	ST-INF-11 (Duplicate)	ST-EFF-12	ST-EFF-13	ST-EFF-14	ST-INF-14 (Duplicate)	City of Memphis Industrial Wastewater
Laboratory ID No.	9904750-01	9904750-01	9904750-02	9905639-01	9907002-01	9907539-01	9907539-02	
Total System Effluent Sample Description	Week 21 of System Operation (O&M)	Week 28 of System Operation (O&M)	Week 30 of System Operation (O&M)	Week 35 of System Operation (O&M)	Week 38 of System Operation (O&M)	Week 38 of System Operation (O&M)	Week 38 of System Operation (O&M)	Discharge Max. Levels
Date Effluent Sample Collected	26-Mar-99	27-Apr-99	24-May-99	30-Jun-99	21-Jul-99			
Instantaneous Flow Rate	84.3 GPM/135,782 GPD	105.3 GPM/151,632 GPD	87.9 GPM/126,576 GPD	81.3 GPM/117,072 GPD	80.9 GPM/116,496 GPD			501,600 GPD
Totalized Flow	28,964,822 GAL	32,187,260 GAL	36,220,118 GAL	40,550,662 GAL	42,647,212 GAL			
LABORATORY ANALYSES								Monthly Aves./Dis. Day Max.
pH (Method 150.1)	5.7	6.6	6.2	6.0	5.9	5.8	5.9	5.5 to 10.0
TAL Metals (EPA 200.9) (mg/L)								mg/L
Aluminum (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	1/2
Arsenic (Method 206.2)	0.106	0.108	0.114	0.11	0.107	0.101	0.099	0.04/0.1
Barium (Method 200.7)	0.003	0.003	0.003	0.003	0.003	0.003	0.003	NS
Cadmium (Method 200.7)	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.01/0.02
Calcium (Method 200.7)	0.009	0.009	0.009	0.009	0.009	0.009	0.009	NS
Chromium (Method 200.7)	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.2/0.4
Copper (Method 200.7)	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.2/0.4
Iron (Method 200.7)	0.009	0.009	0.009	0.009	0.009	0.009	0.009	10/20
Lead (Method 200.7)	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.15/0.3
Magnesium (Method 200.7)	0.04	0.04	0.04	0.04	0.04	0.04	0.04	NS
Manganese (Method 200.7)	0.003	0.003	0.003	0.003	0.003	0.003	0.003	NS
Mercury (Method 245.1)	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.001/0.002
Nickel (Method 200.7)	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.1/0.3
Potassium (Method 200.7)	0.25	0.25	0.25	0.25	0.25	0.25	0.25	NS
Sodium (Method 200.7)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	NS
Zinc (Method 200.7)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.3/1.0
TCF Volatile Organics (Method 8260B)								ug/L
Carbon Tetrachloride	1	1	1	1	1	1	1	20/40
Chloroform	1	1	1	1	1	1	1	20/40
1,1-Dichloroethane	1	1	1	1	1	1	1	NS
1,1-Dichloroethene	1	1	1	1	1	1	1	50/100
Cis 1,2-Dichloroethane	1	1	1	1	1	1	1	50/100
Trans 1,2-Dichloroethane	1	1	1	1	1	1	1	50/100
Methylene Chloride	5	5	5	5	5	5	5	50/100
1,1,2,2-Tetrachloroethane	1/50/100	1/50/100	1/50/100	1/50/100	1/50/100	1/50/100	1/50/100	500/1000
Tetrachloroethene	1	1	1	1	1	1	1	60/120
Toluene	1	1	1	1	1	1	1	20/40
1,1,1-Trichloroethane	1	1	1	1	1	1	1	10/20
1,1,2-Trichloroethane	1	1	1	1	1	1	1	50/100
Trichloroethene	1/50/100	1/50/100	1/50/100	1/50/100	1/50/100	1/50/100	1/50/100	400/800
TCF Semi-Volatile Organics (Method 8270C)								ug/L
Bis(2-ethylhexyl)phthalate	10	10	10	10	10	10	10	10/20
Di-n-butyl Phthalate	5	5	5	5	5	5	5	30/60
Naphthalene	2	2	2	2	2	2	2	10/20
Phenol	5	5	5	5	5	5	5	10/20

NOTE: Compounds included in this table are those listed in Section D.3 and detected as part of the analytical methods conducted per Section F.1 of Industrial Wastewater Discharge Agreement.

All analyses performed by Environmental Testing & Consulting, Inc., Memphis, TN

* = Recovery well RW-08 was not in operation at the time of sample collection

** = Recovery well RW-08 was not in operation at the time of sample collection

NS = no standard listed in the Industrial Wastewater Discharge Agreement

J = estimated value - presence of the compound was confirmed but less than the reported DL

J* = estimated value, quality control recoveries outside acceptance ranges

ND = not detected

mg/L = milligrams per liter

DL = detection limit

GPD = gallons per day

A-Effluent meter zeroed out 03-Nov-99

B = analysis detected in associated method and/or equipment blank

ug/L = micrograms per liter

GPM = gallons per minute

91.2 = bold number indicates that value exceeds Discharge Max. Levels

TABLE 3
Summary of Analytical Results for Total Effluent (through December 2001) of the Groundwater Recovery System
Dunn Field, Memphis Depot, Tennessee

Sample Identification Number Laboratory ID No.	ST-EFF-15 9908593-02	ST-EFF-15 (Duplicate) 9908593-01	ST-EFF-16 9908614-01	ST-EFF-17 9910519-01	ST-EFF-018 9911451-01	ST-EFF-116 (Duplicate) 9911451-02	ST-EFF-019 9912495-01	ST-EFF-117 (Duplicate) 9912495-02	City of Memphis Industrial Wastewater
Total System Effluent Sample Description	Week 43 of System Operation (O&M)		Week 47 of System Operation (O&M)	Week 51 of System Operation (O&M)	Week 55 of System Operation (O&M)		Week 59 of System Operation (O&M)		
Date Effluent Sample Collected	23-Aug-99		22-Sep-99	21-Oct-99	15-Nov-99		15-Dec-99		
Instantaneous Flow Rate	74.7 GPM / 107,576 GPD		72.2 GPM / 104,112 GPD	72.3 GPM / 104,112 GPD	76.2 GPM / 109,728 GPD		71.5 GPM / 102,960 GPD		561,600 GPD
Totalized Flow	46,332,590 GAL		49,474,353 GAL	52,388,107 GAL	55,040,162 GAL		57,672,540 GAL		
LABORATORY ANALYSES - DL - Units									Monthly Ave / One Day Max.
pH (Method 150.1)	5.7	5.7	6.0	5.7	6.1		5.9	5.7	5.5 to 10.0
TA Metals (EPA 200 Series)									mg/L
Aluminum (Method 200.7)	0.07	ND	ND	ND	ND	ND	ND	ND	1/2
Arsenic (Method 206.2)	0.003	ND	ND	ND	ND	ND	ND	ND	0.04 / 0.1
Barium (Method 200.7)	0.003	0.1	0.098	0.099	0.1	0.101	0.099	0.097	NS
Cadmium (Method 200.7)	0.005	ND	ND	ND	ND	ND	ND	ND	0.01 / 0.02
Calcium (Method 200.7)	0.015	20.7	20.6	20.6	21.1	21.3	20.1	19.8	NS
Chromium (Method 200.7)	0.009	ND	ND	ND	ND	ND	ND	ND	0.2 / 0.4
Copper (Method 200.7)	0.008	ND	ND	ND	ND	ND	ND	ND	0.2 / 0.4
Iron (Method 200.7)	0.009	0.1	0.088	0.018	0.025	0.034	0.019	0.015	10 / 20
Lead (Method 200.7)	0.06	10.6	10.3	10.7	10.5	10.6	10.3	10.2	0.15 / 0.3
Magnesium (Method 200.7)	0.003	0.028	0.018	0.020	0.022	0.022	0.007	0.007	NS
Mercury (Method 245.1)	0.0002	ND	ND	ND	ND	ND	ND	ND	NS
Nickel (Method 200.7)	0.02	ND	ND	ND	0.066	0.82	0.84	0.764	0.001 / 0.002
Potassium (Method 200.7)	0.25	0.798	0.852	0.926	1.16	0.82	0.84	0.764	0.1 / 0.3
Sodium (Method 200.7)	0.05	24.6	22.2	23.0	22.8	22.4	23.1	21.8	NS
Zinc (Method 200.7)	0.033	ND	0.043	0.028	0.07	0.055	0.047	0.045	0.3 / 1.0
TCF Volatile Organics (Method 8260B)									ug/L
Carbon Tetrachloride	1	1.21	2.05	2.22	1.77	1.69	1.18	0.18J	20 / 40
Chloroform	1	9.38	9.88	8.30	7.41	7.49	8.81	6.4	20 / 40
1,1-Dichloroethane	1	ND	ND	ND	ND	ND	ND	ND	NS
1,1,2-Dichloroethane	1	17	19.3	16.6	16.6	16.7	15.7	10.2	50 / 100
Cis 1,2-Dichloroethane	1	47.1	50.2	49.8	44.1	49.4	47	32.5	50 / 100
Trans 1,2-Dichloroethane	1	14.6	14.5	13.0	12.7	13.0	12.6	8.4	50 / 100
Methylene Chloride	5	11.9	12.8	ND	ND	ND	ND	ND	10 / 20
1,1,2,2-Tetrachloroethane	1/50/100	137	148	183	120	118	137	144	500 / 1000
Tetrachloroethane	1	19.8	21.8	19.2	17.9	17.8	19.1	14.2	60 / 120
Toluene	1	ND	ND	ND	ND	ND	ND	ND	20 / 40
1,1,1-Trichloroethane	1	ND	ND	ND	ND	ND	0.61J	0.43J	10 / 20
1,1,2-Trichloroethane	1	ND	ND	ND	ND	ND	0.69J	ND	50 / 100
Trichloroethene	1/50/100	207	214	208	177	181	174	134	400 / 800
TCF Semi-Volatile Organics (Method 8270C)									ug/L
Bis(2-ethylhexyl)phthalate	10	ND	10.6B	ND	ND	ND	ND	13.7B	10 / 20
Di-n-butyl Phthalate	5	ND	ND	ND	ND	ND	ND	ND	30 / 60
Naphthalene	2	ND	ND	ND	ND	ND	ND	ND	10 / 20
Phenol	5	ND	ND	ND	ND	ND	ND	ND	10 / 20

NOTE: Compounds included in this table are those listed in Section D.3 and detected as part of the analytical methods conducted per Section F.1 of Industrial Wastewater Discharge Agreement.

All analyses performed by Environmental Testing & Consulting, Inc., Memphis, TN

* = Recovery well RW-08 was not in operation at the time of sample collection

** = Recovery well RW-08 was not in operation at the time of sample collection

*** = Recovery well RW-08 was not in operation at the time of sample collection

NS = no standard listed in the Industrial Wastewater Discharge Agreement

J = estimated value - presence of the compound was confirmed but less than the reported DL

DL = detection limit

ND = not detected

mg/L = milligrams per liter

GPD = gallons per day

Ac-Effluent meter zeroed out 03-Nov-99

B = analyte detected in associated method and/or equipment blank

ug/L = micrograms per liter

GPM = gallons per minute

\$1.2 = bold number indicates that value exceeds Discharge Max. Levels

TABLE 3
Summary of Analytical Results for Total Effluent (through December 2001) of the Groundwater Recovery System
Dunn Field, Memphis Depot, Tennessee

Sample Identification Number Laboratory ID No.	ST-EFF-020	ST-EFF-021	ST-EFF-121 (Duplicate)	ST-EFF-022	ST-INF-022 (Duplicate)	ST-EFF-023	ST-EFF-024	EQB-024	City of Memphis Industrial Wastewater
	0001189-01	0002422-01	0002422-02	0003418-01	0003418-02	0004399-01	0005400-01	0005400-02	
Total System Effluent Sample Description	Week 63 of System Operation (O&M)	Week 68 of System Operation (O&M)	Week 72 of System Operation (O&M)	Week 72 of System Operation (O&M)	Week 72 of System Operation (O&M)	Week 76 of System Operation (O&M)	Week 80 of System Operation (O&M)	Week 80 of System Operation (O&M)	
Date Effluent Sample Collected	10-Jan-00	15-Feb-00		15-Mar-00		14-Apr-00	18-May-00	18-May-00	
Instantaneous Flow Rate	64.9 GPM/93,456 GPD	70.8 GPM/101,664 GPD		57.1 GPM/82,224 GPD		57.1 GPM/82,224 GPD	52.1 GPM/75,024 GPD	52.1 GPM/75,024 GPD	581,800 GPD
Totalized Flow	59,949,612 GAL	62,926,034 GAL		65,383,409 GAL		67,775,983 GAL	70,137,871 GAL	70,137,871 GAL	
LABORATORY ANALYSES	DL	DL	DL	DL	DL	DL	DL	DL	DL
pH (Method 150.1)	7.0	6.1	5.4	6.1	5.8	6.1	5.9	6.0	5.5 to 10.0
TAL Metals (EPA 200 Series)									mg/L
Aluminum (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	ND	1/2
Arsenic (Method 206.2)	0.003	0.06	0.108	0.106	0.104	0.111	ND	ND	0.04/0.1
Barium (Method 200.7)	0.003	0.099	ND	ND	ND	ND	ND	ND	NS
Cadmium (Method 200.7)	0.005	ND	ND	ND	ND	ND	ND	ND	0.01/0.02
Calcium (Method 200.7)	0.015	19.9	21.6	21.98	21.88	21.18	21.4	20.8	NS
Chromium (Method 200.7)	0.009	ND	ND	ND	ND	ND	ND	ND	0.2/0.4
Copper (Method 200.7)	0.008	ND	ND	ND	ND	ND	ND	ND	0.2/0.4
Iron (Method 200.7)	0.009	0.114	0.036	0.155	0.028	0.048	ND	0.032	10/20
Lead (Method 200.7)	0.06	ND	ND	ND	ND	ND	ND	ND	0.15/0.3
Magnesium (Method 200.7)	0.04	10.6	11.3	11.2	11	10.9	11.4	11	NS
Manganese (Method 200.7)	0.003	ND	0.025	0.015	0.015	0.019	ND	ND	NS
Mercury (Method 245.1)	0.0002	ND	ND	ND	ND	ND	ND	ND	0.001/0.002
Nickel (Method 200.7)	0.02	ND	ND	ND	ND	ND	ND	ND	0.1/0.3
Potassium (Method 200.7)	0.25	0.752	0.874	0.852	0.809	0.826	0.681	0.892	NS
Sodium (Method 200.7)	0.05	22.8	23.5	24.6	23.5	22.9	23.3	22.3	NS
Zinc (Method 200.7)	0.01	0.305	0.053	0.04	0.043	0.052	0.045	0.038	0.3/1.0
TCL Volatiles Organics (Method 8240B)									ug/L
Carbon Tetrachloride	1	1.14	1.67	1.56	1.5	1.63	0.87	ND	20/40
Chloroform	1	8.34	6.58	7.76	8.36	7.60	7.59	7.76	20/40
1,1-Dichloroethane	1	ND	ND	ND	ND	0.47J	ND	ND	NS
1,1-Dichloroethene	1	ND	13.8	12.8	13.5	51.5	14.8	15.6	50/100
Cis 1,2-Dichloroethene	1	48	43.7	42.6	43.1	14.9	50.9	52.4	50/100
Trans 1,2-Dichloroethene	1	13.4	12.0	13.2	13.4	15.8	15.8	16.3	50/100
Methylene Chloride	5	ND	ND	ND	ND	ND	ND	ND	10/20
1,1,2,2-Tetrachloroethane	1/50/100	218	189	47.5	51.7	54.7	51	51.3	500/1000
Tetrachloroethene	1	17.7	15.3	17.2	18	18	15.2	15.9	60/120
Toluene	1	ND	ND	ND	1.53J	ND	ND	ND	20/40
1,1,1-Trichloroethane	1	ND	0.48J	0.52J	ND	ND	ND	ND	10/20
1,1,2-Trichloroethane	1	ND	0.75J	0.68J	0.97J	0.96J	ND	0.78	50/100
Trichloroethene	1/50/100	189	178	115	121	189	124	129	400/800
TCL Semi-Volatiles Organics (Method 8270C)									ug/L
Bis(2-ethylhexyl)phthalate	10	ND	ND	ND	ND	337.33	ND	ND	10/20
Di-n-butyl Phthalate	5	ND	ND	ND	ND	ND	ND	ND	30/60
Naphthalene	2	ND	ND	ND	ND	ND	ND	ND	10/20
Phenol	5	ND	ND	ND	ND	ND	ND	ND	10/20

NOTE: Compounds included in this table are those listed in Section D.3 and detected as part of the analytical methods conducted per Section F.1 of Industrial Wastewater Discharge Agreement.

All analyses performed by Environmental Testing & Consulting, Inc., Memphis, TN

** Recovery well RW-06 was not in operation at the time of sample collection

** Recovery well RW-03 was not in operation at the time of sample collection

** Recovery well RW-03 was not in operation at the time of sample collection

NS = no standard listed in the Industrial Wastewater Discharge Agreement

J = estimated value - presence of the compound was confirmed but less than the reported DL

J* = estimated value, quality control recoveries outside acceptance ranges

ND = not detected

mg/L = milligrams per liter

DL = detection limit

GPD = gallons per day

A-Effluent meter zeroed out 03-Nov-06

S = analyte detected in associated method end-of equipment blank

ug/L = micrograms per liter

GPM = gallons per minute

91.2 = bold number indicates that value exceeds Discharge Max. Levels

TABLE 3
Summary of Analytical Results for Total Effluent (through December 2001) of the Groundwater Recovery System
Dunn Field, Memphis Depot, Tennessee

Sample Identification Number Laboratory ID No.	ST-EFF-025	ST-EFF-026	EQB-026	ST-EFF-027	ST-EFF-028	EQB-028(DUPLICATE)	ST-EFF-029	EQB-029(DUPLICATE)	City of Memphis Industrial Wastewater
Total System Effluent Sample Description	Week 85 of System Operation (O&M)	Week 86 of System Operation (O&M)	Week 88 of System Operation (O&M)	Week 92 of System Operation (O&M)	Week 97 of System Operation (O&M)	Week 97 of System Operation (O&M)	Week 101 of System Operation (O&M)	Week 101 of System Operation (O&M)	
Date Effluent Sample Collected	23-Jun-00	13-Jul-00	13-Jul-00	11-Aug-00	19-Sep-00	19-Sep-00	18-Oct-00	18-Oct-00	
Instantaneous Flow Rate	55.09 GPM/70,330 GPD	52.78 GPM/76,003 GPD	52.78 GPM/76,003 GPD	57.22 GPM/82,366 GPD	55.95 GPM/80,568 GPD	55.95 GPM/80,568 GPD	45.14 GPM/65,002 GPD	45.14 GPM/65,002 GPD	561,600 GPD
Totalized Flow	73,321,836 GAL	75,673,706 GALLONS	75,673,706 GALLONS	78,223,187	80,640,059 GALLONS	80,640,059 GALLONS	82,655,008 GALLONS	82,655,008 GALLONS	
LABORATORY ANALYSES	DL	Units							Monthly Ave / One Day Max
pH (Method 150.1)	5.7		8.4	6.1	5.8	6.1	6.0	6.0	5.5 to 10.0
TOTAL METALS (EPA 200 Series)									mg/L
Aluminum (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	ND	1/2
Arsenic (Method 206.2)	0.06	ND	ND	ND	ND	ND	ND	ND	0.04/0.1
Barium (Method 200.7)	0.003	0.104	ND	0.111	0.115	0.117	0.108	0.109	NS
Cadmium (Method 200.7)	0.005	ND	ND	ND	ND	ND	ND	ND	0.01/0.02
Calcium (Method 200.7)	0.015	21.3	0.067	21.7	22.8	23.1	21.1	21.4	NS
Chromium (Method 200.7)	0.009	ND	ND	ND	ND	ND	ND	ND	0.2/0.4
Copper (Method 200.7)	0.008	ND	ND	ND	ND	ND	ND	ND	0.2/0.4
Iron (Method 200.7)	0.094	0.029	ND	0.137	0.187	0.739	0.061	0.036	10/20
Lead (Method 200.7)	0.06	ND	ND	ND	ND	ND	ND	ND	0.15/0.3
Magnesium (Method 200.7)	0.04	11.4	ND	10.8	10.9	11	10.3	10.5	NS
Manganese (Method 200.7)	0.003	0.014	ND	0.011	0.010	0.010	ND	ND	NS
Mercury (Method 245.1)	0.0002	ND	ND	ND	0.03	0.338	ND	ND	0.001/0.002
Nickel (Method 200.7)	0.02	ND	ND	ND	0.03	0.338	ND	ND	0.1/0.3
Potassium (Method 200.7)	0.25	0.829	ND	0.87	0.886	0.954	0.886	0.872	NS
Sodium (Method 200.7)	0.05	22.0	3.2	23.8	23.2	23.4	23.7	23.4	NS
Zinc (Method 200.7)	0.01	0.04	ND	0.045	0.118	0.084	0.094	0.074	0.3/1.0
TCL Volatile Organics (Method 8270.5)									ug/L
Carbon Tetrachloride	1	1.3	ND	1.82	2.31	2.12	1.57	1.65	20/40
Chloroform	1	8.41	ND	7.96	9.24	8.30	9.89	8.54	20/40
1,1-Dichloroethane	1	ND	ND	ND	ND	ND	ND	ND	NS
1,1-Dichloroethene	1	16.6	ND	13.2	17.6	17.1	18.8	18	50/100
Cis 1,2-Dichloroethane	1	62.7	54.4	44.5	50	46.5	55.7	51	50/100
Trans 1,2-Dichloroethane	1	18.5	15.9	11.6	13.4	11.5	16.0	14.8	50/100
Methylene Chloride	5	ND	ND	ND	ND	ND	ND	ND	10/20
1,1,2,2-Tetrachloroethane	1/50/100	59.2	52	42.7	61.4	60.3	61.3	58.7	500/1000
Tetrachloroethene	1	14.5	ND	13.8	22.1	22.8	15.9	15.9	60/120
Toluene	1	ND	ND	ND	ND	ND	ND	ND	20/40
1,1,1-Trichloroethane	1	ND	ND	ND	ND	ND	ND	ND	10/20
1,1,2-Trichloroethane	1	0.93	0.669J	0.86J	1.14	ND	ND	1.01	50/100
Trichloroethene	1/50/100	139	123	148	152	159	101	102	400/800
TCL Semi-volatile Organics (Method 8270.5)									ug/L
Bis(2-ethylhexyl)phthalate	10	ND	ND	ND	ND	ND	ND	ND	10/20
Di-n-butyl Phthalate	5	ND	ND	ND	ND	ND	ND	ND	30/60
Naphthalene	2	ND	ND	ND	ND	ND	ND	ND	10/20
Phenol	5	ND	ND	ND	ND	ND	ND	ND	10/20

NOTE: Compounds included in this table are those listed in Section D.3 and detected as part of the analytical methods conducted per Section F.1 of Industrial Wastewater Discharge Agreement.

All analyses performed by Environmental Testing & Consulting, Inc., Memphis, TN

* = Recovery well RW-09 was not in operation at the time of sample collection

** = Recovery well RW-08 was not in operation at the time of sample collection

A = Recovery well RW-03 was not in operation at the time of sample collection.

NS = no standard listed in the Industrial Wastewater Discharge Agreement

J = estimated value - presence of the compound was confirmed but less than the reported DL

ND = not detected

mg/L = milligrams per liter

ug/L = micrograms per liter

GPM = gallons per minute

DL = detection limit

GPD = gallons per day

Air/Effluent meter zeroed out 03-Nov-00

91.3 = bold number indicates that value exceeds Discharge Max. Levels

TABLE 3
Summary of Analytical Results for Total Effluent (through December 2001) of the Groundwater Recovery System
Dunn Field, Memphis Depot, Tennessee

Sample Identification Number		ST-EFF-030	ST-EFF-031	EQB-031	EQB-032	ST-EFF-033	ST-EFF-131 (Dup)	EFF-9-14-01	EFF-12-21-01	City of Memphis Industrial Wastewater
Laboratory ID No.		0011634-01	0012504-01	0012504-02	0101340-01	0105036-01	0105036-02	0108232-01	0112802-02	
Total System Effluent Sample Description										
Date Effluent Sample Collected		21-Nov-00	20-Dec-00	20-Dec-00	16-Jan-01	1-May-01	1-May-01	14-Sep-01	21-Dec-01	
Instantaneous Flow Rate		11.11 GPM/15,968 GPD	16.27 GPM/23,435 GPD	16.27 GPM/23,435 GPD	25.45 GPM/36,546 GPD	42.39 GPM/61,042 GPD	42.39 GPM/61,042 GPD	48.6 GPM/69,994 GPD	49.8 GPM/71,772 GPD	
Totalized Flow		83,150,768 GALLONS	83,877,244 GALLONS	83,877,244 GALLONS	85,073,474 GALLONS	85,073,474 GALLONS	85,073,474 GALLONS	101,568,586 GALLONS	105,815,578 GALLONS	
LABORATORY ANALYSES										
pH (Method 150.1)		5.8	6.5	7.3	5.8	Not Tested	Not Tested	Not Tested	Not Tested	5.5 to 10.0
TAL Metals (EPA 200 Series)										
Aluminum (Method 200.7)		ND	ND	ND	ND	Not Tested	Not Tested	Not Tested	Not Tested	mg/L
Arsenic (Method 206.2)		ND	ND	ND	ND	Not Tested	Not Tested	Not Tested	Not Tested	1/2
Barium (Method 200.7)		ND	0.117	ND	0.119	Not Tested	Not Tested	Not Tested	Not Tested	0.04/0.1
Cadmium (Method 200.7)		ND	ND	ND	ND	Not Tested	Not Tested	Not Tested	Not Tested	NS
Calcium (Method 200.7)		20.1	23.4	ND	22.5	Not Tested	Not Tested	Not Tested	Not Tested	0.01/0.02
Chromium (Method 200.7)		0.008	ND	ND	ND	Not Tested	Not Tested	Not Tested	Not Tested	NS
Copper (Method 200.7)		ND	ND	ND	ND	Not Tested	Not Tested	Not Tested	Not Tested	0.2/0.4
Iron (Method 200.7)		0.053	0.211	0.012	0.322	Not Tested	Not Tested	Not Tested	Not Tested	0.2/0.4
Lead (Method 200.7)		ND	ND	ND	ND	Not Tested	Not Tested	Not Tested	Not Tested	10/20
Magnesium (Method 200.7)		9.87	11.5	ND	11.8	Not Tested	Not Tested	Not Tested	Not Tested	0.15/0.3
Manganese (Method 200.7)		ND	0.009	ND	ND	Not Tested	Not Tested	Not Tested	Not Tested	NS
Mercury (Method 245.1)		ND	ND	ND	ND	Not Tested	Not Tested	Not Tested	Not Tested	NS
Nickel (Method 200.7)		0.026	ND	ND	0.038	Not Tested	Not Tested	Not Tested	Not Tested	0.001/0.002
Potassium (Method 200.7)		0.839	0.978	ND	0.937	Not Tested	Not Tested	Not Tested	Not Tested	0.1/0.3
Sodium (Method 200.7)		23.1	21.8	0.072	23.1	Not Tested	Not Tested	Not Tested	Not Tested	NS
Zinc (Method 200.7)		0.059	0.063	ND	0.121	Not Tested	Not Tested	Not Tested	Not Tested	NS
TCL Volatile Organics (Method 8260B)										
Carbon Tetrachloride		1	ND	ND	1.42	4.73	4.82	3.39	6.11	mg/L
Chloroform		1	7.88	7.15	14.20	23.60	26.30	34.20	52.10	20/40
1,1-Dichloroethane		1	ug/L	0.51J	ND	ND	ND	ND	0.53 J	NS
1,1-Dichloroethene		1	16.7	14.8	18.7	10.7	10.7	11.00	16.40	50/100
Cis 1,2-Dichloroethene		1	54.8	18.2	59.2	44.7	41.1	38.80	53.60	50/100
Trans 1,2-Dichloroethene		1	ug/L	ND	15.3	10.3	11.4	9.09	13.20	50/100
Methylene Chloride		5	ND	ND	ND	ND	ND	ND	ND	10/20
1,1,2,2-Tetrachloroethane		1/50/100	29.7	ND	178	59.3	57.7	102.00	174.00	500/1000
Tetrachloroethene		1	18.3	20.7	26	13.1	12.8	13.50	21.60	60/120
Toluene		1	ug/L	ND	ND	ND	ND	ND	ND	20/40
1,1,1-Trichloroethane		1	ug/L	0.52 J	ND	ND	ND	0.32	0.65 J	10/20
1,1,2-Trichloroethane		1	ug/L	1.05	2.19	1.14	0.97 J	0.98	1.32	50/100
Trichloroethene		1/50/100	99.3	57.6	89	130	136	107.00	173.00	400/800
TCL Semi-Volatile Organics (Method 8270C)										
Bis(2-ethylhexyl)phthalate		10	ug/L	ND	ND	Not Tested	Not Tested	Not Tested	Not Tested	mg/L
Di-n-butyl Phthalate		5	ug/L	ND	ND	Not Tested	Not Tested	Not Tested	Not Tested	10/20
Naphthalene		2	ug/L	ND	ND	Not Tested	Not Tested	Not Tested	Not Tested	30/60
Phenol		5	ug/L	ND	ND	Not Tested	Not Tested	Not Tested	Not Tested	10/20

NOTE: Compounds included in this table are those listed in Section D.3 and detected as part of the analytical methods conducted per Section F.1 of Industrial Wastewater Discharge Agreement.

All analyses performed by Environmental Testing & Consulting, Inc., Memphis, TN

** = Recovery well RW-09 was not in operation at the time of sample collection

* = Recovery well RW-08 was not in operation at the time of sample collection

A = Recovery well RW-03 was not in operation at the time of sample collection

NS = no standard listed in the Industrial Wastewater Discharge Agreement

J = estimated value - presence of the compound was confirmed but less than the reported DL

DL = estimated value, quality control recoveries outside acceptance ranges

ND = not detected

mg/L = milligrams per liter

gpm = gallons per minute

DL = detection limit

GPD = gallons per day

A-Effluent meter zeroed out 03-Nov-08

91.2 = bold number indicates that value exceeds Discharge Max. Levels

B = analysis detected in associated method and/or equipment blank

mg/L = milligrams per liter

GPM = gallons per minute

DL = detection limit

GPD = gallons per day

A-Effluent meter zeroed out 03-Nov-08

B = analysis detected in associated method and/or equipment blank

mg/L = milligrams per liter

GPM = gallons per minute

DL = detection limit

GPD = gallons per day

A-Effluent meter zeroed out 03-Nov-08

B = analysis detected in associated method and/or equipment blank

mg/L = milligrams per liter

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A-Effluent meter zeroed out 03-Nov-08

B = analysis detected in associated method and/or equipment blank

mg/L = milligrams per liter

GPM = gallons per minute

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A-Effluent meter zeroed out 03-Nov-08

B = analysis detected in associated method and/or equipment blank

mg/L = milligrams per liter

GPM = gallons per minute

DL = detection limit

GPD = gallons per day

A-Effluent meter zeroed out 03-Nov-08

B = analysis detected in associated method and/or equipment blank

mg/L = milligrams per liter

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A-Effluent meter zeroed out 03-Nov-08

B = analysis detected in associated method and/or equipment blank

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A-Effluent meter zeroed out 03-Nov-08

B = analysis detected in associated method and/or equipment blank

mg/L = milligrams per liter

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A-Effluent meter zeroed out 03-Nov-08

B = analysis detected in associated method and/or equipment blank

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GPM = gallons per minute

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GPD = gallons per day

A-Effluent meter zeroed out 03-Nov-08

B = analysis detected in associated method and/or equipment blank

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B = analysis detected in associated method and/or equipment blank

mg/L = milligrams per liter

GPM = gallons per minute

DL = detection limit

GPD = gallons per day

A-Effluent meter zeroed out 03-Nov-08

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GPD = gallons per day

A-Effluent meter zeroed out 03-Nov-08

B = analysis detected in associated method and/or equipment blank

mg/L = milligrams per liter

GPM = gallons per minute

DL = detection limit

GPD = gallons per day

</

TABLE 4
Groundwater Levels Corresponding
to Semi-Annually Sampled Wells

Sampled Date	MW-30 GWELEV	MW-31 GWELEV	MW-32 GWELEV	MW-33 GWELEV	MW-34 GWELEV	MW-37 GWELEV	MW-40 GWELEV	MW-42 GWELEV	MW-43 GWELEV	MW-44 GWELEV	MW-51 GWELEV	MW-54 GWELEV
3-Feb-99	228.85	221.80	223.90	227.48	163.51	NA	184.32	NA	NA	217.62	235.32	219.23
25-May-99	228.36	220.48	222.25	226.52	163.14	NA	183.52	NA	NA	216.89	235.47	217.55
27-Aug-99	227.66	217.17	222.54	226.17	154.33	NA	178.75	NA	NA	216.16	234.17	216.91
3-Nov-99	227.07	219.37	222.44	218.16	154.47	NA	175.93	NA	NA	215.45	233.18	216.20
7-Feb-00	226.42	218.92	222.04	225.60	160.39	NA	177.98	NA	NA	214.77	232.38	215.46
16-May-00	226.06	218.54	221.67	225.48	160.50	NA	178.53	NA	NA	214.17	230.48	214.81
22-Aug-00	225.89	218.22	221.38	225.20	152.61	NA	172.80	NA	NA	213.62	232.02	214.36
7-Nov-00	225.54	218.02	221.97	224.81	160.98	NA	170.35	NA	NA	213.10	231.44	213.70
13-Feb-01	225.69	218.66	221.88	225.00	158.87	154.21	172.50	216.42	155.48	213.02	231.72	213.71
11-Sep-01*	226.03	218.11	220.88	224.08	154.82	148.81	171.25	217.61	151.02	212.96	232.30	213.57

Notes:

Groundwater elevations are in feet above mean sea level (msl)

Table contains data corresponding to quarterly sampled groundwater wells only.

NA = not available.

* - Diffusion Bags were installed on this date

TABLE 4
Groundwater Levels Corresponding
to Semi-Annually Sampled Wells

Sampled Date	MW-56 GWELEV	MW-57 GWELEV	MW-58 GWELEV	MW-67 GWELEV	MW-68 GWELEV	MW-69 GWELEV	MW-70 GWELEV	MW-71 GWELEV	MW-76 GWELEV	MW-77 GWELEV	MW-78 GWELEV	MW-79 GWELEV
3-Feb-99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
25-May-99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
27-Aug-99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nov-99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7-Feb-00	226.45	224.25	227.08	NA	NA	222.83	223.94	225.49	NA	NA	NA	NA
16-May-00	226.24	227.19	226.87	151.22	NA	222.82	223.71	225.24	NA	NA	NA	NA
22-Aug-00	225.98	227.02	226.72	NA	221.46	222.51	223.11	225.01	NA	NA	NA	NA
7-Nov-00	225.75	226.60	226.52	NA	222.45	223.03	223.58	225.74	NA	NA	NA	NA
13-Feb-01	225.72	226.64	226.52	153.11	222.68	223.73	224.25	225.14	217.66	222.50	224.75	212.70
11-Sep-01*	225.53	226.04	226.23	153.11	221.78	222.45	223.10	223.51	217.10	221.42	224.86	212.57

Notes:

Groundwater elevations are in feet above mean sea level (msl)

Table contains data corresponding to quarterly sampled groundwater wells only.

NA = not available.

* - Diffusion Bags were installed on this date

TABLE 4
Groundwater Levels Corresponding
to Semi-Annually Sampled Wells

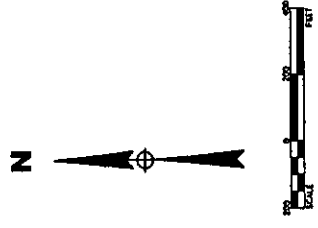
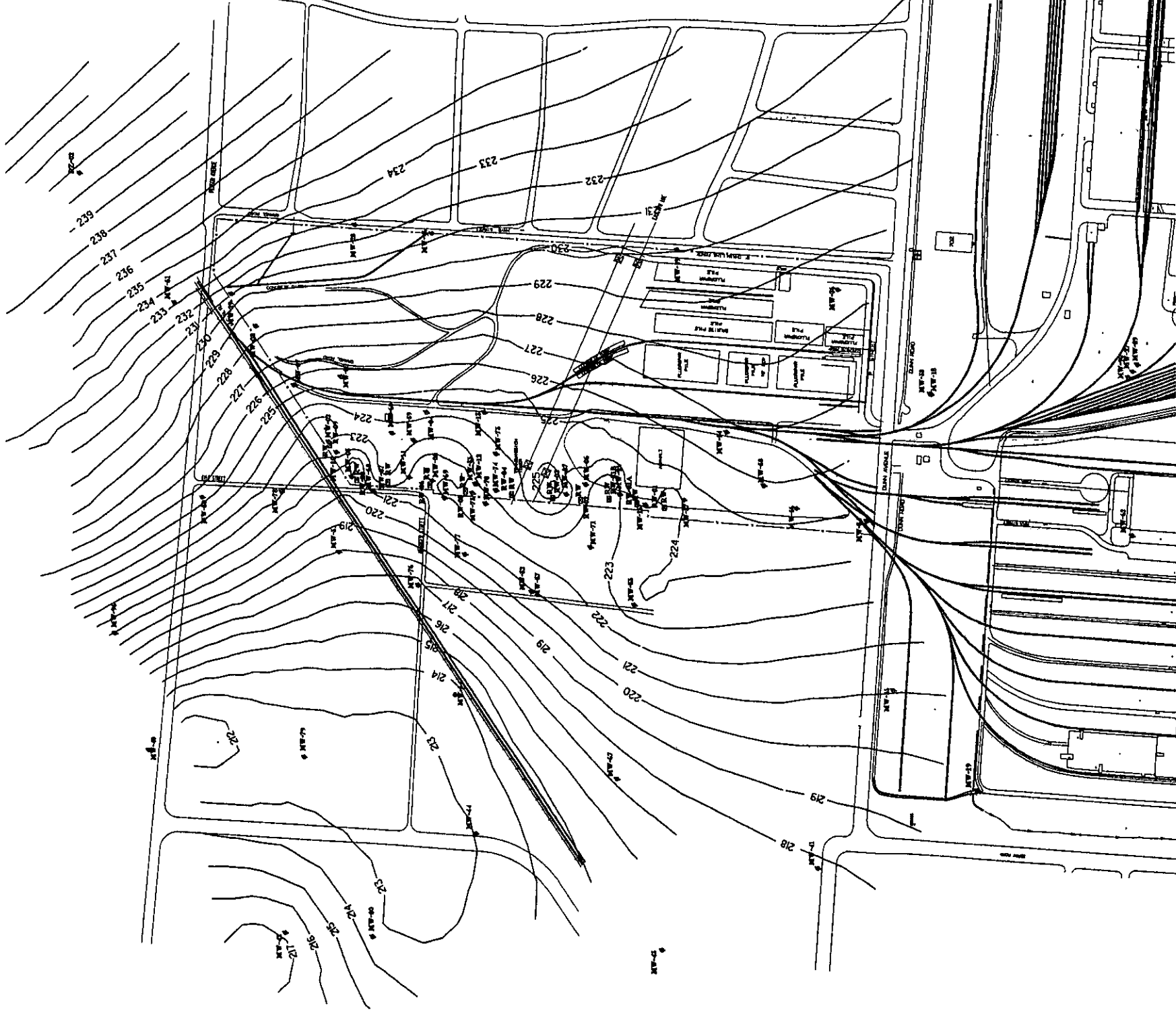
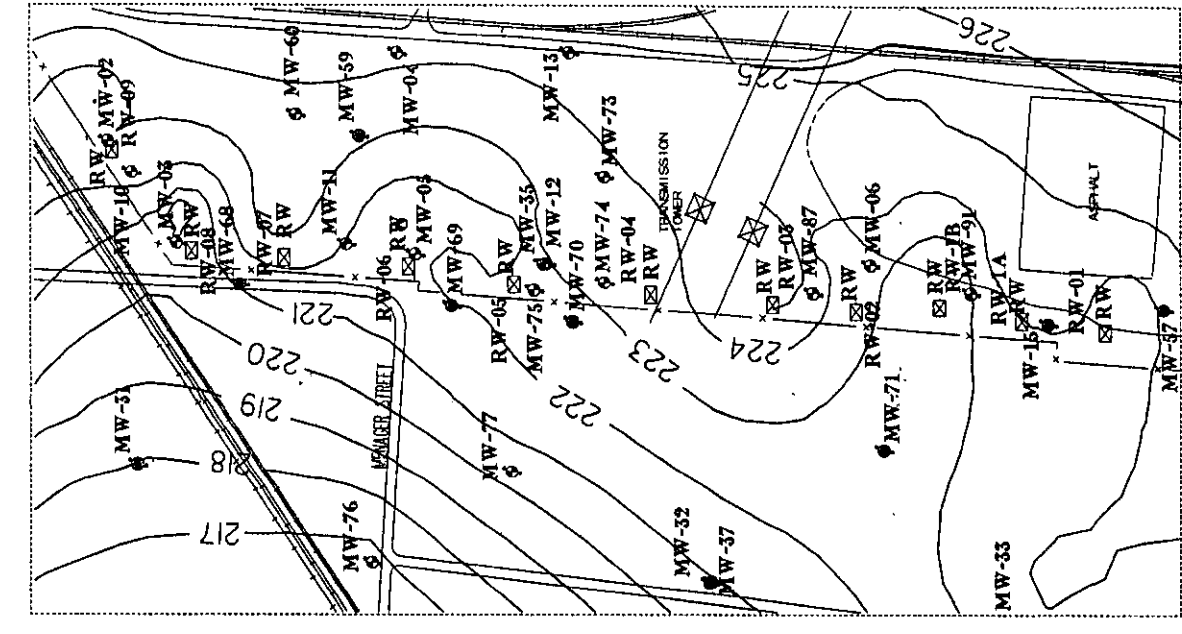
Sampled Date	MW-80 GWELEV	MW-95 GWELEV
3-Feb-99	NA	NA
25-May-99	NA	NA
27-Aug-99	NA	NA
3-Nov-99	NA	NA
7-Feb-00	NA	NA
16-May-00	NA	NA
22-Aug-00	NA	NA
7-Nov-00	NA	NA
13-Feb-01	212.59	227.52
11-Sep-01*	212.63	228.68

Notes:

Groundwater elevations are in feet above mean sea level (msl)
 Table contains data corresponding to quarterly sampled groundwater wells only.
 NA = not available.

* - Diffusion Bags were installed on this date

FIGURES



LEGEND

☞	MONITORING WELL
☞	SELECTED SAMPLING MONITORING WELL
☞	RECOVERY WELL
206	GROUNDWATER CONTOUR

JE JACOBS

**DUNN FIELD
GROUNDWATER EXTRACTION SYSTEM
MEMPHIS DEFENSE DEPOT, TENNESSEE**

POTENTIOMETRIC SURFACE MAP
Y3S2 (NOVEMBER 1, 2001)
OF SHALLOW AQUIFER

FIG. 3

SHEET No. 3 OF 4

[illegible]

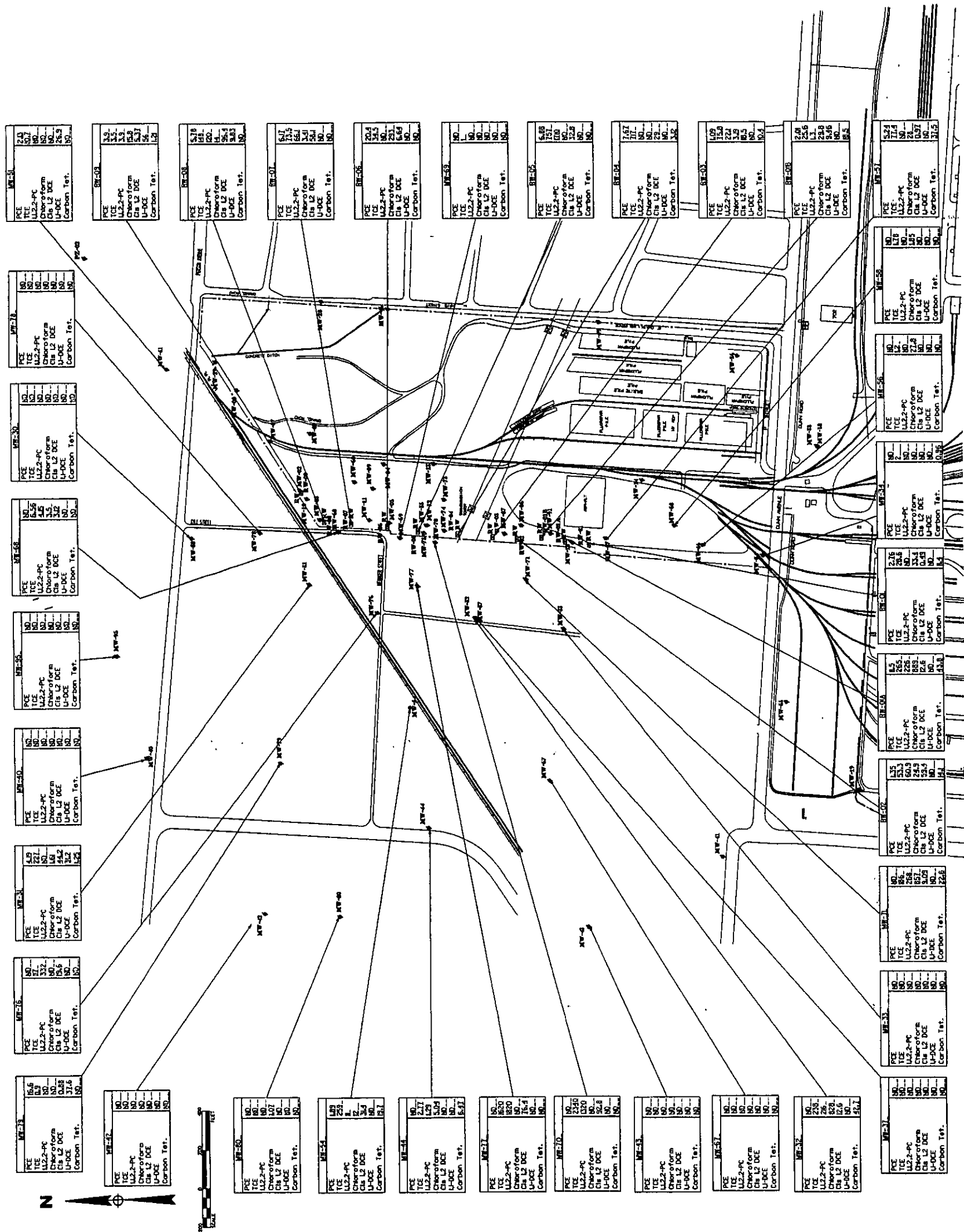


FIG.4

SELECTED VOLATILE ORGANIC
COMPOUND CONCENTRATIONS IN GROUNDWATER
Y3S2 SAMPLING EVENT
SEPTEMBER 2001

JE Sverdrup
A Jacobs Company
MEMPHIS, TENNESSEE
SYSDAMP PROJECT No. 131004

DUNN FIELD
GROUNDWATER EXTRACTION SYSTEM
MEMPHIS DEFENSE DEPOT, TENNESSEE

SCALE: 1" = 200'
DESIGNED: E. SMITH
DRAWN: S.M. JESSE
CHECKED: V. JENSEN
APPROVED: V. JENSEN
DATE: FEB. 14, 2002

REVISIONS

NO.	DATE	DESCRIPTION

APPENDIX A
GROUNDWATER MEASUREMENT DATA

[illegible]

Well ID 100-200-001	MW-2		MW-3		MW-4		MW-5		MW-6		MW-7		MW-8		MW-10		MW-11		MW-12	
	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.
Total Well ID		35.00		77.00		81.60		76.26		76.24		77.20		82.50		71.89		85.00		87.30
Location		Dunn Field		Dunn Field		Dunn Field		Dunn Field		Dunn Field		Dunn Field		Dunn Field		Dunn Field		Dunn Field		Dunn Field
DATE	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.
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Well ID	MW-13		MW-14		MW-15		MW-19		MW-27		MW-28		MW-30		MW-31		MW-32		MW-33		MW-34	
	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.
LOC: Election	74.112	225.62	74.944	227.27	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Location	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	M/GW Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field
DATE	16-Mar-01	17-Mar-01	18-Mar-01	19-Mar-01	20-Mar-01	21-Mar-01	22-Mar-01	23-Mar-01	24-Mar-01	25-Mar-01	26-Mar-01	27-Mar-01	28-Mar-01	29-Mar-01	30-Mar-01	31-Mar-01	1-Apr-01	2-Apr-01	3-Apr-01	4-Apr-01	5-Apr-01	6-Apr-01
	74.029	225.70	74.973	227.25	89.65	225.17	132.60	175.42	Dry	Dry	41.00	232.22	48.02	225.85	71.77	218.40	63.60	221.28	224.75	55.81	139.32	180.40
	74.17	225.56	75.04	227.18	70.02	225.10	---	---	---	---	40.86	232.26	48.82	225.95	71.82	218.35	63.40	221.48	224.51	56.05	---	---
	74.25	225.48	75.058	227.16	70.07	225.05	131.70	178.32	Dry	Dry	40.88	232.34	48.90	225.87	71.88	218.31	63.43	221.45	224.58	56.00	138.53	180.18
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Well ID	MW-13	MW-14	MW-15	MW-16	MW-18	MW-19	MW-27	MW-28	MW-29	MW-30	MW-31	MW-32	MW-33	MW-34
TOC Elevation	289.73	302.22	288.12	288.12	308.02	290.97	303.85	273.19	273.02	274.67	280.17	284.85	285.56	289.72
Total Depth (ft)	63.00	80.00	81.00	81.00	140.00	98.40	123.60	54.00	54.00	59.00	78.00	87.80	60.00	156.80
Location	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Depot	Depot	Depot	Dunn Field	Dunn Field	MLGW Facility	MLGW Facility	Kyle	Off-Site	Dunn Field
DATE	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)
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4-Dec-01	74.952	224.78					Dry	60.88	38.75	48.40	72.11	221.06	86.71	157.82
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31-Dec-01														
1-Jan-02														
2-Jan-02	74.728	225.00	75.42	228.80	70.75	224.37	131.71	178.31	68.90	200.87	Dry	60.85	234.14	38.54

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Well ID	MW-43	MW-45	MW-47	MW-58	MW-49	MW-70	MW-71	MW-73	MW-74	MW-75	MW-76
TOC Elevation	304.55	263.22	278.21	291.68	307.04	305.05	294.39	300.65	303.68	303.81	302.71
Total Depth (ft)	131.00	63.00	275.00	118.00	97.20	91.00	75.40	90.50	90.50	90.50	90.50
Location	Depot	Cherrydale	OS S&S	Kyle St	OS S&S	OS S&S	OS S&S	Dum Field	Dum Field	Kyle St	Kyle St
DATE	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)
GW Elev.	GW Elev.	GW Elev.	GW Elev.	GW Elev.	GW Elev.	GW Elev.	GW Elev.	GW Elev.	GW Elev.	GW Elev.	GW Elev.
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1-Jul-01		8.87		69.60	221.88	61.78	70.55	224.10	223.57	80.40	217.17
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31-Aug-01											
1-Sep-01		12.70		69.93	221.75	82.01	70.82	223.80	223.40	80.59	217.06

[illegible]

Well ID	MW-43	MW-45	MW-47	MW-48	MW-70	MW-71	MW-73	MW-74	MW-75	MW-76
TOC Elevation	304.55	283.22	278.21	291.65	305.05	294.39	300.65	303.68	303.61	302.71
Test Depth (ft)	135.00	84.00	275.00	780	81.00	73.60	81.00	81.00	81.00	81.00
Location	Depot	Overdrive	OK Site	Kyle St	OK Site	OK Site	Dawn Field	Dawn Field	Kyle St	Kyle St
DATE	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)
28-Nov-01										
27-Nov-01										
28-Nov-01										
30-Nov-01										
1-Dec-01										
2-Dec-01	9.34	253.68								
3-Dec-01										
4-Dec-01										
5-Dec-01										
6-Dec-01										
7-Dec-01										
8-Dec-01										
9-Dec-01										
10-Dec-01										
11-Dec-01										
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27-Dec-01										
28-Dec-01										
29-Dec-01										
30-Dec-01										
31-Dec-01										
1-Jan-02										
2-Jan-02										
		6.16		221.90	81.98	223.07	71.12	223.37	80.58	223.03
				84.53	222.51	81.98	78.75	223.90	80.58	223.03
				84.54	222.50	82.00	78.77	223.38	80.59	223.02
				84.59	222.45	82.00	78.80	223.36	80.61	223.00
				221.78	222.45	223.31	223.85	223.36	223.00	218.93
				69.90	221.78	71.08	76.80	80.32	85.78	218.93
				69.78	221.90	70.10	78.77	80.30	85.75	218.96
				69.70	221.90	71.12	78.75	80.31	85.71	217.00

[illegible]

[illegible]

Well ID TOC Elevation Turbidity Unit Location	MW-77 305.42 Kyle St.	MW-76 278.00 Kyle Street	MW-75 285.03 Beauch Street	MW-49 273.61 Meadowhill & Rozelle			MW-54 311.15 Dunn Field			MW-67 324.85 Dunn Field			MW-68 303.85 Depot			MW-69 304.19 Depot			MW-81 281.89 Dunn Field			MW-85 289.43 Rozelle St.			PZ-92 284.82 Off-Site
				DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.		
DATE																									
28-Nov-01																									
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26-Nov-01																									
30-Nov-01																									
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12-Mar-02																									

Well ID TOD Elevation Total Depth (ft)	RW-3 294.40 76.50	RW-4 305.22 85.00	RW-5 307.25 92.50	RW-6 304.87 87.00	RW-7 287.53 80.00	RW-8 293.09 75.00	RW-1 293.79 75.00	RW-1A 293.79 75.00	RW-1B 293.79 75.00	RW-2 293.79 75.00	Average System Effluent			Rainfall 24-Hr Period	
											Flow Rate (gpm)	Flow Rate (gpm)	Totalized Flow* (gal)	Adjusted Totalized Flow (gallons)	Time
DATE	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)
16-Mar-01	0.0	3.5	0.0	7.5	0.0	14.0	14.4	0.0	2.6	2.3	48.7	34,094,203	87,845,714	12,000	0.00
17-Mar-01	0.0	3.5	0.0	7.5	0.0	14.0	14.4	0.0	2.6	2.3	48.7	34,161,415	87,712,926	12,000	0.00
18-Mar-01	0.0	3.5	0.0	7.5	0.0	14.0	14.4	0.0	2.6	2.3	48.7	34,228,027	87,780,138	12,000	0.00
19-Mar-01	0.0	3.5	0.0	7.5	0.0	14.0	14.4	0.0	2.6	2.3	48.7	34,295,039	87,847,350	12,000	0.00
20-Mar-01	0.0	3.5	0.0	7.5	0.0	14.0	14.4	0.0	2.6	2.3	48.7	34,362,051	87,914,562	12,000	0.00
21-Mar-01	0.0	3.5	0.0	7.5	0.0	14.0	14.4	0.0	2.6	2.3	48.7	34,429,063	87,981,774	12,000	0.00
22-Mar-01	0.0	3.5	0.0	7.5	0.0	14.0	14.4	0.0	2.6	2.3	48.7	34,496,075	88,048,988	12,000	0.00
23-Mar-01	0.0	3.5	0.0	7.5	0.0	14.0	14.4	0.0	2.6	2.3	48.7	34,563,087	88,116,200	12,000	0.00
24-Mar-01	0.0	3.5	0.0	7.5	0.0	14.0	14.4	0.0	2.6	2.3	48.7	34,630,099	88,183,410	12,000	0.00
25-Mar-01	0.0	3.5	0.0	7.5	0.0	14.0	14.4	0.0	2.6	2.3	48.7	34,697,111	88,250,622	12,000	0.00
26-Mar-01	0.0	3.5	0.0	7.5	0.0	14.0	14.4	0.0	2.6	2.3	48.7	34,764,123	88,317,834	12,000	0.00
27-Mar-01	0.0	3.5	0.0	7.5	0.0	14.0	14.4	0.0	2.6	2.3	48.7	34,831,135	88,385,046	12,000	0.00
28-Mar-01	0.0	3.5	0.0	7.5	0.0	14.0	14.4	0.0	2.6	2.3	48.7	34,898,147	88,452,258	12,000	0.00
29-Mar-01	0.0	3.5	0.0	7.5	0.0	14.0	14.4	0.0	2.6	2.3	48.7	34,965,159	88,519,470	12,000	0.00
30-Mar-01	0.0	3.5	0.0	7.5	0.0	14.0	14.4	0.0	2.6	2.3	48.7	35,032,171	88,586,682	12,000	0.00
31-Mar-01	0.0	3.5	0.0	7.5	0.0	14.0	14.4	0.0	2.6	2.3	48.7	35,099,183	88,653,894	12,000	0.00
1-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	35,166,195	88,721,106	12,000	0.00
2-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	35,233,207	88,788,318	12,000	0.00
3-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	35,300,219	88,855,530	12,000	0.00
4-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	35,367,231	88,922,742	12,000	0.00
5-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	35,434,243	88,989,954	12,000	0.00
6-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	35,501,255	89,057,166	12,000	0.00
7-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	35,568,267	89,124,378	12,000	0.00
8-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	35,635,279	89,191,590	12,000	0.00
9-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	35,702,291	89,258,802	12,000	0.00
10-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	35,769,303	89,326,014	12,000	0.00
11-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	35,836,315	89,393,226	12,000	0.00
12-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	35,903,327	89,460,438	12,000	0.00
13-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	35,970,339	89,527,650	12,000	0.00
14-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	36,037,351	89,594,862	12,000	0.00
15-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	36,104,363	89,662,074	12,000	0.00
16-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	36,171,375	89,729,286	12,000	0.00
17-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	36,238,387	89,796,498	12,000	0.00
18-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	36,305,399	89,863,710	12,000	0.00
19-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	36,372,411	89,930,922	12,000	0.00
20-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	36,439,423	89,998,134	12,000	0.00
21-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	36,506,435	90,065,346	12,000	0.00
22-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	36,573,447	90,132,558	12,000	0.00
23-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	36,640,459	90,199,770	12,000	0.00
24-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	36,707,471	90,266,982	12,000	0.00
25-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	36,774,483	90,334,194	12,000	0.00
26-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	36,841,495	90,401,406	12,000	0.00
27-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	36,908,507	90,468,618	12,000	0.00
28-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	36,975,519	90,535,830	12,000	0.00
29-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	37,042,531	90,603,042	12,000	0.00
30-Apr-01	0.0	3.0	0.0	6.9	0.0	14.0	14.3	0.0	2.6	2.4	48.6	37,109,543	90,670,254	12,000	0.00
1-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4	37,176,555	90,737,466	12,000	0.00
2-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4	37,243,567	90,804,678	12,000	0.00
3-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4	37,310,579	90,871,890	12,000	0.00
4-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4	37,377,591	90,939,102	12,000	0.00
5-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4	37,444,603	91,006,314	12,000	0.00
6-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4	37,511,615	91,073,526	12,000	0.00
7-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4	37,578,627	91,140,738	12,000	0.00
8-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4	37,645,639	91,207,950	12,000	0.00
9-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4	37,712,651	91,275,162	12,000	0.00
10-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4	37,779,663	91,342,374	12,000	0.00
11-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4	37,846,675	91,409,586	12,000	0.00
12-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4	37,913,687	91,476,798	12,000	0.00
13-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4	37,980,699	91,544,010	12,000	0.00
14-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4	38,047,711	91,611,222	12,000	0.00
15-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4	38,114,723	91,678,434	12,000	0.00
16-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4	38,181,735	91,745,646	12,000	0.00
17-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4	38,248,747	91,812,858	12,000	0.00
18-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4	38,315,759	91,880,070	12,000	0.00
19-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4	38,382,771	91,947,282	12,000	0.00
20-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4	38,449,783	92,014,494	12,000	0.00
21-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4	38,516,795	92,081,706	12,000	0.00
22-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4	38,583,807	92,148,918	12,000	0.00
23-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4	38,650,819	92,216,130	12,000	0.00
24-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4	38,717,831	92,283,342	12,000	0.00
25-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4	38,784,843	92,350,554	12,000	0.00
26-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4	38,851,855	92,417,766	12,000	0.00
27-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4	38,918,867	92,484,978	12,000	0.00
28-May-01	0.0	2.5	0.0	7.5	0.0	14.0	13.9	0.0	3.5	0.0	44.4				

Well ID TOC Elevation Test Depth (ft) Location	Average System Effluent										Rainfall 24-Hr Period			
	RW-1 to RW-10										Time			
	RW-1	RW-2	RW-3	RW-4	RW-5	RW-6	RW-7	RW-8	RW-9	RW-10	Flow Rate (gpm)	Adjusted Flow (gpm)	Time	
DATE	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)
9-Jun-01	3.2	2.3	7.6	4.9	3.1	7.6	4.9	14.3	14.3	1.0	3.7	1.6	2.3	53.8
16-Jun-01	3.2	2.3	7.5	4.8	3.1	7.5	4.8	14.3	14.3	1.0	3.7	1.6	2.3	53.8
11-Jun-01	3.2	2.3	7.5	4.8	3.1	7.5	4.8	14.3	14.3	1.0	3.7	1.6	2.3	53.8
13-Jun-01	3.2	2.3	7.5	4.8	3.1	7.5	4.8	14.3	14.3	1.0	3.7	1.6	2.3	53.8
12-Jun-01	3.2	2.3	7.5	4.8	3.1	7.5	4.8	14.3	14.3	1.0	3.7	1.6	2.3	53.8
15-Jun-01	3.0	1.50	6.70	3.50	3.10	6.70	3.50	14.20	14.20	0.50	3.50	1.50	2.00	54.3
16-Jun-01	3.00	1.50	6.70	3.50	3.10	6.70	3.50	14.20	14.20	0.50	3.50	1.50	2.00	54.3
17-Jun-01	3.00	1.50	6.70	3.50	3.10	6.70	3.50	14.20	14.20	0.50	3.50	1.50	2.00	54.3
18-Jun-01	3.00	1.50	6.70	3.50	3.10	6.70	3.50	14.20	14.20	0.50	3.50	1.50	2.00	54.3
20-Jun-01	3.00	1.50	6.70	3.50	3.10	6.70	3.50	14.20	14.20	0.50	3.50	1.50	2.00	54.3
21-Jun-01	3.00	1.50	6.70	3.50	3.10	6.70	3.50	14.20	14.20	0.50	3.50	1.50	2.00	54.3
22-Jun-01	3.00	1.50	6.70	3.50	3.10	6.70	3.50	14.20	14.20	0.50	3.50	1.50	2.00	54.3
23-Jun-01	3.00	1.50	6.70	3.50	3.10	6.70	3.50	14.20	14.20	0.50	3.50	1.50	2.00	54.3
24-Jun-01	3.00	1.50	6.70	3.50	3.10	6.70	3.50	14.20	14.20	0.50	3.50	1.50	2.00	54.3
25-Jun-01	3.00	1.50	6.70	3.50	3.10	6.70	3.50	14.20	14.20	0.50	3.50	1.50	2.00	54.3
26-Jun-01	3.00	1.50	6.70	3.50	3.10	6.70	3.50	14.20	14.20	0.50	3.50	1.50	2.00	54.3
27-Jun-01	3.00	1.50	6.70	3.50	3.10	6.70	3.50	14.20	14.20	0.50	3.50	1.50	2.00	54.3
28-Jun-01	3.00	1.50	6.70	3.50	3.10	6.70	3.50	14.20	14.20	0.50	3.50	1.50	2.00	54.3
29-Jun-01	2.1	1.4	3.1	3.4	3.1	7.4	3.4	14.1	14.1	0.5	5.6	1.5	2.1	56.1
30-Jun-01	2.1	1.4	3.1	3.4	3.1	7.4	3.4	14.1	14.1	0.5	5.6	1.5	2.1	56.1
1-Jul-01	2.1	1.4	3.1	3.4	3.1	7.4	3.4	14.1	14.1	0.5	5.6	1.5	2.1	56.1
2-Jul-01	2.1	1.4	3.1	3.4	3.1	7.4	3.4	14.1	14.1	0.5	5.6	1.5	2.1	56.1
3-Jul-01	2.1	1.4	3.1	3.4	3.1	7.4	3.4	14.1	14.1	0.5	5.6	1.5	2.1	56.1
4-Jul-01	2.1	1.4	3.1	3.4	3.1	7.4	3.4	14.1	14.1	0.5	5.6	1.5	2.1	56.1
5-Jul-01	2.1	1.4	3.1	3.4	3.1	7.4	3.4	14.1	14.1	0.5	5.6	1.5	2.1	56.1
6-Jul-01	2.1	1.4	3.1	3.4	3.1	7.4	3.4	14.1	14.1	0.5	5.6	1.5	2.1	56.1
7-Jul-01	2.1	1.4	3.1	3.4	3.1	7.4	3.4	14.1	14.1	0.5	5.6	1.5	2.1	56.1
8-Jul-01	2.1	1.4	3.1	3.4	3.1	7.4	3.4	14.1	14.1	0.5	5.6	1.5	2.1	56.1
9-Jul-01	2.1	1.4	3.1	3.4	3.1	7.4	3.4	14.1	14.1	0.5	5.6	1.5	2.1	56.1
10-Jul-01	2.1	1.4	3.1	3.4	3.1	7.4	3.4	14.1	14.1	0.5	5.6	1.5	2.1	56.1
11-Jul-01	2.1	1.4	3.1	3.4	3.1	7.4	3.4	14.1	14.1	0.5	5.6	1.5	2.1	56.1
12-Jul-01	2.1	1.4	3.1	3.4	3.1	7.4	3.4	14.1	14.1	0.5	5.6	1.5	2.1	56.1
13-Jul-01	2.1	1.4	3.1	3.4	3.1	7.4	3.4	14.1	14.1	0.5	5.6	1.5	2.1	56.1
14-Jul-01	2.1	1.4	3.1	3.4	3.1	7.4	3.4	14.1	14.1	0.5	5.6	1.5	2.1	56.1
15-Jul-01	2.1	1.4	3.1	3.4	3.1	7.4	3.4	14.1	14.1	0.5	5.6	1.5	2.1	56.1
16-Jul-01	2.1	1.4	3.1	3.4	3.1	7.4	3.4	14.1	14.1	0.5	5.6	1.5	2.1	56.1
17-Jul-01	1.6	1.5	3.1	3.2	3.1	7.2	3.2	13.6	13.6	0.5	3.2	1.3	1.9	52.4
18-Jul-01	1.6	1.5	3.1	3.2	3.1	7.2	3.2	13.6	13.6	0.5	3.2	1.3	1.9	52.4
19-Jul-01	1.6	1.5	3.1	3.2	3.1	7.2	3.2	13.6	13.6	0.5	3.2	1.3	1.9	52.4
20-Jul-01	1.6	1.5	3.1	3.2	3.1	7.2	3.2	13.6	13.6	0.5	3.2	1.3	1.9	52.4
21-Jul-01	1.6	1.5	3.1	3.2	3.1	7.2	3.2	13.6	13.6	0.5	3.2	1.3	1.9	52.4
22-Jul-01	1.8	1.5	3.1	3.2	3.1	7.2	3.2	13.6	13.6	0.5	3.2	1.3	1.9	52.4
23-Jul-01	1.8	1.5	3.1	3.2	3.1	7.2	3.2	13.6	13.6	0.5	3.2	1.3	1.9	52.4
24-Jul-01	1.8	1.5	3.1	3.2	3.1	7.2	3.2	13.6	13.6	0.5	3.2	1.3	1.9	52.4
25-Jul-01	1.8	1.5	3.1	3.2	3.1	7.2	3.2	13.6	13.6	0.5	3.2	1.3	1.9	52.4
26-Jul-01	1.8	1.5	3.1	3.2	3.1	7.2	3.2	13.6	13.6	0.5	3.2	1.3	1.9	52.4
27-Jul-01	1.8	1.5	3.1	3.2	3.1	7.2	3.2	13.6	13.6	0.5	3.2	1.3	1.9	52.4
28-Jul-01	1.8	1.5	3.1	3.2	3.1	7.2	3.2	13.6	13.6	0.5	3.2	1.3	1.9	52.4
29-Jul-01	1.8	1.5	3.1	3.2	3.1	7.2	3.2	13.6	13.6	0.5	3.2	1.3	1.9	52.4
30-Jul-01	1.8	1.5	3.1	3.2	3.1	7.2	3.2	13.6	13.6	0.5	3.2	1.3	1.9	52.4
31-Aug-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
1-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
2-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
3-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
4-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
5-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
6-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
7-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
8-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
9-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
10-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
11-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
12-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
13-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
14-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
15-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
16-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
17-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
18-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
19-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
20-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
21-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
22-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
23-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
24-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
25-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
26-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
27-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
28-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
29-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
30-Sep-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
1-Oct-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
2-Oct-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
3-Oct-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
4-Oct-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
5-Oct-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
6-Oct-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
7-Oct-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
8-Oct-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
9-Oct-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
10-Oct-01	1.6	0.5	3.1	2.6	3.1	7.0	2.6	14.8	14.8	0.5	2.9	1.2	1.9	50.1
11-Oct-01	1.6	0.5												

Well ID TOD Elevation TOD Depth (ft) Location	RW-3		RW-4		RW-5		RW-6		RW-7		RW-8		RW-9		RW-10		RW-11		RW-12		RW-13		RW-14		RW-15		RW-16		RW-17		RW-18		RW-19		RW-20		RW-21		RW-22		RW-23		RW-24		RW-25		RW-26		RW-27		RW-28		RW-29		RW-30		RW-31		RW-32		RW-33		RW-34		RW-35		RW-36		RW-37		RW-38		RW-39		RW-40		RW-41		RW-42		RW-43		RW-44		RW-45		RW-46		RW-47		RW-48		RW-49		RW-50		RW-51		RW-52		RW-53		RW-54		RW-55		RW-56		RW-57		RW-58		RW-59		RW-60		RW-61		RW-62		RW-63		RW-64		RW-65		RW-66		RW-67		RW-68		RW-69		RW-70		RW-71		RW-72		RW-73		RW-74		RW-75		RW-76		RW-77		RW-78		RW-79		RW-80		RW-81		RW-82		RW-83		RW-84		RW-85		RW-86		RW-87		RW-88		RW-89		RW-90		RW-91		RW-92		RW-93		RW-94		RW-95		RW-96		RW-97		RW-98		RW-99		RW-100		RW-101		RW-102		RW-103		RW-104		RW-105		RW-106		RW-107		RW-108		RW-109		RW-110		RW-111		RW-112		RW-113		RW-114		RW-115		RW-116		RW-117		RW-118		RW-119		RW-120		RW-121		RW-122		RW-123		RW-124		RW-125		RW-126		RW-127		RW-128		RW-129		RW-130		RW-131		RW-132		RW-133		RW-134		RW-135		RW-136		RW-137		RW-138		RW-139		RW-140		RW-141		RW-142		RW-143		RW-144		RW-145		RW-146		RW-147		RW-148		RW-149		RW-150		RW-151		RW-152		RW-153		RW-154		RW-155		RW-156		RW-157		RW-158		RW-159		RW-160		RW-161		RW-162		RW-163		RW-164		RW-165		RW-166		RW-167		RW-168		RW-169		RW-170		RW-171		RW-172		RW-173		RW-174		RW-175		RW-176		RW-177		RW-178		RW-179		RW-180		RW-181		RW-182		RW-183		RW-184		RW-185		RW-186		RW-187		RW-188		RW-189		RW-190		RW-191		RW-192		RW-193		RW-194		RW-195		RW-196		RW-197		RW-198		RW-199		RW-200		RW-201		RW-202		RW-203		RW-204		RW-205		RW-206		RW-207		RW-208		RW-209		RW-210		RW-211		RW-212		RW-213		RW-214		RW-215		RW-216		RW-217		RW-218		RW-219		RW-220		RW-221		RW-222		RW-223		RW-224		RW-225		RW-226		RW-227		RW-228		RW-229		RW-230		RW-231		RW-232		RW-233		RW-234		RW-235		RW-236		RW-237		RW-238		RW-239		RW-240		RW-241		RW-242		RW-243		RW-244		RW-245		RW-246		RW-247		RW-248		RW-249		RW-250		RW-251		RW-252		RW-253		RW-254		RW-255		RW-256		RW-257		RW-258		RW-259		RW-260		RW-261		RW-262		RW-263		RW-264		RW-265		RW-266		RW-267		RW-268		RW-269		RW-270		RW-271		RW-272		RW-273		RW-274		RW-275		RW-276		RW-277		RW-278		RW-279		RW-280		RW-281		RW-282		RW-283		RW-284		RW-285		RW-286		RW-287		RW-288		RW-289		RW-290		RW-291		RW-292		RW-293		RW-294		RW-295		RW-296		RW-297		RW-298		RW-299		RW-300		RW-301		RW-302		RW-303		RW-304		RW-305		RW-306		RW-307		RW-308		RW-309		RW-310		RW-311		RW-312		RW-313		RW-314		RW-315		RW-316		RW-317		RW-318		RW-319		RW-320		RW-321		RW-322		RW-323		RW-324		RW-325		RW-326		RW-327		RW-328		RW-329		RW-330		RW-331		RW-332		RW-333		RW-334		RW-335		RW-336		RW-337		RW-338		RW-339		RW-340		RW-341		RW-342		RW-343		RW-344		RW-345		RW-346		RW-347		RW-348		RW-349		RW-350		RW-351		RW-352		RW-353		RW-354		RW-355		RW-356		RW-357		RW-358		RW-359		RW-360		RW-361		RW-362		RW-363		RW-364		RW-365		RW-366		RW-367		RW-368		RW-369		RW-370		RW-371		RW-372		RW-373		RW-374		RW-375		RW-376		RW-377		RW-378		RW-379		RW-380		RW-381		RW-382		RW-383		RW-384		RW-385		RW-386		RW-387		RW-388		RW-389		RW-390		RW-391		RW-392		RW-393		RW-394		RW-395		RW-396		RW-397		RW-398		RW-399		RW-400		RW-401		RW-402		RW-403		RW-404		RW-405		RW-406		RW-407		RW-408		RW-409		RW-410		RW-411		RW-412		RW-413		RW-414		RW-415		RW-416		RW-417		RW-418		RW-419		RW-420		RW-421		RW-422		RW-423		RW-424		RW-425		RW-426		RW-427		RW-428		RW-429		RW-430		RW-431		RW-432		RW-433		RW-434		RW-435		RW-436		RW-437		RW-438		RW-439		RW-440		RW-441		RW-442		RW-443		RW-444		RW-445		RW-446		RW-447		RW-448		RW-449		RW-450		RW-451		RW-452		RW-453		RW-454		RW-455		RW-456		RW-457		RW-458		RW-459		RW-460		RW-461		RW-462		RW-463		RW-464		RW-465		RW-466		RW-467		RW-468		RW-469		RW-470		RW-471		RW-472		RW-473		RW-474		RW-475		RW-476		RW-477		RW-478		RW-479		RW-480		RW-481		RW-482		RW-483		RW-484		RW-485		RW-486		RW-487		RW-488		RW-489		RW-490		RW-491		RW-492		RW-493		RW-494		RW-495		RW-496		RW-497		RW-498		RW-499		RW-500		RW-501		RW-502		RW-503		RW-504		RW-505		RW-506		RW-507		RW-508		RW-509		RW-510		RW-511		RW-512		RW-513		RW-514		RW-515		RW-516		RW-517		RW-518		RW-519		RW-520		RW-521		RW-522		RW-523		RW-524		RW-525		RW-526		RW-527		RW-528		RW-529		RW-530		RW-531		RW-532		RW-533		RW-534		RW-535		RW-536		RW-537		RW-538		RW-539		RW-540		RW-541		RW-542		RW-543		RW-544		RW-545		RW-546		RW-547		RW-548		RW-549		RW-550		RW-551		RW-552		RW-553		RW-554		RW-555		RW-556		RW-557		RW-558		RW-559		RW-560		RW-561		RW-562		RW-563		RW-564		RW-565		RW-566		RW-567		RW-568		RW-569		RW-570		RW-571		RW-572		RW-573		RW-574		RW-575		RW-576		RW-577		RW-578		RW-579		RW-580		RW-581		RW-582		RW-583		RW-584		RW-585		RW-586		RW-587		RW-588		RW-589		RW-590		RW-591		RW-592		RW-593		RW-594		RW-595		RW-596		RW-597		RW-598		RW-599		RW-600		RW-601		RW-602		RW-603		RW-604		RW-605		RW-606		RW-607		RW-608		RW-609		RW-610		RW-611		RW-612		RW-613		RW-614		RW-615		RW-616		RW-617		RW-618		RW-619		RW-620		RW-621		RW-622		RW-623		RW-624		RW-625		RW-626		RW-627		RW-628		RW-629		RW-630		RW-631		RW-632		RW-633		RW-634		RW-635		RW-636		RW-637		RW-638		RW-639		RW-640		RW-641		RW-642		RW-643		RW-644		RW-645		RW-646		RW-647		RW-648		RW-649		RW-650		RW-651		RW-652		RW-653		RW-654		RW-655		RW-656		RW-657		RW-658		RW-659		RW-660		RW-661		RW-662		RW-663		RW-664		RW-665		RW-666		RW-667		RW-668		RW-669		RW-670		RW-671		RW-672		RW-673		RW-674		RW-675		RW-676		RW-677		RW-678		RW-679		RW-680		RW-681		RW-682		RW-683		RW-684		RW-685		RW-686		RW-687		RW-688		RW-689		RW-690		RW-691		RW-692		RW-693		RW-694		RW-695		RW-696		RW-697		RW-698		RW-699		RW-700		RW-701		RW-702		RW-703		RW-704		RW-705		RW-706		RW-707		RW-708		RW-709		RW-710		RW-711		RW-712		RW-713		RW-714		RW-715		RW-716		RW-717		RW-718		RW-719		RW-720		RW-721		RW-722		RW-723		RW-724		RW-725		RW-726		RW-727		RW-728		RW-729		RW-730		RW-731		RW-732		RW-733		RW-734		RW-735		RW-736		RW-737		RW-738		RW-739		RW-740		RW-741		RW-742		RW-743		RW-744		RW-745		RW-746		RW-747		RW-748		RW-749		RW-750		RW-751		RW-752		RW-753		RW-754		RW-755		RW-756		RW-757		RW-758		RW-759		RW-760		RW-761		RW-762		RW-763		RW-764		RW-765		RW-766		RW-767		RW-768		RW-769		RW-770		RW-771		RW-772		RW-773		RW-774		RW-775		RW-776		RW-777		RW-778		RW-779		RW-780		RW-781		RW-782		RW-783		RW-784		RW-785		RW-786		RW-787		RW-788		RW-789		RW-790		RW-791		RW-792		RW-793		RW-794		RW-795		RW-796		RW-797		RW-798		RW-799		RW-800		RW-801		RW-802		RW-803		RW-804		RW-805		RW-806		RW-807		RW-808		RW-809		RW-810		RW-811		RW-812		RW-813		RW-814		RW-815		RW-816		RW-817		RW-818		RW-819		RW-820		RW-821		RW-822		RW-823		RW-824		RW-825		RW-826		RW-827		RW-828		RW-829		RW-830		RW-831		RW-832		RW-833		RW-834		RW-835		RW-836		RW-837		RW-838		RW-839		RW-840		RW-841		RW-842		RW-843		RW-844		RW-845		RW-846		RW-847		RW-848		RW-849		RW-850		RW-851		RW-852		RW-853		RW-854		RW-855		RW-856		RW-857		RW-858		RW-859		RW-860		RW-861		RW-862		RW-863		RW-864		RW-865		RW-866		RW-867		RW-868		RW-869		RW-870		RW-871		RW-872		RW-873		RW-874		RW-875		RW-876		RW-877		RW-878		RW-879		RW-880		RW-881		RW-882		RW-883		RW-884		RW-885		RW-886		RW-887		RW-888		RW-889		RW-890		RW-891		RW-892		RW-893		RW-894		RW-895		RW-896		RW-897		RW-898		RW-899		RW-900		RW-901		RW-902		RW-903		RW-904		RW-905		RW-906		RW-907		RW-908		RW-909		RW-910		RW-911		RW-912		RW-913		RW-914		RW-915		RW-916		RW-917		RW-918		RW-919		RW-920		RW-921		RW-922		RW-923		RW-924		RW-925		RW-926		RW-927		RW-928		RW-929		RW-930		RW-931		RW-932		RW-933		RW-934		RW-935		RW-936		RW-937		RW-938		RW-939		RW-940		RW-941		RW-942		RW-943		RW-944		RW-945		RW-946		RW-947		RW-948		RW-949		RW-950		RW-951		RW-952		RW-953		RW-954		RW-955		RW-956		RW-957		RW-958		RW-959		RW-960	

Well ID TOC Deviation Total Depth (ft) Location	Average System Effluent										Rainfall 24-hr Period (inches)																																																																																																																																																																																																																																																																																																																																																																																																																																										
	RW-3	RW-4	RW-5	RW-6	RW-7	RW-8	RW-9	RW-1A	RW-1B	RW-2		Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate 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APPENDIX B

SEMI-ANNUAL MONITORING WELL SAMPLES
ANALYTICAL LABORATORY DATA



ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road • Memphis, TN 38111 • (901) 327-2750 • FAX (901) 327-6334

Founded 1972

777 103

October 17, 2001

Mr. Kraig Smith
Sverdrup/Jacobs Eng.
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Ref: Analytical Testing
ETC Order # 0110129
Project Description Memphis Army Depot

Project Number C5X51106

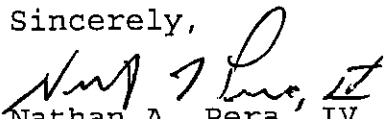
The above referenced project has been analyzed per your instructions. The analyses were performed in our laboratory in accordance with Standard Methods, The Solid Waste Manual SW-846, EPA Methods for Chemical Analysis of Water and Wastes and/or 40 CFR part 136.

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, instrumentation maintenance and calibration were performed in accordance with guidelines established by the USEPA.

The results are shown on the attached analysis sheet(s).

Please do not hesitate to contact our office if you have any questions.

Sincerely,


Nathan A. Pera, IV
Chief Executive Officer

rt
Attachment

SVE_MHDDMTA

Certifications

Tennessee #TN02027
Arkansas #40730
Kentucky #90047
North Carolina #415
South Carolina #84002002

Mississippi
Oklahoma #9311
Virginia #00106
Washington #C248
US Army Corps of Engineers

USDA #S-46279

Environmental Testing & Consulting, Inc.
Data Qualifiers for Organic Reporting

Within the attached report, some analytical data may be reported as "Qualified Data" as indicated by a "Data Qualifier" next to the result. This table summarizes the possible "Data Qualifiers" that may be associated with this report. These qualifiers do not apply for TIC reports.

Q	Surrogate Recovery Outside QC Limits
J	Estimated Value. Presence of the compound was confirmed but less than the
	reported detection limit.
E	Concentration exceeds the established method calibration range but is within
	the working range of the instrument.
B	Analyte detected in the associated Method Blank.
U	Reported result was unconfirmed. Refer to Case Narrative.
C	Result reported from GC/MS confirmation analysis.
M	Result reported represents a minimum value. Refer to Case Narrative.
NC	Result reported from Primary Column. Result did not confirm.
*	QC Data (percent recovery/RPD for a particular analyte was outside QC Limits)

ANALYTICAL SUMMARY/CROSS REFERENCE TABLE

Client Name **Sverdrup/Jacobs Eng.**
Site ID **Memphis Army Depot**

ETC Order #0110129
C5X51106

<u>ETC Sample ID</u>	<u>Field ID</u>	<u>Matrix</u>	<u>Method</u>	<u>Method Description</u>
011012901	MW-42-57.5	AQUEOUS	8260B	GC/MS Volatile Organics
011012902	MW-80-61.2	AQUEOUS	8260B	GC/MS Volatile Organics
011012903	MW-80-65.2	AQUEOUS	8260B	GC/MS Volatile Organics
011012904	MW-80-67.2	AQUEOUS	8260B	GC/MS Volatile Organics
011012905	MW-44-60	AQUEOUS	8260B	GC/MS Volatile Organics
011012906	MW-44-65	AQUEOUS	8260B	GC/MS Volatile Organics
011012907	MW-44-70	AQUEOUS	8260B	GC/MS Volatile Organics
011012908	MW-95-41.5	AQUEOUS	8260B	GC/MS Volatile Organics
011012909	MW-95-46.5	AQUEOUS	8260B	GC/MS Volatile Organics
011012910	MW-95-51.5	AQUEOUS	8260B	GC/MS Volatile Organics
011012911	MW-95-57.5	AQUEOUS	8260B	GC/MS Volatile Organics
011012912	MW-57-65	AQUEOUS	8260B	GC/MS Volatile Organics
011012913	MW-57-67.5	AQUEOUS	8260B	GC/MS Volatile Organics
011012914	MW-58-65	AQUEOUS	8260B	GC/MS Volatile Organics
011012915	MW-56-68.1	AQUEOUS	8260B	GC/MS Volatile Organics
011012916	MW-34-146	AQUEOUS	8260B	GC/MS Volatile Organics
011012917	MW-34-149.5	AQUEOUS	8260B	GC/MS Volatile Organics
011012918	MW-34-155.5	AQUEOUS	8260B	GC/MS Volatile Organics
011012919	MW-30-49.2	AQUEOUS	8260B	GC/MS Volatile Organics
011012920	MW-30-56.2	AQUEOUS	8260B	GC/MS Volatile Organics
011012921	MW-31-72.2	AQUEOUS	8260B	GC/MS Volatile Organics
011012922	MW-31-77.5	AQUEOUS	8260B	GC/MS Volatile Organics
011012923	MW-54-81.8	AQUEOUS	8260B	GC/MS Volatile Organics
011012924	MW-54-84	AQUEOUS	8260B	GC/MS Volatile Organics
011012925	MW-54-91	AQUEOUS	8260B	GC/MS Volatile Organics
011012926	MW-79-85	AQUEOUS	8260B	GC/MS Volatile Organics
011012927	MW-79-90	AQUEOUS	8260B	GC/MS Volatile Organics

ENVIRONMENTAL TESTING & CONSULTING, INC.
2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750
ANALYTICAL SUMMARY/CROSS REFERENCE TABLE

777 106

Client Name **Sverdrup/Jacobs Eng.**
Site ID **Memphis Army Depot**

ETC Order #0110129
C5X51106

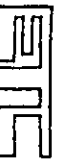
<u>ETC Sample ID</u>	<u>Field ID</u>	<u>Matrix</u>	<u>Method</u>	<u>Method Description</u>
011012928	MW-79-95	AQUEOUS	8260B	GC/MS Volatile Organics
011012929	MW-79-100	AQUEOUS	8260B	GC/MS Volatile Organics
011012930	MW-40-91.5	AQUEOUS	8260B	GC/MS Volatile Organics
011012931	MW-67-261.5	AQUEOUS	8260B	GC/MS Volatile Organics
011012932	MW-67-266.5	AQUEOUS	8260B	GC/MS Volatile Organics
011012933	MW-67-271	AQUEOUS	8260B	GC/MS Volatile Organics

777 107

Environmental Testing & Consulting, Inc.

Login
Chain-of-Custody

000004



108 777

Environmental Testing & Consulting, Inc.
2924 Walnut Grove Rd.
Memphis, TN 38111
(901)327-2750 FAX (901)327-6334

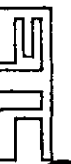
CHAIN OF CUSTODY RECORD

ETC Work Order : 0110129

000005

Company Name		Phone # : 615 3054137		Fax Results									
Project/Station		Fax # : 615 833 8328		RUSH									
Project #		FID # :		Ice									
Project Manager/Contact		PO # :											
CSXS1106		Matrix											
Craig Smith		1 Wastewater		4 Sludge									
		2 Aqueous		5 Oil/Solvent									
		3 Soil/Sediment		6 Other									
# of cont.	Sample ID/ Number	Depth	Sample Date	Sample Time	Matrix	Type	Grab/Comp	Analysis Requested (Note special detection limits or methods)				Comments	
3	MW-42-57.5	57.5'	10-3-01	1140	6W	N/A							
3	MW-80-61.2	61.2'		1255									
3	MW-80-65.2	65.2'		1257									
3	MW-80-67.2	67.2'		1300									
3	MW-44-60	60'		1302									
3	MW-44-65	65'		1305									
3	MW-44-70	70'		1308									
3	MW-95-41.5	41.5'		1337									
3	MW-95-46.5	46.5'		1339									
3	MW-95-51.5	51.5'		1341									
3	MW-95-57.5	57.5'		1345									
Sampled By		Method of Shipment		Blank/Cooler Temp		Remarks							
Jeff Neuman				44°C (98°F)									
RELINQUISHED BY (sign)		DATE		TIME		RECEIVED BY (sign)		DATE		TIME		Sample Delivery Group ID	
Jeff Neuman		10-3-01		1900		Craig Smith		10/3/01		1500			
RELINQUISHED BY (sign)		DATE		TIME		RECEIVED BY (sign)		DATE		TIME			
Craig Smith		10/4/01		1100				10/4/01		1100			
RELINQUISHED BY (sign)		DATE		TIME		RECEIVED BY LAB (print/sign)		DATE		TIME			
						30008		10/4/01		1100			

Distribution : Original and Yellow accompany samples to the laboratory. Pink copy for Field. Original copy returned with results. Yellow copy for ETC, Inc. files.



Environmental Testing & Consulting, Inc.
2924 Walnut Grove Rd.
Memphis, TN 38111

(901)327-2750 FAX (901)327-6334

CHAIN OF CUSTODY RECORD

ETC Work Order : 0110129

900000

Company Name Jacobs Engineering		Phone # : 615 3256437		Fax Results									
Project/Site Memphis Army Depot		Fax # : 615 833 8328		RUSH									
Project # CSX51106		FID # :		Ice									
Project Manager/Contact Kraig Smith		PO # :											
		Matrix											
		1 Wastewater		4 Sludge									
		2 Aqueous		5 Oil/Solvent									
		3 Soil/Sediment		6 Other									
# of cont.	Sample ID/ Number	Depth	Sample Date	Sample Time	Matrix	Type	Grab/Comp	Analysis Requested (Note special detection limits or methods)				Comments	
3	MW-57-65	65"	10-3-01	0815	GW	N/A		VOC's					
3	MW-57-67.5	67.5"		0825									
3	MW-58-65	65"		0834									
3	MW-56-68.1	68.1'		0845									
3	MW-34-146	146'		0854									
3	MW-34-149.5	149.5'		0857									
3	MW-34-155.5	155.5'		0859									
3	MW-30-49.2	49.2'		0950									
3	MW-30-56.2	56.2'		0953									
3	MW-31-72.2	72.2'		1010									
6	MW-31-77.5	77.5'		1015									
Sampled By Jeff Neumann		Method of Shipment		Blank/Cooler Temp 24°C		Remarks							
RELINQUISHED BY (sign) Jeff Neumann		DATE 10-3-01		TIME 1900		RECEIVED BY (sign) Kraig Smith		DATE 10/3/01		TIME 1400		Sample Delivery Group ID	
RELINQUISHED BY (sign) Kraig Smith		DATE 10-4-01		TIME 1100		RECEIVED BY (sign) Kraig Smith		DATE 10/3/01		TIME 1400			
RELINQUISHED BY (sign)		DATE		TIME		RECEIVED BY LAB (print/sign) 10/3/01		DATE 10/3/01		TIME 1100			

Distribution : Original and Yellow accompany samples to the laboratory. Pink copy for Field Crew.

601 444

Original copy returned with results. Yellow copy for ETC, Inc. files.



Environmental Testing & Consulting, Inc.
2924 Walnut Grove Rd.
Memphis, TN 38111
(901)327-2750 FAX (901)327-6334

CHAIN OF CUSTODY RECORD

ETC Work Order : 0110129

Company Name Jacobs Engineering		Phone # : 615 305 6437		Fax Results		Analysis Requested	
Project/Site Memphis Army Depot		Fax # : 615 873 8325		RUSH		(Note special detection limits or methods)	
Project # CSX51106		FID # :		ice			
Project Manager/Contact Kraig Smith		Matrix		1 Wastewater 4 Sludge			
		2 Aqueous 5 Oil/Solvent					
		3 Soil/Sediment 6 Other					
# of cont.	Sample ID/ Number	Depth	Sample Date	Sample Time	Matrix	Grab/Comp	Type
3	Sgt. MW-54-81.8	81.8"	10-3-01	1030	640	N/A	VOC's
3	MW-54-84	84"		1033			
3	MW-54-91	91"		1037			
3	MW-79-85	85"		1045			
3	MW-79-90	90"		1050			
3	MW-79-95	95"		1055			
3	MW-79-100	100"		1100			
3	MW-40-91.5	91.5"		1103			
6	MW-67-261.5	261.5"		1120			
3	MW-67-266.5	266.5"		1123			
3	MW-67-271	271"		1125			
Sampled By Jeff Neuman		Method of Shipment		Blank/Cooler Temp		Remarks	
RELINQUISHED BY (sign) Jeff Neuman		DATE 10-3-01		TIME 1900		RECEIVED BY (sign) Kraig Smith	
RELINQUISHED BY (sign) Kraig Smith		DATE 10/11/01		TIME 1130		RECEIVED BY (sign) Kraig Smith	
RELINQUISHED BY (sign)		DATE		TIME		RECEIVED BY LAB (print/sign) Kraig Smith	
						DATE 10/10/01	
						TIME 1100	
						Sample Delivery Group ID	

Distribution : Original and Yellow accompany samples to the laboratory. Pink copy for Field. Original copy returned with results. Yellow copy for ETC, Inc. files.

Environmental Testing & Consulting, Inc.
Cooler Receipt FormDate Received 10/4/01
Date/Time Checked In 10/4/01-11:00
Carrier/Bill# Hand-DeliveredLIMS# 0110-130
Project Memphis Army
Depot
By Rebekah Barger

1. Custody Seals?/Location-	No
2. Samples are non-radioactive?	Yes
3. Chain of Custody in plastic?	Yes
4. Temperature at receipt (ok = 4 ± 2 °C) <40C	OK
5. Ice & Packing- Bags, Ice, Bubble Wrap	Yes
6. Chain of Custody filled out properly?	Yes
7. All containers in separate bags?	Yes
8. Sample containers intact?	Yes
9. Label(s) complete and in good condition?	Yes
10. Label(s) agree with Chain of Custody?	Yes
11. Correct containers used?	Yes
12. Sufficient sample?	Yes
13. VOA vials bubble-free (H ₂ O) or no head space (soil)?	Yes
14. Preservation OK? TM pH____; TRPH pH____; TOC pH____; TOX pH____; CN pH____; N/P pH____; Other pH____	Yes

Comments _____

*Validated Date and Time of Sample Receipt (VDTSR)

Environmental Testing & Consulting, Inc.

Sample Reports

777 113

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-01**
 Field ID : **MW-42-57.5**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/09/01	LS	8260B 5030B
QC Batch	V210091					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	95	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	99	80 111
S4 - 1,2-Dichloroethane-d4	98	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000010

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 114

CLIENT SAMPLE NO.

11012901

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012901

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1001010

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/09/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
13. _____				
14. _____				
15. _____				
16. _____				
17. _____				
18. _____				
19. _____				
20. _____				
21. _____				
22. _____				
23. _____				
24. _____				
25. _____				
26. _____				
27. _____				
28. _____				
29. _____				
30. _____				

777 115

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-02**
 Field ID : **MW-80-61.2**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/09/01	LS	8260B 5030B
QC Batch	V210091					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	95	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	99	80 111
S4 - 1,2-Dichloroethane-d4	98	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000012

FORM 1 777 116 CLIENT SAMPLE NO.
 VOA-GCMS ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

11012902

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012902

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1101011

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/09/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____
6. _____	_____	_____	_____	_____
7. _____	_____	_____	_____	_____
8. _____	_____	_____	_____	_____
9. _____	_____	_____	_____	_____
10. _____	_____	_____	_____	_____
11. _____	_____	_____	_____	_____
12. _____	_____	_____	_____	_____
13. _____	_____	_____	_____	_____
14. _____	_____	_____	_____	_____
15. _____	_____	_____	_____	_____
16. _____	_____	_____	_____	_____
17. _____	_____	_____	_____	_____
18. _____	_____	_____	_____	_____
19. _____	_____	_____	_____	_____
20. _____	_____	_____	_____	_____
21. _____	_____	_____	_____	_____
22. _____	_____	_____	_____	_____
23. _____	_____	_____	_____	_____
24. _____	_____	_____	_____	_____
25. _____	_____	_____	_____	_____
26. _____	_____	_____	_____	_____
27. _____	_____	_____	_____	_____
28. _____	_____	_____	_____	_____
29. _____	_____	_____	_____	_____
30. _____	_____	_____	_____	_____

777 117

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name

Sverdrup/Jacobs Eng.
 Memphis Depot, Dunn Field
 3354 Perimeter Hill Drive,
 Suite 310
 Nashville, TN 37211

Site ID Memphis Army Depot

FID #

Date Arrived 10/04/01

ETC Order Number 0110129

ETC Lab ID 0110129-03

Field ID : MW-80-65.2

Matrix : AQUEOUS

Sample Date : 10/03/01

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/09/01	LS	8260B 5030B
QC Batch	V210091					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	94	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	99	80 111
S4 - 1,2-Dichloroethane-d4	94	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000014

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 118

CLIENT SAMPLE NO.

11012903

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012903

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1201012

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/09/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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777 119

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-04**
 Field ID : **MW-80-67.2**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/09/01	LS	8260B 5030B
QC Batch	V210091					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	1.07	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	96	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	100	80 111
S4 - 1,2-Dichloroethane-d4	99	58 131

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 120 CLIENT SAMPLE NO.

11012904

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012904

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1301013

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/09/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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777 121

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-05**
 Field ID : **MW-44-60**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/09/01	LS	8260B 5030B
QC Batch	V210091					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	2.05	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	1.29	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	95	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	99	80 111
S4 - 1,2-Dichloroethane-d4	99	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000018

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 122 CLIENT SAMPLE NO.

11012905

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012905

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1401014

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/09/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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777 123

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-06**
 Field ID : **MW-44-65**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/09/01	LS	8260B 5030B
QC Batch	V210091					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	6.47	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	5.04	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	2.77	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	1.62	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	96	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	101	80 111
S4 - 1,2-Dichloroethane-d4	99	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000020

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 124 CLIENT SAMPLE NO.

11012906

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012906

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1501015

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/09/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1. _____				
2. _____				
3. _____				
4. _____				
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FORM I VOA-GCMS-TIC

000021

777 125

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-07**
 Field ID : **MW-44-70**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/09/01	LS	8260B 5030B
QC Batch	V210091					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	2.84	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	2.78	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	1.26	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	96	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	100	80 111
S4 - 1,2-Dichloroethane-d4	100	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000022

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 126 CLIENT SAMPLE NO.

11012907

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012907

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1601016

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/09/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1. _____				
2. _____				
3. _____				
4. _____				
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777 127

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-08**
 Field ID : **MW-95-41.5**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/09/01	LS	8260B 5030B
QC Batch	V210091					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	98	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	100	80 111
S4 - 1,2-Dichloroethane-d4	100	58 131

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 128 CLIENT SAMPLE NO.

11012908

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012908

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1701017

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/09/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
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29. _____				
30. _____				

777 129

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-09**
 Field ID : **MW-95-46.5**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/09/01	LS	8260B 5030B
QC Batch	V210091					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	95	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	100	80 111
S4 - 1,2-Dichloroethane-d4	98	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000026

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 130

CLIENT SAMPLE NO.

11012909

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012909

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1801018

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/09/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.				
2.				
3.				
4.				
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FORM I VOA-GCMS-TIC

000027

777 131

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-10**
 Field ID : **MW-95-51.5**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/10/01	LS	8260B 5030B
QC Batch	V210101					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	95	84 115
S2 - Toluene-d8	92	69 133
S3 - 4-Bromofluorobenzene	100	80 111
S4 - 1,2-Dichloroethane-d4	97	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000028

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 132 CLIENT SAMPLE NO.

11012910

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012910

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0401005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/10/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____
6. _____	_____	_____	_____	_____
7. _____	_____	_____	_____	_____
8. _____	_____	_____	_____	_____
9. _____	_____	_____	_____	_____
10. _____	_____	_____	_____	_____
11. _____	_____	_____	_____	_____
12. _____	_____	_____	_____	_____
13. _____	_____	_____	_____	_____
14. _____	_____	_____	_____	_____
15. _____	_____	_____	_____	_____
16. _____	_____	_____	_____	_____
17. _____	_____	_____	_____	_____
18. _____	_____	_____	_____	_____
19. _____	_____	_____	_____	_____
20. _____	_____	_____	_____	_____
21. _____	_____	_____	_____	_____
22. _____	_____	_____	_____	_____
23. _____	_____	_____	_____	_____
24. _____	_____	_____	_____	_____
25. _____	_____	_____	_____	_____
26. _____	_____	_____	_____	_____
27. _____	_____	_____	_____	_____
28. _____	_____	_____	_____	_____
29. _____	_____	_____	_____	_____
30. _____	_____	_____	_____	_____

777 133

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-11**
 Field ID : **MW-95-57.5**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/10/01	LS	8260B 5030B
QC Batch	V210101					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	95	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	99	80 111
S4 - 1,2-Dichloroethane-d4	94	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000030

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 134 CLIENT SAMPLE NO.

11012911

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012911

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0501006

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/10/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.				
2.				
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29.				
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777 135

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-12**
 Field ID : **MW-57-65**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/10/01	LS	8260B 5030B
QC Batch	V210101					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	37.1	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	25.9	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	1.73	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	5.24	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	73.4	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	0.86J	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	95	84	115
S2 - Toluene-d8	93	69	133
S3 - 4-Bromofluorobenzene	99	80	111
S4 - 1,2-Dichloroethane-d4	93	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000032

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 136 CLIENT SAMPLE NO.

11012912

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012912

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0601007

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/10/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____
6. _____	_____	_____	_____	_____
7. _____	_____	_____	_____	_____
8. _____	_____	_____	_____	_____
9. _____	_____	_____	_____	_____
10. _____	_____	_____	_____	_____
11. _____	_____	_____	_____	_____
12. _____	_____	_____	_____	_____
13. _____	_____	_____	_____	_____
14. _____	_____	_____	_____	_____
15. _____	_____	_____	_____	_____
16. _____	_____	_____	_____	_____
17. _____	_____	_____	_____	_____
18. _____	_____	_____	_____	_____
19. _____	_____	_____	_____	_____
20. _____	_____	_____	_____	_____
21. _____	_____	_____	_____	_____
22. _____	_____	_____	_____	_____
23. _____	_____	_____	_____	_____
24. _____	_____	_____	_____	_____
25. _____	_____	_____	_____	_____
26. _____	_____	_____	_____	_____
27. _____	_____	_____	_____	_____
28. _____	_____	_____	_____	_____
29. _____	_____	_____	_____	_____
30. _____	_____	_____	_____	_____

777 137

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**ETC Order Number **0110129**ETC Lab ID **0110129-13**Field ID : **MW-57-67.5**Matrix : **AQUEOUS**Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/10/01	LS	8260B 5030B
QC Batch	V210101					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	37.5	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	28.0	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	1.68	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	4.58	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	77.4	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	0.97J	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	96	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	99	80 111
S4 - 1,2-Dichloroethane-d4	96	58 131

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 138

CLIENT SAMPLE NO.

11012913

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012913

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0701008

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/10/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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777 139

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-14**
 Field ID : **MW-58-65**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/10/01	LS	8260B 5030B
QC Batch	V210101					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	1.85	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	1.78	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	96	84	115
S2 - Toluene-d8	95	69	133
S3 - 4-Bromofluorobenzene	101	80	111
S4 - 1,2-Dichloroethane-d4	97	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000036

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 140

CLIENT SAMPLE NO.

11012914

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012914

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0801009

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/10/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000037

777 141

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-15**
 Field ID : **MW-56-68.1**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/10/01	LS	8260B 5030B
QC Batch	V210101					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	27.8	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	1.18	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	95	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	99	80 111
S4 - 1,2-Dichloroethane-d4	94	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000038

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 142

CLIENT SAMPLE NO.

11012915

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012915

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0901010

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/10/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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777 143

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-16**
 Field ID : **MW-34-146**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/10/01	LS	8260B 5030B
QC Batch	V210101					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	1.46	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	95	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	100	80 111
S4 - 1,2-Dichloroethane-d4	95	58 131

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 144 CLIENT SAMPLE NO.

11012916

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012916

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1001011

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/10/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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777 145

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-17**
 Field ID : **MW-34-149.5**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/10/01	LS	8260B 5030B
QC Batch	V210101					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	1.48	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	95	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	100	80 111
S4 - 1,2-Dichloroethane-d4	96	58 131

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 146

CLIENT SAMPLE NO.

11012917

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012917

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1101012

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/10/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000043

777 147

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-18**
 Field ID : **MW-34-155.5**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/10/01	LS	8260B 5030B
QC Batch	V210101					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	0.96J	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	2.00	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	96	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	98	80 111
S4 - 1,2-Dichloroethane-d4	95	58 131

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 148

CLIENT SAMPLE NO.

11012918

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012918

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1201013

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/10/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000045

777 149

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-19**
 Field ID : **MW-30-49.2**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/10/01	LS	8260B 5030B
QC Batch	V210101					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	94	84	115
S2 - Toluene-d8	95	69	133
S3 - 4-Bromofluorobenzene	99	80	111
S4 - 1,2-Dichloroethane-d4	96	58	131

FORM 1 777 150 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

11012919

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012919

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1301014

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/10/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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777 151

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-20**
 Field ID : **MW-30-56.2**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/10/01	LS	8260B 5030B
QC Batch	V210101					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	95	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	99	80 111
S4 - 1,2-Dichloroethane-d4	96	58 131



Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000048

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 152 CLIENT SAMPLE NO.

11012920

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012920

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1401015

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/10/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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777 153

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name Sverdrup/Jacobs Eng.
 Memphis Depot, Dunn Field
 3354 Perimeter Hill Drive,
 Suite 310
 Nashville, TN 37211

Site ID Memphis Army Depot

FID #

Date Arrived 10/04/01
 ETC Order Number 0110129

ETC Lab ID 0110129-21
 Field ID : MW-31-72.2

Matrix : AQUEOUS
 Sample Date : 10/03/01

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/10/01	LS	8260B 5030B
QC Batch	V210101					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	1.25	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	1.61	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	20.6	ug/L	1.00			
trans-1,2-Dichloroethene	34.4	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	2.10	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	222E	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	44.2	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	94	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	100	80 111
S4 - 1,2-Dichloroethane-d4	94	58 131

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 154

CLIENT SAMPLE NO.

11012921

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012921

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1501016

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/10/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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777 155

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
ETC Order Number **0110129**

ETC Lab ID **0110129-21**
Field ID : **MW-31-72.2-DIL**

Matrix : **AQUEOUS**
Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	LS	8260B 5030B
QC Batch	V210111					
Dilution Factor	10					
Trichloroethene	227	ug/L	10.0			
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>			
S1 - Dibromofluoromethane	95		84	115		
S2 - Toluene-d8	94		69	133		
S3 - 4-Bromofluorobenzene	100		80	111		
S4 - 1,2-Dichloroethane-d4	94		58	131		

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 156

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-22**
 Field ID : **MW-31-77.5**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	LS	8260B 5030B
QC Batch	V210111					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	0.54J	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	31.2	ug/L	1.00			
trans-1,2-Dichloroethene	4.83	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	4.19	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	0.70J	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	38.1	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	5.53	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	94	84	115
S2 - Toluene-d8	93	69	133
S3 - 4-Bromofluorobenzene	99	80	111
1,2-Dichloroethane-d4	91	58	131

777 157

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

11012922

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012922

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0401006

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/11/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____
6. _____	_____	_____	_____	_____
7. _____	_____	_____	_____	_____
8. _____	_____	_____	_____	_____
9. _____	_____	_____	_____	_____
10. _____	_____	_____	_____	_____
11. _____	_____	_____	_____	_____
12. _____	_____	_____	_____	_____
13. _____	_____	_____	_____	_____
14. _____	_____	_____	_____	_____
15. _____	_____	_____	_____	_____
16. _____	_____	_____	_____	_____
17. _____	_____	_____	_____	_____
18. _____	_____	_____	_____	_____
19. _____	_____	_____	_____	_____
20. _____	_____	_____	_____	_____
21. _____	_____	_____	_____	_____
22. _____	_____	_____	_____	_____
23. _____	_____	_____	_____	_____
24. _____	_____	_____	_____	_____
25. _____	_____	_____	_____	_____
26. _____	_____	_____	_____	_____
27. _____	_____	_____	_____	_____
28. _____	_____	_____	_____	_____
29. _____	_____	_____	_____	_____
30. _____	_____	_____	_____	_____

FORM I VOA-GCMS-TIC

000054

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 158

Client Name Sverdrup/Jacobs Eng.
 Memphis Depot, Dunn Field
 3354 Perimeter Hill Drive,
 Suite 310
 Nashville, TN 37211

Site ID Memphis Army Depot

FID #

Date Arrived 10/04/01
 ETC Order Number 0110129

ETC Lab ID 0110129-23
 Field ID : MW-54-81.8

Matrix : AQUEOUS
 Sample Date : 10/03/01

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/10/01	LS	8260B 5030B
QC Batch	V210101					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	1.79	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	6.87	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	1.13	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	3.93	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	20.2	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	11.3	ug/L	1.00			
Surrogate Standard			% Recovery	QC Limits		
S1 - Dibromofluoromethane	96			84	115	
S2 - Toluene-d8	97			69	133	
S3 - 4-Bromofluorobenzene	100			80	111	
1,2-Dichloroethane-d4	98			58	131	

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FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

11012923

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012923

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1701018

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/10/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000056

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 160

Client Name

Sverdrup/Jacobs Eng.
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID Memphis Army Depot

FID #

Date Arrived 10/04/01

ETC Order Number 0110129

ETC Lab ID 0110129-24

Field ID : MW-54-84

Matrix : AQUEOUS

Sample Date : 10/03/01

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/10/01	LS	8260B 5030B
QC Batch	V210101					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	7.70	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	11.9	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	4.15	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	8.67	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	105	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	27.6	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	96	84 115
S2 - Toluene-d8	97	69 133
S3 - 4-Bromofluorobenzene	100	80 111
1,2-Dichloroethane-d4	97	58 131

777 161

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

11012924

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012924

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1801019

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/10/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 162

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
ETC Order Number **0110129**

ETC Lab ID **0110129-25**
Field ID : **MW-54-91**

Matrix : **AQUEOUS**
Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/10/01	LS	8260B 5030B
QC Batch	V210101					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	19.7	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	12.0	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	5.28	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	11.0	ug/L	1.00			
Tetrachloroethene	1.89	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	228E	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	31.4	ug/L	1.00			
Surrogate Standard	% Recovery		QC Limits			
S1 - Dibromofluoromethane	98		84			115
S2 - Toluene-d8	96		69			133
S3 - 4-Bromofluorobenzene	100		80			111
1,2-Dichloroethane-d4	98		58			131

777 163

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

11012925

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012925

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1901020

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/10/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000060

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 164

Client Name

Sverdrup/Jacobs Eng.
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID Memphis Army Depot

FID #

Date Arrived 10/04/01

ETC Order Number 0110129

ETC Lab ID 0110129-25

Field ID : MW-54-91-DIL

Matrix : AQUEOUS

Sample Date : 10/03/01

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	MK	8260B 5030B
QC Batch	V210111					
Dilution Factor	10					
Trichloroethene	259	ug/L	10.0			
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>			
S1 - Dibromofluoromethane	96		84	115		
S2 - Toluene-d8	95		69	133		
S3 - 4-Bromofluorobenzene	100		80	111		
S4 - 1,2-Dichloroethane-d4	95		58	131		

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000061

777 165

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-26**
 Field ID : **MW-79-85**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	LS	8260B 5030B
QC Batch	V210111					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	0.41J	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	21.0	ug/L	1.00			
trans-1,2-Dichloroethene	0.75J	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	6.28	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	0.35J	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	8.80	ug/L	1.00			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	0.62J	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	95	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	99	80 111
S4 - 1,2-Dichloroethane-d4	94	58 131

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 166 CLIENT SAMPLE NO.

11012926

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012926

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0701009

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/11/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-27**
 Field ID : **MW-79-90**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	LS	8260B 5030B
QC Batch	V210111					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	0.43J	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	22.8	ug/L	1.00			
trans-1,2-Dichloroethene	0.96J	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	6.85	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	0.39J	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	10.8	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	0.88J	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	96	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	98	80 111
S4 - 1,2-Dichloroethane-d4	97	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000064

FORM 1 777 168
 VOA-GCMS ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

11012927

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012927

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0801010

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/11/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name

Sverdrup/Jacobs Eng.
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID Memphis Army Depot

FID #

Date Arrived 10/04/01

ETC Order Number 0110129

ETC Lab ID 0110129-28

Field ID : MW-79-95

Matrix : AQUEOUS

Sample Date : 10/03/01

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	LS	8260B 5030B
QC Batch	V210111					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	0.40J	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	21.4	ug/L	1.00			
trans-1,2-Dichloroethene	0.59J	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	6.53	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	0.35J	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	8.27	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	0.57J	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	95	84 115
S2 - Toluene-d8	93	69 133
S3 - 4-Bromofluorobenzene	99	80 111
S4 - 1,2-Dichloroethane-d4	95	58 131

777 170

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

11012928

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012928

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0901011

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/11/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

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777 171

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-29**
 Field ID : **MW-79-100**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	LS	8260B 5030B
QC Batch	V210111					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	1.02	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	37.6	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	16.6	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	0.60J	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	11.9	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	97	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	100	80 111
S4 - 1,2-Dichloroethane-d4	95	58 131

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 172 CLIENT SAMPLE NO.

11012929

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012929

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1001012

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/11/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____
6. _____	_____	_____	_____	_____
7. _____	_____	_____	_____	_____
8. _____	_____	_____	_____	_____
9. _____	_____	_____	_____	_____
10. _____	_____	_____	_____	_____
11. _____	_____	_____	_____	_____
12. _____	_____	_____	_____	_____
13. _____	_____	_____	_____	_____
14. _____	_____	_____	_____	_____
15. _____	_____	_____	_____	_____
16. _____	_____	_____	_____	_____
17. _____	_____	_____	_____	_____
18. _____	_____	_____	_____	_____
19. _____	_____	_____	_____	_____
20. _____	_____	_____	_____	_____
21. _____	_____	_____	_____	_____
22. _____	_____	_____	_____	_____
23. _____	_____	_____	_____	_____
24. _____	_____	_____	_____	_____
25. _____	_____	_____	_____	_____
26. _____	_____	_____	_____	_____
27. _____	_____	_____	_____	_____
28. _____	_____	_____	_____	_____
29. _____	_____	_____	_____	_____
30. _____	_____	_____	_____	_____

777 173

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-30**
 Field ID : **MW-40-91.5**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	LS	8260B 5030B
QC Batch	V210111					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	94	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	99	80 111
S4 - 1,2-Dichloroethane-d4	93	58 131

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 174

CLIENT SAMPLE NO.

11012930

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012930

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1101013

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/11/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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777 175 ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name Sverdrup/Jacobs Eng.
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID Memphis Army Depot

FID #

Date Arrived 10/04/01
ETC Order Number 0110129

ETC Lab ID 0110129-31
Field ID : MW-67-261.5

Matrix : AQUEOUS
Sample Date : 10/03/01

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	LS	8260B 5030B
QC Batch	V210111					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	95	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	96	80 111
S4 - 1,2-Dichloroethane-d4	96	58 131

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 176 CLIENT SAMPLE NO.

11012931

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012931

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1201014

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/11/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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777 177

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-32**
 Field ID : **MW-67-266.5**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	LS	8260B 5030B
QC Batch	V210111					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	97	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	100	80 111
S4 - 1,2-Dichloroethane-d4	96	58 131

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 178

CLIENT SAMPLE NO.

11012932

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012932

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1301015

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/11/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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777 179

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**ETC Order Number **0110129**ETC Lab ID **0110129-33**Field ID : **MW-67-271**Matrix : **AQUEOUS**Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	LS	8260B 5030B
QC Batch	V210111					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	5.25	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	95	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	100	80 111
S4 - 1,2-Dichloroethane-d4	94	58 131

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 180

CLIENT SAMPLE NO.

11012933

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 11012933

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1401016

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/11/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level III
GC/MS Volatiles**

ENVIRONMENTAL TESTING AND CONSULTING, INC.
CASE NARRATIVE
GC/MS VOLATILE COMPOUNDS – AQUEOUS

Client Name Sverdrup/Jacobs Engineering
Project Name Memphis Army Depot
ETC Order# 0110-129

SAMPLE PRESERVATION (Verified at time of analysis)

All water samples preserved with HCl to pH < 2 and maintained at 4°C until analysis.

METHOD

Preparation: SW-846 5030B
Analysis: SW-846 8260B

HOLDING TIMES

Sample Analysis All samples analyzed within 14 days of collection.

QUALITY CONTROL

<u>QC Batch</u>	<u>Form 4 Summary</u>
V210091	1009LB
V210101	1010LB
V210111	1011LB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits.

Method Blank FORM 4
1009LB
1010LB
1011LB

Target analytes were not detected in the method blank, except as listed below:
Methylene Chloride was identified in 1009LB at 2.74J ug/L. This analyte was not reported for any associated project samples. The data was not affected.

Laboratory Control Sample FORM 3
1009LCS
1010LCS
1011LCS

All target analyte acceptance criteria met, except as listed below:
Methylene Chloride was flagged for high recovery in 1010LCS. This analyte was not reported for any associated project sample. The data was not affected.

Carbon Disulfide was flagged for low recovery in 1011LCS. Recovery was greater than 50% indicating that the ability to detect this analytes between the MDL (Method Detection Limit) and MQL (Method Quantitation Limit) was not affected. However, results for this analyte should be considered estimated values. This analyte was reported in sample 0110-129-33 (MW-67-271).

Matrix Spike / Matrix Spike Dup. FORM 3

Batch V210091

0110-129-08	RPD	All analytes within QC limits.
MW-95-41.5	Spike Recovery	All analytes within QC limits.*

*1,1-Dichloroethene was flagged for high recovery in the MS/MSD. Refer to Laboratory Control Sample(s) for system verification.

ENVIRONMENTAL TESTING AND CONSULTING, INC.

CASE NARRATIVE

GC/MS VOLATILE COMPOUNDS - AQUEOUS

Client Name Sverdrup/Jacobs Engineering
Project Name Memphis Army Depot
ETC Order# 0110-129

Matrix Spike / Matrix Spike Dup. FORM 3

Batch V210101

0110-129-20

RPD

All analytes within QC limits.

MW-30-56.2

Spike Recovery

All analytes within QC limits.*

*1,1-Dichloroethene was flagged for high recovery in the MS/MSD. Refer to Laboratory Control Sample(s) for system verification.

Matrix Spike / Matrix Spike Dup. FORM 3

Batch V210111

0110-129-30

RPD

All analytes within QC limits.

MW-40-91.5

Spike Recovery

All analytes within QC limits.*

*1,1-Dichloroethene was flagged for high recovery in the MS/MSD. Refer to Laboratory Control Sample(s) for system verification.

CALIBRATION

BFB Daily 12-Hour Tune

All criteria met. FORM 5

Initial Calibration

All criteria met. FORM 6

Calibration Verification

All criteria met. FORM 7 Except as Responses >30% affecting data listed below:

Sequence V210101

Calibration Verification (CV1): Date 10/10/01 Time: 0848

Analyte	%Diff(30% Max)	Response
Acetone	33.8	High

Samples in this sequence are listed on Form 4 (Method Blank Summary) for method blank 1010LB. The CV passed SPCC/CCC evaluation criteria. The CV is valid per SW-846 method 8000A/8260B.

Volatile Internal Standard Area and RT FORM 8

Calibration Verification standard(s) Internal Standard Areas and Retention Times within QC limits.

SAMPLE ANALYSIS

Instrumentation

HP 5890 Series II GC, 5971MSD

Dilutions Required

Dilutions were performed to bring Target Analyte(s) within calibration range as shown on the Sample Report Forms.



Project Manager

FORM 2
WATER VOA-GCMS SYSTEM MONITORING COMPOUND RECOVERY

777 184

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

	CLIENT SAMPLE NO.	SMC1 (DFM) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER (DCE) #	TOT OUT
	=====	=====	=====	=====	=====	=====
01	1009LCS	100	92	94	97	0
02	1009LB	92	91	100	88	0
03	11012901	95	94	99	98	0
04	11012902	95	94	99	98	0
05	11012903	94	94	99	94	0
06	11012904	96	94	100	99	0
07	11012905	95	94	99	99	0
08	11012906	96	94	101	99	0
09	11012907	96	94	100	100	0
10	11012908	98	95	100	100	0
11	11012909	95	95	100	98	0
12	11012908MS	100	95	94	98	0
13	11012908MSD	98	95	94	99	0
14	1010LCS	98	93	97	95	0
15	1010LB	96	92	100	95	0
16	11012910	95	92	100	97	0
17	11012911	95	95	99	94	0
18	11012912	95	93	99	93	0
19	11012913	96	94	99	96	0
20	11012914	96	95	101	97	0
21	11012915	95	94	99	94	0
22	11012916	95	94	100	95	0
23	11012917	95	94	100	96	0
24	11012918	96	94	98	95	0
25	11012919	94	95	99	96	0
26	11012920	95	95	99	96	0
27	11012921	94	95	100	94	0
28	11012923	96	97	100	98	0
29	11012924	96	97	100	97	0
30	11012925	98	96	100	98	0

QC LIMITS

SMC1 (DFM) = Dibromofluoromethane (84-115)
 SMC2 (TOL) = Toluene-d8 (69-133)
 SMC3 (BFB) = Bromofluorobenzene (80-111)
 OTHER (DCE) = 1,2-Dichloroethane-d4 (58-131)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

	CLIENT SAMPLE NO.	SMC1 (DFM) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER (DCE) #	TOT OUT
01	11012920MS	100	95	96	97	0
02	11012920MSD	98	95	96	92	0
03	1011LCS	106	94	94	104	0
04	1011LB	95	93	99	92	0
05	11012922	94	93	99	91	0
06	11012921	95	94	100	94	0
07	11012925	96	95	100	95	0
08	11012926	95	95	99	94	0
09	11012927	96	95	98	97	0
10	11012928	95	93	99	95	0
11	11012929	97	95	100	95	0
12	11012930	94	94	99	93	0
13	11012931	95	95	96	96	0
14	11012932	97	95	100	96	0
15	11012933	95	94	100	94	0
16	11012930MS	97	96	95	95	0
17	11012930MSD	97	94	96	92	0
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

QC LIMITS

SMC1 (DFM) = Dibromofluoromethane (84-115)
 SMC2 (TOL) = Toluene-d8 (69-133)
 SMC3 (BFB) = Bromofluorobenzene (80-111)
 OTHER (DCE) = 1,2-Dichloroethane-d4 (58-131)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

777 186 CLIENT SAMPLE NO.

1009LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Lab File ID: 0302003

Lab Prep Batch: V210091

Date Analyzed: 10/09/01

Time Analyzed: 1513

GC Column: ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC2

Lab Sample ID: 1009

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
	=====	=====	=====	=====
01	1009LCS	1009LCS	0201002LCS	1339
02	11012901	11012901	1001010	1850
03	11012902	11012902	1101011	1922
04	11012903	11012903	1201012	1952
05	11012904	11012904	1301013	2023
06	11012905	11012905	1401014	2053
07	11012906	11012906	1501015	2124
08	11012907	11012907	1601016	2155
09	11012908	11012908	1701017	2226
10	11012909	11012909	1801018	2257
11	11012908MS	0000	1901019	2328
12	11012908MSD	0000	2001020	2359
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

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FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

1009LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Prep Batch: V210091

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0302003

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/09/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	Q
67-64-1-----	Acetone	20.00 U
75-05-8-----	Acetonitrile	20.00 U
107-02-8-----	Acrolein	20.00 U
107-13-1-----	Acrylonitrile	20.00 U
107-05-1-----	Allyl chloride	1.00 U
71-43-2-----	Benzene	1.00 U
108-86-1-----	Bromobenzene	1.00 U
74-97-5-----	Bromochloromethane	1.00 U
75-27-4-----	Bromodichloromethane	1.00 U
75-25-2-----	Bromoform	1.00 U
78-93-3-----	2-Butanone	20.00 U
74-83-9-----	Bromomethane	1.00 U
104-51-8-----	n-Butylbenzene	1.00 U
135-98-8-----	sec-Butylbenzene	1.00 U
98-06-6-----	tert-Butylbenzene	1.00 U
75-15-0-----	Carbon Disulfide	1.00 U
56-23-5-----	Carbon Tetrachloride	1.00 U
108-90-7-----	Chlorobenzene	1.00 U
124-48-1-----	Chlorodibromomethane	1.00 U
75-00-3-----	Chloroethane	1.00 U
110-75-8-----	2-Chloroethyl vinyl ether	20.00 U
67-66-3-----	Chloroform	1.00 U
74-87-3-----	Chloromethane	1.00 U
126-99-8-----	Chloroprene	1.00 U
95-49-8-----	2-Chlorotoluene	1.00 U
106-43-4-----	4-Chlorotoluene	1.00 U
96-12-8-----	1,2-Dibromo-3-chloropropane	1.00 U
106-93-4-----	1,2-Dibromoethane	1.00 U
74-95-3-----	Dibromomethane	1.00 U
95-50-1-----	1,2-Dichlorobenzene	1.00 U
541-73-1-----	1,3-Dichlorobenzene	1.00 U
106-46-7-----	1,4-Dichlorobenzene	1.00 U
1476-11-5-----	cis-1,4-Dichloro-2-butene	1.00 U

FORM I VOA-GCMS

000084

1009LB

Lab Name: ETC, INC. Contract: _____

Lab Code: Case No.: SAS No.: SDG No.: 110129

Matrix: (soil/water) WATER Lab Prep Batch: V210091

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0302003

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/09/01

GC Column: ID: 2.00 (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
110-57-6	trans-1,4-Dichloro-2-butene	1.00	U
75-71-8	Dichlorodifluoromethane	1.00	U
75-34-3	1,1-Dichloroethane	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
75-35-4	1,1-Dichloroethene	1.00	U
156-59-2	cis-1,2-Dichloroethene	1.00	U
156-60-5	trans-1,2-Dichloroethene	1.00	U
78-87-5	1,2-Dichloropropane	1.00	U
142-28-9	1,3-Dichloropropane	1.00	U
594-20-7	2,2-Dichloropropane	1.00	U
563-58-6	1,1-Dichloropropene	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
108-20-3	Di isopropyl ether	5.00	U
123-91-1	1,4-Dioxane	100.0	U
141-78-6	Ethyl Acetate	5.00	U
100-41-4	Ethylbenzene	1.00	U
97-63-2	Ethyl methacrylate	1.00	U
110-00-9	Furan	1.00	U
87-68-3	Hexachlorobutadiene	1.00	U
110-54-3	Hexane	1.00	U
591-78-6	2-Hexanone	5.00	U
74-88-4	Iodomethane	1.00	U
78-83-1	Isobutyl Alcohol	100.0	U
98-82-8	Isopropylbenzene	1.00	U
99-87-6	4-Isopropyltoluene	1.00	U
126-98-7	Methacrylonitrile	10.00	U
75-09-2	Methylene Chloride	2.74	J
80-62-6	Methyl methacrylate	1.00	U
108-10-1	4-Methyl-2-Pentanone	5.00	U
1634-04-4	Methyl-tertbutyl-Ether	5.00	U
91-20-3	Naphthalene	1.00	U
107-12-0	Propionitrile	10.00	U

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FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

1009LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Prep Batch: V210091

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0302003

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/09/01

GC Column: ID: 2.00 (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

109-60-4-----	n-Propyl Acetate	1.00	U
103-65-1-----	n-Propylbenzene	1.00	U
100-42-5-----	Styrene	1.00	U
630-20-6-----	1,1,1,2-Tetrachloroethane	1.00	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1.00	U
127-18-4-----	Tetrachloroethene	1.00	U
109-99-9-----	Tetrahydrofuran	1.00	U
87-61-6-----	1,2,3-Trichlorobenzene	1.00	U
108-88-3-----	Toluene	1.00	U
71-55-6-----	1,1,1-Trichloroethane	1.00	U
79-00-5-----	1,1,2-Trichloroethane	1.00	U
76-13-1-----	1,1,2-trichloro-1,2,2-triflu	1.00	U
79-01-6-----	Trichloroethene	1.00	U
75-69-4-----	Trichlorofluoromethane	1.00	U
96-18-4-----	1,2,3-Trichloropropane	1.00	U
95-63-6-----	1,2,4-Trimethylbenzene	1.00	U
120-82-1-----	1,2,4-Trichlorobenzene	1.00	U
108-67-8-----	1,3,5-Trimethylbenzene	1.00	U
108-05-4-----	Vinyl Acetate	20.00	U
75-01-4-----	Vinyl Chloride	1.00	U
108-38-3-----	Xylene-mp	1.00	U
95-47-6-----	Xylene-o	1.00	U

FORM I VOA-GCMS

000086

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FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

1009LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 1009

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0302003

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/09/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____
6. _____	_____	_____	_____	_____
7. _____	_____	_____	_____	_____
8. _____	_____	_____	_____	_____
9. _____	_____	_____	_____	_____
10. _____	_____	_____	_____	_____
11. _____	_____	_____	_____	_____
12. _____	_____	_____	_____	_____
13. _____	_____	_____	_____	_____
14. _____	_____	_____	_____	_____
15. _____	_____	_____	_____	_____
16. _____	_____	_____	_____	_____
17. _____	_____	_____	_____	_____
18. _____	_____	_____	_____	_____
19. _____	_____	_____	_____	_____
20. _____	_____	_____	_____	_____
21. _____	_____	_____	_____	_____
22. _____	_____	_____	_____	_____
23. _____	_____	_____	_____	_____
24. _____	_____	_____	_____	_____
25. _____	_____	_____	_____	_____
26. _____	_____	_____	_____	_____
27. _____	_____	_____	_____	_____
28. _____	_____	_____	_____	_____
29. _____	_____	_____	_____	_____
30. _____	_____	_____	_____	_____

FORM I VOA-GCMS-TIC

000087

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FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V210091

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix Spike - Sample No.: 1009LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acetone	100.0		92.90	93	59-151
Acetonitrile	1000		1020	102	57-143
Acrolein	100.0		108.2	108	59-134
Acrylonitrile	100.0		99.72	100	60-146
Allyl chloride	100.0		98.54	98	74-120
Benzene	100.0		101.1	101	72-124
Bromobenzene	100.0		84.76	85	77-120
Bromochloromethane	100.0		100.3	100	74-120
Bromodichloromethane	100.0		91.92	92	68-119
Bromoform	100.0		86.09	86	66-136
2-Butanone	100.0		97.69	98	55-151
Bromomethane	100.0		81.26	81	40-134
n-Butylbenzene	100.0		89.34	89	69-129
sec-Butylbenzene	100.0		87.45	87	72-127
tert-Butylbenzene	100.0		86.73	87	73-126
Carbon Disulfide	100.0		93.46	93	60-133
Carbon Tetrachloride	100.0		103.4	103	64-123
Chlorobenzene	100.0		84.15	84	77-112
Chlorodibromomethane	100.0		90.52	90	72-118
Chloroethane	100.0		98.09	98	64-142
2-Chloroethyl vinyl eth	100.0		51.66	52	22-165
Chloroform	100.0		102.6	103	70-115
Chloromethane	100.0		85.80	86	58-139
Chloroprene	100.0		102.6	103	73-118
2-Chlorotoluene	100.0		83.18	83	65-132
4-Chlorotoluene	100.0		90.02	90	67-127
1,2-Dibromo-3-chloropro	100.0		81.02	81	56-134
1,2-Dibromoethane	100.0		89.39	89	74-118

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

* Values outside of QC limits

COMMENTS:

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

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Lab Name: ETC, INC.

Lab Prep Batch: V210091

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix Spike - Sample No.: 1009LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dibromomethane	100.0		88.53	88	75-114
1,2-Dichlorobenzene	100.0		84.07	84	80-113
1,3-Dichlorobenzene	100.0		85.76	86	77-119
1,4-Dichlorobenzene	100.0		87.64	88	78-116
cis-1,4-Dichloro-2-bute	100.0		91.61	92	70-130
trans-1,4-Dichloro-2-bu	100.0		90.57	90	62-138
Dichlorodifluoromethane	100.0		79.36	79	48-145
1,1-Dichloroethane	100.0		102.0	102	76-118
1,2-Dichloroethane	100.0		101.4	101	62-124
1,1-Dichloroethene	100.0		95.76	96	69-121
cis-1,2-Dichloroethene	100.0		101.0	101	76-114
trans-1,2-Dichloroethen	100.0		96.81	97	72-121
1,2-Dichloropropane	100.0		91.57	92	64-133
1,3-Dichloropropane	100.0		89.78	90	68-128
2,2-Dichloropropane	100.0		108.7	109	67-132
1,1-Dichloropropene	100.0		101.7	102	76-117
cis-1,3-Dichloropropene	100.0		91.91	92	77-120
trans-1,3-Dichloroprope	100.0		92.23	92	73-124
Di isopropyl ether	100.0		104.0	104	62-160
1,4-Dioxane	2000		1617	81	56-131
Ethyl Acetate	100.0		100.5	100	52-151
Ethylbenzene	100.0		85.85	86	77-111
Ethyl methacrylate	200.0		170.7	85	57-140
Furan	100.0		150.2	150*	52-124
Hexachlorobutadiene	100.0		80.60	81	69-137
Hexane	100.0		112.4	112	70-130
2-Hexanone	100.0		91.03	91	53-144
Iodomethane	100.0		103.4	103	51-153

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

* Values outside of QC limits

COMMENTS:

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V210091

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix Spike - Sample No.: 1009LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	2000		1982	99	60-134
Isopropylbenzene	100.0		87.71	88	74-125
4-Isopropyltoluene	100.0		90.94	91	72-127
Methacrylonitrile	1000		1037	104	70-125
Methylene Chloride	100.0		99.30	99	76-115
Methyl methacrylate	200.0		180.1	90	57-147
4-Methyl-2-Pentanone	100.0		91.18	91	42-144
Methyl-tertbutyl-Ether	100.0		100.2	100	62-122
Naphthalene	100.0		81.58	82	53-124
Propionitrile	1000		960.0	96	58-139
n-Propyl Acetate	100.0		137.1	137	88-170
n-Propylbenzene	100.0		88.36	88	75-125
Styrene	100.0		85.12	85	77-117
1,1,1,2-Tetrachloroetha	100.0		89.92	90	79-113
1,1,2,2-Tetrachloroetha	100.0		84.50	84	67-126
Tetrachloroethene	100.0		92.56	92	77-115
Tetrahydrofuran	100.0		92.78	93	76-181
1,2,3-Trichlorobenzene	100.0		82.79	83	62-132
Toluene	100.0		88.47	88	77-115
1,1,1-Trichloroethane	100.0		104.2	104	63-122
1,1,2-Trichloroethane	100.0		89.21	89	69-117
1,1,2-trichloro-1,2,2-t	100.0		98.83	99	70-130
Trichloroethene	100.0		89.96	90	75-113
Trichlorofluoromethane	100.0		94.47	94	55-130
1,2,3-Trichloropropane	100.0		86.20	86	62-130
1,2,4-Trimethylbenzene	100.0		88.28	88	69-126
1,2,4-Trichlorobenzene	100.0		86.66	87	68-132
1,3,5-Trimethylbenzene	100.0		87.75	88	69-128

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

* Values outside of QC limits

COMMENTS:

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

777 194

Lab Name: ETC, INC.

Lab Prep Batch: V210091

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix Spike - Sample No.: 1009LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Vinyl Acetate	100.0		102.0	102	28-146
Vinyl Chloride	100.0		89.35	89	65-134
Xylene-mp	200.0		174.6	87	77-115
Xylene-o	100.0		87.12	87	77-115

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: 1 out of 88 outside limits

COMMENTS:

777 195

FORM 3

WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC, INC.

Lab Prep Batch: V210091

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix Spike - Sample No.: 11012908

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Benzene	100.0	0.000	121.1	121	72-124
Chlorobenzene	100.0	0.000	97.92	98	77-112
1,1-Dichloroethene	100.0	0.000	130.2	130*	69-121
Toluene	100.0	0.000	109.2	109	77-115
Trichloroethene	100.0	0.000	103.0	103	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
=====	=====	=====	=====	=====	=====	=====
Benzene	100.0	115.6	116	4	20	72-124
Chlorobenzene	100.0	94.54	94	4	20	77-112
1,1-Dichloroethene	100.0	128.9	129*	1	20	69-121
Toluene	100.0	105.3	105	4	20	77-115
Trichloroethene	100.0	99.87	100	3	20	75-113

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: 2 out of 10 outside limits

COMMENTS:

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

777 196

CLIENT SAMPLE NO.

1010LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Lab File ID: 0302004

Lab Prep Batch: V210101

Date Analyzed: 10/10/01

Time Analyzed: 1017

GC Column: ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC2

Lab Sample ID: 1010LB

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
	=====	=====	=====	=====
01	1010LCS	1010LCS	0201003LCS	0848
02	11012910	11012910	0401005	1048
03	11012911	11012911	0501006	1119
04	11012912	11012912	0601007	1151
05	11012913	11012913	0701008	1222
06	11012914	11012914	0801009	1253
07	11012915	11012915	0901010	1324
08	11012916	11012916	1001011	1355
09	11012917	11012917	1101012	1426
10	11012918	11012918	1201013	1457
11	11012919	11012919	1301014	1528
12	11012920	11012920	1401015	1559
13	11012921	11012921	1501016	1630
14	11012923	11012923	1701018	1733
15	11012924	11012924	1801019	1803
16	11012925	11012925	1901020	1834
17	11012920MS	0000	2001021	1905
18	11012920MSD	0000	2101022	1935
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

777 197

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

1010LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Prep Batch: V210101

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/10/01

GC Column: ID: 2.00 (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

67-64-1-----	Acetone	20.00	U
75-05-8-----	Acetonitrile	20.00	U
107-02-8-----	Acrolein	20.00	U
107-13-1-----	Acrylonitrile	20.00	U
107-05-1-----	Allyl chloride	1.00	U
71-43-2-----	Benzene	1.00	U
108-86-1-----	Bromobenzene	1.00	U
74-97-5-----	Bromochloromethane	1.00	U
75-27-4-----	Bromodichloromethane	1.00	U
75-25-2-----	Bromoform	1.00	U
78-93-3-----	2-Butanone	20.00	U
74-83-9-----	Bromomethane	1.00	U
104-51-8-----	n-Butylbenzene	1.00	U
135-98-8-----	sec-Butylbenzene	1.00	U
98-06-6-----	tert-Butylbenzene	1.00	U
75-15-0-----	Carbon Disulfide	1.00	U
56-23-5-----	Carbon Tetrachloride	1.00	U
108-90-7-----	Chlorobenzene	1.00	U
124-48-1-----	Chlorodibromomethane	1.00	U
75-00-3-----	Chloroethane	1.00	U
110-75-8-----	2-Chloroethyl vinyl ether	20.00	U
67-66-3-----	Chloroform	1.00	U
74-87-3-----	Chloromethane	1.00	U
126-99-8-----	Chloroprene	1.00	U
95-49-8-----	2-Chlorotoluene	1.00	U
106-43-4-----	4-Chlorotoluene	1.00	U
96-12-8-----	1,2-Dibromo-3-chloropropane	1.00	U
106-93-4-----	1,2-Dibromoethane	1.00	U
74-95-3-----	Dibromomethane	1.00	U
95-50-1-----	1,2-Dichlorobenzene	1.00	U
541-73-1-----	1,3-Dichlorobenzene	1.00	U
106-46-7-----	1,4-Dichlorobenzene	1.00	U
1476-11-5-----	cis-1,4-Dichloro-2-butene	1.00	U

FORM I VOA-GCMS

000094

777 198
FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

1010LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Prep Batch: V210101

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/10/01

GC Column: ID: 2.00 (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

110-57-6-----	trans-1,4-Dichloro-2-butene	1.00	U
75-71-8-----	Dichlorodifluoromethane	1.00	U
75-34-3-----	1,1-Dichloroethane	1.00	U
107-06-2-----	1,2-Dichloroethane	1.00	U
75-35-4-----	1,1-Dichloroethene	1.00	U
156-59-2-----	cis-1,2-Dichloroethene	1.00	U
156-60-5-----	trans-1,2-Dichloroethene	1.00	U
78-87-5-----	1,2-Dichloropropane	1.00	U
142-28-9-----	1,3-Dichloropropane	1.00	U
594-20-7-----	2,2-Dichloropropane	1.00	U
563-58-6-----	1,1-Dichloropropene	1.00	U
10061-01-5-----	cis-1,3-Dichloropropene	1.00	U
10061-02-6-----	trans-1,3-Dichloropropene	1.00	U
108-20-3-----	Di isopropyl ether	5.00	U
123-91-1-----	1,4-Dioxane	100.0	U
141-78-6-----	Ethyl Acetate	5.00	U
100-41-4-----	Ethylbenzene	1.00	U
97-63-2-----	Ethyl methacrylate	1.00	U
110-00-9-----	Furan	1.00	U
87-68-3-----	Hexachlorobutadiene	1.00	U
110-54-3-----	Hexane	1.00	U
591-78-6-----	2-Hexanone	5.00	U
74-88-4-----	Iodomethane	1.00	U
78-83-1-----	Isobutyl Alcohol	100.0	U
98-82-8-----	Isopropylbenzene	1.00	U
99-87-6-----	4-Isopropyltoluene	1.00	U
126-98-7-----	Methacrylonitrile	10.00	U
75-09-2-----	Methylene Chloride	5.00	U
80-62-6-----	Methyl methacrylate	1.00	U
108-10-1-----	4-Methyl-2-Pentanone	5.00	U
1634-04-4-----	Methyl-tertbutyl-Ether	5.00	U
91-20-3-----	Naphthalene	1.00	U
107-12-0-----	Propionitrile	10.00	U

FORM I VOA-GCMS

000095

777 199

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

1010LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Prep Batch: V210101

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/10/01

GC Column: ID: 2.00 (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

109-60-4-----	n-Propyl Acetate	1.00	U
103-65-1-----	n-Propylbenzene	1.00	U
100-42-5-----	Styrene	1.00	U
630-20-6-----	1,1,1,2-Tetrachloroethane	1.00	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1.00	U
127-18-4-----	Tetrachloroethene	1.00	U
109-99-9-----	Tetrahydrofuran	1.00	U
87-61-6-----	1,2,3-Trichlorobenzene	1.00	U
108-88-3-----	Toluene	1.00	U
71-55-6-----	1,1,1-Trichloroethane	1.00	U
79-00-5-----	1,1,2-Trichloroethane	1.00	U
76-13-1-----	1,1,2-trichloro-1,2,2-triflu	1.00	U
79-01-6-----	Trichloroethene	1.00	U
75-69-4-----	Trichlorofluoromethane	1.00	U
96-18-4-----	1,2,3-Trichloropropane	1.00	U
95-63-6-----	1,2,4-Trimethylbenzene	1.00	U
120-82-1-----	1,2,4-Trichlorobenzene	1.00	U
108-67-8-----	1,3,5-Trimethylbenzene	1.00	U
108-05-4-----	Vinyl Acetate	20.00	U
75-01-4-----	Vinyl Chloride	1.00	U
108-38-3-----	Xylene-mp	1.00	U
95-47-6-----	Xylene-o	1.00	U

FORM I VOA-GCMS

000096

777 200

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

1010LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 1010LB

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/10/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
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17.				
18.				
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20.				
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22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I VOA-GCMS-TIC

000097

Lab Name: ETC, INC.

Lab Prep Batch: V210101

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix Spike - Sample No.: 1010LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Acetone	100.0		133.8	134	59-151
Acetonitrile	1000		1389	139	57-143
Acrolein	100.0		117.4	117	59-134
Acrylonitrile	100.0		119.5	120	60-146
Allyl chloride	100.0		134.4	134*	74-120
Benzene	100.0		102.9	103	72-124
Bromobenzene	100.0		88.90	89	77-120
Bromochloromethane	100.0		101.7	102	74-120
Bromodichloromethane	100.0		97.24	97	68-119
Bromoform	100.0		94.07	94	66-136
2-Butanone	100.0		115.5	116	55-151
Bromomethane	100.0		87.42	87	40-134
n-Butylbenzene	100.0		96.35	96	69-129
sec-Butylbenzene	100.0		94.54	94	72-127
tert-Butylbenzene	100.0		91.86	92	73-126
Carbon Disulfide	100.0		81.46	81	60-133
Carbon Tetrachloride	100.0		103.8	104	64-123
Chlorobenzene	100.0		88.71	89	77-112
Chlorodibromomethane	100.0		94.65	95	72-118
Chloroethane	100.0		105.5	106	64-142
2-Chloroethyl vinyl eth	100.0		66.62	67	22-165
Chloroform	100.0		106.2	106	70-115
Chloromethane	100.0		103.9	104	58-139
Chloroprene	100.0		106.9	107	73-118
2-Chlorotoluene	100.0		88.39	88	65-132
4-Chlorotoluene	100.0		96.35	96	67-127
1,2-Dibromo-3-chloropro	100.0		90.79	91	56-134
1,2-Dibromoethane	100.0		94.96	95	74-118

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

* Values outside of QC limits

COMMENTS:

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

777 202

Lab Name: ETC, INC.

Lab Prep Batch: V210101

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix Spike - Sample No.: 1010LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dibromomethane	100.0		94.70	95	75-114
1,2-Dichlorobenzene	100.0		87.41	87	80-113
1,3-Dichlorobenzene	100.0		90.38	90	77-119
1,4-Dichlorobenzene	100.0		92.84	93	78-116
cis-1,4-Dichloro-2-bute	100.0		104.3	104	70-130
trans-1,4-Dichloro-2-bu	100.0		101.0	101	62-138
Dichlorodifluoromethane	100.0		90.56	90	48-145
1,1-Dichloroethane	100.0		104.9	105	76-118
1,2-Dichloroethane	100.0		106.2	106	62-124
1,1-Dichloroethene	100.0		107.7	108	69-121
cis-1,2-Dichloroethene	100.0		103.3	103	76-114
trans-1,2-Dichloroethen	100.0		97.19	97	72-121
1,2-Dichloropropane	100.0		96.20	96	64-133
1,3-Dichloropropane	100.0		96.92	97	68-128
2,2-Dichloropropane	100.0		111.9	112	67-132
1,1-Dichloropropene	100.0		104.4	104	76-117
cis-1,3-Dichloropropene	100.0		99.14	99	77-120
trans-1,3-Dichloroprope	100.0		98.98	99	73-124
Di isopropyl ether	100.0		110.1	110	62-160
1,4-Dioxane	2000		1842	92	56-131
Ethyl Acetate	100.0		109.1	109	52-151
Ethylbenzene	100.0		91.77	92	77-111
Ethyl methacrylate	200.0		182.2	91	57-140
Furan	100.0		179.3	179*	52-124
Hexachlorobutadiene	100.0		83.20	83	69-137
Hexane	100.0		120.1	120	70-130
2-Hexanone	100.0		108.6	109	53-144
Iodomethane	100.0		114.3	114	51-153

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

* Values outside of QC limits

COMMENTS:

777 203

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V210101

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix Spike - Sample No.: 1010LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	2000		2247	112	60-134
Isopropylbenzene	100.0		93.18	93	74-125
4-Isopropyltoluene	100.0		98.92	99	72-127
Methacrylonitrile	1000		1140	114	70-125
Methylene Chloride	100.0		128.8	129*	76-115
Methyl methacrylate	200.0		193.0	96	57-147
4-Methyl-2-Pentanone	100.0		101.8	102	42-144
Methyl-tertbutyl-Ether	100.0		104.7	105	62-122
Naphthalene	100.0		86.72	87	53-124
Propionitrile	1000		1047	105	58-139
n-Propyl Acetate	100.0		152.8	153	88-170
n-Propylbenzene	100.0		94.72	95	75-125
Styrene	100.0		89.49	89	77-117
1,1,1,2-Tetrachloroetha	100.0		94.83	95	79-113
1,1,2,2-Tetrachloroetha	100.0		94.76	95	67-126
Tetrachloroethene	100.0		92.52	92	77-115
Tetrahydrofuran	100.0		98.50	98	76-181
1,2,3-Trichlorobenzene	100.0		86.40	86	62-132
Toluene	100.0		91.31	91	77-115
1,1,1-Trichloroethane	100.0		104.4	104	63-122
1,1,2-Trichloroethane	100.0		95.79	96	69-117
1,1,2-trichloro-1,2,2-t	100.0		123.2	123	70-130
Trichloroethene	100.0		89.90	90	75-113
Trichlorofluoromethane	100.0		103.8	104	55-130
1,2,3-Trichloropropane	100.0		96.80	97	62-130
1,2,4-Trimethylbenzene	100.0		95.72	96	69-126
1,2,4-Trichlorobenzene	100.0		89.53	90	68-132
1,3,5-Trimethylbenzene	100.0		93.22	93	69-128

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

* Values outside of QC limits

COMMENTS:

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

777 204

Lab Name: ETC, INC.

Lab Prep Batch: V210101

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix Spike - Sample No.: 1010LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Vinyl Acetate	100.0		110.3	110	28-146
Vinyl Chloride	100.0		99.63	100	65-134
Xylene-mp	200.0		186.1	93	77-115
Xylene-o	100.0		93.22	93	77-115

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: 3 out of 88 outside limits

COMMENTS:

777 205

FORM 3

WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC, INC.

Lab Prep Batch: V210101

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix Spike - Sample No.: 11012920

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Benzene	100.0	0.000	116.5	116	72-124
Chlorobenzene	100.0	0.000	95.04	95	77-112
1,1-Dichloroethene	100.0	0.000	131.1	131*	69-121
Toluene	100.0	0.000	105.9	106	77-115
Trichloroethene	100.0	0.000	98.22	98	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS	
=====	=====	=====	=====	=====	=====	=====
Benzene	100.0	117.4	117	1	20	72-124
Chlorobenzene	100.0	99.37	99	4	20	77-112
1,1-Dichloroethene	100.0	132.8	133*	2	20	69-121
Toluene	100.0	107.8	108	2	20	77-115
Trichloroethene	100.0	100.6	101	3	20	75-113

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: 2 out of 10 outside limits

COMMENTS:

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

777 206

CLIENT SAMPLE NO.

1011LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Lab File ID: 0302005

Lab Prep Batch: V210111

Date Analyzed: 10/11/01

Time Analyzed: 1058

GC Column: ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC2

Lab Sample ID: 1011LB

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	1011LCS	1011LCS	0201002LCS	0852
02	11012922	11012922	0401006	1129
03	11012921	11012921	0501007	1200
04	11012925	11012925	0601008	1231
05	11012926	11012926	0701009	1302
06	11012927	11012927	0801010	1334
07	11012928	11012928	0901011	1405
08	11012929	11012929	1001012	1436
09	11012930	11012930	1101013	1507
10	11012931	11012931	1201014	1538
11	11012932	11012932	1301015	1610
12	11012933	11012933	1401016	1641
13	11012930MS	0000	1901021	1916
14	11012930MSD	0000	2001022	1948
15				
16				
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26				
27				
28				
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30				

COMMENTS:

777 207

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

1011LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Prep Batch: V210111

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/11/01

GC Column: ID: 2.00 (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

67-64-1-----	Acetone	20.00	U
75-05-8-----	Acetonitrile	20.00	U
107-02-8-----	Acrolein	20.00	U
107-13-1-----	Acrylonitrile	20.00	U
107-05-1-----	Allyl chloride	1.00	U
71-43-2-----	Benzene	1.00	U
108-86-1-----	Bromobenzene	1.00	U
74-97-5-----	Bromochloromethane	1.00	U
75-27-4-----	Bromodichloromethane	1.00	U
75-25-2-----	Bromoform	1.00	U
78-93-3-----	2-Butanone	20.00	U
74-83-9-----	Bromomethane	1.00	U
104-51-8-----	n-Butylbenzene	1.00	U
135-98-8-----	sec-Butylbenzene	1.00	U
98-06-6-----	tert-Butylbenzene	1.00	U
75-15-0-----	Carbon Disulfide	1.00	U
56-23-5-----	Carbon Tetrachloride	1.00	U
108-90-7-----	Chlorobenzene	1.00	U
124-48-1-----	Chlorodibromomethane	1.00	U
75-00-3-----	Chloroethane	1.00	U
110-75-8-----	2-Chloroethyl vinyl ether	20.00	U
67-66-3-----	Chloroform	1.00	U
74-87-3-----	Chloromethane	1.00	U
126-99-8-----	Chloroprene	1.00	U
95-49-8-----	2-Chlorotoluene	1.00	U
106-43-4-----	4-Chlorotoluene	1.00	U
96-12-8-----	1,2-Dibromo-3-chloropropane	1.00	U
106-93-4-----	1,2-Dibromoethane	1.00	U
74-95-3-----	Dibromomethane	1.00	U
95-50-1-----	1,2-Dichlorobenzene	1.00	U
541-73-1-----	1,3-Dichlorobenzene	1.00	U
106-46-7-----	1,4-Dichlorobenzene	1.00	U
1476-11-5-----	cis-1,4-Dichloro-2-butene	1.00	U

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

777 208

CLIENT SAMPLE NO.

1011LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Prep Batch: V210111

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/11/01

GC Column: ID: 2.00 (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

110-57-6-----	trans-1,4-Dichloro-2-butene	1.00	U
75-71-8-----	Dichlorodifluoromethane	1.00	U
75-34-3-----	1,1-Dichloroethane	1.00	U
107-06-2-----	1,2-Dichloroethane	1.00	U
75-35-4-----	1,1-Dichloroethene	1.00	U
156-59-2-----	cis-1,2-Dichloroethene	1.00	U
156-60-5-----	trans-1,2-Dichloroethene	1.00	U
78-87-5-----	1,2-Dichloropropane	1.00	U
142-28-9-----	1,3-Dichloropropane	1.00	U
594-20-7-----	2,2-Dichloropropane	1.00	U
563-58-6-----	1,1-Dichloropropene	1.00	U
10061-01-5-----	cis-1,3-Dichloropropene	1.00	U
10061-02-6-----	trans-1,3-Dichloropropene	1.00	U
108-20-3-----	Di isopropyl ether	5.00	U
123-91-1-----	1,4-Dioxane	100.0	U
141-78-6-----	Ethyl Acetate	5.00	U
100-41-4-----	Ethylbenzene	1.00	U
97-63-2-----	Ethyl methacrylate	1.00	U
110-00-9-----	Furan	1.00	U
87-68-3-----	Hexachlorobutadiene	1.00	U
110-54-3-----	Hexane	1.00	U
591-78-6-----	2-Hexanone	5.00	U
74-88-4-----	Iodomethane	1.00	U
78-83-1-----	Isobutyl Alcohol	100.0	U
98-82-8-----	Isopropylbenzene	1.00	U
99-87-6-----	4-Isopropyltoluene	1.00	U
126-98-7-----	Methacrylonitrile	10.00	U
75-09-2-----	Methylene Chloride	5.00	U
80-62-6-----	Methyl methacrylate	1.00	U
108-10-1-----	4-Methyl-2-Pentanone	5.00	U
1634-04-4-----	Methyl-tertbutyl-Ether	5.00	U
91-20-3-----	Naphthalene	1.00	U
107-12-0-----	Propionitrile	10.00	U

FORM I VOA-GCMS

000105

777 209

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

1011LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Prep Batch: V210111

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/11/01

GC Column: ID: 2.00 (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

109-60-4-----	n-Propyl Acetate	1.00	U
103-65-1-----	n-Propylbenzene	1.00	U
100-42-5-----	Styrene	1.00	U
630-20-6-----	1,1,1,2-Tetrachloroethane	1.00	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1.00	U
127-18-4-----	Tetrachloroethene	1.00	U
109-99-9-----	Tetrahydrofuran	1.00	U
87-61-6-----	1,2,3-Trichlorobenzene	1.00	U
108-88-3-----	Toluene	1.00	U
71-55-6-----	1,1,1-Trichloroethane	1.00	U
79-00-5-----	1,1,2-Trichloroethane	1.00	U
76-13-1-----	1,1,2-trichloro-1,2,2-triflu	1.00	U
79-01-6-----	Trichloroethene	1.00	U
75-69-4-----	Trichlorofluoromethane	1.00	U
96-18-4-----	1,2,3-Trichloropropane	1.00	U
95-63-6-----	1,2,4-Trimethylbenzene	1.00	U
120-82-1-----	1,2,4-Trichlorobenzene	1.00	U
108-67-8-----	1,3,5-Trimethylbenzene	1.00	U
108-05-4-----	Vinyl Acetate	20.00	U
75-01-4-----	Vinyl Chloride	1.00	U
108-38-3-----	Xylene-mp	1.00	U
95-47-6-----	Xylene-o	1.00	U

FORM I VOA-GCMS

000106

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 210
CLIENT SAMPLE NO.

1011LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix: (soil/water) WATER

Lab Sample ID: 1011LB

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/11/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.				
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30.				

777 211

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V210111

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix Spike - Sample No.: 1011LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acetone	100.0		99.17	99	59-151
Acetonitrile	1000		1030	103	57-143
Acrolein	100.0		114.6	115	59-134
Acrylonitrile	100.0		108.9	109	60-146
Allyl chloride	100.0		99.68	100	74-120
Benzene	100.0		95.17	95	72-124
Bromobenzene	100.0		77.39	77	77-120
Bromochloromethane	100.0		95.78	96	74-120
Bromodichloromethane	100.0		87.44	87	68-119
Bromoform	100.0		80.90	81	66-136
2-Butanone	100.0		98.47	98	55-151
Bromomethane	100.0		78.87	79	40-134
n-Butylbenzene	100.0		82.73	83	69-129
sec-Butylbenzene	100.0		81.63	82	72-127
tert-Butylbenzene	100.0		79.08	79	73-126
Carbon Disulfide	100.0		57.54	58*	60-133
Carbon Tetrachloride	100.0		97.40	97	64-123
Chlorobenzene	100.0		76.98	77	77-112
Chlorodibromomethane	100.0		84.99	85	72-118
Chloroethane	100.0		93.13	93	64-142
2-Chloroethyl vinyl eth	100.0		59.60	60	22-165
Chloroform	100.0		99.50	100	70-115
Chloromethane	100.0		77.57	78	58-139
Chloroprene	100.0		96.64	97	73-118
2-Chlorotoluene	100.0		81.83	82	65-132
4-Chlorotoluene	100.0		84.07	84	67-127
1,2-Dibromo-3-chloropro	100.0		76.94	77	56-134
1,2-Dibromoethane	100.0		85.20	85	74-118

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

* Values outside of QC limits

COMMENTS:

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

777 212

Lab Name: ETC, INC.

Lab Prep Batch: V210111

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix Spike - Sample No.: 1011LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Dibromomethane	100.0		85.30	85	75-114
1,2-Dichlorobenzene	100.0		74.90	75*	80-113
1,3-Dichlorobenzene	100.0		78.47	78	77-119
1,4-Dichlorobenzene	100.0		79.46	79	78-116
cis-1,4-Dichloro-2-bute	100.0		88.55	88	70-130
trans-1,4-Dichloro-2-bu	100.0		87.30	87	62-138
Dichlorodifluoromethane	100.0		59.22	59	48-145
1,1-Dichloroethane	100.0		96.47	96	76-118
1,2-Dichloroethane	100.0		98.08	98	62-124
1,1-Dichloroethene	100.0		94.12	94	69-121
cis-1,2-Dichloroethene	100.0		96.03	96	76-114
trans-1,2-Dichloroethen	100.0		89.25	89	72-121
1,2-Dichloropropane	100.0		86.15	86	64-133
1,3-Dichloropropane	100.0		87.18	87	68-128
2,2-Dichloropropane	100.0		105.1	105	67-132
1,1-Dichloropropene	100.0		96.76	97	76-117
cis-1,3-Dichloropropene	100.0		88.12	88	77-120
trans-1,3-Dichloroprope	100.0		88.15	88	73-124
Di isopropyl ether	100.0		100.7	101	62-160
1,4-Dioxane	2000		1816	91	56-131
Ethyl Acetate	100.0		100.7	101	52-151
Ethylbenzene	100.0		79.78	80	77-111
Ethyl methacrylate	200.0		166.0	83	57-140
Furan	100.0		152.5	152*	52-124
Hexachlorobutadiene	100.0		70.04	70	69-137
Hexane	100.0		102.0	102	70-130
2-Hexanone	100.0		91.34	91	53-144
Iodomethane	100.0		96.31	96	51-153

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

* Values outside of QC limits

COMMENTS:

777 213

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V210111

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix Spike - Sample No.: 1011LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	2000		2120	106	60-134
Isopropylbenzene	100.0		80.88	81	74-125
4-Isopropyltoluene	100.0		85.69	86	72-127
Methacrylonitrile	1000		1061	106	70-125
Methylene Chloride	100.0		101.6	102	76-115
Methyl methacrylate	200.0		177.2	89	57-147
4-Methyl-2-Pentanone	100.0		90.93	91	42-144
Methyl-tertbutyl-Ether	100.0		97.62	98	62-122
Naphthalene	100.0		74.80	75	53-124
Propionitrile	1000		989.3	99	58-139
n-Propyl Acetate	100.0		137.4	137	88-170
n-Propylbenzene	100.0		82.28	82	75-125
Styrene	100.0		77.93	78	77-117
1,1,1,2-Tetrachloroetha	100.0		81.07	81	79-113
1,1,2,2-Tetrachloroetha	100.0		79.72	80	67-126
Tetrachloroethene	100.0		86.05	86	77-115
Tetrahydrofuran	100.0		91.82	92	76-181
1,2,3-Trichlorobenzene	100.0		73.79	74	62-132
Toluene	100.0		84.49	84	77-115
1,1,1-Trichloroethane	100.0		97.24	97	63-122
1,1,2-Trichloroethane	100.0		86.50	86	69-117
1,1,2-trichloro-1,2,2-t	100.0		97.48	97	70-130
Trichloroethene	100.0		82.99	83	75-113
Trichlorofluoromethane	100.0		89.99	90	55-130
1,2,3-Trichloropropane	100.0		82.41	82	62-130
1,2,4-Trimethylbenzene	100.0		83.30	83	69-126
1,2,4-Trichlorobenzene	100.0		76.77	77	68-132
1,3,5-Trimethylbenzene	100.0		80.90	81	69-128

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

* Values outside of QC limits

COMMENTS:

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

777 214

Lab Name: ETC, INC.

Lab Prep Batch: V210111

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix Spike - Sample No.: 1011LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Vinyl Acetate	100.0		100.3	100	28-146
Vinyl Chloride	100.0		81.20	81	65-134
Xylene-mp	200.0		162.6	81	77-115
Xylene-o	100.0		80.50	80	77-115

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: 3 out of 88 outside limits

COMMENTS:

WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC, INC.

Lab Prep Batch: V210111

Lab Code:

Case No.:

SAS No.:

SDG No.: 110129

Matrix Spike - Sample No.: 11012930

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Benzene	100.0	0.000	122.3	122	72-124
Chlorobenzene	100.0	0.000	98.36	98	77-112
1,1-Dichloroethene	100.0	0.000	139.5	140*	69-121
Toluene	100.0	1.27	111.7	110	77-115
Trichloroethene	100.0	0.000	106.2	106	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
=====	=====	=====	=====	=====	=====	=====
Benzene	100.0	121.4	121	1	20	72-124
Chlorobenzene	100.0	103.3	103	5	20	77-112
1,1-Dichloroethene	100.0	138.6	139*	1	20	69-121
Toluene	100.0	111.3	110	0	20	77-115
Trichloroethene	100.0	107.8	108	2	20	75-113

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: 2 out of 10 outside limits

COMMENTS:



ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road • Memphis, TN 38111 • (901) 327-2750 • FAX (901) 327-6334

Founded 1972

October 17, 2001

Mr. Kraig Smith
 Sverdrup/Jacobs Eng.
 3354 Perimeter Hill Drive,
 Suite 310
 Nashville, TN 37211

Ref: Analytical Testing
 ETC Order # 0110130
 Project Description Memphis Army Depot
 Project Number C5X51106

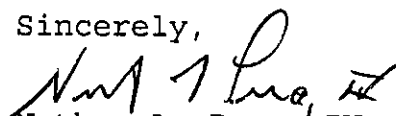
The above referenced project has been analyzed per your instructions. The analyses were performed in our laboratory in accordance with Standard Methods, The Solid Waste Manual SW-846, EPA Methods for Chemical Analysis of Water and Wastes and/or 40 CFR part 136.

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, instrumentation maintenance and calibration were performed in accordance with guidelines established by the USEPA.

The results are shown on the attached analysis sheet(s).

Please do not hesitate to contact our office if you have any questions.

Sincerely,


 Nathan A. Pera, IV
 Chief Executive Officer

rt
 Attachment

SVE_MHDDMTA

Certifications

Tennessee #TN02027
 Arkansas #40730
 Kentucky #90047
 North Carolina #415
 South Carolina #84002002

Mississippi
 Oklahoma #9311
 Virginia #00106
 Washington #C248
 US Army Corps of Engineers

USDA #S-46279

Environmental Testing & Consulting, Inc.
Data Qualifiers for Organic Reporting

Within the attached report, some analytical data may be reported as "Qualified Data" as indicated by a "Data Qualifier" next to the result. This table summarizes the possible "Data Qualifiers" that may be associated with this report. These qualifiers do not apply for TIC reports.

Q	Surrogate Recovery Outside QC Limits
J	Estimated Value. Presence of the compound was confirmed but less than the reported detection limit.
E	Concentration exceeds the established method calibration range but is within the working range of the instrument.
B	Analyte detected in the associated Method Blank.
U	Reported result was unconfirmed. Refer to Case Narrative.
C	Result reported from GC/MS confirmation analysis.
M	Result reported represents a minimum value. Refer to Case Narrative.
NC	Result reported from Primary Column. Result did not confirm.
*	QC Data (percent recovery/RPD for a particular analyte was outside QC Limits)

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 218

ANALYTICAL SUMMARY/CROSS REFERENCE TABLE

Client Name Sverdrup/Jacobs Eng.
Site ID Memphis Army Depot

ETC Order #0110130
C5X51106

<u>ETC Sample ID</u>	<u>Field ID</u>	<u>Matrix</u>	<u>Method</u>	<u>Method Description</u>
011013001	MW-77-85	AQUEOUS	8260B	GC/MS Volatile Organics
011013002	MW-70-85	AQUEOUS	8260B	GC/MS Volatile Organics
011013003	MW-70-90	AQUEOUS	8260B	GC/MS Volatile Organics
011013004	MW-43-163.5	AQUEOUS	8260B	GC/MS Volatile Organics
011013005	MW-43-168.5	AQUEOUS	8260B	GC/MS Volatile Organics
011013006	MW-32-64.5	AQUEOUS	8260B	GC/MS Volatile Organics
011013007	MW-37-172.5	AQUEOUS	8260B	GC/MS Volatile Organics
011013008	MW-37-177.5	AQUEOUS	8260B	GC/MS Volatile Organics
011013009	MW-37-182.5	AQUEOUS	8260B	GC/MS Volatile Organics
011013010	MW-71-72	AQUEOUS	8260B	GC/MS Volatile Organics
011013011	MW-71-75	AQUEOUS	8260B	GC/MS Volatile Organics
011013012	MW-51-58.5	AQUEOUS	8260B	GC/MS Volatile Organics
011013013	MW-51-63.5	AQUEOUS	8260B	GC/MS Volatile Organics
011013014	MW-78-53	AQUEOUS	8260B	GC/MS Volatile Organics
011013015	MW-78-58	AQUEOUS	8260B	GC/MS Volatile Organics
011013016	MW-78-63	AQUEOUS	8260B	GC/MS Volatile Organics
011013017	MW-68-74.5	AQUEOUS	8260B	GC/MS Volatile Organics
011013018	MW-68-79.5	AQUEOUS	8260B	GC/MS Volatile Organics
011013019	MW-69-85.5	AQUEOUS	8260B	GC/MS Volatile Organics
011013020	MW-69-91.5	AQUEOUS	8260B	GC/MS Volatile Organics
011013021	MW-76-86.5	AQUEOUS	8260B	GC/MS Volatile Organics
011013022	MW-76-91.5	AQUEOUS	8260B	GC/MS Volatile Organics
011013023	MW-EQB-1	AQUEOUS	8260B	GC/MS Volatile Organics
011013024	MW-EQB-2	AQUEOUS	8260B	GC/MS Volatile Organics
011013025	MW-EQB-3	AQUEOUS	8260B	GC/MS Volatile Organics
011013026	MW-SRCE-1	AQUEOUS	8260B	GC/MS Volatile Organics
011013027	MW-33-58	AQUEOUS	8260B	GC/MS Volatile Organics

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ANALYTICAL SUMMARY/CROSS REFERENCE TABLE

777 219

Client Name Sverdrup/Jacobs Eng.
Site ID Memphis Army Depot

ETC Order #0110130
C5X51106

<u>ETC Sample ID</u>	<u>Field ID</u>	<u>Matrix</u>	<u>Method</u>	<u>Method Description</u>
011013028	MW-37-100	AQUEOUS	8260B	GC/MS Volatile Organics
011013029	MW-33-100	AQUEOUS	8260B	GC/MS Volatile Organics
011013030	MW-68-100	AQUEOUS	8260B	GC/MS Volatile Organics
011013031	MW-95-100	AQUEOUS	8260B	GC/MS Volatile Organics
011013032	MW-31-100	AQUEOUS	8260B	GC/MS Volatile Organics
011013033	MW-67-100	AQUEOUS	8260B	GC/MS Volatile Organics
011013034	Trip Blank #2	AQUEOUS	8260B	GC/MS Volatile Organics
011013035	Trip Blank #1	AQUEOUS	8260B	GC/MS Volatile Organics

10/8/01

777 220

Environmental Testing & Consulting, Inc.

Login
Chain-of-Custody

000004



777 221

ETC Work Order : 01050

Company Name				Phone # : 615 305-6437 Fax Results			
Project/Site				FID # : 615 837 8328 RUSH			
Project #				PO # :			
Project Manager/Contact				Matrix			
# of cont.	Sample ID/ Number	Depth	Sample Date	Sample Time	Matrix	Type Grab/Comp	Comments
3	MW-77-85	85"	10-3-01	1515	GW	N/A	VOC's
3	MW-70-85	85"		1519			
3	MW-70-90	90"		1520			
3	MW-43-163.5	163.5'		1620			
3	MW-43-168.5	168.5'		1622			
3	MW-32-64.5	64.5'		1530			
3	MW-37-172.5	172.5'		1533			
3	MW-37-177.5	177.5'		1535			
3	MW-37-182.5	182.5'		1540			
3	MW-71-72	72"		1552			
3	MW-71-75	75"		1553			
Sampled By Jeff Neumann				Blank/Cooler Temp 24°C			
Method of Shipment				Remarks			
RELINQUISHED BY (sign)				RECEIVED BY (sign)			
DATE 10-3-01				TIME 1900			
RELINQUISHED BY (sign)				RECEIVED BY (sign)			
DATE 10/3/01				TIME 1100			
RELINQUISHED BY (sign)				RECEIVED BY LAB (print/sign)			
DATE 10/3/01				TIME 1100			

Distribution : Original and Yellow accompany samples to the laboratory. Pink copy for Field crew. Original copy returned with results. Yellow copy for ETC. In files.



Environmental Testing & Consulting, Inc.
2924 Walnut Grove Rd.
Memphis, TN 38111
(901)327-2750 FAX (901)327-6334

CHAIN OF CUSTODY RECORD

777 222

ETC Work Order : 0110130

Company Name Jacobs Engineering		Phone # : 615-335-6437		Fax Results									
Project/Site Memphis Army Depot		Fax # : 615-833-8328		RUSH									
Project # C5X51106		FID # :		Ice									
Project Manager/Contact Kraig Smith		PO # :											
Matrix		1 Wastewater		4 Sludge									
		2 Aqueous		5 Oil/Solvent									
		3 Soil/Sediment		6 Other									
# of cont.	Sample ID/ Number	Depth	Sample Date	Sample Time	Matrix	Type Grab/Comp	Analysis Requested (Note special detection limits or methods)					Comments	
3	MW-51-58.5	58.5"	10-3-01	1351	GLW	N/A	VOC's						
3	MW-51-63.5	63.5"		1354									
3	MW-78-53	53"		1418									
3	MW-78-58	58"		1420									
3	MW-78-63	63"		1422									
3	MW-68-74.5	74.5"		1433									
3	MW-68-79.5	79.5"		1435									
3	MW-69-85.5	85.5"		1445									
3	MW-69-91.5	91.5"		1450									
3	MW-76-86.5	86.5"		1458									
3	MW-76-91.5	91.5"		1500									
Sampled By Jeff Newman		Method of Shipment		Blank/Cooler Temp 24°C		Remarks							
RELINQUISHED BY (sign) Jeff Newman		DATE 10-3-01		TIME 1400		RECEIVED BY (sign) Jeff Newman		DATE 10-3-01		TIME 1900		Sample Delivery Group ID	
RELINQUISHED BY (sign) Jeff Newman		DATE 10-4-01		TIME 1100		RECEIVED BY (sign) Jeff Newman		DATE 10-4-01		TIME 1100			
RELINQUISHED BY (sign) Jeff Newman		DATE 10-4-01		TIME 1100		RECEIVED BY (sign) Jeff Newman		DATE 10-4-01		TIME 1100			

Distribution : Original and Yellow accompany samples to the laboratory. Pink copy for ETC, Inc. files.
Original copy returned with results. Yellow copy for ETC, Inc. files.



Environmental Testing & Consulting, Inc.
2924 Walnut Grove Rd.
Memphis, TN 38111
(901)327-2750 FAX (901)327-6334

CHAIN OF CUSTODY RECORD

777 223

ETC Work Order : 0110130

Company Name Jacobs Engineering		Phone # : 615 305 6137		Fax Results																		
Project/Site Memphis Army Depot		Fax # : 615 833 8328		RUSH																		
Project # CSX51106		FID # :		Ice																		
Project Manager/Contact Kraig Smith		PO # :																				
Matrix		1 Wastewater		4 Sludge																		
		2 Aqueous		5 Oil/Solvent																		
		3 Soil/Sediment		6 Other																		
# of cont.	Sample ID/ Number	Depth	Sample Date	Sample Time	Matrix	Type Grab/Comp	Analysis Requested (Note special detection limits or methods)										Comments					
3	MW-EQB-1	N/A	10-3-01	1625	EB	N/A	VOC's															
3	MW-EQB-2	↓	↓	↓	↓	↓																
3	MW-EQB-3	↓	↓	↓	↓	↓																
3	MW-SRCE-1	↓	↓	↓	↓	↓																
~~10-3-01~~																						
Sampled By Jeff Neuman		Method of Shipment		Blank/Cooler Temp 24°C		Remarks																
RELINQUISHED BY (sign) Jeff Neuman		DATE 10-3-01		TIME 1900		RECEIVED BY (sign) Kraig Smith		DATE 10-3-01		TIME 1900		DATE 10/3/01					TIME 1900					Sample Delivery Group ID
RELINQUISHED BY (sign) Kraig Smith		DATE 10-4-01		TIME 1100		RECEIVED BY (sign) Kraig Smith		DATE 10-4-01		TIME 1100		DATE 10/10/01					TIME 1100					
RELINQUISHED BY (sign) Kraig Smith		DATE		TIME		RECEIVED BY LAB (print/sign) Kraig Smith		DATE		TIME		DATE					TIME					



Environmental Testing & Consulting, Inc.
2924 Walnut Grove Rd.
Memphis, TN 38111
(901)327-2750 FAX (901)327-6334

ETC Work Order : 01030 777 225

[illegible]

Contribution : Original and Yellow accompany samples to the laboratory. Pink copy for Field Crew. Original copy returned with results. Yellow copy for ETC, Inc. files.

Environmental Testing & Consulting, Inc.
Cooler Receipt Form

Date Received 10/4/01
Date/Time Checked In 10/4/01-11:00
Carrier/Bill# Hand-Delivered

LIMS# 0110-129
Project Memphis Army
Depot
By Rebekah Barger

1. Custody Seals?/Location-	No
2. Samples are non-radioactive?	Yes
3. Chain of Custody in plastic?	Yes
4. Temperature at receipt (ok = 4 ± 2 °C) <40C	OK
5. Ice & Packing- Bags, Ice, Bubble Wrap	Yes
6. Chain of Custody filled out properly?	Yes
7. All containers in separate bags?	Yes
8. Sample containers intact?	Yes
9. Label(s) complete and in good condition?	Yes
10. Label(s) agree with Chain of Custody?	Yes
11. Correct containers used?	Yes
12. Sufficient sample?	Yes
13. VOA vials bubble-free (H ₂ O) or no head space (soil)?	Yes
14. Preservation OK? TM pH____; TRPH pH____; TOC pH____; TOX pH____; CN pH____; N/P pH____; Other pH____	Yes

Comments _____

*Validated Date and Time of Sample Receipt (VDTSR)

Environmental Testing & Consulting, Inc.

Sample Reports

777 228

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-01**
 Field ID : **MW-77-85**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	ls	8260B 5030B
QC Batch	V210111					
Dilution Factor	100					
Acetone	ND	ug/L	2000			
Benzene	ND	ug/L	100			
Bromodichloromethane	ND	ug/L	100			
Bromoform	ND	ug/L	100			
Bromomethane	ND	ug/L	100			
2-Butanone (MEK)	ND	ug/L	2000			
Carbon Disulfide	ND	ug/L	100			
Carbon Tetrachloride	ND	ug/L	100			
Chlorobenzene	ND	ug/L	100			
Chlorodibromomethane	ND	ug/L	100			
Chloroethane	ND	ug/L	100			
Chloroform	ND	ug/L	100			
Chloromethane	ND	ug/L	100			
1,1-Dichloroethane	ND	ug/L	100			
1,2-Dichloroethane	ND	ug/L	100			
1,1-Dichloroethene	ND	ug/L	100			
trans-1,2-Dichloroethene	20.1J	ug/L	100			
1,2-Dichloropropane	ND	ug/L	100			
cis-1,3-Dichloropropene	ND	ug/L	100			
trans-1,3-Dichloropropene	ND	ug/L	100			
Ethylbenzene	ND	ug/L	100			
2-Hexanone (MBK)	ND	ug/L	500			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	500			
Methylene Chloride	ND	ug/L	500			
Styrene	ND	ug/L	100			
1,1,2,2-Tetrachloroethane	1,820	ug/L	100			
Tetrachloroethene	ND	ug/L	100			
Toluene	ND	ug/L	200			
1,1,1-Trichloroethane	ND	ug/L	100			
1,1,2-Trichloroethane	ND	ug/L	100			
Trichloroethene	1,620	ug/L	100			
Vinyl Acetate	ND	ug/L	2000			
Vinyl Chloride	ND	ug/L	100			
Xylenes-m,p	ND	ug/L	100			
Xylenes-o	ND	ug/L	100			
cis-1,2-Dichloroethene	76.4J	ug/L	100			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	96	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	98	80 111
S4 - 1,2-Dichloroethane-d4	96	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000012

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 229 CLIENT SAMPLE NO.

11013001

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013001

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1501017

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/11/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 100.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 230

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-02**
 Field ID : **MW-70-85**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	LS	8260B 5030B
QC Batch	V210111					
Dilution Factor	200					
Acetone	ND	ug/L	4000			
Benzene	ND	ug/L	200			
Bromodichloromethane	ND	ug/L	200			
Bromoform	ND	ug/L	200			
Bromomethane	ND	ug/L	200			
2-Butanone (MEK)	ND	ug/L	4000			
Carbon Disulfide	ND	ug/L	200			
Carbon Tetrachloride	ND	ug/L	200			
Chlorobenzene	ND	ug/L	200			
Chlorodibromomethane	ND	ug/L	200			
Chloroethane	ND	ug/L	200			
Chloroform	ND	ug/L	200			
Chloromethane	ND	ug/L	200			
1,1-Dichloroethane	ND	ug/L	200			
1,2-Dichloroethane	ND	ug/L	200			
1,1-Dichloroethene	ND	ug/L	200			
trans-1,2-Dichloroethene	ND	ug/L	200			
1,2-Dichloropropane	ND	ug/L	200			
cis-1,3-Dichloropropene	ND	ug/L	200			
trans-1,3-Dichloropropene	ND	ug/L	200			
Ethylbenzene	ND	ug/L	200			
2-Hexanone (MBK)	ND	ug/L	1000			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	1000			
Methylene Chloride	ND	ug/L	1000			
Styrene	ND	ug/L	200			
1,1,2,2-Tetrachloroethane	1,320	ug/L	200			
Tetrachloroethene	ND	ug/L	200			
Toluene	ND	ug/L	400			
1,1,1-Trichloroethane	ND	ug/L	200			
1,1,2-Trichloroethane	ND	ug/L	200			
Trichloroethene	2,340	ug/L	200			
Vinyl Acetate	ND	ug/L	4000			
Vinyl Chloride	ND	ug/L	200			
Xylenes-m,p	ND	ug/L	200			
Xylenes-o	ND	ug/L	200			
cis-1,2-Dichloroethene	92.8J	ug/L	200			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	97	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	98	80 111
S4 - 1,2-Dichloroethane-d4	97	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000014

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 231 CLIENT SAMPLE NO.

11013002

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013002

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1601018

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/11/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 200.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000015

777 232

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-03**
 Field ID : **MW-70-90**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	LS	8260B 5030B
QC Batch	V210111					
Dilution Factor	100					
Acetone	ND	ug/L	2000			
Benzene	ND	ug/L	100			
Bromodichloromethane	ND	ug/L	100			
Bromoform	ND	ug/L	100			
Bromomethane	ND	ug/L	100			
2-Butanone (MEK)	ND	ug/L	2000			
Carbon Disulfide	ND	ug/L	100			
Carbon Tetrachloride	ND	ug/L	100			
Chlorobenzene	ND	ug/L	100			
Chlorodibromomethane	ND	ug/L	100			
Chloroethane	ND	ug/L	100			
Chloroform	ND	ug/L	100			
Chloromethane	ND	ug/L	100			
1,1-Dichloroethane	ND	ug/L	100			
1,2-Dichloroethane	ND	ug/L	100			
1,1-Dichloroethene	ND	ug/L	100			
trans-1,2-Dichloroethene	ND	ug/L	100			
1,2-Dichloropropane	ND	ug/L	100			
cis-1,3-Dichloropropene	ND	ug/L	100			
trans-1,3-Dichloropropene	ND	ug/L	100			
Ethylbenzene	ND	ug/L	100			
2-Hexanone (MBK)	ND	ug/L	500			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	500			
Methylene Chloride	ND	ug/L	500			
Styrene	ND	ug/L	100			
1,1,2,2-Tetrachloroethane	766	ug/L	100			
Tetrachloroethene	ND	ug/L	100			
Toluene	ND	ug/L	200			
1,1,1-Trichloroethane	ND	ug/L	100			
1,1,2-Trichloroethane	ND	ug/L	100			
Trichloroethene	1,170	ug/L	100			
Vinyl Acetate	ND	ug/L	2000			
Vinyl Chloride	ND	ug/L	100			
Xylenes-m,p	ND	ug/L	100			
Xylenes-o	ND	ug/L	100			
cis-1,2-Dichloroethene	55.9J	ug/L	100			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	96	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	100	80 111
S4 - 1,2-Dichloroethane-d4	95	58 131

777 233

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

11013003

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013003

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1701019

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/11/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 100.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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777 234

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-04**
 Field ID : **MW-43-163.5**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	LS	8260B 5030B
QC Batch	V210111					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	96	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	101	80 111
S4 - 1,2-Dichloroethane-d4	96	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000018

777 235

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

11013004

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013004

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1801020

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/11/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000019

777 236

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-05**
 Field ID : **MW-43-168.5**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/12/01	LS	8260B 5030B
QC Batch	V210121					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	91	84 115
S2 - Toluene-d8	91	69 133
S3 - 4-Bromofluorobenzene	100	80 111
S4 - 1,2-Dichloroethane-d4	92	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000020

777 237 FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

11013005

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013005

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0401005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/12/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 238

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
ETC Order Number **0110130**

ETC Lab ID **0110130-06**
Field ID : **MW-32-64.5**

Matrix : **AQUEOUS**
Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/12/01	LS	8260B 5030B
QC Batch	V210121					
Dilution Factor	20					
Acetone	ND	ug/L	400			
Benzene	ND	ug/L	20.0			
Bromodichloromethane	ND	ug/L	20.0			
Bromoform	ND	ug/L	20.0			
Bromomethane	ND	ug/L	20.0			
2-Butanone (MEK)	ND	ug/L	400			
Carbon Disulfide	ND	ug/L	20.0			
Carbon Tetrachloride	42.7	ug/L	20.0			
Chlorobenzene	ND	ug/L	20.0			
Chlorodibromomethane	ND	ug/L	20.0			
Chloroethane	ND	ug/L	20.0			
Chloroform	828	ug/L	20.0			
Chloromethane	ND	ug/L	20.0			
1,1-Dichloroethane	ND	ug/L	20.0			
1,2-Dichloroethane	ND	ug/L	20.0			
1,1-Dichloroethene	ND	ug/L	20.0			
trans-1,2-Dichloroethene	5.82J	ug/L	20.0			
1,2-Dichloropropane	ND	ug/L	20.0			
cis-1,3-Dichloropropene	ND	ug/L	20.0			
trans-1,3-Dichloropropene	ND	ug/L	20.0			
Ethylbenzene	ND	ug/L	20.0			
2-Hexanone (MBK)	ND	ug/L	100			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100			
Methylene Chloride	ND	ug/L	100			
Styrene	ND	ug/L	20.0			
1,1,2,2-Tetrachloroethane	216	ug/L	20.0			
Tetrachloroethene	ND	ug/L	20.0			
Toluene	ND	ug/L	40.0			
1,1,1-Trichloroethane	ND	ug/L	20.0			
1,1,2-Trichloroethane	ND	ug/L	20.0			
Trichloroethene	238	ug/L	20.0			
Vinyl Acetate	ND	ug/L	400			
Vinyl Chloride	ND	ug/L	20.0			
Xylenes-m,p	ND	ug/L	20.0			
Xylenes-o	ND	ug/L	20.0			
cis-1,2-Dichloroethene	12.6J	ug/L	20.0			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	93	84 115
S2 - Toluene-d8	92	69 133
S3 - 4-Bromofluorobenzene	98	80 111
S4 - 1,2-Dichloroethane-d4	92	58 131

777 239 VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FORM 1

CLIENT SAMPLE NO.

11013006

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013006

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0501006

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/12/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 20.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-07**
 Field ID : **MW-37-172.5**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/12/01	LS	8260B 5030B
QC Batch	V210121					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	94	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	97	80 111
S4 - 1,2-Dichloroethane-d4	94	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000024

777 241

FORM 1

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

11013007

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013007

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0601007

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/12/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000025

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 242

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
ETC Order Number **0110130**

ETC Lab ID **0110130-08**
Field ID : **MW-37-177.5**

Matrix : **AQUEOUS**
Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/12/01	LS	8260B 5030B
QC Batch	V210121					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	93	84 115
S2 - Toluene-d8	92	69 133
S3 - 4-Bromofluorobenzene	96	80 111
S4 - 1,2-Dichloroethane-d4	93	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000026

777 243 FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

11013008

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013008

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0701008

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/12/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 244

Client Name

Sverdrup/Jacobs Eng.
 Memphis Depot, Dunn Field
 3354 Perimeter Hill Drive,
 Suite 310
 Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**ETC Order Number **0110130**ETC Lab ID **0110130-09**Field ID : **MW-37-182.5**Matrix : **AQUEOUS**Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/12/01	LS	8260B 5030B
QC Batch	V210121					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	94	84 115
S2 - Toluene-d8	92	69 133
S3 - 4-Bromofluorobenzene	98	80 111
S4 - 1,2-Dichloroethane-d4	94	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000028

777 245 VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FORM 1

CLIENT SAMPLE NO.

11013009

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013009

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0801009

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/12/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000029

777 246

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-10**
 Field ID : **MW-71-72**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/12/01	LS	8260B 5030B
QC Batch	V210121					
Dilution Factor	10					
Acetone	ND	ug/L	200			
Benzene	ND	ug/L	10.0			
Bromodichloromethane	ND	ug/L	10.0			
Bromoform	ND	ug/L	10.0			
Bromomethane	ND	ug/L	10.0			
2-Butanone (MEK)	ND	ug/L	200			
Carbon Disulfide	ND	ug/L	10.0			
Carbon Tetrachloride	21.8	ug/L	10.0			
Chlorobenzene	ND	ug/L	10.0			
Chlorodibromomethane	ND	ug/L	10.0			
Chloroethane	ND	ug/L	10.0			
Chloroform	839	ug/L	10.0			
Chloromethane	ND	ug/L	10.0			
1,1-Dichloroethane	ND	ug/L	10.0			
1,2-Dichloroethane	ND	ug/L	10.0			
1,1-Dichloroethene	ND	ug/L	10.0			
trans-1,2-Dichloroethene	2.91J	ug/L	10.0			
1,2-Dichloropropane	ND	ug/L	10.0			
cis-1,3-Dichloropropene	ND	ug/L	10.0			
trans-1,3-Dichloropropene	ND	ug/L	10.0			
Ethylbenzene	ND	ug/L	10.0			
2-Hexanone (MBK)	ND	ug/L	50.0			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0			
Methylene Chloride	ND	ug/L	50.0			
Styrene	ND	ug/L	10.0			
1,1,2,2-Tetrachloroethane	268	ug/L	10.0			
Tetrachloroethene	ND	ug/L	10.0			
Toluene	ND	ug/L	20.0			
1,1,1-Trichloroethane	ND	ug/L	10.0			
1,1,2-Trichloroethane	5.17J	ug/L	10.0			
Trichloroethene	159	ug/L	10.0			
Vinyl Acetate	ND	ug/L	200			
Vinyl Chloride	ND	ug/L	10.0			
Xylenes-m,p	ND	ug/L	10.0			
Xylenes-o	ND	ug/L	10.0			
cis-1,2-Dichloroethene	7.94J	ug/L	10.0			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	96	84 115
S2 - Toluene-d8	93	69 133
S3 - 4-Bromofluorobenzene	99	80 111
S4 - 1,2-Dichloroethane-d4	95	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000030

777 247

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

11013010

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013010

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0901010

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/12/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 10.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000031

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 248

Client Name Sverdrup/Jacobs Eng.
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID Memphis Army Depot

FID #

Date Arrived 10/04/01
ETC Order Number 0110130

ETC Lab ID 0110130-11
Field ID : MW-71-75

Matrix : AQUEOUS
Sample Date : 10/03/01

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/12/01	LS	8260B 5030B
QC Batch	V210121					
Dilution Factor	20					
Acetone	ND	ug/L	400			
Benzene	ND	ug/L	20.0			
Bromodichloromethane	ND	ug/L	20.0			
Bromoform	ND	ug/L	20.0			
Bromomethane	ND	ug/L	20.0			
2-Butanone (MEK)	ND	ug/L	400			
Carbon Disulfide	225	ug/L	20.0			
Carbon Tetrachloride	22.6	ug/L	20.0			
Chlorobenzene	ND	ug/L	20.0			
Chlorodibromomethane	ND	ug/L	20.0			
Chloroethane	ND	ug/L	20.0			
Chloroform	857	ug/L	20.0			
Chloromethane	ND	ug/L	20.0			
1,1-Dichloroethane	ND	ug/L	20.0			
1,2-Dichloroethane	ND	ug/L	20.0			
1,1-Dichloroethene	ND	ug/L	20.0			
trans-1,2-Dichloroethene	ND	ug/L	20.0			
1,2-Dichloropropane	ND	ug/L	20.0			
cis-1,3-Dichloropropene	ND	ug/L	20.0			
trans-1,3-Dichloropropene	ND	ug/L	20.0			
Ethylbenzene	ND	ug/L	20.0			
2-Hexanone (MBK)	ND	ug/L	100			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100			
Methylene Chloride	ND	ug/L	100			
Styrene	ND	ug/L	20.0			
1,1,2,2-Tetrachloroethane	262	ug/L	20.0			
Tetrachloroethene	ND	ug/L	20.0			
Toluene	ND	ug/L	40.0			
1,1,1-Trichloroethane	ND	ug/L	20.0			
1,1,2-Trichloroethane	ND	ug/L	20.0			
Trichloroethene	186	ug/L	20.0			
Vinyl Acetate	ND	ug/L	400			
Vinyl Chloride	ND	ug/L	20.0			
Xylenes-m,p	ND	ug/L	20.0			
Xylenes-o	ND	ug/L	20.0			
cis-1,2-Dichloroethene	9.09J	ug/L	20.0			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	94	84 115
S2 - Toluene-d8	93	69 133
S3 - 4-Bromofluorobenzene	97	80 111
S4 - 1,2-Dichloroethane-d4	94	58 131



Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000032

777 249

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

11013011

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013011

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1001011

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/12/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 20.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000033

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 250

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-12**
 Field ID : **MW-51-58.5**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/12/01	LS	8260B 5030B
QC Batch	V210121					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	31.4	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	2.13	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	0.71J	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	9.88	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	96	84 115
S2 - Toluene-d8	93	69 133
S3 - 4-Bromofluorobenzene	96	80 111
S4 - 1,2-Dichloroethane-d4	97	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000034

777 251 FORM 1 VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

11013012

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013012

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1101012

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/12/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000035

777 252

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-13**
 Field ID : **MW-51-63.5**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/12/01	LS	8260B 5030B
QC Batch	V210121					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	26.9	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	1.00	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	0.74J	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	10.7	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	94	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	96	80 111
S4 - 1,2-Dichloroethane-d4	96	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000036

777 253

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

11013013

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013013

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1201013

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/12/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000037

777 254

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-14**
 Field ID : **MW-78-53**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/12/01	LS	8260B 5030B
QC Batch	V210121					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	94	84	115
S2 - Toluene-d8	93	69	133
S3 - 4-Bromofluorobenzene	97	80	111
S4 - 1,2-Dichloroethane-d4	96	58	131

Data Validator  ND - Not Detected

Q - Recovery Outside QC Limits

000038

777 255

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

11013014

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013014

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1301014

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/12/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000039

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 256

Client Name

**Sverdrup/Jacobs Eng.
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211**Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**ETC Order Number **0110130**ETC Lab ID **0110130-15**Field ID : **MW-78-58**Matrix : **AQUEOUS**Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/12/01	LS	8260B 5030B
QC Batch	V210121					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	96	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	96	80 111
S4 - 1,2-Dichloroethane-d4	97	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000040

FORM 1
777 257 VOA-GCMS ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

11013015

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013015

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1401015

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/12/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
 (ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000041

777 258

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-16**
 Field ID : **MW-78-63**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/12/01	LS	8260B 5030B
QC Batch	V210121					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	5.36	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	95	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	97	80 111
S4 - 1,2-Dichloroethane-d4	96	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000042

777 259

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

11013016

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013016

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1501016

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/12/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000043

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 260

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
ETC Order Number **0110130**

ETC Lab ID **0110130-17**
Field ID : **MW-68-74.5**

Matrix : **AQUEOUS**
Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/12/01	LS	8260B 5030B
QC Batch	V210121					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	0.50J	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	95	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	96	80 111
S4 - 1,2-Dichloroethane-d4	96	58 131

777 261

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

11013017

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013017

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1601017

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/12/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000045

777 262

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-18**
 Field ID : **MW-68-79.5**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/12/01	LS	8260B 5030B
QC Batch	V210121					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	3.50	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	0.78J	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	4.15	ug/L	1.00			
Tetrachloroethene	1.60	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	6.56	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	3.12	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	94	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	93	80 111
S4 - 1,2-Dichloroethane-d4	96	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000046

777 263

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

11013018

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013018

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1701018

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/12/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000047

777 264

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-19**
 Field ID : **MW-69-85.5**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/12/01	LS	8260B 5030B
QC Batch	V210121					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	1.01	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	94	84 115
S2 - Toluene-d8	93	69 133
S3 - 4-Bromofluorobenzene	92	80 111
S4 - 1,2-Dichloroethane-d4	97	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000048

777 265

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

11013019

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013019

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1801019

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/12/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000049

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 266

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-20**
 Field ID : **MW-69-91.5**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/13/01	LS	8260B 5030B
QC Batch	V210122					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	94	84	115
S2 - Toluene-d8	93	69	133
S3 - 4-Bromofluorobenzene	95	80	111
S4 - 1,2-Dichloroethane-d4	94	58	131

777 267

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

11013020

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013020

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 2401031

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/13/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000051

777 268

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-21**
 Field ID : **MW-76-86.5**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/13/01	LS	8260B 5030B
QC Batch	V210122					
Dilution Factor	5					
Acetone	ND	ug/L	100			
Benzene	ND	ug/L	5.00			
Bromodichloromethane	ND	ug/L	5.00			
Bromoform	ND	ug/L	5.00			
Bromomethane	ND	ug/L	5.00			
2-Butanone (MEK)	ND	ug/L	100			
Carbon Disulfide	ND	ug/L	5.00			
Carbon Tetrachloride	ND	ug/L	5.00			
Chlorobenzene	ND	ug/L	5.00			
Chlorodibromomethane	ND	ug/L	5.00			
Chloroethane	ND	ug/L	5.00			
Chloroform	ND	ug/L	5.00			
Chloromethane	ND	ug/L	5.00			
1,1-Dichloroethane	ND	ug/L	5.00			
1,2-Dichloroethane	ND	ug/L	5.00			
1,1-Dichloroethene	ND	ug/L	5.00			
trans-1,2-Dichloroethene	1.91J	ug/L	5.00			
1,2-Dichloropropane	ND	ug/L	5.00			
cis-1,3-Dichloropropene	ND	ug/L	5.00			
trans-1,3-Dichloropropene	ND	ug/L	5.00			
Ethylbenzene	ND	ug/L	5.00			
2-Hexanone (MBK)	ND	ug/L	25.0			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25.0			
Methylene Chloride	ND	ug/L	25.0			
Styrene	ND	ug/L	5.00			
1,1,2,2-Tetrachloroethane	106	ug/L	5.00			
Tetrachloroethene	ND	ug/L	5.00			
Toluene	ND	ug/L	10.0			
1,1,1-Trichloroethane	ND	ug/L	5.00			
1,1,2-Trichloroethane	ND	ug/L	5.00			
Trichloroethene	72.2	ug/L	5.00			
Vinyl Acetate	ND	ug/L	100			
Vinyl Chloride	ND	ug/L	5.00			
Xylenes-m,p	ND	ug/L	5.00			
Xylenes-o	ND	ug/L	5.00			
cis-1,2-Dichloroethene	4.67J	ug/L	5.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	96	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	95	80 111
S4 - 1,2-Dichloroethane-d4	97	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000052

777 269

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

11013021

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013021

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 2501032

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/13/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 5.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000053

777 270

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-22**
 Field ID : **MW-76-91.5**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/13/01	LS	8260B 5030B
QC Batch	V210122					
Dilution Factor	10					
Acetone	ND	ug/L	200			
Benzene	ND	ug/L	10.0			
Bromodichloromethane	ND	ug/L	10.0			
Bromoform	ND	ug/L	10.0			
Bromomethane	ND	ug/L	10.0			
2-Butanone (MEK)	ND	ug/L	200			
Carbon Disulfide	ND	ug/L	10.0			
Carbon Tetrachloride	ND	ug/L	10.0			
Chlorobenzene	ND	ug/L	10.0			
Chlorodibromomethane	ND	ug/L	10.0			
Chloroethane	ND	ug/L	10.0			
Chloroform	ND	ug/L	10.0			
Chloromethane	ND	ug/L	10.0			
1,1-Dichloroethane	ND	ug/L	10.0			
1,2-Dichloroethane	ND	ug/L	10.0			
1,1-Dichloroethene	ND	ug/L	10.0			
trans-1,2-Dichloroethene	7.57J	ug/L	10.0			
1,2-Dichloropropane	ND	ug/L	10.0			
cis-1,3-Dichloropropene	ND	ug/L	10.0			
trans-1,3-Dichloropropene	ND	ug/L	10.0			
Ethylbenzene	ND	ug/L	10.0			
2-Hexanone (MBK)	ND	ug/L	50.0			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0			
Methylene Chloride	ND	ug/L	50.0			
Styrene	ND	ug/L	10.0			
1,1,2,2-Tetrachloroethane	332	ug/L	10.0			
Tetrachloroethene	ND	ug/L	10.0			
Toluene	ND	ug/L	20.0			
1,1,1-Trichloroethane	ND	ug/L	10.0			
1,1,2-Trichloroethane	ND	ug/L	10.0			
Trichloroethene	117	ug/L	10.0			
Vinyl Acetate	ND	ug/L	200			
Vinyl Chloride	ND	ug/L	10.0			
Xylenes-m,p	ND	ug/L	10.0			
Xylenes-o	ND	ug/L	10.0			
cis-1,2-Dichloroethene	19.6	ug/L	10.0			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	97	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	94	80 111
S4 - 1,2-Dichloroethane-d4	99	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000054

777 271

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

11013022

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013022

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 2601033

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/13/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 10.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 272

Client Name

Sverdrup/Jacobs Eng.
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID Memphis Army Depot

FID #

Date Arrived 10/04/01

ETC Order Number 0110130

ETC Lab ID 0110130-23

Field ID : MW-EQB-1

Matrix : AQUEOUS

Sample Date : 10/03/01

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/13/01	LS	8260B 5030B
QC Batch	V210122					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	98	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	93	80 111
S4 - 1,2-Dichloroethane-d4	102	58 131

777 273

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

11013023

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013023

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 2701034

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/13/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000057

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 274

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-24**
 Field ID : **MW-EQB-2**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/13/01	LS	8260B 5030B
QC Batch	V210122					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	2.70	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	99	84	115
S2 - Toluene-d8	92	69	133
S3 - 4-Bromofluorobenzene	97	80	111
S4 - 1,2-Dichloroethane-d4	100	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000058

777 275

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

11013024

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013024

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 2801035

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/13/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000059

777 276

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-25**
 Field ID : **MW-EQB-3**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/13/01	LS	8260B 5030B
QC Batch	V210122					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	96	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	96	80 111
S4 - 1,2-Dichloroethane-d4	97	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000060

777 277

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

11013025

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013025

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 2901036

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/13/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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777 278

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-26**
 Field ID : **MW-SRCE-1**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/13/01	LS	8260B 5030B
QC Batch	V210122					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	97	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	93	80 111
S4 - 1,2-Dichloroethane-d4	100	58 131

777 279

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

11013026

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013026

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 3001037

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/13/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 280

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
ETC Order Number **0110130**

ETC Lab ID **0110130-27**
Field ID : **MW-33-58**

Matrix : **AQUEOUS**
Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/13/01	LS	8260B 5030B
QC Batch	V210122					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	96	84 115
S2 - Toluene-d8	96	69 133
S3 - 4-Bromofluorobenzene	94	80 111
S4 - 1,2-Dichloroethane-d4	99	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000064

777 281

FORM 1

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

11013027

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013027

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 3101038

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/13/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000065

777 282

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-28**
 Field ID : **MW-37-100**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/13/01	LS	8260B 5030B
QC Batch	V210122					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	96	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	96	80 111
S4 - 1,2-Dichloroethane-d4	100	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000066

777 283

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

11013028

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013028

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 3201039

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/13/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000067

777 284

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-29**
 Field ID : **MW-33-100**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/13/01	LS	8260B 5030B
QC Batch	V210122					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	97	84 115
S2 - Toluene-d8	96	69 133
S3 - 4-Bromofluorobenzene	94	80 111
S4 - 1,2-Dichloroethane-d4	102	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000068

777 285

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

11013029

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013029

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 3301040

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/13/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000069

777 286

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-30**
 Field ID : **MW-68-100**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/13/01	LS	8260B 5030B
QC Batch	V210122					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	98	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	93	80 111
S4 - 1,2-Dichloroethane-d4	106	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000070

777 287

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

11013030

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013030

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 3401041

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/13/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000071

777 288

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-31**
 Field ID : **MW-95-100**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/13/01	LS	8260B 5030B
QC Batch	V210122					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	97	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	95	80 111
S4 - 1,2-Dichloroethane-d4	101	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000072

777 289

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

11013031

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013031

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 3501042

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/13/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000073

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 290

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
ETC Order Number **0110130**

ETC Lab ID **0110130-32**
Field ID : **MW-31-100**

Matrix : **AQUEOUS**
Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/13/01	LS	8260B 5030B
QC Batch	V210122					
Dilution Factor	5					
Acetone	ND	ug/L	100			
Benzene	ND	ug/L	5.00			
Bromodichloromethane	ND	ug/L	5.00			
Bromoform	ND	ug/L	5.00			
Bromomethane	ND	ug/L	5.00			
2-Butanone (MEK)	ND	ug/L	100			
Carbon Disulfide	ND	ug/L	5.00			
Carbon Tetrachloride	ND	ug/L	5.00			
Chlorobenzene	ND	ug/L	5.00			
Chlorodibromomethane	ND	ug/L	5.00			
Chloroethane	ND	ug/L	5.00			
Chloroform	ND	ug/L	5.00			
Chloromethane	ND	ug/L	5.00			
1,1-Dichloroethane	ND	ug/L	5.00			
1,2-Dichloroethane	ND	ug/L	5.00			
1,1-Dichloroethene	39.9	ug/L	5.00			
trans-1,2-Dichloroethene	5.88	ug/L	5.00			
1,2-Dichloropropane	ND	ug/L	5.00			
cis-1,3-Dichloropropene	ND	ug/L	5.00			
trans-1,3-Dichloropropene	ND	ug/L	5.00			
Ethylbenzene	ND	ug/L	5.00			
2-Hexanone (MBK)	ND	ug/L	25.0			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25.0			
Methylene Chloride	ND	ug/L	25.0			
Styrene	ND	ug/L	5.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	5.00			
Tetrachloroethene	3.06J	ug/L	5.00			
Toluene	ND	ug/L	10.0			
1,1,1-Trichloroethane	ND	ug/L	5.00			
1,1,2-Trichloroethane	ND	ug/L	5.00			
Trichloroethene	39.5	ug/L	5.00			
Vinyl Acetate	ND	ug/L	100			
Vinyl Chloride	ND	ug/L	5.00			
Xylenes-m,p	ND	ug/L	5.00			
Xylenes-o	ND	ug/L	5.00			
cis-1,2-Dichloroethene	6.58	ug/L	5.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	96	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	94	80 111
S4 - 1,2-Dichloroethane-d4	99	58 131

777 291

FORM 1

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

11013032

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013032

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 3601043

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/13/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 5.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000075

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 292

Client Name

**Sverdrup/Jacobs Eng.
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211**Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**ETC Order Number **0110130**ETC Lab ID **0110130-33**Field ID : **MW-67-100**Matrix : **AQUEOUS**Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/13/01	LS	8260B 5030B
QC Batch	V210122					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	4.86	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	96	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	92	80 111
S4 - 1,2-Dichloroethane-d4	98	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000076

777 293

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

11013033

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013033

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 3701044

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/13/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000077

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 294

Client Name

**Sverdrup/Jacobs Eng.
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211**Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**ETC Order Number **0110130**ETC Lab ID **0110130-34**Field ID : **Trip Blank #2**Matrix : **AQUEOUS**Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/13/01	LS	8260B 5030B
QC Batch	V210122					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	96	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	91	80 111
S4 - 1,2-Dichloroethane-d4	98	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000078

777 295

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

11013034

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013034

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 3801045

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/13/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000079

777 296

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-35**
 Field ID : **Trip Blank #1**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/13/01	LS	8260B 5030B
QC Batch	V210122					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	97	84	115
S2 - Toluene-d8	95	69	133
S3 - 4-Bromofluorobenzene	91	80	111
S4 - 1,2-Dichloroethane-d4	100	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000080

777 297

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

11013035

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 11013035

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 3901046

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/13/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000081

777 298

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level III
GC/MS Volatiles**

000082

CASE NARRATIVE

GC/MS VOLATILE COMPOUNDS – AQUEOUS

Client Name Sverdrup/Jacobs Engineering
Project Name Memphis Army Depot
ETC Order# 0110-130

SAMPLE PRESERVATION (Verified at time of analysis)

All water samples preserved with HCl to pH < 2 and maintained at 4°C until analysis.

METHOD

Preparation: SW-846 5030B
Analysis: SW-846 8260B

HOLDING TIMES

Sample Analysis All samples analyzed within 14 days of collection.

QUALITY CONTROL

<u>QC Batch</u>	<u>Form 4 Summary</u>
V210111	1011LB
V210121	1012LB
V210122	1012LB2

System Monitoring Compounds FORM 2

Surrogate recoveries within QC limits.

Method Blank FORM 4

1011LB
1012LB
1012LB2

Target analytes were not detected in the method blanks.

Laboratory Control Sample FORM 3

1011LCS
1012LCS
1012LCS2

All target analyte acceptance criteria met, except as listed below:

Carbon Disulfide was flagged for low recovery in 1011LCS. Recovery was greater than 50% indicating that the ability to detect this analytes between the MDL (Method Detection Limit) and MQL (Method Quantitation Limit) was not affected. However, results for this analyte should be considered estimated values.

Chloroform and Methylene Chloride were flagged for high recoveries in 1012LCS2. These analytes were not identified in any associated project samples. The data was not affected.

Matrix Spike / Matrix Spike Dup. FORM 3

Batch V210111

0110-129-30

RPD

All analytes within QC limits.

MW-40-91.5

Spike Recovery

All analytes within QC limits.*

*1,1-Dichloroethene was flagged for high recovery in the MS/MSD. Refer to Laboratory Control Sample(s) for system verification.

ENVIRONMENTAL TESTING AND CONSULTING, INC.
CASE NARRATIVE
GC/MS VOLATILE COMPOUNDS – AQUEOUS

Client Name Sverdrup/Jacobs Engineering
Project Name Memphis Army Depot
ETC Order# 0110-130

Matrix Spike / Matrix Spike Dup. FORM 3

Batch V210121

0110-130-12 RPD All analytes within QC limits.
MW-51-58.5 Spike Recovery All analytes within QC limits.*

*1,1-Dichloroethene was flagged for high recovery in the MSD. MS recovery was within QC limits. Refer to Laboratory Control Sample(s) for system verification.

Matrix Spike / Matrix Spike Dup. FORM 3

Batch V210122

0110-130-24 RPD All analytes within QC limits.
MW-EQB-2 Spike Recovery All analytes within QC limits.*

*1,1-Dichloroethene was flagged for high recovery in the MSD. MS recovery was within QC limits. Refer to Laboratory Control Sample(s) for system verification.

CALIBRATION

BFB Daily 12-Hour Tune All criteria met. FORM 5
Initial Calibration All criteria met. FORM 6
Calibration Verification Responses >30% do not affect the data.

Volatile Internal Standard Area and RT FORM 8

Calibration Verification standard(s) Internal Standard Areas and Retention Times within QC limits.

SAMPLE ANALYSIS

Instrumentation HP 5890 Series II GC, 5971MSD
Dilutions Required Dilutions were performed to bring Target Analyte(s) within calibration range as shown on the Sample Report Forms.



Project Manager

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

	CLIENT SAMPLE NO.	SMC1 (DFM) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER (DCE) #	TOT OUT
	=====	=====	=====	=====	=====	=====
01	1011LCS	106	94	94	104	0
02	1011LB	95	93	99	92	0
03	11013001	96	95	98	96	0
04	11013002	97	94	98	97	0
05	11013003	96	95	100	95	0
06	11013004	96	95	101	96	0
07	1012LCS	94	93	95	93	0
08	1012LB	93	92	98	92	0
09	11013005	91	91	100	92	0
10	11013006	93	92	98	92	0
11	11013007	94	94	97	94	0
12	11013008	93	92	96	93	0
13	11013009	94	92	98	94	0
14	11013010	96	93	99	95	0
15	11013011	94	93	97	94	0
16	11013012	96	93	96	97	0
17	11013013	94	94	96	96	0
18	11013014	94	93	97	96	0
19	11013015	96	94	96	97	0
20	11013016	95	94	97	96	0
21	11013017	95	94	96	96	0
22	11013018	94	94	93	96	0
23	11013019	94	93	92	97	0
24	11013012MS	97	96	88	94	0
25	11013012MSD	97	95	96	94	0
26	1012LCS2	97	95	93	96	0
27	1012LCS22	98	93	88	93	0
28	1012LB2	95	93	92	96	0
29	11013020	94	93	95	94	0
30	11013021	96	94	95	97	0

QC LIMITS

SMC1 (DFM) = Dibromofluoromethane (84-115)
 SMC2 (TOL) = Toluene-d8 (69-133)
 SMC3 (BFB) = Bromofluorobenzene (80-111)
 OTHER (DCE) = 1,2-Dichloroethane-d4 (58-131)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

	CLIENT SAMPLE NO.	SMC1 (DFM) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER (DCE) #	TOT OUT
01	11013022	97	95	94	99	0
02	11013023	98	94	93	102	0
03	11013024	99	92	97	100	0
04	11013025	96	94	96	97	0
05	11013026	97	94	93	100	0
06	11013027	96	96	94	99	0
07	11013028	96	94	96	100	0
08	11013029	97	96	94	102	0
09	11013030	98	95	93	106	0
10	11013031	97	95	95	101	0
11	11013032	96	94	94	99	0
12	11013033	96	94	92	98	0
13	11013034	96	95	91	98	0
14	11013035	97	95	91	100	0
15	11013024MS	97	95	92	98	0
16	11013024MSD	98	94	92	95	0
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QC LIMITS

SMC1 (DFM) = Dibromofluoromethane (84-115)
 SMC2 (TOL) = Toluene-d8 (69-133)
 SMC3 (BFB) = Bromofluorobenzene (80-111)
 OTHER (DCE) = 1,2-Dichloroethane-d4 (58-131)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

1011LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Lab File ID: 0302005

Lab Prep Batch: V210111

Date Analyzed: 10/11/01

Time Analyzed: 1058

GC Column: ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC2

Lab Sample ID: 1011LB

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
	=====	=====	=====	=====
01	1011LCS	1011LCS	0201002LCS	0852
02	11012930	11012930	1101013	1507
03	11013001	11013001	1501017	1712
04	11013002	11013002	1601018	1743
05	11013003	11013003	1701019	1814
06	11013004	11013004	1801020	1845
07	11012930MS	0000	1901021	1916
08	11012930MSD	0000	2001022	1948
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COMMENTS:

777 304

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET

1011LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Prep Batch: V210111

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/11/01

GC Column: ID: 2.00 (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
67-64-1	Acetone	20.00	U
75-05-8	Acetonitrile	20.00	U
107-02-8	Acrolein	20.00	U
107-13-1	Acrylonitrile	20.00	U
107-05-1	Allyl chloride	1.00	U
71-43-2	Benzene	1.00	U
108-86-1	Bromobenzene	1.00	U
74-97-5	Bromochloromethane	1.00	U
75-27-4	Bromodichloromethane	1.00	U
75-25-2	Bromoform	1.00	U
78-93-3	2-Butanone	20.00	U
74-83-9	Bromomethane	1.00	U
104-51-8	n-Butylbenzene	1.00	U
135-98-8	sec-Butylbenzene	1.00	U
98-06-6	tert-Butylbenzene	1.00	U
75-15-0	Carbon Disulfide	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
108-90-7	Chlorobenzene	1.00	U
124-48-1	Chlorodibromomethane	1.00	U
75-00-3	Chloroethane	1.00	U
110-75-8	2-Chloroethyl vinyl ether	20.00	U
67-66-3	Chloroform	1.00	U
74-87-3	Chloromethane	1.00	U
126-99-8	Chloroprene	1.00	U
95-49-8	2-Chlorotoluene	1.00	U
106-43-4	4-Chlorotoluene	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane	1.00	U
106-93-4	1,2-Dibromoethane	1.00	U
74-95-3	Dibromomethane	1.00	U
95-50-1	1,2-Dichlorobenzene	1.00	U
541-73-1	1,3-Dichlorobenzene	1.00	U
106-46-7	1,4-Dichlorobenzene	1.00	U
1476-11-5	cis-1,4-Dichloro-2-butene	1.00	U

FORM I VOA-GCMS

000088

777 305

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

1011LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Prep Batch: V210111

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/11/01

GC Column: ID: 2.00 (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

110-57-6-----	trans-1,4-Dichloro-2-butene	1.00	U
75-71-8-----	Dichlorodifluoromethane	1.00	U
75-34-3-----	1,1-Dichloroethane	1.00	U
107-06-2-----	1,2-Dichloroethane	1.00	U
75-35-4-----	1,1-Dichloroethene	1.00	U
156-59-2-----	cis-1,2-Dichloroethene	1.00	U
156-60-5-----	trans-1,2-Dichloroethene	1.00	U
78-87-5-----	1,2-Dichloropropane	1.00	U
142-28-9-----	1,3-Dichloropropane	1.00	U
594-20-7-----	2,2-Dichloropropane	1.00	U
563-58-6-----	1,1-Dichloropropene	1.00	U
10061-01-5-----	cis-1,3-Dichloropropene	1.00	U
10061-02-6-----	trans-1,3-Dichloropropene	1.00	U
108-20-3-----	Di isopropyl ether	5.00	U
123-91-1-----	1,4-Dioxane	100.0	U
141-78-6-----	Ethyl Acetate	5.00	U
100-41-4-----	Ethylbenzene	1.00	U
97-63-2-----	Ethyl methacrylate	1.00	U
110-00-9-----	Furan	1.00	U
87-68-3-----	Hexachlorobutadiene	1.00	U
110-54-3-----	Hexane	1.00	U
591-78-6-----	2-Hexanone	5.00	U
74-88-4-----	Iodomethane	1.00	U
78-83-1-----	Isobutyl Alcohol	100.0	U
98-82-8-----	Isopropylbenzene	1.00	U
99-87-6-----	4-Isopropyltoluene	1.00	U
126-98-7-----	Methacrylonitrile	10.00	U
75-09-2-----	Methylene Chloride	5.00	U
80-62-6-----	Methyl methacrylate	1.00	U
108-10-1-----	4-Methyl-2-Pentanone	5.00	U
1634-04-4-----	Methyl-tertbutyl-Ether	5.00	U
91-20-3-----	Naphthalene	1.00	U
107-12-0-----	Propionitrile	10.00	U

FORM I VOA-GCMS

000089

777 306

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

1011LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Prep Batch: V210111

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/11/01

GC Column: ID: 2.00 (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

109-60-4-----	n-Propyl Acetate	1.00	U
103-65-1-----	n-Propylbenzene	1.00	U
100-42-5-----	Styrene	1.00	U
630-20-6-----	1,1,1,2-Tetrachloroethane	1.00	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1.00	U
127-18-4-----	Tetrachloroethene	1.00	U
109-99-9-----	Tetrahydrofuran	1.00	U
87-61-6-----	1,2,3-Trichlorobenzene	1.00	U
108-88-3-----	Toluene	2.00	U
71-55-6-----	1,1,1-Trichloroethane	1.00	U
79-00-5-----	1,1,2-Trichloroethane	1.00	U
76-13-1-----	1,1,2-trichloro-1,2,2-triflu	1.00	U
79-01-6-----	Trichloroethene	1.00	U
75-69-4-----	Trichlorofluoromethane	1.00	U
96-18-4-----	1,2,3-Trichloropropane	1.00	U
95-63-6-----	1,2,4-Trimethylbenzene	1.00	U
120-82-1-----	1,2,4-Trichlorobenzene	1.00	U
108-67-8-----	1,3,5-Trimethylbenzene	1.00	U
108-05-4-----	Vinyl Acetate	20.00	U
75-01-4-----	Vinyl Chloride	1.00	U
108-38-3-----	Xylene-mp	1.00	U
95-47-6-----	Xylene-o	1.00	U

FORM I VOA-GCMS

000090

777 307

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

1011LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 1011LB

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/11/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000091

777 308

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V210111

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix Spike - Sample No.: 1011LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acetone	100.0		99.17	99	59-151
Acetonitrile	1000		1030	103	57-143
Acrolein	100.0		114.6	115	59-134
Acrylonitrile	100.0		108.9	109	60-146
Allyl chloride	100.0		99.68	100	74-120
Benzene	100.0		95.17	95	72-124
Bromobenzene	100.0		77.39	77	77-120
Bromochloromethane	100.0		95.78	96	74-120
Bromodichloromethane	100.0		87.44	87	68-119
Bromoform	100.0		80.90	81	66-136
2-Butanone	100.0		98.47	98	55-151
Bromomethane	100.0		78.87	79	40-134
n-Butylbenzene	100.0		82.73	83	69-129
sec-Butylbenzene	100.0		81.63	82	72-127
tert-Butylbenzene	100.0		79.08	79	73-126
Carbon Disulfide	100.0		57.54	58*	60-133
Carbon Tetrachloride	100.0		97.40	97	64-123
Chlorobenzene	100.0		76.98	77	77-112
Chlorodibromomethane	100.0		84.99	85	72-118
Chloroethane	100.0		93.13	93	64-142
2-Chloroethyl vinyl eth	100.0		59.60	60	22-165
Chloroform	100.0		99.50	100	70-115
Chloromethane	100.0		77.57	78	58-139
Chloroprene	100.0		96.64	97	73-118
2-Chlorotoluene	100.0		81.83	82	65-132
4-Chlorotoluene	100.0		84.07	84	67-127
1,2-Dibromo-3-chloropro	100.0		76.94	77	56-134
1,2-Dibromoethane	100.0		85.20	85	74-118

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

* Values outside of QC limits

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: V210111

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix Spike - Sample No.: 1011LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dibromomethane	100.0		85.30	85	75-114
1,2-Dichlorobenzene	100.0		74.90	75*	80-113
1,3-Dichlorobenzene	100.0		78.47	78	77-119
1,4-Dichlorobenzene	100.0		79.46	79	78-116
cis-1,4-Dichloro-2-bute	100.0		88.55	88	70-130
trans-1,4-Dichloro-2-bu	100.0		87.30	87	62-138
Dichlorodifluoromethane	100.0		59.22	59	48-145
1,1-Dichloroethane	100.0		96.47	96	76-118
1,2-Dichloroethane	100.0		98.08	98	62-124
1,1-Dichloroethene	100.0		94.12	94	69-121
cis-1,2-Dichloroethene	100.0		96.03	96	76-114
trans-1,2-Dichloroethen	100.0		89.25	89	72-121
1,2-Dichloropropane	100.0		86.15	86	64-133
1,3-Dichloropropane	100.0		87.18	87	68-128
2,2-Dichloropropane	100.0		105.1	105	67-132
1,1-Dichloropropene	100.0		96.76	97	76-117
cis-1,3-Dichloropropene	100.0		88.12	88	77-120
trans-1,3-Dichloroprope	100.0		88.15	88	73-124
Di isopropyl ether	100.0		100.7	101	62-160
1,4-Dioxane	2000		1816	91	56-131
Ethyl Acetate	100.0		100.7	101	52-151
Ethylbenzene	100.0		79.78	80	77-111
Ethyl methacrylate	200.0		166.0	83	57-140
Furan	100.0		152.5	152*	52-124
Hexachlorobutadiene	100.0		70.04	70	69-137
Hexane	100.0		102.0	102	70-130
2-Hexanone	100.0		91.34	91	53-144
Iodomethane	100.0		96.31	96	51-153

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

* Values outside of QC limits

COMMENTS:

777 310

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V210111

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix Spike - Sample No.: 1011LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	2000		2120	106	60-134
Isopropylbenzene	100.0		80.88	81	74-125
4-Isopropyltoluene	100.0		85.69	86	72-127
Methacrylonitrile	1000		1061	106	70-125
Methylene Chloride	100.0		101.6	102	76-115
Methyl methacrylate	200.0		177.2	89	57-147
4-Methyl-2-Pentanone	100.0		90.93	91	42-144
Methyl-tertbutyl-Ether	100.0		97.62	98	62-122
Naphthalene	100.0		74.80	75	53-124
Propionitrile	1000		989.3	99	58-139
n-Propyl Acetate	100.0		137.4	137	88-170
n-Propylbenzene	100.0		82.28	82	75-125
Styrene	100.0		77.93	78	77-117
1,1,1,2-Tetrachloroetha	100.0		81.07	81	79-113
1,1,2,2-Tetrachloroetha	100.0		79.72	80	67-126
Tetrachloroethene	100.0		86.05	86	77-115
Tetrahydrofuran	100.0		91.82	92	76-181
1,2,3-Trichlorobenzene	100.0		73.79	74	62-132
Toluene	100.0		84.49	84	77-115
1,1,1-Trichloroethane	100.0		97.24	97	63-122
1,1,2-Trichloroethane	100.0		86.50	86	69-117
1,1,2-trichloro-1,2,2-t	100.0		97.48	97	70-130
Trichloroethene	100.0		82.99	83	75-113
Trichlorofluoromethane	100.0		89.99	90	55-130
1,2,3-Trichloropropane	100.0		82.41	82	62-130
1,2,4-Trimethylbenzene	100.0		83.30	83	69-126
1,2,4-Trichlorobenzene	100.0		76.77	77	68-132
1,3,5-Trimethylbenzene	100.0		80.90	81	69-128

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

* Values outside of QC limits

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: V210111

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix Spike - Sample No.: 1011LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Vinyl Acetate	100.0		100.3	100	28-146
Vinyl Chloride	100.0		81.20	81	65-134
Xylene-mp	200.0		162.6	81	77-115
Xylene-o	100.0		80.50	80	77-115

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: 3 out of 88 outside limits

COMMENTS:

WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

777 312

Lab Name: ETC, INC.

Lab Prep Batch: V210111

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix Spike - Sample No.: 11012930

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Benzene	100.0	0.000	122.3	122	72-124
Chlorobenzene	100.0	0.000	98.36	98	77-112
1,1-Dichloroethene	100.0	0.000	139.5	140*	69-121
Toluene	100.0	1.27	111.7	110	77-115
Trichloroethene	100.0	0.000	106.2	106	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS	
=====	=====	=====	=====	=====	=====	=====
Benzene	100.0	121.4	121	1	20	72-124
Chlorobenzene	100.0	103.3	103	5	20	77-112
1,1-Dichloroethene	100.0	138.6	139*	1	20	69-121
Toluene	100.0	111.3	110	0	20	77-115
Trichloroethene	100.0	107.8	108	2	20	75-113

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: 2 out of 10 outside limits

COMMENTS:

Lab Name: ETC, INC.

Contract:

1012LB

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Lab File ID: 0302004

Lab Prep Batch: V210121

Date Analyzed: 10/12/01

Time Analyzed: 1301

GC Column: ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC2

Lab Sample ID: 1012LB

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
	=====	=====	=====	=====
01	1012LCS	1012LCS	0202002LCS	1137
02	11013005	11013005	0401005	1332
03	11013006	11013006	0501006	1403
04	11013007	11013007	0601007	1434
05	11013008	11013008	0701008	1505
06	11013009	11013009	0801009	1536
07	11013010	11013010	0901010	1607
08	11013011	11013011	1001011	1638
09	11013012	11013012	1101012	1709
10	11013013	11013013	1201013	1740
11	11013014	11013014	1301014	1811
12	11013015	11013015	1401015	1841
13	11013016	11013016	1501016	1912
14	11013017	11013017	1601017	1943
15	11013018	11013018	1701018	2013
16	11013019	11013019	1801019	2044
17	11013012MS	0000	1901020	2115
18	11013012MSD	0000	2001021	2145
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COMMENTS:

777 314

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET

1012LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Prep Batch: V210121

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/12/01

GC Column: ID: 2.00 (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

67-64-1-----	Acetone	20.00	U
75-05-8-----	Acetonitrile	20.00	U
107-02-8-----	Acrolein	20.00	U
107-13-1-----	Acrylonitrile	20.00	U
107-05-1-----	Allyl chloride	1.00	U
71-43-2-----	Benzene	1.00	U
108-86-1-----	Bromobenzene	1.00	U
74-97-5-----	Bromochloromethane	1.00	U
75-27-4-----	Bromodichloromethane	1.00	U
75-25-2-----	Bromoform	1.00	U
78-93-3-----	2-Butanone	20.00	U
74-83-9-----	Bromomethane	1.00	U
104-51-8-----	n-Butylbenzene	1.00	U
135-98-8-----	sec-Butylbenzene	1.00	U
98-06-6-----	tert-Butylbenzene	1.00	U
75-15-0-----	Carbon Disulfide	1.00	U
56-23-5-----	Carbon Tetrachloride	1.00	U
108-90-7-----	Chlorobenzene	1.00	U
124-48-1-----	Chlorodibromomethane	1.00	U
75-00-3-----	Chloroethane	1.00	U
110-75-8-----	2-Chloroethyl vinyl ether	20.00	U
67-66-3-----	Chloroform	1.00	U
74-87-3-----	Chloromethane	1.00	U
126-99-8-----	Chloroprene	1.00	U
95-49-8-----	2-Chlorotoluene	1.00	U
106-43-4-----	4-Chlorotoluene	1.00	U
96-12-8-----	1,2-Dibromo-3-chloropropane	1.00	U
106-93-4-----	1,2-Dibromoethane	1.00	U
74-95-3-----	Dibromomethane	1.00	U
95-50-1-----	1,2-Dichlorobenzene	1.00	U
541-73-1-----	1,3-Dichlorobenzene	1.00	U
106-46-7-----	1,4-Dichlorobenzene	1.00	U
1476-11-5-----	cis-1,4-Dichloro-2-butene	1.00	U

FORM I VOA-GCMS

000098

777 315

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

1012LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Prep Batch: V210121

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/12/01

GC Column: ID: 2.00 (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

110-57-6-----	trans-1,4-Dichloro-2-butene	1.00	U
75-71-8-----	Dichlorodifluoromethane	1.00	U
75-34-3-----	1,1-Dichloroethane	1.00	U
107-06-2-----	1,2-Dichloroethane	1.00	U
75-35-4-----	1,1-Dichloroethene	1.00	U
156-59-2-----	cis-1,2-Dichloroethene	1.00	U
156-60-5-----	trans-1,2-Dichloroethene	1.00	U
78-87-5-----	1,2-Dichloropropane	1.00	U
142-28-9-----	1,3-Dichloropropane	1.00	U
594-20-7-----	2,2-Dichloropropane	1.00	U
563-58-6-----	1,1-Dichloropropene	1.00	U
10061-01-5-----	cis-1,3-Dichloropropene	1.00	U
10061-02-6-----	trans-1,3-Dichloropropene	1.00	U
108-20-3-----	Di isopropyl ether	5.00	U
123-91-1-----	1,4-Dioxane	100.0	U
141-78-6-----	Ethyl Acetate	5.00	U
100-41-4-----	Ethylbenzene	1.00	U
97-63-2-----	Ethyl methacrylate	1.00	U
110-00-9-----	Furan	1.00	U
87-68-3-----	Hexachlorobutadiene	1.00	U
110-54-3-----	Hexane	1.00	U
591-78-6-----	2-Hexanone	5.00	U
74-88-4-----	Iodomethane	1.00	U
78-83-1-----	Isobutyl Alcohol	100.0	U
98-82-8-----	Isopropylbenzene	1.00	U
99-87-6-----	4-Isopropyltoluene	1.00	U
126-98-7-----	Methacrylonitrile	10.00	U
75-09-2-----	Methylene Chloride	5.00	U
80-62-6-----	Methyl methacrylate	1.00	U
108-10-1-----	4-Methyl-2-Pentanone	5.00	U
1634-04-4-----	Methyl-tertbutyl-Ether	5.00	U
91-20-3-----	Naphthalene	1.00	U
107-12-0-----	Propionitrile	10.00	U

FORM I VOA-GCMS

000099

777 316

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

1012LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Prep Batch: V210121

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/12/01

GC Column: ID: 2.00 (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

109-60-4-----	n-Propyl Acetate	1.00	U
103-65-1-----	n-Propylbenzene	1.00	U
100-42-5-----	Styrene	1.00	U
630-20-6-----	1,1,1,2-Tetrachloroethane	1.00	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1.00	U
127-18-4-----	Tetrachloroethene	1.00	U
109-99-9-----	Tetrahydrofuran	1.00	U
87-61-6-----	1,2,3-Trichlorobenzene	1.00	U
108-88-3-----	Toluene	2.00	U
71-55-6-----	1,1,1-Trichloroethane	1.00	U
79-00-5-----	1,1,2-Trichloroethane	1.00	U
76-13-1-----	1,1,2-trichloro-1,2,2-triflu	1.00	U
79-01-6-----	Trichloroethene	1.00	U
75-69-4-----	Trichlorofluoromethane	1.00	U
96-18-4-----	1,2,3-Trichloropropane	1.00	U
95-63-6-----	1,2,4-Trimethylbenzene	1.00	U
120-82-1-----	1,2,4-Trichlorobenzene	1.00	U
108-67-8-----	1,3,5-Trimethylbenzene	1.00	U
108-05-4-----	Vinyl Acetate	20.00	U
75-01-4-----	Vinyl Chloride	1.00	U
108-38-3-----	Xylene-mp	1.00	U
95-47-6-----	Xylene-o	1.00	U

FORM I VOA-GCMS

000100

777 317

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

1012LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 1012LB

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/12/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
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777 318

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V210121

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix Spike - Sample No.: 1012LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acetone	100.0		104.7	105	59-151
Acetonitrile	1000		1112	111	57-143
Acrolein	100.0		127.6	128	59-134
Acrylonitrile	100.0		116.0	116	60-146
Allyl chloride	100.0		107.6	108	74-120
Benzene	100.0		103.3	103	72-124
Bromobenzene	100.0		101.0	101	77-120
Bromochloromethane	100.0		102.4	102	74-120
Bromodichloromethane	100.0		99.86	100	68-119
Bromoform	100.0		104.4	104	66-136
2-Butanone	100.0		108.7	109	55-151
Bromomethane	100.0		103.6	104	40-134
n-Butylbenzene	100.0		105.2	105	69-129
sec-Butylbenzene	100.0		104.2	104	72-127
tert-Butylbenzene	100.0		101.9	102	73-126
Carbon Disulfide	100.0		75.69	76	60-133
Carbon Tetrachloride	100.0		105.3	105	64-123
Chlorobenzene	100.0		100.0	100	77-112
Chlorodibromomethane	100.0		99.00	99	72-118
Chloroethane	100.0		100.2	100	64-142
2-Chloroethyl vinyl eth	100.0		100.8	101	22-165
Chloroform	100.0		105.8	106	70-115
Chloromethane	100.0		95.18	95	58-139
Chloroprene	100.0		104.6	105	73-118
2-Chlorotoluene	100.0		102.7	103	65-132
4-Chlorotoluene	100.0		96.58	96	67-127
1,2-Dibromo-3-chloropro	100.0		100.1	100	56-134
1,2-Dibromoethane	100.0		99.83	100	74-118

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

* Values outside of QC limits

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: V210121

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix Spike - Sample No.: 1012LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dibromomethane	100.0		100.0	100	75-114
1,2-Dichlorobenzene	100.0		97.61	98	80-113
1,3-Dichlorobenzene	100.0		99.90	100	77-119
1,4-Dichlorobenzene	100.0		100.7	101	78-116
cis-1,4-Dichloro-2-bute	100.0		112.6	113	70-130
trans-1,4-Dichloro-2-bu	100.0		113.4	113	62-138
Dichlorodifluoromethane	100.0		93.12	93	48-145
1,1-Dichloroethane	100.0		104.0	104	76-118
1,2-Dichloroethane	100.0		104.9	105	62-124
1,1-Dichloroethene	100.0		106.5	106	69-121
cis-1,2-Dichloroethene	100.0		104.2	104	76-114
trans-1,2-Dichloroethen	100.0		99.76	100	72-121
1,2-Dichloropropane	100.0		100.4	100	64-133
1,3-Dichloropropane	100.0		100.9	101	68-128
2,2-Dichloropropane	100.0		111.6	112	67-132
1,1-Dichloropropene	100.0		105.3	105	76-117
cis-1,3-Dichloropropene	100.0		101.6	102	77-120
trans-1,3-Dichloroprope	100.0		101.1	101	73-124
Di isopropyl ether	100.0		106.0	106	62-160
1,4-Dioxane	2000		1880	94	56-131
Ethyl Acetate	100.0		109.4	109	52-151
Ethylbenzene	100.0		102.2	102	77-111
Ethyl methacrylate	200.0		196.1	98	57-140
Furan	100.0		166.1	166*	52-124
Hexachlorobutadiene	100.0		92.43	92	69-137
Hexane	100.0		116.9	117	70-130
2-Hexanone	100.0		106.3	106	53-144
Iodomethane	100.0		109.1	109	51-153

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

* Values outside of QC limits

COMMENTS:

777 320

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V210121

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix Spike - Sample No.: 1012LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	2000		2239	112	60-134
Isopropylbenzene	100.0		103.5	104	74-125
4-Isopropyltoluene	100.0		108.5	108	72-127
Methacrylonitrile	1000		1156	116	70-125
Methylene Chloride	100.0		108.5	108	76-115
Methyl methacrylate	200.0		207.6	104	57-147
4-Methyl-2-Pentanone	100.0		106.5	106	42-144
Methyl-tertbutyl-Ether	100.0		105.6	106	62-122
Naphthalene	100.0		101.6	102	53-124
Propionitrile	1000		1050	105	58-139
n-Propyl Acetate	100.0		161.2	161	88-170
n-Propylbenzene	100.0		105.1	105	75-125
Styrene	100.0		100.9	101	77-117
1,1,1,2-Tetrachloroetha	100.0		104.7	105	79-113
1,1,2,2-Tetrachloroetha	100.0		103.6	104	67-126
Tetrachloroethene	100.0		100.7	101	77-115
Tetrahydrofuran	100.0		102.5	102	76-181
1,2,3-Trichlorobenzene	100.0		98.73	99	62-132
Toluene	100.0		97.33	97	77-115
1,1,1-Trichloroethane	100.0		105.1	105	63-122
1,1,2-Trichloroethane	100.0		99.99	100	69-117
1,1,2-trichloro-1,2,2-t	100.0		109.9	110	70-130
Trichloroethene	100.0		96.70	97	75-113
Trichlorofluoromethane	100.0		103.4	103	55-130
1,2,3-Trichloropropane	100.0		107.8	108	62-130
1,2,4-Trimethylbenzene	100.0		105.4	105	69-126
1,2,4-Trichlorobenzene	100.0		102.2	102	68-132
1,3,5-Trimethylbenzene	100.0		103.5	104	69-128

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

* Values outside of QC limits

COMMENTS:

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

777 321

Lab Name: ETC, INC.

Lab Prep Batch: V210121

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix Spike - Sample No.: 1012LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Vinyl Acetate	100.0		108.9	109	28-146
Vinyl Chloride	100.0		99.42	99	65-134
Xylene-mp	200.0		210.0	105	77-115
Xylene-o	100.0		104.8	105	77-115

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: 1 out of 88 outside limits

COMMENTS:

FORM 3
WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

777 322

Lab Name: ETC, INC.

Lab Prep Batch: V210121

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix Spike - Sample No.: 11013012

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Benzene	100.0	0.000	103.1	103	72-124
Chlorobenzene	100.0	0.000	90.36	90	77-112
1,1-Dichloroethene	100.0	31.45	142.9	111	69-121
Toluene	100.0	0.000	96.94	97	77-115
Trichloroethene	100.0	9.88	98.49	89	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
Benzene	100.0	115.5	116	12	20	72-124
Chlorobenzene	100.0	107.0	107	17	20	77-112
1,1-Dichloroethene	100.0	157.5	126*	13	20	69-121
Toluene	100.0	108.2	108	11	20	77-115
Trichloroethene	100.0	111.5	102	14	20	75-113

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: 1 out of 10 outside limits

COMMENTS:

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

777 323

CLIENT SAMPLE NO.

1012LB2

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Lab File ID: 2303030

Lab Prep Batch: V210122

Date Analyzed: 10/13/01

Time Analyzed: 0222

GC Column: ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC2

Lab Sample ID: 1012LB2

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	1012LCS2	1012LCS2	2201025LCS	2349
02	1012LCS22	1012LCS22	2203027LCS	0051
03	11013020	11013020	2401031	0253
04	11013021	11013021	2501032	0324
05	11013022	11013022	2601033	0354
06	11013023	11013023	2701034	0425
07	11013024	11013024	2801035	0456
08	11013025	11013025	2901036	0527
09	11013026	11013026	3001037	0557
10	11013027	11013027	3101038	0628
11	11013028	11013028	3201039	0659
12	11013029	11013029	3301040	0729
13	11013030	11013030	3401041	0800
14	11013031	11013031	3501042	0831
15	11013032	11013032	3601043	0901
16	11013033	11013033	3701044	0932
17	11013034	11013034	3801045	1002
18	11013035	11013035	3901046	1033
19	11013024MS	0000	4001047	1104
20	11013024MSD	0000	4101048	1134
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

777 324

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET

1012LB2

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Prep Batch: V210122

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 2303030

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/13/01

GC Column: ID: 2.00 (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

67-64-1-----	Acetone	20.00	U
75-05-8-----	Acetonitrile	20.00	U
107-02-8-----	Acrolein	20.00	U
107-13-1-----	Acrylonitrile	20.00	U
107-05-1-----	Allyl chloride	1.00	U
71-43-2-----	Benzene	1.00	U
108-86-1-----	Bromobenzene	1.00	U
74-97-5-----	Bromochloromethane	1.00	U
75-27-4-----	Bromodichloromethane	1.00	U
75-25-2-----	Bromoform	1.00	U
78-93-3-----	2-Butanone	20.00	U
74-83-9-----	Bromomethane	1.00	U
104-51-8-----	n-Butylbenzene	1.00	U
135-98-8-----	sec-Butylbenzene	1.00	U
98-06-6-----	tert-Butylbenzene	1.00	U
75-15-0-----	Carbon Disulfide	1.00	U
56-23-5-----	Carbon Tetrachloride	1.00	U
108-90-7-----	Chlorobenzene	1.00	U
124-48-1-----	Chlorodibromomethane	1.00	U
75-00-3-----	Chloroethane	1.00	U
110-75-8-----	2-Chloroethyl vinyl ether	20.00	U
67-66-3-----	Chloroform	1.00	U
74-87-3-----	Chloromethane	1.00	U
126-99-8-----	Chloroprene	1.00	U
95-49-8-----	2-Chlorotoluene	1.00	U
106-43-4-----	4-Chlorotoluene	1.00	U
96-12-8-----	1,2-Dibromo-3-chloropropane	1.00	U
106-93-4-----	1,2-Dibromoethane	1.00	U
74-95-3-----	Dibromomethane	1.00	U
95-50-1-----	1,2-Dichlorobenzene	1.00	U
541-73-1-----	1,3-Dichlorobenzene	1.00	U
106-46-7-----	1,4-Dichlorobenzene	1.00	U
1476-11-5-----	cis-1,4-Dichloro-2-butene	1.00	U

FORM I VOA-GCMS

000108

777 325

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

1012LB2

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Prep Batch: V210122

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 2303030

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/13/01

GC Column: ID: 2.00 (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

110-57-6-----	trans-1,4-Dichloro-2-butene	1.00	U
75-71-8-----	Dichlorodifluoromethane	1.00	U
75-34-3-----	1,1-Dichloroethane	1.00	U
107-06-2-----	1,2-Dichloroethane	1.00	U
75-35-4-----	1,1-Dichloroethene	1.00	U
156-59-2-----	cis-1,2-Dichloroethene	1.00	U
156-60-5-----	trans-1,2-Dichloroethene	1.00	U
78-87-5-----	1,2-Dichloropropane	1.00	U
142-28-9-----	1,3-Dichloropropane	1.00	U
594-20-7-----	2,2-Dichloropropane	1.00	U
563-58-6-----	1,1-Dichloropropene	1.00	U
10061-01-5-----	cis-1,3-Dichloropropene	1.00	U
10061-02-6-----	trans-1,3-Dichloropropene	1.00	U
108-20-3-----	Di isopropyl ether	5.00	U
123-91-1-----	1,4-Dioxane	100.0	U
141-78-6-----	Ethyl Acetate	5.00	U
100-41-4-----	Ethylbenzene	1.00	U
97-63-2-----	Ethyl methacrylate	1.00	U
110-00-9-----	Furan	1.00	U
87-68-3-----	Hexachlorobutadiene	1.00	U
110-54-3-----	Hexane	1.00	U
591-78-6-----	2-Hexanone	5.00	U
74-88-4-----	Iodomethane	1.00	U
78-83-1-----	Isobutyl Alcohol	100.0	U
98-82-8-----	Isopropylbenzene	1.00	U
99-87-6-----	4-Isopropyltoluene	1.00	U
126-98-7-----	Methacrylonitrile	10.00	U
75-09-2-----	Methylene Chloride	5.00	U
80-62-6-----	Methyl methacrylate	1.00	U
108-10-1-----	4-Methyl-2-Pentanone	5.00	U
1634-04-4-----	Methyl-tertbutyl-Ether	5.00	U
91-20-3-----	Naphthalene	1.00	U
107-12-0-----	Propionitrile	10.00	U

FORM I VOA-GCMS

000109

777 326

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

1012LB2

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Prep Batch: V210122

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 2303030

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/13/01

GC Column: ID: 2.00 (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

109-60-4-----	n-Propyl Acetate	1.00	U
103-65-1-----	n-Propylbenzene	1.00	U
100-42-5-----	Styrene	1.00	U
630-20-6-----	1,1,1,2-Tetrachloroethane	1.00	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1.00	U
127-18-4-----	Tetrachloroethene	1.00	U
109-99-9-----	Tetrahydrofuran	1.00	U
87-61-6-----	1,2,3-Trichlorobenzene	1.00	U
108-88-3-----	Toluene	2.00	U
71-55-6-----	1,1,1-Trichloroethane	1.00	U
79-00-5-----	1,1,2-Trichloroethane	1.00	U
76-13-1-----	1,1,2-trichloro-1,2,2-triflu	1.00	U
79-01-6-----	Trichloroethene	1.00	U
75-69-4-----	Trichlorofluoromethane	1.00	U
96-18-4-----	1,2,3-Trichloropropane	1.00	U
95-63-6-----	1,2,4-Trimethylbenzene	1.00	U
120-82-1-----	1,2,4-Trichlorobenzene	1.00	U
108-67-8-----	1,3,5-Trimethylbenzene	1.00	U
108-05-4-----	Vinyl Acetate	20.00	U
75-01-4-----	Vinyl Chloride	1.00	U
108-38-3-----	Xylene-mp	1.00	U
95-47-6-----	Xylene-o	1.00	U

FORM I VOA-GCMS

000110

777 327 VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FORM 1

CLIENT SAMPLE NO.

1012LB2

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix: (soil/water) WATER

Lab Sample ID: 1012LB2

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 2303030

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/13/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I VOA-GCMS-TIC

000111

777 328

Lab Name: ETC, INC.

Lab Prep Batch: V210122

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix Spike - Sample No.: 1012LCS2

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Acetone	100.0		107.2	107	59-151
Acetonitrile	1000		1620	162*	57-143
Acrolein	100.0		121.1	121	59-134
Acrylonitrile	100.0		146.3	146	60-146
Allyl chloride	100.0		157.6	158*	74-120
Benzene	100.0		112.2	112	72-124
Bromobenzene	100.0		100.1	100	77-120
Bromochloromethane	100.0		105.9	106	74-120
Bromodichloromethane	100.0		110.7	111	68-119
Bromoform	100.0		98.39	98	66-136
2-Butanone	100.0		97.52	98	55-151
Bromomethane	100.0		108.4	108	40-134
n-Butylbenzene	100.0		100.2	100	69-129
sec-Butylbenzene	100.0		102.5	102	72-127
tert-Butylbenzene	100.0		101.4	101	73-126
Carbon Disulfide	100.0		86.56	86	60-133
Carbon Tetrachloride	100.0		109.4	109	64-123
Chlorobenzene	100.0		99.20	99	77-112
Chlorodibromomethane	100.0		98.56	98	72-118
Chloroethane	100.0		118.9	119	64-142
2-Chloroethyl vinyl eth	100.0		30.62	31	22-165
Chloroform	100.0		116.7	117*	70-115
Chloromethane	100.0		103.0	103	58-139
Chloroprene	100.0		114.0	114	73-118
2-Chlorotoluene	100.0		102.8	103	65-132
4-Chlorotoluene	100.0		102.8	103	67-127
1,2-Dibromo-3-chloropro	100.0		95.29	95	56-134
1,2-Dibromoethane	100.0		98.78	99	74-118

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

* Values outside of QC limits

COMMENTS:

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

777 329

Lab Name: ETC, INC.

Lab Prep Batch: V210122

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix Spike - Sample No.: 1012LCS2

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Dibromomethane	100.0		103.2	103	75-114
1,2-Dichlorobenzene	100.0		96.86	97	80-113
1,3-Dichlorobenzene	100.0		99.05	99	77-119
1,4-Dichlorobenzene	100.0		94.82	95	78-116
cis-1,4-Dichloro-2-bute	100.0		100.4	100	70-130
trans-1,4-Dichloro-2-bu	100.0		95.20	95	62-138
Dichlorodifluoromethane	100.0		98.21	98	48-145
1,1-Dichloroethane	100.0		109.7	110	76-118
1,2-Dichloroethane	100.0		113.7	114	62-124
1,1-Dichloroethene	100.0		122.1	122*	69-121
cis-1,2-Dichloroethene	100.0		111.7	112	76-114
trans-1,2-Dichloroethen	100.0		94.90	95	72-121
1,2-Dichloropropane	100.0		108.8	109	64-133
1,3-Dichloropropane	100.0		105.5	106	63-128
2,2-Dichloropropane	100.0		106.4	106	67-132
1,1-Dichloropropene	100.0		110.2	110	76-117
cis-1,3-Dichloropropene	100.0		103.4	103	77-120
trans-1,3-Dichloroprope	100.0		101.7	102	73-124
Di isopropyl ether	100.0		119.4	119	62-160
1,4-Dioxane	2000		1856	93	56-131
Ethyl Acetate	100.0		104.2	104	52-151
Ethylbenzene	100.0		105.1	105	77-111
Ethyl methacrylate	200.0		189.0	94	57-140
Furan	100.0		212.7	213*	52-124
Hexachlorobutadiene	100.0		79.95	80	69-137
Hexane	100.0		119.6	120	70-130
2-Hexanone	100.0		95.04	95	53-144
Iodomethane	100.0		124.3	124	51-153

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

* Values outside of QC limits

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: V210122

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix Spike - Sample No.: 1012LCS2

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	2000		1991	100	60-134
Isopropylbenzene	100.0		105.3	105	74-125
4-Isopropyltoluene	100.0		101.7	102	72-127
Methacrylonitrile	1000		1148	115	70-125
Methylene Chloride	100.0		153.2	153*	76-115
Methyl methacrylate	200.0		196.8	98	57-147
4-Methyl-2-Pentanone	100.0		98.90	99	42-144
Methyl-tertbutyl-Ether	100.0		100.8	101	62-122
Naphthalene	100.0		88.81	89	53-124
Propionitrile	1000		985.6	98	58-139
n-Propyl Acetate	100.0		151.9	152	88-170
n-Propylbenzene	100.0		103.2	103	75-125
Styrene	100.0		100.7	101	77-117
1,1,1,2-Tetrachloroetha	100.0		105.6	106	79-113
1,1,2,2-Tetrachloroetha	100.0		103.4	103	67-126
Tetrachloroethene	100.0		97.45	97	77-115
Tetrahydrofuran	100.0		95.15	95	76-181
1,2,3-Trichlorobenzene	100.0		86.37	86	62-132
Toluene	100.0		104.7	105	77-115
1,1,1-Trichloroethane	100.0		111.4	111	63-122
1,1,2-Trichloroethane	100.0		102.6	103	69-117
1,1,2-trichloro-1,2,2-t	100.0		137.5	138*	70-130
Trichloroethene	100.0		96.42	96	75-113
Trichlorofluoromethane	100.0		113.7	114	55-130
1,2,3-Trichloropropane	100.0		101.4	101	62-130
1,2,4-Trimethylbenzene	100.0		101.3	101	69-126
1,2,4-Trichlorobenzene	100.0		85.38	85	68-132
1,3,5-Trimethylbenzene	100.0		105.3	105	69-128

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

* Values outside of QC limits

COMMENTS:

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

777 331

Lab Name: ETC, INC.

Lab Prep Batch: V210122

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix Spike - Sample No.: 1012LCS2

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Vinyl Acetate	100.0		99.28	99	28-146
Vinyl Chloride	100.0		108.0	108	65-134
Xylene-mp	200.0		207.2	104	77-115
Xylene-o	100.0		105.8	106	77-115

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: 7 out of 88 outside limits

COMMENTS:

777 332

Lab Name: ETC, INC.

Lab Prep Batch: V210122

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix Spike - Sample No.: 1012LCS22

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
1,1-Dichloroethene	100.0		115.3	115	69-121

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 1 outside limits

COMMENTS: _____

FORM 3
WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

777 333

Lab Name: ETC, INC.

Lab Prep Batch: V210122

Lab Code:

Case No.:

SAS No.:

SDG No.: 110130

Matrix Spike - Sample No.: 11013024

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Benzene	100.0	0.000	107.2	107	72-124
Chlorobenzene	100.0	0.000	94.83	95	77-112
1,1-Dichloroethene	100.0	0.000	118.2	118	69-121
Toluene	100.0	2.70	99.98	97	77-115
Trichloroethene	100.0	0.000	88.73	89	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
Benzene	100.0	110.3	110	3	20	72-124
Chlorobenzene	100.0	97.95	98	3	20	77-112
1,1-Dichloroethene	100.0	122.0	122*	3	20	69-121
Toluene	100.0	101.0	98	1	20	77-115
Trichloroethene	100.0	89.80	90	1	20	75-113

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: 1 out of 10 outside limits

COMMENTS:

FORM III VOA-GCMS

000117



ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road • Memphis, TN 38111 • (901) 327-2750 • FAX (901) 327-6334

Founded 1972

October 26, 2001

Mr. Kraig Smith
Sverdrup/Jacobs Eng.
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Ref: Analytical Testing
ETC Order # 0110528
Project Description Memphis Depot

Project Number C5X51106

The above referenced project has been analyzed per your instructions. The analyses were performed in our laboratory in accordance with Standard Methods, The Solid Waste Manual SW-846, EPA Methods for Chemical Analysis of Water and Wastes and/or 40 CFR part 136.

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, instrumentation maintenance and calibration were performed in accordance with guidelines established by the USEPA.

The results are shown on the attached analysis sheet(s).

Please do not hesitate to contact our office if you have any questions.

Sincerely,

Nathan A. Pera, IV
Chief Executive Officer

rt
Attachment

SVE_MHDDMTA

Certifications

Tennessee #TN02027
Arkansas #40730
Kentucky #90047
North Carolina #415
South Carolina #84002002

Mississippi
Oklahoma #9311
Virginia #00106
Washington #C248
US Army Corps of Engineers

USDA #S-46279

Environmental Testing & Consulting, Inc.
Data Qualifiers for Organic Reporting

Within the attached report, some analytical data may be reported as "Qualified Data" as indicated by a "Data Qualifier" next to the result. This table summarizes the possible "Data Qualifiers" that may be associated with this report. These qualifiers do not apply for TIC reports.

Q	Surrogate Recovery Outside QC Limits
J	Estimated Value. Presence of the compound was confirmed but less than the reported detection limit.
E	Concentration exceeds the established method calibration range but is within the working range of the instrument.
B	Analyte detected in the associated Method Blank.
U	Reported result was unconfirmed. Refer to Case Narrative.
C	Result reported from GC/MS confirmation analysis.
M	Result reported represents a minimum value. Refer to Case Narrative.
NC	Result reported from Primary Column. Result did not confirm.
*	QC Data (percent recovery/RPD for a particular analyte was outside QC Limits)

777 336

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ANALYTICAL SUMMARY/CROSS REFERENCE TABLE

Client Name **Sverdrup/Jacobs Eng.**
Site ID **Memphis Depot**

ETC Order #0110528
C5X51106

<u>ETC Sample ID</u>	<u>Field ID</u>	<u>Matrix</u>	<u>Method</u>	<u>Method Description</u>
011052801	RW-1	AQUEOUS	8260B	GC/MS Volatile Organics
011052802	RW-1A	AQUEOUS	8260B	GC/MS Volatile Organics
011052803	RW-1B	AQUEOUS	8260B	GC/MS Volatile Organics
011052804	RW-2	AQUEOUS	8260B	GC/MS Volatile Organics
011052805	RW-3	AQUEOUS	8260B	GC/MS Volatile Organics
011052806	RW-4	AQUEOUS	8260B	GC/MS Volatile Organics
011052807	RW-5	AQUEOUS	8260B	GC/MS Volatile Organics
011052808	RW-50	AQUEOUS	8260B	GC/MS Volatile Organics
011052809	RW-6	AQUEOUS	8260B	GC/MS Volatile Organics
011052810	RW-7	AQUEOUS	8260B	GC/MS Volatile Organics
011052811	RW-8	AQUEOUS	8260B	GC/MS Volatile Organics
011052812	RW-9	AQUEOUS	8260B	GC/MS Volatile Organics
011052813	Trip Blank	AQUEOUS	8260B	GC/MS Volatile Organics

Environmental Testing & Consulting, Inc.

**Login
Chain-of-Custody**



CHAIN OF CUSTODY RECORD

Environmental Testing & Consulting, Inc.
2924 Walnut Grove Rd.
Memphis, TN 38111

(901)327-2750 FAX (901)327-6334

ETC Work Order : 0110528

000004

Company Name JACOBS ENG		Phone # : 615 3056437		Fax Results															
Project/Site MEMPHIS DEPOT		Fax # : 615 833 8328		RUSH															
Project # CSXS1106		FID # : PO # :		Ice ☒															
Project Manager/Contact KRISTIN SMITH		Matrix 1 Wastewater 2 Aqueous 3 Soil/Sediment		4 Sludge 5 Oil/Solvent 6 Other															
# of cont.	Sample ID/ Number	Depth	Sample Date	Sample Time	Matrix	Type	Grab/Comp	Analysis Requested (Note special detection limits or methods)				Comments							
3	RW-1		10/18/01	1520	2		624B	X											
	RW-1A			1520				X											
	RW-1B			1515				X											
	RW-2			1510				X											
	RW-3			1505				X											
	RW-4			1500				X											
	RW-5			1455				X											
	RW-50			1455				X											
	RW-6			1450				X											
	RW-7			1440				X											
	RW-8			1435				X											
Sampled By Kristin Smith		Method of Shipment Hard Poliver		Blank/Cooler Temp 44°C		Remarks Standard T-A-T													
RELINQUISHED BY (sign) Kristin Smith		DATE 12/1/01		TIME 0800		RECEIVED BY (sign) [Signature]		DATE 12/1/01		TIME 0800		Sample Delivery Group ID							
RELINQUISHED BY (sign)		DATE		TIME		RECEIVED BY (sign)		DATE		TIME									
RELINQUISHED BY (sign)		DATE		TIME		RECEIVED BY (sign)		DATE		TIME									

Distribution : Original and Yellow accompany samples to the laboratory. Pink copy for Field Crew.
Original copy returned with results. Yellow copy for ETC, Inc. files.

ETC Work Order : 0110528

CHAIN OF CUSTODY RECORD

000005

[illegible]

Distribution : Original and Yellow accompany samples to the laboratory. Pink copy for Field W. Original copy returned with results. Yellow copy for ETC, Inc. files.

Environmental Testing & Consulting, Inc.
Cooler Receipt FormDate Received 10/19/01
Date/Time Checked In 10/19/01-08:00
Carrier/Bill# Hand-DeliveredLIMS# 0110-528
Project Memphis Depot
By Rebekah Barger

1. Custody Seals?/Location-	No
2. Samples are non-radioactive?	Yes
3. Chain of Custody in plastic?	Yes
4. Temperature at receipt (ok = 4 ± 2 °C) <40C	OK
5. Ice & Packing- Ice, Box	Yes
6. Chain of Custody filled out properly?	Yes
7. All containers in separate bags?	No
8. Sample containers intact?	Yes
9. Label(s) complete and in good condition?	Yes
10. Label(s) agree with Chain of Custody?	Yes
11. Correct containers used?	Yes
12. Sufficient sample?	Yes
13. VOA vials bubble-free (H ₂ O) or no head space (soil)?	Yes
14. Preservation OK? TM pH____; TRPH pH____; TOC pH____; TOX pH____; CN pH____; N/P pH____; Other pH____	Yes

Comments _____

*Validated Date and Time of Sample Receipt (VDTSR)

Environmental Testing & Consulting, Inc.

Sample Reports

777 342

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Depot**

FID #

Date Arrived **10/19/01**
 ETC Order Number **0110528**

ETC Lab ID **0110528-01**
 Field ID : **RW-1**

Matrix : **AQUEOUS**
 Sample Date : **10/18/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/24/01	LS	8260B 5030B
QC Batch	5497					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	5.72	ug/L	1.00			
Carbon Tetrachloride	11.4	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	33.4	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	0.66J	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	2.76	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	28.6	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	0.49J	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	96	84 115
S2 - Toluene-d8	92	69 133
S3 - 4-Bromofluorobenzene	99	80 111
S4 - 1,2-Dichloroethane-d4	97	58 131

000008

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

** - Method Detection Limit

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 343

CLIENT SAMPLE NO.

11052801

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110528

Matrix: (soil/water) WATER

Lab Sample ID: 11052801

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0701008

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/24/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
13. _____				
14. _____				
15. _____				
16. _____				
17. _____				
18. _____				
19. _____				
20. _____				
21. _____				
22. _____				
23. _____				
24. _____				
25. _____				
26. _____				
27. _____				
28. _____				
29. _____				
30. _____				

777 344

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Depot**

FID #

Date Arrived **10/19/01**
 ETC Order Number **0110528**

ETC Lab ID **0110528-02**
 Field ID : **RW-1A**

Matrix : **AQUEOUS**
 Sample Date : **10/18/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/24/01	LS	8260B 5030B
QC Batch	5497					
Dilution Factor	10					
Acetone	ND	ug/L	200			
Benzene	ND	ug/L	10.0			
Bromodichloromethane	ND	ug/L	10.0			
Bromoform	ND	ug/L	10.0			
Bromomethane	ND	ug/L	10.0			
2-Butanone (MEK)	ND	ug/L	200			
Carbon Disulfide	86.8	ug/L	10.0			
Carbon Tetrachloride	43.8	ug/L	10.0			
Chlorobenzene	ND	ug/L	10.0			
Chlorodibromomethane	ND	ug/L	10.0			
Chloroethane	ND	ug/L	10.0			
Chloroform	889	ug/L	10.0			
Chloromethane	ND	ug/L	10.0			
1,1-Dichloroethane	ND	ug/L	10.0			
1,2-Dichloroethane	ND	ug/L	10.0			
1,1-Dichloroethene	ND	ug/L	10.0			
trans-1,2-Dichloroethene	4.80J	ug/L	10.0			
1,2-Dichloropropane	ND	ug/L	10.0			
cis-1,3-Dichloropropene	ND	ug/L	10.0			
trans-1,3-Dichloropropene	ND	ug/L	10.0			
Ethylbenzene	ND	ug/L	10.0			
2-Hexanone (MBK)	ND	ug/L	50.0			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0			
Methylene Chloride	ND	ug/L	50.0			
Styrene	ND	ug/L	10.0			
1,1,2,2-Tetrachloroethane	226	ug/L	10.0			
Tetrachloroethene	11.5	ug/L	10.0			
Toluene	ND	ug/L	20.0			
1,1,1-Trichloroethane	ND	ug/L	10.0			
1,1,2-Trichloroethane	5.05J	ug/L	10.0			
Trichloroethene	265	ug/L	10.0			
Vinyl Acetate	ND	ug/L	200			
Vinyl Chloride	ND	ug/L	10.0			
Xylenes-m,p	ND	ug/L	10.0			
Xylenes-o	ND	ug/L	10.0			
cis-1,2-Dichloroethene	12.6J	ug/L	10.0			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	96	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	99	80 111
S4 - 1,2-Dichloroethane-d4	96	58 131

000010



Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

** - Method Detection Limit

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 345 CLIENT SAMPLE NO.

11052802

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110528

Matrix: (soil/water) WATER

Lab Sample ID: 11052802

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0801009

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/24/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 10.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____
6. _____	_____	_____	_____	_____
7. _____	_____	_____	_____	_____
8. _____	_____	_____	_____	_____
9. _____	_____	_____	_____	_____
10. _____	_____	_____	_____	_____
11. _____	_____	_____	_____	_____
12. _____	_____	_____	_____	_____
13. _____	_____	_____	_____	_____
14. _____	_____	_____	_____	_____
15. _____	_____	_____	_____	_____
16. _____	_____	_____	_____	_____
17. _____	_____	_____	_____	_____
18. _____	_____	_____	_____	_____
19. _____	_____	_____	_____	_____
20. _____	_____	_____	_____	_____
21. _____	_____	_____	_____	_____
22. _____	_____	_____	_____	_____
23. _____	_____	_____	_____	_____
24. _____	_____	_____	_____	_____
25. _____	_____	_____	_____	_____
26. _____	_____	_____	_____	_____
27. _____	_____	_____	_____	_____
28. _____	_____	_____	_____	_____
29. _____	_____	_____	_____	_____
30. _____	_____	_____	_____	_____

777 346

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Depot**

FID #

Date Arrived **10/19/01**
 ETC Order Number **0110528**

ETC Lab ID **0110528-03**
 Field ID : **RW-1B**

Matrix : **AQUEOUS**
 Sample Date : **10/18/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/24/01	LS	8260B 5030B
QC Batch	5497					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	18.5	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	29.8	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	1.76	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	1.30	ug/L	1.00			
Tetrachloroethene	2.01	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	0.43J	ug/L	1.00			
Trichloroethene	25.6	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	9.46	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	94	84 115
S2 - Toluene-d8	93	69 133
S3 - 4-Bromofluorobenzene	95	80 111
S4 - 1,2-Dichloroethane-d4	94	58 131

000012

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

** - Method Detection Limit

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 347 CLIENT SAMPLE NO.

11052803

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110528

Matrix: (soil/water) WATER

Lab Sample ID: 11052803

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0901010

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/24/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
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29.				
30.				

FORM I VOA-GCMS-TIC

000013

777 348

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Depot**

FID #

Date Arrived **10/19/01**
 ETC Order Number **0110528**

ETC Lab ID **0110528-04**
 Field ID : **RW-2**

Matrix : **AQUEOUS**
 Sample Date : **10/18/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/24/01	LS	8260B 5030B
QC Batch	5497					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	14.1	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	24.9	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	4.00	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	60.9	ug/L	1.00			
Tetrachloroethene	1.35	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	2.16	ug/L	1.00			
Trichloroethene	53.3	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	59.4	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	97	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	97	80 111
S4 - 1,2-Dichloroethane-d4	97	58 131

000014

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

** - Method Detection Limit

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 349

CLIENT SAMPLE NO.

11052804

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110528

Matrix: (soil/water) WATER

Lab Sample ID: 11052804

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1001011

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/24/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____
6. _____	_____	_____	_____	_____
7. _____	_____	_____	_____	_____
8. _____	_____	_____	_____	_____
9. _____	_____	_____	_____	_____
10. _____	_____	_____	_____	_____
11. _____	_____	_____	_____	_____
12. _____	_____	_____	_____	_____
13. _____	_____	_____	_____	_____
14. _____	_____	_____	_____	_____
15. _____	_____	_____	_____	_____
16. _____	_____	_____	_____	_____
17. _____	_____	_____	_____	_____
18. _____	_____	_____	_____	_____
19. _____	_____	_____	_____	_____
20. _____	_____	_____	_____	_____
21. _____	_____	_____	_____	_____
22. _____	_____	_____	_____	_____
23. _____	_____	_____	_____	_____
24. _____	_____	_____	_____	_____
25. _____	_____	_____	_____	_____
26. _____	_____	_____	_____	_____
27. _____	_____	_____	_____	_____
28. _____	_____	_____	_____	_____
29. _____	_____	_____	_____	_____
30. _____	_____	_____	_____	_____

777 350

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Depot**

FID #

Date Arrived **10/19/01**
 ETC Order Number **0110528**

ETC Lab ID **0110528-05**
 Field ID : **RW-3**

Matrix : **AQUEOUS**
 Sample Date : **10/18/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/24/01	LS	8260B 5030B
QC Batch	5497					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	10.4	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	3.19	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	2.09	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	22.1	ug/L	1.00			
Tetrachloroethene	1.09	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	0.90J	ug/L	1.00			
Trichloroethene	75.8	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	18.5	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	96	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	96	80 111
S4 - 1,2-Dichloroethane-d4	98	58 131

000016

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

** - Method Detection Limit

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 351 CLIENT SAMPLE NO.

11052805

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110528

Matrix: (soil/water) WATER

Lab Sample ID: 11052805

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1101012

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/24/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____
6. _____	_____	_____	_____	_____
7. _____	_____	_____	_____	_____
8. _____	_____	_____	_____	_____
9. _____	_____	_____	_____	_____
10. _____	_____	_____	_____	_____
11. _____	_____	_____	_____	_____
12. _____	_____	_____	_____	_____
13. _____	_____	_____	_____	_____
14. _____	_____	_____	_____	_____
15. _____	_____	_____	_____	_____
16. _____	_____	_____	_____	_____
17. _____	_____	_____	_____	_____
18. _____	_____	_____	_____	_____
19. _____	_____	_____	_____	_____
20. _____	_____	_____	_____	_____
21. _____	_____	_____	_____	_____
22. _____	_____	_____	_____	_____
23. _____	_____	_____	_____	_____
24. _____	_____	_____	_____	_____
25. _____	_____	_____	_____	_____
26. _____	_____	_____	_____	_____
27. _____	_____	_____	_____	_____
28. _____	_____	_____	_____	_____
29. _____	_____	_____	_____	_____
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777 352

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name

Sverdrup/Jacobs Eng.
 Memphis Depot, Dunn Field
 3354 Perimeter Hill Drive,
 Suite 310
 Nashville, TN 37211

Site ID Memphis Depot

FID #

Date Arrived 10/19/01

ETC Order Number 0110528

ETC Lab ID 0110528-06

Field ID : RW-4

Matrix : AQUEOUS

Sample Date : 10/18/01

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/24/01	LS	8260B 5030B
QC Batch	5497					
Dilution Factor	10					
Acetone	ND	ug/L	200			
Benzene	ND	ug/L	10.0			
Bromodichloromethane	ND	ug/L	10.0			
Bromoform	ND	ug/L	10.0			
Bromomethane	ND	ug/L	10.0			
2-Butanone (MEK)	ND	ug/L	200			
Carbon Disulfide	51.1	ug/L	10.0			
Carbon Tetrachloride	3.12J	ug/L	10.0			
Chlorobenzene	ND	ug/L	10.0			
Chlorodibromomethane	ND	ug/L	10.0			
Chloroethane	ND	ug/L	10.0			
Chloroform	ND	ug/L	10.0			
Chloromethane	ND	ug/L	10.0			
1,1-Dichloroethane	ND	ug/L	10.0			
1,2-Dichloroethane	ND	ug/L	10.0			
1,1-Dichloroethene	ND	ug/L	10.0			
trans-1,2-Dichloroethene	7.44J	ug/L	10.0			
1,2-Dichloropropane	ND	ug/L	10.0			
cis-1,3-Dichloropropene	ND	ug/L	10.0			
trans-1,3-Dichloropropene	ND	ug/L	10.0			
Ethylbenzene	ND	ug/L	10.0			
2-Hexanone (MBK)	ND	ug/L	50.0			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0			
Methylene Chloride	ND	ug/L	50.0			
Styrene	ND	ug/L	10.0			
1,1,2,2-Tetrachloroethane	ND	ug/L	10.0			
Tetrachloroethene	7.67	ug/L	10.0			
Toluene	ND	ug/L	20.0			
1,1,1-Trichloroethane	ND	ug/L	10.0			
1,1,2-Trichloroethane	ND	ug/L	10.0			
Trichloroethene	717	ug/L	10.0			
Vinyl Acetate	ND	ug/L	200			
Vinyl Chloride	ND	ug/L	10.0			
Xylenes-m,p	ND	ug/L	10.0			
Xylenes-o	ND	ug/L	10.0			
cis-1,2-Dichloroethene	29.0	ug/L	10.0			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	95	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	99	80 111
S4 - 1,2-Dichloroethane-d4	98	58 131

000018

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

** - Method Detection Limit

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 353

CLIENT SAMPLE NO.

11052806

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110528

Matrix: (soil/water) WATER

Lab Sample ID: 11052806

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1201013

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/24/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 10.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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777 354

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Depot**

FID #

Date Arrived **10/19/01**
 ETC Order Number **0110528**

ETC Lab ID **0110528-07**
 Field ID : **RW-5**

Matrix : **AQUEOUS**
 Sample Date : **10/18/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/24/01	LS	8260B 5030B
QC Batch	5497					
Dilution Factor	20					
Acetone	ND	ug/L	400			
Benzene	ND	ug/L	20.0			
Bromodichloromethane	ND	ug/L	20.0			
Bromoform	ND	ug/L	20.0			
Bromomethane	ND	ug/L	20.0			
2-Butanone (MEK)	ND	ug/L	400			
Carbon Disulfide	186	ug/L	20.0			
Carbon Tetrachloride	ND	ug/L	20.0			
Chlorobenzene	ND	ug/L	20.0			
Chlorodibromomethane	ND	ug/L	20.0			
Chloroethane	ND	ug/L	20.0			
Chloroform	ND	ug/L	20.0			
Chloromethane	ND	ug/L	20.0			
1,1-Dichloroethane	ND	ug/L	20.0			
1,2-Dichloroethane	ND	ug/L	20.0			
1,1-Dichloroethene	ND	ug/L	20.0			
trans-1,2-Dichloroethene	9.28J	ug/L	20.0			
1,2-Dichloropropane	ND	ug/L	20.0			
cis-1,3-Dichloropropene	ND	ug/L	20.0			
trans-1,3-Dichloropropene	ND	ug/L	20.0			
Ethylbenzene	ND	ug/L	20.0			
2-Hexanone (MBK)	ND	ug/L	100			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100			
Methylene Chloride	ND	ug/L	100			
Styrene	ND	ug/L	20.0			
1,1,2,2-Tetrachloroethane	1,710	ug/L	20.0			
Tetrachloroethene	6.88J	ug/L	20.0			
Toluene	ND	ug/L	40.0			
1,1,1-Trichloroethane	ND	ug/L	20.0			
1,1,2-Trichloroethane	ND	ug/L	20.0			
Trichloroethene	757	ug/L	20.0			
Vinyl Acetate	ND	ug/L	400			
Vinyl Chloride	ND	ug/L	20.0			
Xylenes-m,p	ND	ug/L	20.0			
Xylenes-o	ND	ug/L	20.0			
cis-1,2-Dichloroethene	32.8	ug/L	20.0			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	95	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	98	80 111
S4 - 1,2-Dichloroethane-d4	97	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

** - Method Detection Limit

000020

FORM 1 777 355
 VOA-GCMS ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

11052807

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110528

Matrix: (soil/water) WATER

Lab Sample ID: 11052807

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1301014

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/24/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 20.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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777 356

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Depot**

FID #

Date Arrived **10/19/01**
 ETC Order Number **0110528**

ETC Lab ID **0110528-08**
 Field ID : **RW-50**

Matrix : **AQUEOUS**
 Sample Date : **10/18/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/24/01	LS	8260B 5030B
QC Batch	5497					
Dilution Factor	20					
Acetone	ND	ug/L	400			
Benzene	ND	ug/L	20.0			
Bromodichloromethane	ND	ug/L	20.0			
Bromoform	ND	ug/L	20.0			
Bromomethane	ND	ug/L	20.0			
2-Butanone (MEK)	ND	ug/L	400			
Carbon Disulfide	253	ug/L	20.0			
Carbon Tetrachloride	ND	ug/L	20.0			
Chlorobenzene	ND	ug/L	20.0			
Chlorodibromomethane	ND	ug/L	20.0			
Chloroethane	ND	ug/L	20.0			
Chloroform	ND	ug/L	20.0			
Chloromethane	ND	ug/L	20.0			
1,1-Dichloroethane	ND	ug/L	20.0			
1,2-Dichloroethane	ND	ug/L	20.0			
1,1-Dichloroethene	ND	ug/L	20.0			
trans-1,2-Dichloroethene	9.37J	ug/L	20.0			
1,2-Dichloropropane	ND	ug/L	20.0			
cis-1,3-Dichloropropene	ND	ug/L	20.0			
trans-1,3-Dichloropropene	ND	ug/L	20.0			
Ethylbenzene	ND	ug/L	20.0			
2-Hexanone (MBK)	ND	ug/L	100			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100			
Methylene Chloride	ND	ug/L	100			
Styrene	ND	ug/L	20.0			
1,1,2,2-Tetrachloroethane	1,740	ug/L	20.0			
Tetrachloroethene	6.81J	ug/L	20.0			
Toluene	ND	ug/L	40.0			
1,1,1-Trichloroethane	ND	ug/L	20.0			
1,1,2-Trichloroethane	ND	ug/L	20.0			
Trichloroethene	780	ug/L	20.0			
Vinyl Acetate	ND	ug/L	400			
Vinyl Chloride	ND	ug/L	20.0			
Xylenes-m,p	ND	ug/L	20.0			
Xylenes-o	ND	ug/L	20.0			
cis-1,2-Dichloroethene	35.2	ug/L	20.0			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	96	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	98	80 111
S4 - 1,2-Dichloroethane-d4	98	58 131

000022

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

** - Method Detection Limit

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 357

CLIENT SAMPLE NO.

11052808

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110528

Matrix: (soil/water) WATER

Lab Sample ID: 11052808

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1401015

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/24/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 20.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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777 358

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Depot**

FID #

Date Arrived **10/19/01**
 ETC Order Number **0110528**

ETC Lab ID **0110528-09**
 Field ID : **RW-6**

Matrix : **AQUEOUS**
 Sample Date : **10/18/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/24/01	LS	8260B 5030B
QC Batch	5497					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	293	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	2.63	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	20.4	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	34.5	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	6.64	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	98	84 115
S2 - Toluene-d8	96	69 133
S3 - 4-Bromofluorobenzene	98	80 111
S4 - 1,2-Dichloroethane-d4	102	58 131

000024

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

** - Method Detection Limit

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 359 CLIENT SAMPLE NO.

11052809

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110528

Matrix: (soil/water) WATER

Lab Sample ID: 11052809

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1501016

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/24/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 360

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Depot**

FID #

Date Arrived **10/19/01**
ETC Order Number **0110528**

ETC Lab ID **0110528-10**
Field ID : **RW-7**

Matrix : **AQUEOUS**
Sample Date : **10/18/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/24/01	LS	8260B 5030B
QC Batch	5497					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	3.41	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	13.2	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	66.1	ug/L	1.00			
Tetrachloroethene	6.17	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	1.18	ug/L	1.00			
Trichloroethene	73.5	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	58.1	ug/L	1.00			
Surrogate Standard	% Recovery		QC Limits			
S1 - Dibromofluoromethane	98		84 115			
S2 - Toluene-d8	95		69 133			
S3 - 4-Bromofluorobenzene	98		80 111			
S4 - 1,2-Dichloroethane-d4	101		58 131			

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

** - Method Detection Limit

000026

FORM 1 777 361
 VOA-GCMS ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

11052810

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110528

Matrix: (soil/water) WATER

Lab Sample ID: 11052810

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1601017

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/24/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____
6. _____	_____	_____	_____	_____
7. _____	_____	_____	_____	_____
8. _____	_____	_____	_____	_____
9. _____	_____	_____	_____	_____
10. _____	_____	_____	_____	_____
11. _____	_____	_____	_____	_____
12. _____	_____	_____	_____	_____
13. _____	_____	_____	_____	_____
14. _____	_____	_____	_____	_____
15. _____	_____	_____	_____	_____
16. _____	_____	_____	_____	_____
17. _____	_____	_____	_____	_____
18. _____	_____	_____	_____	_____
19. _____	_____	_____	_____	_____
20. _____	_____	_____	_____	_____
21. _____	_____	_____	_____	_____
22. _____	_____	_____	_____	_____
23. _____	_____	_____	_____	_____
24. _____	_____	_____	_____	_____
25. _____	_____	_____	_____	_____
26. _____	_____	_____	_____	_____
27. _____	_____	_____	_____	_____
28. _____	_____	_____	_____	_____
29. _____	_____	_____	_____	_____
30. _____	_____	_____	_____	_____

777 362

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name

Sverdrup/Jacobs Eng.
 Memphis Depot, Dunn Field
 3354 Perimeter Hill Drive,
 Suite 310
 Nashville, TN 37211

Site ID Memphis Depot

FID #

Date Arrived 10/19/01

ETC Order Number 0110528

ETC Lab ID 0110528-11

Field ID : RW-8

Matrix : AQUEOUS

Sample Date : 10/18/01

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/24/01	LS	8260B 5030B
QC Batch	5497					
Dilution Factor	5					
Acetone	ND	ug/L	100			
Benzene	ND	ug/L	5.00			
Bromodichloromethane	ND	ug/L	5.00			
Bromoform	ND	ug/L	5.00			
Bromomethane	ND	ug/L	5.00			
2-Butanone (MEK)	ND	ug/L	100			
Carbon Disulfide	ND	ug/L	5.00			
Carbon Tetrachloride	ND	ug/L	5.00			
Chlorobenzene	ND	ug/L	5.00			
Chlorodibromomethane	ND	ug/L	5.00			
Chloroethane	ND	ug/L	5.00			
Chloroform	14.0	ug/L	5.00			
Chloromethane	ND	ug/L	5.00			
1,1-Dichloroethane	ND	ug/L	5.00			
1,2-Dichloroethane	ND	ug/L	5.00			
1,1-Dichloroethene	9.83	ug/L	5.00			
trans-1,2-Dichloroethene	23.7	ug/L	5.00			
1,2-Dichloropropane	ND	ug/L	5.00			
cis-1,3-Dichloropropene	ND	ug/L	5.00			
trans-1,3-Dichloropropene	ND	ug/L	5.00			
Ethylbenzene	ND	ug/L	5.00			
2-Hexanone (MBK)	ND	ug/L	25.0			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25.0			
Methylene Chloride	ND	ug/L	25.0			
Styrene	ND	ug/L	5.00			
1,1,2,2-Tetrachloroethane	120	ug/L	5.00			
Tetrachloroethene	5.78	ug/L	5.00			
Toluene	ND	ug/L	10.0			
1,1,1-Trichloroethane	ND	ug/L	5.00			
1,1,2-Trichloroethane	1.60J	ug/L	5.00			
Trichloroethene	148	ug/L	5.00			
Vinyl Acetate	ND	ug/L	100			
Vinyl Chloride	ND	ug/L	5.00			
Xylenes-m,p	ND	ug/L	5.00			
Xylenes-o	ND	ug/L	5.00			
cis-1,2-Dichloroethene	96.4	ug/L	5.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	98	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	98	80 111
S4 - 1,2-Dichloroethane-d4	99	58 131

000028

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

** - Method Detection Limit

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 363

CLIENT SAMPLE NO.

11052811

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110528

Matrix: (soil/water) WATER

Lab Sample ID: 11052811

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1701018

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/24/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 5.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
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777 364

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Depot**

FID #

Date Arrived **10/19/01**
 ETC Order Number **0110528**

ETC Lab ID **0110528-12**
 Field ID : **RW-9**

Matrix : **AQUEOUS**
 Sample Date : **10/18/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/24/01	LS	8260B 5030B
QC Batch	5497					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	1.21	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	15.8	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	1.33	ug/L	1.00			
1,2-Dichloroethane	0.51J	ug/L	1.00			
1,1-Dichloroethene	56.0	ug/L	1.00			
trans-1,2-Dichloroethene	1.61	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	3.90	ug/L	1.00			
Tetrachloroethene	3.96	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	1.44	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	3.51	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	5.37	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	98	84	115
S2 - Toluene-d8	96	69	133
S3 - 4-Bromofluorobenzene	96	80	111
S4 - 1,2-Dichloroethane-d4	98	58	131

000030

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

** - Method Detection Limit

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 365 CLIENT SAMPLE NO.

11052812

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110528

Matrix: (soil/water) WATER

Lab Sample ID: 11052812

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 1801019

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/24/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1.				
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777 366

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Depot**

FID #

Date Arrived **10/19/01**
 ETC Order Number **0110528**

ETC Lab ID **0110528-13**
 Field ID : **Trip Blank**

Matrix : **AQUEOUS**
 Sample Date : **10/18/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/24/01	LS	8260B 5030B
QC Batch	5497					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	95	84	115
S2 - Toluene-d8	94	69	133
S3 - 4-Bromofluorobenzene	98	80	111
S4 - 1,2-Dichloroethane-d4	95	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

** - Method Detection Limit

000032

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 367 CLIENT SAMPLE NO.

11052813

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110528

Matrix: (soil/water) WATER

Lab Sample ID: 11052813

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0601007

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/24/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____
6. _____	_____	_____	_____	_____
7. _____	_____	_____	_____	_____
8. _____	_____	_____	_____	_____
9. _____	_____	_____	_____	_____
10. _____	_____	_____	_____	_____
11. _____	_____	_____	_____	_____
12. _____	_____	_____	_____	_____
13. _____	_____	_____	_____	_____
14. _____	_____	_____	_____	_____
15. _____	_____	_____	_____	_____
16. _____	_____	_____	_____	_____
17. _____	_____	_____	_____	_____
18. _____	_____	_____	_____	_____
19. _____	_____	_____	_____	_____
20. _____	_____	_____	_____	_____
21. _____	_____	_____	_____	_____
22. _____	_____	_____	_____	_____
23. _____	_____	_____	_____	_____
24. _____	_____	_____	_____	_____
25. _____	_____	_____	_____	_____
26. _____	_____	_____	_____	_____
27. _____	_____	_____	_____	_____
28. _____	_____	_____	_____	_____
29. _____	_____	_____	_____	_____
30. _____	_____	_____	_____	_____

777 368

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level III
GC/MS Semi-Volatiles**

000034.

CASE NARRATIVE
GC/MS VOLATILE COMPOUNDS – AQUEOUS

Client Name Sverdrup/Jacobs Eng.
Project Name Memphis Defense Depot
ETC Order# 0110-528

SAMPLE PRESERVATION (Verified at time of analysis)

All water samples preserved with HCl to pH < 2 and maintained at 4°C until analysis.

METHOD

Preparation: SW-846 5030B
Analysis: SW-846 8260B

HOLDING TIMES

Sample Analysis All samples analyzed within 14 days of collection.

QUALITY CONTROL

QC Batch Form 4 Summary
5497 5497LB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits.

Method Blank FORM 4
5497LB

Target analytes were not detected in the method blank, except as listed below:
Methylene Chloride was identified in the method blank. This analyte was not reported for any associated project sample. The data was not affected.

Laboratory Control Sample FORM 3
5497LCS

All target analyte acceptance criteria met.

Matrix Spike / Matrix Spike Dup. FORM 3
Batch 5497

0110-528-10	RPD	All analytes within QC limits.
RW-7	Spike Recovery	All analytes within QC limits.*

*Benzene and Toluene were flagged for high recoveries in the MS. MSD recoveries were within QC limits.
1,1-Dichloroethene was flagged for high recovery in the MS/MSD. Refer to Laboratory Control Sample(s) for system verification.

CALIBRATION

BFB Daily 12-Hour Tune	All criteria met. FORM 5
Initial Calibration	All criteria met. FORM 6
Calibration Verification	All criteria met. FORM 7

Volatile Internal Standard Area and RT FORM 8

Calibration Verification standard(s) Internal Standard Areas and Retention Times within QC limits.

SAMPLE ANALYSIS

Instrumentation HP 5890 Series II GC, 5971MSD
Dilutions Required Dilutions were performed to bring Target Analyte(s) within calibration range as shown on the Sample Report Forms.


Project Manager

777 370

FORM 2
WATER VOA-GCMS SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110528

	CLIENT SAMPLE NO.	SMC1 (DFM) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER (DCE) #	TOT OUT
	=====	=====	=====	=====	=====	=====
01	5497LCS	96	92	97	93	0
02	5497LB	94	93	99	93	0
03	11052813	95	94	98	95	0
04	11052801	96	92	99	97	0
05	11052802	96	94	99	96	0
06	11052803	94	93	95	94	0
07	11052804	97	94	97	97	0
08	11052805	96	94	96	98	0
09	11052806	95	95	99	98	0
10	11052807	95	95	98	97	0
11	11052808	96	95	98	98	0
12	11052809	98	96	98	102	0
13	11052810	98	95	98	101	0
14	11052811	98	95	98	99	0
15	11052812	98	96	96	98	0
16	11052810MS	99	97	94	102	0
17	11052810MSD	99	96	96	97	0
18						
19						
20						
21						
22						
23						
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30						

QC LIMITS

SMC1 (DFM) = Dibromofluoromethane (84-115)
 SMC2 (TOL) = Toluene-d8 (69-133)
 SMC3 (BFB) = Bromofluorobenzene (80-111)
 OTHER(DCE) = 1,2-Dichloroethane-d4 (58-131)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

777 371

CLIENT SAMPLE NO.

5497LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110528

Lab File ID: 0402005

Lab Prep Batch: 5497

Date Analyzed: 10/24/01

Time Analyzed: 1259

GC Column: ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC2

Lab Sample ID: 2689

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
	=====	=====	=====	=====
01	5497LCS	2690	0201002LCS	1114
02	11052813	11052813	0601007	1402
03	11052801	11052801	0701008	1433
04	11052802	11052802	0801009	1504
05	11052803	11052803	0901010	1536
06	11052804	11052804	1001011	1607
07	11052805	11052805	1101012	1638
08	11052806	11052806	1201013	1709
09	11052807	11052807	1301014	1740
10	11052808	11052808	1401015	1811
11	11052809	11052809	1501016	1841
12	11052810	11052810	1601017	1912
13	11052811	11052811	1701018	1943
14	11052812	11052812	1801019	2014
15	11052810MS	2691	2001021	2116
16	11052810MSD	2692	2101022	2147
17				
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COMMENTS:

777 372

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

5497LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110528

Matrix: (soil/water) WATER

Lab Prep Batch: 5497

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0402005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/24/01

GC Column: ID: 2.00 (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

67-64-1-----	Acetone	20.00	U
75-05-8-----	Acetonitrile	20.00	U
107-02-8-----	Acrolein	20.00	U
107-13-1-----	Acrylonitrile	20.00	U
107-05-1-----	Allyl chloride	1.00	U
71-43-2-----	Benzene	1.00	U
108-86-1-----	Bromobenzene	1.00	U
74-97-5-----	Bromochloromethane	1.00	U
75-27-4-----	Bromodichloromethane	1.00	U
75-25-2-----	Bromoform	1.00	U
78-93-3-----	2-Butanone	20.00	U
74-83-9-----	Bromomethane	1.00	U
104-51-8-----	n-Butylbenzene	1.00	U
135-98-8-----	sec-Butylbenzene	1.00	U
98-06-6-----	tert-Butylbenzene	1.00	U
75-15-0-----	Carbon Disulfide	1.00	U
56-23-5-----	Carbon Tetrachloride	1.00	U
108-90-7-----	Chlorobenzene	1.00	U
124-48-1-----	Chlorodibromomethane	1.00	U
75-00-3-----	Chloroethane	1.00	U
110-75-8-----	2-Chloroethyl vinyl ether	20.00	U
67-66-3-----	Chloroform	1.00	U
74-87-3-----	Chloromethane	1.00	U
126-99-8-----	Chloroprene	1.00	U
95-49-8-----	2-Chlorotoluene	1.00	U
106-43-4-----	4-Chlorotoluene	1.00	U
96-12-8-----	1,2-Dibromo-3-chloropropane	1.00	U
106-93-4-----	1,2-Dibromoethane	1.00	U
74-95-3-----	Dibromomethane	1.00	U
95-50-1-----	1,2-Dichlorobenzene	1.00	U
541-73-1-----	1,3-Dichlorobenzene	1.00	U
106-46-7-----	1,4-Dichlorobenzene	1.00	U
1476-11-5-----	cis-1,4-Dichloro-2-butene	1.00	U

FORM I VOA-GCMS

000038

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

777 373 CLIENT SAMPLE NO.

5497LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110528

Matrix: (soil/water) WATER

Lab Prep Batch: 5497

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0402005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/24/01

GC Column: ID: 2.00 (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
110-57-6	trans-1,4-Dichloro-2-butene	1.00	U
75-71-8	Dichlorodifluoromethane	1.00	U
75-34-3	1,1-Dichloroethane	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
75-35-4	1,1-Dichloroethene	1.00	U
156-59-2	cis-1,2-Dichloroethene	1.00	U
156-60-5	trans-1,2-Dichloroethene	1.00	U
78-87-5	1,2-Dichloropropane	1.00	U
142-28-9	1,3-Dichloropropane	1.00	U
594-20-7	2,2-Dichloropropane	1.00	U
563-58-6	1,1-Dichloropropene	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
108-20-3	Di isopropyl ether	5.00	U
123-91-1	1,4-Dioxane	100.0	U
141-78-6	Ethyl Acetate	5.00	U
100-41-4	Ethylbenzene	1.00	U
97-63-2	Ethyl methacrylate	1.00	U
110-00-9	Furan	1.00	U
87-68-3	Hexachlorobutadiene	1.00	U
110-54-3	Hexane	1.00	U
591-78-6	2-Hexanone	5.00	U
74-88-4	Iodomethane	1.00	U
78-83-1	Isobutyl Alcohol	100.0	U
98-82-8	Isopropylbenzene	1.00	U
99-87-6	4-Isopropyltoluene	1.00	U
126-98-7	Methacrylonitrile	10.00	U
75-09-2	Methylene Chloride	2.10	J
80-62-6	Methyl methacrylate	1.00	U
108-10-1	4-Methyl-2-Pentanone	5.00	U
1634-04-4	Methyl-tertbutyl-Ether	5.00	U
91-20-3	Naphthalene	1.00	U
107-12-0	Propionitrile	10.00	U

FORM I VOA-GCMS

000039

777 374

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

5497LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110528

Matrix: (soil/water) WATER

Lab Prep Batch: 5497

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0402005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/24/01

GC Column: ID: 2.00 (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

109-60-4-----	n-Propyl Acetate	1.00	U
103-65-1-----	n-Propylbenzene	1.00	U
100-42-5-----	Styrene	1.00	U
630-20-6-----	1,1,1,2-Tetrachloroethane	1.00	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1.00	U
127-18-4-----	Tetrachloroethene	1.00	U
109-99-9-----	Tetrahydrofuran	1.00	U
87-61-6-----	1,2,3-Trichlorobenzene	1.00	U
108-88-3-----	Toluene	1.00	U
71-55-6-----	1,1,1-Trichloroethane	1.00	U
79-00-5-----	1,1,2-Trichloroethane	1.00	U
76-13-1-----	1,1,2-trichloro-1,2,2-triflu	1.00	U
79-01-6-----	Trichloroethene	1.00	U
75-69-4-----	Trichlorofluoromethane	1.00	U
96-18-4-----	1,2,3-Trichloropropane	1.00	U
95-63-6-----	1,2,4-Trimethylbenzene	1.00	U
120-82-1-----	1,2,4-Trichlorobenzene	1.00	U
108-67-8-----	1,3,5-Trimethylbenzene	1.00	U
108-05-4-----	Vinyl Acetate	20.00	U
75-01-4-----	Vinyl Chloride	1.00	U
108-38-3-----	Xylene-mp	1.00	U
95-47-6-----	Xylene-o	1.00	U

FORM I VOA-GCMS

000040

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 375

CLIENT SAMPLE NO.

5497LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 110528

Matrix: (soil/water) WATER

Lab Sample ID: 2689

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0402005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 10/24/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____
6. _____	_____	_____	_____	_____
7. _____	_____	_____	_____	_____
8. _____	_____	_____	_____	_____
9. _____	_____	_____	_____	_____
10. _____	_____	_____	_____	_____
11. _____	_____	_____	_____	_____
12. _____	_____	_____	_____	_____
13. _____	_____	_____	_____	_____
14. _____	_____	_____	_____	_____
15. _____	_____	_____	_____	_____
16. _____	_____	_____	_____	_____
17. _____	_____	_____	_____	_____
18. _____	_____	_____	_____	_____
19. _____	_____	_____	_____	_____
20. _____	_____	_____	_____	_____
21. _____	_____	_____	_____	_____
22. _____	_____	_____	_____	_____
23. _____	_____	_____	_____	_____
24. _____	_____	_____	_____	_____
25. _____	_____	_____	_____	_____
26. _____	_____	_____	_____	_____
27. _____	_____	_____	_____	_____
28. _____	_____	_____	_____	_____
29. _____	_____	_____	_____	_____
30. _____	_____	_____	_____	_____

777 376

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: 5497

Lab Code:

Case No.:

SAS No.:

SDG No.: 110528

Matrix Spike - Sample No.: 5497LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Acetone	100.0		102.9	103	59-151
Acetonitrile	1000		1173	117	57-143
Acrolein	100.0		180.6	181*	59-134
Acrylonitrile	100.0		113.5	114	60-146
Allyl chloride	100.0		113.6	114	74-120
Benzene	100.0		106.0	106	72-124
Bromobenzene	100.0		95.27	95	77-120
Bromochloromethane	100.0		103.2	103	74-120
Bromodichloromethane	100.0		97.20	97	68-119
Bromoform	100.0		96.09	96	66-136
2-Butanone	100.0		105.2	105	55-151
Bromomethane	100.0		89.41	89	40-134
n-Butylbenzene	100.0		105.6	106	69-129
sec-Butylbenzene	100.0		102.3	102	72-127
tert-Butylbenzene	100.0		99.32	99	73-126
Carbon Disulfide	100.0		83.00	83	60-133
Carbon Tetrachloride	100.0		106.9	107	64-123
Chlorobenzene	100.0		95.91	96	77-112
Chlorodibromomethane	100.0		92.12	92	72-118
Chloroethane	100.0		113.5	114	64-142
2-Chloroethyl vinyl eth	100.0		84.37	84	22-165
Chloroform	100.0		107.0	107	70-115
Chloromethane	100.0		114.6	115	58-139
Chloroprene	100.0		113.0	113	73-118
2-Chlorotoluene	100.0		96.04	96	65-132
4-Chlorotoluene	100.0		104.7	105	67-127
1,2-Dibromo-3-chloropro	100.0		92.03	92	56-134
1,2-Dibromoethane	100.0		94.37	94	74-118

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

* Values outside of QC limits

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: 5497

Lab Code:

Case No.:

SAS No.:

SDG No.: 110528

Matrix Spike - Sample No.: 5497LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dibromomethane	100.0		95.16	95	75-114
1,2-Dichlorobenzene	100.0		94.10	94	80-113
1,3-Dichlorobenzene	100.0		98.72	99	77-119
1,4-Dichlorobenzene	100.0		100.0	100	78-116
cis-1,4-Dichloro-2-bute	100.0		107.4	107	70-130
trans-1,4-Dichloro-2-bu	100.0		107.2	107	62-138
Dichlorodifluoromethane	100.0		101.6	102	48-145
1,1-Dichloroethane	100.0		107.5	108	76-118
1,2-Dichloroethane	100.0		104.5	104	62-124
1,1-Dichloroethene	100.0		111.5	112	69-121
cis-1,2-Dichloroethene	100.0		105.4	105	76-114
trans-1,2-Dichloroethen	100.0		102.8	103	72-121
1,2-Dichloropropane	100.0		98.62	99	64-133
1,3-Dichloropropane	100.0		95.64	96	68-128
2,2-Dichloropropane	100.0		114.5	114	67-132
1,1-Dichloropropene	100.0		108.6	109	76-117
cis-1,3-Dichloropropene	100.0		98.58	98	77-120
trans-1,3-Dichloroprope	100.0		117.1	117	73-124
Di isopropyl ether	100.0		111.7	112	62-160
1,4-Dioxane	2000		1973	99	56-131
Ethyl Acetate	100.0		107.7	108	52-151
Ethylbenzene	100.0		100.0	100	77-111
Ethyl methacrylate	200.0		183.6	92	57-140
Furan	100.0		177.1	177*	52-124
Hexachlorobutadiene	100.0		86.76	87	69-137
Hexane	100.0		130.1	130	70-130
2-Hexanone	100.0		98.26	98	53-144
Iodomethane	100.0		110.1	110	51-153

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

* Values outside of QC limits

COMMENTS:

777 378

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: 5497

Lab Code:

Case No.:

SAS No.:

SDG No.: 110528

Matrix Spike - Sample No.: 5497LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	2000		2197	110	60-134
Isopropylbenzene	100.0		101.1	101	74-125
4-Isopropyltoluene	100.0		106.6	107	72-127
Methacrylonitrile	1000		1121	112	70-125
Methylene Chloride	100.0		112.3	112	76-115
Methyl methacrylate	200.0		195.3	98	57-147
4-Methyl-2-Pentanone	100.0		99.01	99	42-144
Methyl-tertbutyl-Ether	100.0		105.6	106	62-122
Naphthalene	100.0		92.67	93	53-124
Propionitrile	1000		1037	104	58-139
n-Propyl Acetate	100.0		189.0	189*	88-170
n-Propylbenzene	100.0		104.0	104	75-125
Styrene	100.0		97.43	97	77-117
1,1,1,2-Tetrachloroetha	100.0		99.95	100	79-113
1,1,2,2-Tetrachloroetha	100.0		96.64	97	67-126
Tetrachloroethene	100.0		98.28	98	77-115
Tetrahydrofuran	100.0		108.3	108	76-181
1,2,3-Trichlorobenzene	100.0		93.65	94	62-132
Toluene	100.0		96.03	96	77-115
1,1,1-Trichloroethane	100.0		107.1	107	63-122
1,1,2-Trichloroethane	100.0		95.98	96	69-117
1,1,2-trichloro-1,2,2-t	100.0		120.3	120	70-130
Trichloroethene	100.0		94.28	94	75-113
Trichlorofluoromethane	100.0		109.0	109	55-130
1,2,3-Trichloropropane	100.0		98.15	98	62-130
1,2,4-Trimethylbenzene	100.0		106.4	106	69-126
1,2,4-Trichlorobenzene	100.0		97.82	98	68-132
1,3,5-Trimethylbenzene	100.0		106.6	107	69-128

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

* Values outside of QC limits

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: 5497

Lab Code:

Case No.:

SAS No.:

SDG No.: 110528

Matrix Spike - Sample No.: 5497LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Vinyl Acetate	100.0		93.67	94	28-146
Vinyl Chloride	100.0		108.2	108	65-134
Xylene-mp	200.0		204.3	102	77-115
Xylene-o	100.0		101.2	101	77-115

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: 3 out of 88 outside limits

COMMENTS:

777 380

FORM 3

WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC, INC.

Lab Prep Batch: 5497

Lab Code:

Case No.:

SAS No.:

SDG No.: 110528

Matrix Spike - Sample No.: 11052810

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Benzene	100.0	0.000	124.7	125*	72-124
Chlorobenzene	100.0	0.000	108.2	108	77-112
1,1-Dichloroethene	100.0	0.000	142.0	142*	69-121
Toluene	100.0	0.000	116.4	116*	77-115
Trichloroethene	100.0	73.47	182.1	109	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
Benzene	100.0	113.6	114	9	20	72-124
Chlorobenzene	100.0	100.8	101	7	20	77-112
1,1-Dichloroethene	100.0	128.4	128*	10	20	69-121
Toluene	100.0	103.8	104	11	20	77-115
Trichloroethene	100.0	165.2	92	17	20	75-113

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: 4 out of 10 outside limits

COMMENTS:

FORM III VOA-GCMS

000046

APPENDIX C
QUARTERLY EFFLUENT SAMPLES
ANALYTICAL LABORATORY DATA



ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road • Memphis, TN 38111 • (901) 327-2750 • FAX (901) 327-6334

Founded 1972

September 24, 2001

Mr. Kraig Smith
Sverdrup/Jacobs Eng.
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

SVERDRUP

SEP 26 2001

RECEIVED

Ref: Analytical Testing
ETC Order # 0109323
Project Description Dunnfield Effluent
Project Number CSX51106

The above referenced project has been analyzed per your instructions. The analyses were performed in our laboratory in accordance with Standard Methods, The Solid Waste Manual SW-846, EPA Methods for Chemical Analysis of Water and Wastes and/or 40 CFR part 136.

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, instrumentation maintenance and calibration were performed in accordance with guidelines established by the USEPA.

The results are shown on the attached analysis sheet(s).

Please do not hesitate to contact our office if you have any questions.

Sincerely,

Nathan A. Pera, IV
Chief Executive Officer

rt
Attachment

SVE_MHDDMT

Certifications

Tennessee #TN02027
Arkansas #40730
Kentucky #90047
North Carolina #415
South Carolina #84002002

Mississippi
Oklahoma #9311
Virginia #00106
Washington #C248
US Army Corps of Engineers

USDA #S-46279

Environmental Testing & Consulting, Inc.
Data Qualifiers for Organic Reporting

Within the attached report, some analytical data may be reported as "Qualified Data" as indicated by a "Data Qualifier" next to the result. This table summarizes the possible "Data Qualifiers" that may be associated with this report. These qualifiers do not apply for TIC reports.

Q	Surrogate Recovery Outside QC Limits
J	Estimated Value. Presence of the compound was confirmed but less than the reported detection limit.
E	Concentration exceeds the established method calibration range but is within the working range of the instrument.
B	Analyte detected in the associated Method Blank.
U	Reported result was unconfirmed. Refer to Case Narrative.
C	Result reported from GC/MS confirmation analysis.
M	Result reported represents a minimum value. Refer to Case Narrative.
NC	Result reported from Primary Column. Result did not confirm.
*	QC Data (percent recovery/RPD for a particular analyte was outside QC Limits)

777 384

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ANALYTICAL SUMMARY/CROSS REFERENCE TABLE

Client Name **Sverdrup/Jacobs Eng.**
Site ID **Dunnfield Effluent**

ETC Order #0109323
CSX51106

<u>ETC</u> <u>Sample ID</u>	<u>Field</u> <u>ID</u>	<u>Matrix</u>	<u>Method</u>	<u>Method Description</u>
010932301	EFF-9-14-01	AQUEOUS	8260B	GC/MS Volatile Organics

Environmental Testing & Consulting, Inc.

Login
Chain-of-Custody



ETC Work Order : 01004333

000004

777 386

F:\OACAC\SI.OP\CCO0885.XLS

Environmental Testing & Consulting, Inc.
Cooler Receipt Form

Date Received 9/14/01
Date/Time Checked In 9/14/01-11:55
Carrier/Bill# Hand-Delivered

LIMS# 0109-323
Project Dunn Field
Effluent
By Rebekah Barger

1. Custody Seals?/Location-	No
2. Samples are non-radioactive?	Yes
3. Chain of Custody in plastic?	Yes
4. Temperature at receipt (ok = 4 ± 2 °C) <40C	OK
5. Ice & Packing- Ice, Bubble Wrap	Yes
6. Chain of Custody filled out properly?	Yes
7. All containers in separate bags?	Yes
8. Sample containers intact?	Yes
9. Label(s) complete and in good condition?	Yes
10. Label(s) agree with Chain of Custody?	Yes
11. Correct containers used?	Yes
12. Sufficient sample?	Yes
13. VOA vials bubble-free (H ₂ O) or no head space (soil)?	Yes
14. Preservation OK? TM pH____; TRPH pH____; TOC pH____; TOX pH____; CN pH____; N/P pH____; Other pH____	Yes

Comments _____

*Validated Date and Time of Sample Receipt (VDTSR)

777 388

Environmental Testing & Consulting, Inc.

Sample Reports

000006

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 389

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Dunnfield Effluent**

FID #

Date Arrived **09/14/01**
ETC Order Number **0109323**

ETC Lab ID **0109323-01**
Field ID : **EFF-9-14-01**

Matrix : **AQUEOUS**
Sample Date : **09/14/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				09/18/01	LS	8260B 5030B
QC Batch	V409181					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	3.39	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	34.2	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	11.0	ug/L	1.00			
trans-1,2-Dichloroethene	9.09	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	102	ug/L	1.00			
Tetrachloroethene	13.5	ug/L	1.00			
Toluene	ND	ug/L	1.00			
1,1,1-Trichloroethane	0.32J	ug/L	1.00			
1,1,2-Trichloroethane	0.98J	ug/L	1.00			
Trichloroethene	107	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	38.8	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	93	74	123
S2 - Toluene-d8	107	86	112
S3 - 4-Bromofluorobenzene	104	81	115
S4 - 1,2-Dichloroethane-d4	82	80	120

777 390

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level III
GC/MS Volatiles**

000008

CASE NARRATIVE
GC/MS VOLATILE COMPOUNDS – AQUEOUS

Client Name Sverdrup/Jacobs Engineering
Project Name Dunnfield Effluent
ETC Order# 0109-323

SAMPLE PRESERVATION (Verified at time of analysis)

All water samples preserved with HCl to pH < 2 and maintained at 4°C until analysis.

METHOD

Preparation: SW-846 5030B
Analysis: SW-846 8260B

HOLDING TIMES

Sample Analysis All samples analyzed within 14 days of collection.

QUALITY CONTROL

QC Batch Form 4 Summary
V409181 0918LB

System Monitoring Compounds FORM 2

Surrogate recoveries within QC limits.

Method Blank FORM 4

0918LB

Target analytes were not detected in the method blank.

Laboratory Control Sample FORM 3

0918LCS

All target analyte acceptance criteria met.

Matrix Spike / Matrix Spike Dup. FORM 3

Batch V409181

10932301

RPD

All analytes within QC limits.

EFF-9-14-01

Spike Recovery

All analytes within QC limits.*

*Trichloroethene was flagged for low recovery in the MS/MSD due to the level of this analyte present in the sample. Refer to Laboratory Control Sample(s) for system verification.

CALIBRATION

BFB Daily 12-Hour Tune

All criteria met. FORM 5

Initial Calibration

All criteria met. FORM 6

Calibration Verification

All criteria met. FORM 7 Except as Responses >30% affecting data listed below:

Sequence V409181

Calibration Verification (CV1): Date 09/18/01 Time: 1157

Analyte	%Diff(30% Max)	Response
Iodomethane	31.9	High

Samples in this sequence are listed on Form 5 (Instrument Performance Check). The CV passed SPCC/CCC evaluation criteria. The CV is valid per SW-846 method 8000A/8260B.

Volatile Internal Standard Area and RT FORM 8

Calibration Verification standard(s) Internal Standard Areas and Retention Times within QC limits.

777 392

ENVIRONMENTAL TESTING AND CONSULTING, INC.

CASE NARRATIVE

GC/MS VOLATILE COMPOUNDS - AQUEOUS

Client Name Sverdrup/Jacobs Engineering
Project Name Dunnfield Effluent
ETC Order# 0109-323

SAMPLE ANALYSIS

Instrumentation HP 5890 Series II GC, 5971MSD
Dilutions Required No dilutions required.



Project Manager

000010

FORM 2
WATER VOA-GCMS SYSTEM MONITORING COMPOUND RECOVERY

777 393

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 109323

	CLIENT SAMPLE NO.	SMC1 (DFM) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER (DCE) #	TOT OUT
01	0918LCS	90	108	90	80	0
02	0918LB	92	103	108	80	0
03	10932301	93	107	104	82	0
04	10932301MS	94	104	102	85	0
05	10932301MSD	94	102	101	87	0
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QC LIMITS

SMC1 (DFM) = Dibromofluoromethane (84-115)
 SMC2 (TOL) = Toluene-d8 (69-133)
 SMC3 (BFB) = Bromofluorobenzene (80-111)
 OTHER (DCE) = 1,2-Dichloroethane-d4 (58-131)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

777 394

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

0918LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 109323

Lab File ID: 0303005

Lab Prep Batch: V409181

Date Analyzed: 09/18/01

Time Analyzed: 1441

GC Column:

ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC4

Lab Sample ID: 0918

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
	=====	=====	=====	=====
01	0918LCS		0201002LCS	1157
02	10932301	10932301	0401006	1512
03	10932301MS	0000	1601018	2126
04	10932301MSD	0000	1701019	2157
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COMMENTS:

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

777 395

CLIENT SAMPLE NO.

0918LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 109323

Matrix: (soil/water) WATER

Lab Prep Batch: V409181

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0303005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 09/18/01

GC Column: ID: 2.00 (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

67-64-1-----	Acetone	20.00	U
75-05-8-----	Acetonitrile	20.00	U
107-02-8-----	Acrolein	20.00	U
107-13-1-----	Acrylonitrile	20.00	U
107-05-1-----	Allyl chloride	1.00	U
71-43-2-----	Benzene	1.00	U
108-86-1-----	Bromobenzene	1.00	U
74-97-5-----	Bromochloromethane	1.00	U
75-27-4-----	Bromodichloromethane	1.00	U
75-25-2-----	Bromoform	1.00	U
78-93-3-----	2-Butanone	20.00	U
74-83-9-----	Bromomethane	1.00	U
104-51-8-----	n-Butylbenzene	1.00	U
135-98-8-----	sec-Butylbenzene	1.00	U
98-06-6-----	tert-Butylbenzene	1.00	U
75-15-0-----	Carbon Disulfide	1.00	U
56-23-5-----	Carbon Tetrachloride	1.00	U
108-90-7-----	Chlorobenzene	1.00	U
124-48-1-----	Chlorodibromomethane	1.00	U
75-00-3-----	Chloroethane	1.00	U
110-75-8-----	2-Chloroethyl vinyl ether	20.00	U
67-66-3-----	Chloroform	1.00	U
74-87-3-----	Chloromethane	1.00	U
126-99-8-----	Chloroprene	1.00	U
95-49-8-----	2-Chlorotoluene	1.00	U
106-43-4-----	4-Chlorotoluene	1.00	U
96-12-8-----	1,2-Dibromo-3-chloropropane	1.00	U
106-93-4-----	1,2-Dibromoethane	1.00	U
74-95-3-----	Dibromomethane	1.00	U
95-50-1-----	1,2-Dichlorobenzene	1.00	U
541-73-1-----	1,3-Dichlorobenzene	1.00	U
106-46-7-----	1,4-Dichlorobenzene	1.00	U
1476-11-5-----	cis-1,4-Dichloro-2-butene	1.00	U

FORM I VOA-GCMS

000013

777 396

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

0918LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 109323

Matrix: (soil/water) WATER

Lab Prep Batch: V409181

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0303005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 09/18/01

GC Column: ID: 2.00 (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

110-57-6	trans-1,4-Dichloro-2-butene	1.00	U
75-71-8	Dichlorodifluoromethane	1.00	U
75-34-3	1,1-Dichloroethane	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
75-35-4	1,1-Dichloroethene	1.00	U
156-59-2	cis-1,2-Dichloroethene	1.00	U
156-60-5	trans-1,2-Dichloroethene	1.00	U
78-87-5	1,2-Dichloropropane	1.00	U
142-28-9	1,3-Dichloropropane	1.00	U
594-20-7	2,2-Dichloropropane	1.00	U
563-58-6	1,1-Dichloropropene	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
108-20-3	Di isopropyl ether	5.00	U
123-91-1	1,4-Dioxane	100.0	U
141-78-6	Ethyl Acetate	5.00	U
100-41-4	Ethylbenzene	1.00	U
97-63-2	Ethyl methacrylate	1.00	U
110-00-9	Furan	1.00	U
87-68-3	Hexachlorobutadiene	1.00	U
110-54-3	Hexane	1.00	U
591-78-6	2-Hexanone	5.00	U
74-88-4	Iodomethane	1.00	U
78-83-1	Isobutyl Alcohol	100.0	U
98-82-8	Isopropylbenzene	1.00	U
99-87-6	4-Isopropyltoluene	1.00	U
126-98-7	Methacrylonitrile	10.00	U
75-09-2	Methylene Chloride	5.00	U
80-62-6	Methyl methacrylate	1.00	U
108-10-1	4-Methyl-2-Pentanone	5.00	U
1634-04-4	Methyl-tertbutyl-Ether	5.00	U
91-20-3	Naphthalene	1.00	U
76-01-7	Pentachloroethane	1.00	U

FORM I VOA-GCMS

000014

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

777 397

CLIENT SAMPLE NO.

0918LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 109323

Matrix: (soil/water) WATER

Lab Prep Batch: V409181

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0303005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 09/18/01

GC Column: ID: 2.00 (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

107-12-0-----	Propionitrile	10.00	U
109-60-4-----	n-Propyl Acetate	1.00	U
103-65-1-----	n-Propylbenzene	1.00	U
100-42-5-----	Styrene	1.00	U
630-20-6-----	1,1,1,2-Tetrachloroethane	1.00	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1.00	U
127-18-4-----	Tetrachloroethene	1.00	U
109-99-9-----	Tetrahydrofuran	1.00	U
87-61-6-----	1,2,3-Trichlorobenzene	1.00	U
108-88-3-----	Toluene	1.00	U
71-55-6-----	1,1,1-Trichloroethane	1.00	U
79-00-5-----	1,1,2-Trichloroethane	1.00	U
76-13-1-----	1,1,2-trichloro-1,2,2-triflu	1.00	U
79-01-6-----	Trichloroethene	1.00	U
75-69-4-----	Trichlorofluoromethane	1.00	U
96-18-4-----	1,2,3-Trichloropropane	1.00	U
120-82-1-----	1,2,4-Trichlorobenzene	1.00	U
95-63-6-----	1,2,4-Trimethylbenzene	1.00	U
108-67-8-----	1,3,5-Trimethylbenzene	1.00	U
108-05-4-----	Vinyl Acetate	20.00	U
75-01-4-----	Vinyl Chloride	1.00	U
108-38-3-----	Xylene-mp	1.00	U
95-47-6-----	Xylene-o	1.00	U

FORM I VOA-GCMS

000015

777 398

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

0918LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 109323

Matrix: (soil/water) WATER

Lab Sample ID: 0918

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0303005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 09/18/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000016

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

777 399

Lab Name: ETC, INC.

Lab Prep Batch: V409181

Lab Code:

Case No.:

SAS No.:

SDG No.: 109323

Matrix Spike - Sample No.: 0918LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Acetone	100.0		116.4	116	59-151
Acetonitrile	1000		1116	112	57-143
Acrolein	100.0		114.9	115	59-134
Acrylonitrile	100.0		106.2	106	60-146
Allyl chloride	100.0		109.3	109	74-120
Benzene	100.0		97.96	98	72-124
Bromobenzene	100.0		94.13	94	77-120
Bromochloromethane	100.0		97.90	98	74-120
Bromodichloromethane	100.0		90.08	90	68-119
Bromoform	100.0		82.26	82	66-136
2-Butanone	100.0		99.80	100	55-151
Bromomethane	100.0		112.2	112	40-134
n-Butylbenzene	100.0		96.15	96	69-129
sec-Butylbenzene	100.0		90.47	90	72-127
tert-Butylbenzene	100.0		84.65	85	73-126
Carbon Disulfide	100.0		98.59	98	60-133
Carbon Tetrachloride	100.0		80.99	81	64-123
Chlorobenzene	100.0		91.40	91	77-112
Chlorodibromomethane	100.0		90.34	90	72-118
Chloroethane	100.0		108.6	109	64-142
2-Chloroethyl vinyl eth	100.0		100.1	100	22-165
Chloroform	100.0		77.83	78	70-115
Chloromethane	100.0		123.9	124	58-139
Chloroprene	100.0		87.55	88	73-118
2-Chlorotoluene	100.0		88.24	88	65-132
4-Chlorotoluene	100.0		90.57	90	67-127
1,2-Dibromo-3-chloropro	100.0		72.29	72	56-134
1,2-Dibromoethane	100.0		86.99	87	74-118

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

* Values outside of QC limits

COMMENTS:

777 400

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V409181

Lab Code:

Case No.:

SAS No.:

SDG No.: 109323

Matrix Spike - Sample No.: 0918LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dibromomethane	100.0		98.26	98	75-114
1,2-Dichlorobenzene	100.0		97.12	97	80-113
1,3-Dichlorobenzene	100.0		97.89	98	77-119
1,4-Dichlorobenzene	100.0		96.42	96	78-116
cis-1,4-Dichloro-2-bute	100.0		90.37	90	70-130
trans-1,4-Dichloro-2-bu	100.0		94.04	94	62-138
Dichlorodifluoromethane	100.0		75.37	75	48-145
1,1-Dichloroethane	100.0		96.25	96	76-118
1,2-Dichloroethane	100.0		80.91	81	62-124
1,1-Dichloroethene	100.0		104.3	104	69-121
cis-1,2-Dichloroethene	100.0		97.45	97	76-114
trans-1,2-Dichloroethen	100.0		97.18	97	72-121
1,2-Dichloropropane	100.0		111.7	112	64-133
1,3-Dichloropropane	100.0		90.44	90	68-128
2,2-Dichloropropane	100.0		87.13	87	67-132
1,1-Dichloropropene	100.0		88.64	89	76-117
cis-1,3-Dichloropropene	100.0		98.61	99	77-120
trans-1,3-Dichloroprope	100.0		105.0	105	73-124
Di isopropyl ether	100.0		100.5	100	62-160
1,4-Dioxane	2000		2044	102	56-131
Ethyl Acetate	100.0		94.60	95	52-151
Ethylbenzene	100.0		87.82	88	77-111
Ethyl methacrylate	200.0		184.9	92	57-140
Furan	100.0		151.0	151*	52-124
Hexachlorobutadiene	100.0		85.43	85	69-137
Hexane	100.0		119.2	119	70-130
2-Hexanone	100.0		103.2	103	53-144
Iodomethane	100.0		131.9	132	51-153

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

* Values outside of QC limits

COMMENTS:

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

777 401

Lab Name: ETC, INC.

Lab Prep Batch: V409181

Lab Code:

Case No.:

SAS No.:

SDG No.: 109323

Matrix Spike - Sample No.: 0918LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	2000		2180	109	60-134
Isopropylbenzene	100.0		88.28	88	74-125
4-Isopropyltoluene	100.0		90.37	90	72-127
Methacrylonitrile	1000		993.7	99	70-125
Methylene Chloride	100.0		94.76	95	76-115
Methyl methacrylate	200.0		203.3	102	57-147
4-Methyl-2-Pentanone	100.0		100.7	101	42-144
Methyl-tertbutyl-Ether	100.0		95.66	96	62-122
Naphthalene	100.0		101.3	101	53-124
Pentachloroethane	100.0		96.69	97	78-126
Propionitrile	1000		1105	110	58-139
n-Propyl Acetate	100.0		154.1	154	88-170
n-Propylbenzene	100.0		90.73	91	75-125
Styrene	100.0		98.06	98	77-117
1,1,1,2-Tetrachloroetha	100.0		81.86	82	79-113
1,1,2,2-Tetrachloroetha	100.0		84.59	84	67-126
Tetrachloroethene	100.0		86.88	87	77-115
Tetrahydrofuran	100.0		101.0	101	76-181
1,2,3-Trichlorobenzene	100.0		102.9	103	62-132
Toluene	100.0		103.6	104	77-115
1,1,1-Trichloroethane	100.0		80.22	80	63-122
1,1,2-Trichloroethane	100.0		92.71	93	69-117
1,1,2-trichloro-1,2,2-t	100.0		95.25	95	70-130
Trichloroethene	100.0		79.85	80	75-113
Trichlorofluoromethane	100.0		85.87	86	55-130
1,2,3-Trichloropropane	100.0		81.15	81	62-130
1,2,4-Trichlorobenzene	100.0		108.0	108	68-132
1,2,4-Trimethylbenzene	100.0		88.28	88	69-126

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

* Values outside of QC limits

COMMENTS:

777 402

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V409181

Lab Code:

Case No.:

SAS No.:

SDG No.: 109323

Matrix Spike - Sample No.: 0918LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
1,3,5-Trimethylbenzene	100.0		88.35	88	69-128
Vinyl Acetate	100.0		98.03	98	28-146
Vinyl Chloride	100.0		109.8	110	65-134
Xylene-mmp	200.0		178.8	89	77-115
Xylene-o	100.0		91.06	91	77-115

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: 1 out of 89 outside limits

COMMENTS: _____

FORM 3
WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

777 403

Lab Name: ETC, INC.

Lab Prep Batch: V409181

Lab Code:

Case No.:

SAS No.:

SDG No.: 109323

Matrix Spike - Sample No.: 10932301

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Benzene	100.0	0.000	109.8	110	72-124
Chlorobenzene	100.0	0.000	90.45	90	77-112
1,1-Dichloroethene	100.0	10.98	107.6	97	69-121
Toluene	100.0	0.000	96.10	96	77-115
Trichloroethene	100.0	106.6	166.5	60*	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS	
=====	=====	=====	=====	=====	RPD	REC.
Benzene	100.0	104.4	104	6	20	72-124
Chlorobenzene	100.0	88.53	88	2	20	77-112
1,1-Dichloroethene	100.0	101.8	91	6	20	69-121
Toluene	100.0	92.03	92	4	20	77-115
Trichloroethene	100.0	163.4	57*	5	20	75-113

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: 2 out of 10 outside limits

COMMENTS:

777 404

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

10932301

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 109323

Matrix: (soil/water) WATER

Lab Sample ID: 10932301

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0401006

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 09/18/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 124-38-9	CARBON DIOXIDE	3.14	55.81	NJ
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FORM I VOA-GCMS-TIC

000022



ENVIRONMENTAL TESTING & CONSULTING, INC.
2924 Walnut Grove Road • Memphis, TN 38111 • (901) 327-2750 • FAX (901) 327-6334

Founded 1972

January 14, 2002

Mr. Kraig Smith
Sverdrup/Jacobs Eng.
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Ref: Analytical Testing
ETC Order # 0112602
Project Description Memphis Depot
Project Number C5X51106

The above referenced project has been analyzed per your instructions. The analyses were performed in our laboratory in accordance with Standard Methods, The Solid Waste Manual SW-846, EPA Methods for Chemical Analysis of Water and Wastes and/or 40 CFR part 136.

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, instrumentation maintenance and calibration were performed in accordance with guidelines established by the USEPA.

The results are shown on the attached analysis sheet(s).

Please do not hesitate to contact our office if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads 'Connie Bradberry'.

Connie Bradberry
Laboratory Project Manager

rt
Attachment

SVE_MHDDMT6

Certifications

Tennessee #TN02027
Arkansas #40730
Kentucky #90047
North Carolina #415
South Carolina #84002002

Mississippi
Oklahoma #9311
Virginia #00106
Washington #C248
US Army Corps of Engineers

USDA #S-46279

Environmental Testing & Consulting, Inc.
Data Qualifiers for Organic Reporting

Within the attached report, some analytical data may be reported as "Qualified Data" as indicated by a "Data Qualifier" next to the result. This table summarizes the possible "Data Qualifiers" that may be associated with this report. These qualifiers do not apply for TIC reports.

Q	Surrogate Recovery Outside QC Limits
J	Estimated Value. Presence of the compound was confirmed but less than the reported detection limit.
E	Concentration exceeds the established method calibration range but is within the working range of the instrument.
B	Analyte detected in the associated Method Blank.
U	Reported result was unconfirmed. Refer to Case Narrative.
C	Result reported from GC/MS confirmation analysis.
M	Result reported represents a minimum value. Refer to Case Narrative.
NC	Result reported from Primary Column. Result did not confirm.
*	QC Data (percent recovery/RPD for a particular analyte was outside QC Limits)

777 407

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ANALYTICAL SUMMARY/CROSS REFERENCE TABLEClient Name **Sverdrup/Jacobs Eng.**
Site ID **Memphis Depot**ETC Order #0112602
C5X51106

<u>ETC</u> <u>Sample ID</u>	<u>Field</u> <u>ID</u>	<u>Matrix</u>	<u>Method</u>	<u>Method Description</u>
011260201	VW-1	AQUEOUS	150.1	pH
011260201	VW-1	AQUEOUS	160.2	Total Suspended Solids
011260201	VW-1	AQUEOUS	245.1	Mercury Dig. Batch/Diss.
011260201	VW-1	AQUEOUS	200.7	Silver
011260201	VW-1	AQUEOUS	200.7	Silver - Dissolved
011260201	VW-1	AQUEOUS	200.7	Arsenic
011260201	VW-1	AQUEOUS	200.7	Arsenic - Dissolved
011260201	VW-1	AQUEOUS	200.7	Barium
011260201	VW-1	AQUEOUS	200.7	Barium - Dissolved
011260201	VW-1	AQUEOUS	200.7	Cadmium
011260201	VW-1	AQUEOUS	200.7	Cadmium - Dissolved
011260201	VW-1	AQUEOUS	200.7	Chromium
011260201	VW-1	AQUEOUS	200.7	Chromium - Dissolved
011260201	VW-1	AQUEOUS	200.7	Iron
011260201	VW-1	AQUEOUS	200.7	Iron - Dissolved
011260201	VW-1	AQUEOUS	245.1	Mercury
011260201	VW-1	AQUEOUS	245.1	Mercury - Dissolved
011260201	VW-1	AQUEOUS	200.7	Manganese
011260201	VW-1	AQUEOUS	200.7	Manganese - Dissolved
011260201	VW-1	AQUEOUS	200.7	Lead
011260201	VW-1	AQUEOUS	200.7	Lead - Dissolved
011260201	VW-1	AQUEOUS	200.7	Selenium
011260201	VW-1	AQUEOUS	200.7	Selenium - Dissolved
011260201	VW-1	AQUEOUS	8260B	GC/MS Volatile Organics
011260202	EFF-12-21	AQUEOUS	8260B	GC/MS Volatile Organics
011260202	EFF-12-21	AQUEOUS	8270C	GC/MS Base/Neutral & Acid

Environmental Testing & Consulting, Inc.

Login
Chain-of-Custody



ETC Work Order :

09
FBI
WASH

[illegible]

Original and Vellow accompany samples to the laboratory. Pink copy for Fig. 1w.

Original copy returned with results. Yellow copy for ETC, Inc. files.

E:\0400\0101\01010895.XLS

Environmental Testing & Consulting, Inc.
Cooler Receipt Form

Date Received 12/21/01
Date/Time Checked In 12/21/01-10:45
Carrier/Bill# Hand-Delivered

LIMS# 0112-602
Project Memphis Depot
By Rebekah Barger

1. Custody Seals?/Location-	No
2. Samples are non-radioactive?	Yes
3. Chain of Custody in plastic?	Yes
4. Temperature at receipt (ok = 4 ± 2 °C) <40C	OK
5. Ice & Packing-bags, ice, bubble wrap	Yes
6. Chain of Custody filled out properly?	Yes
7. All containers in separate bags?	No
8. Sample containers intact?	Yes
9. Label(s) complete and in good condition?	Yes
10. Label(s) agree with Chain of Custody?	Yes
11. Correct containers used?	Yes
12. Sufficient sample?	Yes
13. VOA vials bubble-free (H ₂ O) or no head space (soil)?	Yes
14. Preservation OK? TM pH____; TRPH pH____; TOC pH____; TOX pH____; CN pH____; N/P pH____; Other pH____	Yes

Comments _____

*Validated Date and Time of Sample Receipt (VDTSR)

Environmental Testing & Consulting, Inc.

Sample Reports

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 412

Client Name

Sverdrup/Jacobs Eng.
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID Memphis Depot

Date Arrived 12/21/01

ETC Order Number 0112602

ETC Lab ID : 0112602-01

Field ID : VW-1

Matrix : AQUEOUS

Sample Date : 12/21/01

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	BY	METHOD	QC BATCH
pH	6.5	SU		12/21/01	RB	150.1	1330
Total Suspended Solids	177	mg/L	2	12/26/01	JM	160.2	T2122611


Data Validator

ND - Not Detected

000007

777 413

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Depot**

Date Arrived **12/21/01**
ETC Order Number **0112602**

ETC Lab ID : **0112602-01**
Field ID : **VW-1**

Matrix : **AQUEOUS**
Sample Date : **12/21/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Mercury Digestion Batch	V9-AQ-26				01/02/02	JF	245.1
Metals Dig. Batch/Diss.	V29-AQ-29				12/28/01	NR	3030K
Silver	ND	mg/L	0.0005	01/03/02	12/28/01	SH	200.7
Silver - Dissolved	ND	mg/L	0.0005	01/03/02	12/28/01	SH	200.7
Arsenic	0.003	mg/L	0.002	01/03/02	12/28/01	SH	200.7
Arsenic - Dissolved	ND	mg/L	0.002	01/03/02	12/28/01	SH	200.7
Barium	0.124	mg/L	0.001	01/03/02	12/28/01	SH	200.7
Barium - Dissolved	0.065	mg/L	0.001	01/03/02	12/28/01	SH	200.7
Cadmium	ND	mg/L	0.0003	01/03/02	12/28/01	SH	200.7
Cadmium - Dissolved	ND	mg/L	0.0003	01/03/02	12/28/01	SH	200.7
Chromium	0.014	mg/L	0.002	01/03/02	12/28/01	SH	200.7
Chromium - Dissolved	ND	mg/L	0.002	01/03/02	12/28/01	SH	200.7
Iron	11.1	mg/L	0.035	01/03/02	12/28/01	SH	200.7
Iron - Dissolved	ND	mg/L	0.035	01/03/02	12/28/01	SH	200.7
Mercury	ND	mg/L	0.0002	01/03/02	01/02/02	JF	245.1
Mercury - Dissolved	ND	mg/L	0.0002	01/03/02	01/02/02	JF	245.1
Manganese	2.39	mg/L	0.002	01/03/02	12/28/01	SH	200.7
Manganese - Dissolved	2.12	mg/L	0.001	01/03/02	12/28/01	SH	200.7
Lead	0.049	mg/L	0.002	01/03/02	12/28/01	SH	200.7
Lead - Dissolved	ND	mg/L	0.002	01/03/02	12/28/01	SH	200.7
Selenium	ND	mg/L	0.002	01/03/02	12/28/01	SH	200.7
Selenium - Dissolved	ND	mg/L	0.002	01/03/02	12/28/01	SH	200.7

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 414

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Depot**

FID #

Date Arrived **12/21/01**
ETC Order Number **0112602**

ETC Lab ID **0112602-01**
Field ID : **VW-1**

Matrix : **AQUEOUS**
Sample Date : **12/21/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				12/21/01	LS	8260B 5030B
QC Batch	V412211					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	57.3	ug/L	20.0			
Carbon Disulfide	0.64J	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	1.36	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	0.48J	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	7.91	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	311E	ug/L	1.00			
Tetrachloroethene	25.6	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	3.20	ug/L	1.00			
Trichloroethene	606E	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	26.0	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	99	84	115
S2 - Toluene-d8	86	69	133
S3 - 4-Bromofluorobenzene	91	80	111
S4 - 1,2-Dichloroethane-d4	125	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000009

777 415

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

011260201

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix: (soil/water) WATER

Lab Sample ID: 011260201

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0701008

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 12/21/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000010

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 416

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Depot**

FID #

Date Arrived **12/21/01**
ETC Order Number **0112602**

ETC Lab ID **0112602-01**
Field ID : **VW-1-DIL1**

Matrix : **AQUEOUS**
Sample Date : **12/21/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				01/03/02	LS	8260B 5030B
QC Batch	V401031					
Dilution Factor	50					
1,1,2,2-Tetrachloroethane	16,400E	ug/L	50.0			
Trichloroethene	788	ug/L	50.0			
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>			
S1 - Dibromofluoromethane	104		84	115		
S2 - Toluene-d8	93		69	133		
S3 - 4-Bromofluorobenzene	102		80	111		
S4 - 1,2-Dichloroethane-d4	104		58	131		

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000011

777 417

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name Sverdrup/Jacobs Eng.
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID Memphis Depot

FID #

Date Arrived 12/21/01
ETC Order Number 0112602

ETC Lab ID 0112602-01
Field ID : VW-1-DIL2

Matrix : AQUEOUS
Sample Date : 12/21/01

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				01/03/02	LS	8260B 5030B
QC Batch	V401031					
Dilution Factor	1000					
1,1,2,2-Tetrachloroethane	18,000	ug/L	1000			
<u>Surrogate Standard</u>	<u>% Recovery</u>			<u>QC Limits</u>		
S1 - Dibromofluoromethane	104			84		115
S2 - Toluene-d8	103			69		133
S3 - 4-Bromofluorobenzene	101			80		111
S4 - 1,2-Dichloroethane-d4	104			58		131

CB
Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000012

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 418

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Depot**

FID #

Date Arrived **12/21/01**
ETC Order Number **0112602**

ETC Lab ID **0112602-02**
Field ID : **EFF-12-21**

Matrix : **AQUEOUS**
Sample Date : **12/21/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				01/03/02	LS	8260B 5030B
QC Batch	V401031					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	6.11	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	52.1	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	0.53J	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	16.4	ug/L	1.00			
trans-1,2-Dichloroethene	13.2	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	10.0			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	174	ug/L	1.00			
Tetrachloroethene	21.6	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	0.65J	ug/L	1.00			
1,1,2-Trichloroethane	1.32	ug/L	1.00			
Trichloroethene	173	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	53.6	ug/L	1.00			
Surrogate Standard			% Recovery	QC Limits		
S1 - Dibromofluoromethane	107			84	115	
S2 - Toluene-d8	94			69	133	
S3 - 4-Bromofluorobenzene	102			80	111	
S4 - 1,2-Dichloroethane-d4	118			58	131	

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000013

777 419

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

011260202

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix: (soil/water) WATER

Lab Sample ID: 011260202

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0901011

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 01/03/02

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000014

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 420

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Depot**

FID #

Date Arrived **12/21/01**
ETC Order Number **0112602**

ETC Lab ID **0112602-02**
Field ID : **EFF-12-21**

Matrix : **AQUEOUS**
Sample Date : **12/21/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Base/Neutral & Acid				01/03/02	EM	8270C 3510C
QC Batch	P07012				12/27/01	
Dilution Factor	1					
Acenaphthene	ND	ug/L	2.00			
Acenaphthylene	ND	ug/L	2.00			
Anthracene	ND	ug/L	2.00			
Benzo(a)anthracene	ND	ug/L	2.00			
Benzo(b)fluoranthene	ND	ug/L	2.00			
Benzo(k)fluoranthene	ND	ug/L	2.00			
Benzo(g,h,i)perylene	ND	ug/L	2.00			
Benzo(a)pyrene	ND	ug/L	2.00			
Benzoic Acid	ND	ug/L	50.0			
Benzyl Alcohol	ND	ug/L	10.0			
Bis(2-chloroethoxy)methane	ND	ug/L	5.00			
Bis(2-chloroethyl)ether	ND	ug/L	5.00			
Bis(2-chloroisopropyl)ether	ND	ug/L	5.00			
Bis(2-ethylhexyl)phthalate	ND	ug/L	10.0			
4-Bromophenyl phenyl ether	ND	ug/L	5.00			
Butyl benzyl phthalate	ND	ug/L	5.00			
4-Chloroaniline	ND	ug/L	5.00			
2-Chloronaphthalene	ND	ug/L	5.00			
4-Chloro-3-methylphenol	ND	ug/L	5.00			
2-Chlorophenol	ND	ug/L	5.00			
4-Chlorophenyl phenyl ether	ND	ug/L	5.00			
Chrysene	ND	ug/L	2.00			
Dibenzo(a,h)anthracene	ND	ug/L	2.00			
Dibenzofuran	ND	ug/L	5.00			
Di-n-butyl phthalate	ND	ug/L	5.00			
3,3'-Dichlorobenzidine	ND	ug/L	10.0			
2,4-Dichlorophenol	ND	ug/L	5.00			
Diethyl phthalate	ND	ug/L	5.00			
2,4-Dimethylphenol	ND	ug/L	5.00			
Dimethyl phthalate	ND	ug/L	5.00			
4,6-Dinitro-2-methylphenol	ND	ug/L	10.0			
2,4-Dinitrophenol	ND	ug/L	50.0			
2,4-Dinitrotoluene	ND	ug/L	5.00			
2,6-Dinitrotoluene	ND	ug/L	5.00			
Di-n-octyl phthalate	ND	ug/L	5.00			
Fluoranthene	ND	ug/L	2.00			
Fluorene	ND	ug/L	2.00			
Hexachlorobenzene	ND	ug/L	5.00			
Hexachlorobutadiene	ND	ug/L	5.00			
Hexachlorocyclopentadiene	ND	ug/L	5.00			
Hexachloroethane	ND	ug/L	5.00			
Indeno(1,2,3-cd)pyrene	ND	ug/L	2.00			
pphlorone	ND	ug/L	5.00			
Methylnaphthalene	ND	ug/L	2.00			
2-Methylphenol (o-cresol)	ND	ug/L	5.00			
4-Methylphenol (p-cresol)	ND	ug/L	5.00			
Naphthalene	ND	ug/L	2.00			

CB
Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000015

777 421

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Depot**

FID #

Date Arrived **12/21/01**
 ETC Order Number **0112602**

ETC Lab ID **0112602-02**
 Field ID : **EFF-12-21**

Matrix : **AQUEOUS**
 Sample Date : **12/21/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Base/Neutral & Acid				01/03/02	12/27/01	EM 8270C 3510C
Nitrobenzene	ND	ug/L	5.00			
2-Nitroaniline	ND	ug/L	5.00			
3-Nitroaniline	ND	ug/L	10.0			
4-Nitroaniline	ND	ug/L	5.00			
2-Nitrophenol	ND	ug/L	5.00			
4-Nitrophenol	ND	ug/L	5.00			
N-Nitrosodiphenylamine	ND	ug/L	5.00			
N-Nitrosodipropylamine	ND	ug/L	5.00			
Pentachlorophenol	ND	ug/L	10.0			
Phenanthrene	ND	ug/L	2.00			
Phenol	ND	ug/L	5.00			
Pyrene	ND	ug/L	2.00			
2,4,5-Trichlorophenol	ND	ug/L	5.00			
2,4,6-Trichlorophenol	ND	ug/L	5.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Nitrobenzene-d5	51	29 110
S2 - 2-Fluorobiphenyl	51	38 107
S3 - 4-Terphenyl-d14	53	33 122
S4 - Phenol-d6	23	7 58
S5 - 2,4,6-Tribromophenol	54	16 138
S6 - 2-Fluorophenol	33	8 88

CB
 Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000016

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 422

CLIENT SAMPLE NO.

011260202

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix: (soil/water) WATER

Lab Sample ID: 011260202

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: 0601008

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: 1 (mL)

Date Analyzed: 01/03/02

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

Number TICs found: 9

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	3.72	0.820	J
2. 127-18-4	TETRACHLOROETHYLENE	3.79	3.30	NJ
3. 79-34-5	ETHANE, 1,1,2,2-TETRACHLORO-	4.45	39.58	NJ
4. 565-75-3	PENTANE, 2,3,4-TRIMETHYL-	4.57	1.06	NJ
5. 542-85-8	ETHANE, ISOTHIOCYANATO-	4.80	3.27	NJ
6.	UNKNOWN	5.50	1.07	J
7. 398-23-2	1,1'-BIPHENYL, 4,4'-DIFLUORO	6.12	1.64	NJ
8. 57-10-3	HEXADECANOIC ACID	7.50	0.932	NJ
9. 314-40-9	BROMACIL	7.58	2.39	NJ
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FORM I BNA-GCMS-TIC

000017

777 423

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level III
Inorganics**

000018

ENVIRONMENTAL TESTING AND CONSULTING, INC.
CASE NARRATIVE
INORGANICS – AQUEOUS

777 424

Client Name Sverdrup/Jacobs Engineering
Project Name Memphis Depot
ETC Order# 0112-602

HOLDING TIMES

Sample Analysis All samples analyzed within Method Specified Holding Times.

QUALITY CONTROL

QC Batch
T2122611 TSS

Duplicates
RPD All analytes within QC limits



Project Manager

000019

777 425

DUPLICATE
INORGANICS

Lab Name: Environmental Testing and Consulting, Inc.

Analyte	QC Sample No.	QC Batch	SAMPLE Result	DUP Result	Units	% RPD	#	QC Limits		Method
TSS	01112-611-0 DUP	T2122611	344	308	mg/L	11		0	20	160.2

ND - Not Detected

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

Reviewed by:



INORG DUP 0112-602.iqc

000020

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level III
Metals (ICP/GFAA/CV)**

CASE NARRATIVE

METALS - AQUEOUS

Client Name Sverdrup/Jacobs Engineering
Project Name Memphis Depot
ETC Order# 0112-602

PRESERVATION

All aqueous samples preserved to pH < 2.

HOLDING TIMES

QC Batch(s) for this order	ICP Metals	V29-AQ-29
	Mercury	V9-AQ-26

Sample Preparation/Analysis	All samples digested/ analyzed within holding time.
Mercury Preparation/Analysis	All samples analyzed within 28 days of collection.

METHOD

Preparation: SM3030K/7470A
Analysis: EPA 200.7/7470A

CALIBRATION

Initial Calibration	All criteria met.
Continuing Calibration	All criteria met.

SAMPLE ANALYSIS

Instrumentation	Thermo Jarrell Ash Enviro-I ICP CETAC M-6000A Mercury Analyzer
Dilutions Required	No dilutions required.

QUALITY CONTROL

0112-602.MQCBLANK

Method Blank

V29-AQ-29BLK	ICP Metals
V9-AQ-26BLK	Mercury

No target analytes detected in the method blank

0112-602.MQCLCS

Laboratory Control Sample(s)

V29-AQ-29LCS	ICP Metals
V9-AQ-26LCS	Mercury

All acceptance criteria met.

0112-602.MQCMSMSD

Matrix Spike / Matrix Spike Dup - ICP Metals

0112-602-01	RPD	All analytes within QC limits.
VW-1	Spike Recovery	All analytes within QC limits.*

*Iron was flagged for low recovery in the MS. MSD recovery was within QC limits. Refer to Laboratory Control Sample(s) for system verification.

Matrix Spike / Matrix Spike Dup - Hg

0112-602-01	RPD	All analytes within QC limits.
VW-1	Spike Recovery	All analytes within QC limits.

Refer to Laboratory Control Sample(s) for system verification.

CB

Project Manager

FORM 3A
WATER METHOD BLANK
METALS

Lab Name: Environmental Testing and Consulting, Inc

Laboratory ID ICP/GFAA Metals
Laboratory ID MercuryV29-AQ-29 BLK
V9-AQ-26 BLKQC Batch
V29-AQ-29
V9-AQ-26

Date Sample Prepared

12/28/01 ICP/GFAA Metals
1/2/02 Mercury

Metals	Concentration mg/L	Detection Limit mg/L	Date Analyzed	Method
Silver	ND	0.0005	1/3/02	200.7
Arsenic	ND	0.002	1/3/02	200.7
Barium	ND	0.0005	1/3/02	200.7
Cadmium	ND	0.0003	1/3/02	200.7
Chromium	ND	0.002	1/3/02	200.7
Iron	ND	0.035	1/3/02	200.7
Manganese	ND	0.0005	1/3/02	200.7
Lead	ND	0.002	1/3/02	200.7
Selenium	ND	0.002	1/3/02	200.7
Mercury	ND	0.0002	1/3/02	245.1

ND - Not Detected

Reviewed by 

0112-602.mqc BLANK

000023

777 429

FORM 7
WATER LABORATORY CONTROL SAMPLE
METALS

Lab Name: Environmental Testing and Consulting, Inc

Laboratory Control ID

ICP/GFAA Metals V29-AQ-29 LCS
Mercury V9-AQ-26 LCS

QC Batch
V29-AQ-29
V9-AQ-26

Date Prepared

ICP/GFAA Metals 12/28/01
Mercury 1/2/02

Metals	Spike Added mg/L	Found mg/L	% R	#	QC Limits	
Silver	0.2500	0.2488	100		80	120
Arsenic	0.100	0.114	114		80	120
Barium	2.500	2.645	106		80	120
Cadmium	0.0200	0.0210	105		80	120
Chromium	0.500	0.544	109		80	120
Iron	2.50	2.78	111		80	120
Manganese	0.2500	0.2798	112		80	120
Lead	0.100	0.109	109		80	120
Selenium	0.100	0.106	106		80	120
Mercury	0.0050	0.0055	110		85	115

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

Reviewed by 

0112-602.mqc LCS

000024

FORM 6
WATER MATRIX SPIKE / MATRIX SPIKE DUPLICATE
METALS

777 430

Lab Name: Environmental Testing and Consulting, Inc

Laboratory ID MS ICP/GFAA Metals	<u>0112-602-01</u>	QC Batch <u>V29-AQ-29</u>
Laboratory ID MS Mercury	<u>0112-602-01</u>	<u>V9-AQ-26</u>
Date Sample Prepared	<u>12/28/01</u> <u>1/2/02</u>	ICP/GFAA Metals Mercury

Metals	SPIKE Added mg/L	SAMPLE Conc mg/L	MS Conc mg/L	RPD <20% #	MS % Rec #	QC Limits	
Silver	0.2500	ND	0.2495	2	100	75	125
Arsenic	0.100	0.003	0.116	0	113	75	125
Barium	2.500	0.1235	2.799	2	107	75	125
Cadmium	0.0200	ND	0.0208	2	104	75	125
Chromium	0.500	0.014	0.554	2	108	75	125
Iron	2.50	11.1	12.4	5	52 *	75	125
Manganese	0.2500	2.393	2.648	0	102	75	125
Lead	0.100	0.049	0.157	1	108	75	125
Selenium	0.100	ND	0.106	0	106	75	125
Mercury	0.0050	ND	0.0053	0	106	80	120

ND - Not Detected

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

Reviewed by h

0112-602.mqc MSMSD

000025

777 431

FORM 6
WATER MATRIX SPIKE / MATRIX SPIKE DUPLICATE
METALS

Lab Name: Environmental Testing and Consulting, Inc

Laboratory ID MS ICP/GFAA Metals	0112-602-01	QC Batch V29-AQ-29
Laboratory ID MS Mercury	0112-602-01	V9-AQ-26
Date Sample Prepared	12/28/01	ICP/GFAA Metals
	<u>1/2/02</u>	Mercury

Metals	SPIKE Added mg/L	SAMPLE Conc mg/L	MSD Conc mg/L		MSD % Rec	#	QC Limits
Silver	0.2500	ND	0.2448		98	75	125
Arsenic	0.100	0.003	0.116		113	75	125
Barium	2.500	0.1235	2.735		104	75	125
Cadmium	0.0200	ND	0.0203		102	75	125
Chromium	0.500	0.014	0.545		106	75	125
Iron	2.50	11.1	13.1		80	75	125
Manganese	0.2500	2.393	2.640		99	75	125
Lead	0.100	0.049	0.155		106	75	125
Selenium	0.100	ND	0.106		106	75	125
Mercury	0.0050	ND	0.0053		106	80	120

ND - Not Detected

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

Reviewed by h

0112-602.mqc MSMSD

000026

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level III
GC/MS Volatiles**

777 433

ENVIRONMENTAL TESTING AND CONSULTING, INC.

CASE NARRATIVE

GC/MS VOLATILE COMPOUNDS – AQUEOUS

Client Name Sverdrup/Jacobs Engineering
Project Name Memphis Depot
ETC Order# 0112-602

SAMPLE PRESERVATION (Verified at time of analysis)

All aqueous samples preserved to pH < 2 and maintained at 4 degrees C until analysis.

METHOD

Preparation: SW-846 5030B
Analysis: SW-846 8260B

HOLDING TIMES

Sample Analysis All samples analyzed within 14 days of collection.

QUALITY CONTROL

QC Batch	Form 4 Summary
V412211	V412211LB
V401031	V401031LB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits.

Method Blank FORM 4
V412211LB
V401031LB

Target analytes were not detected in the method blanks, except as listed below:
Methylene Chloride was identified in method blank V412211LB at 4.60J ug/L. Per ETC, Inc. policy, sample concentrations less than 10 times the method blank value are flagged with "B – Detected in blank" and should be attributed to lab contamination.

Laboratory Control Sample FORM 3
V412211LCS/V412212LCS
V401031LCS

All target analyte acceptance criteria met.
1,1,1,2-Tetrachloroethane was flagged for low recovery in V412211LCS. The LCS was re-analyzed for this analyte. Recovery was within QC limits.

Matrix Spike / Matrix Spike Dup. FORM 3

Batch V412211

0112-623-02

RPD

All analytes within QC limits.

Spike Recovery

All analytes within QC limits.

The MS/MSD was performed on a sample not directly associated with this project. Batch QC provided for information only. Refer to Laboratory Control Sample(s) for system verification.

Batch V401031

0112-623-01

RPD

All analytes within QC limits.

Spike Recovery

All analytes within QC limits.*

*Multiple analytes were flagged for high recoveries in the MS/MSD. The MS/MSD was performed on a sample not directly associated with this project. Batch QC provided for information only. Refer to Laboratory Control Sample(s) for system verification.

000028

CASE NARRATIVE

GC/MS VOLATILE COMPOUNDS - AQUEOUS

Client Name Sverdrup/Jacobs Engineering
Project Name Memphis Depot
ETC Order# 0112-602

CALIBRATION

BFB Daily 12-Hour Tune All criteria met. FORM 5
Initial Calibration All criteria met. FORM 6
Calibration Verification All criteria met. FORM 7 Responses >30% do not affect the data.

Sequence V401031

Calibration Verification (CV): Date 01/03/02 Time: 0857

Multiple analytes were flagged as outside QC limits in this CV. Project samples were analyzed in this sequence to bring specific target analytes within calibration range. The analytes with responses >30% difference did not affect the data. Samples in this sequence are listed on Form 5 (Instrument Performance Check). The CV passed SPCC/CCC evaluation criteria. The CV is valid per SW-846 method 8000A/8260B.

Volatile Internal Standard Area and RT FORM 8

Calibration Verification standard(s) Internal Standard Areas and Retention Times within QC limits.

SAMPLE ANALYSIS

Instrumentation HP 5890 Series II GC, 5971MSD
Dilutions Required Dilutions were performed, as indicated on the result forms, to bring target analytes within calibration range.

CB

Project Manager

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

	CLIENT SAMPLE NO.	SMC1 (DFM) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER (DCE) #	TOT OUT
	=====	=====	=====	=====	=====	=====
01	V412211LCS	94	88	90	108	0
02	V412212LCS	94	91	80	114	0
03	V412211LB	97	95	89	113	0
04	011260201	99	86	91	125	0
05	V401031LCS	92	95	92	91	0
06	V401031LB	97	103	94	91	0
07	011260201	104	93	102	104	0
08	011260201	104	103	101	104	0
09	011260202	107	94	102	118	0
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QC LIMITS

SMC1 (DFM) = Dibromofluoromethane (84-115)
 SMC2 (TOL) = Toluene-d8 (69-133)
 SMC3 (BFB) = Bromofluorobenzene (80-111)
 OTHER (DCE) = 1,2-Dichloroethane-d4 (58-131)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

777 436 CLIENT SAMPLE NO.

V412211LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Lab File ID: 0402005

Lab Prep Batch: V412211

Date Analyzed: 12/21/01

Time Analyzed: 1645

GC Column: ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC4

Lab Sample ID: V412211LB

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
	=====	=====	=====	=====
01	V412211LCS	1LCS	0201002LCS	1417
02	V412212LCS	2LCS	0202003LCS	1452
03	011260201	011260201	0701008	1818
04	011262302	011262302	1101012	2022
05	011262302MS	MS	2001021	0059
06	011262302MSD	MSD	2101022	0130
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COMMENTS:

777 437

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V412211LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix: (soil/water) WATER

Lab Prep Batch: V412211

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0402005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 12/21/01

GC Column: ID: 2.00 (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

67-64-1-----	Acetone	20.00	U
75-05-8-----	Acetonitrile	20.00	U
107-02-8-----	Acrolein	20.00	U
107-13-1-----	Acrylonitrile	20.00	U
107-05-1-----	Allyl chloride	1.00	U
71-43-2-----	Benzene	1.00	U
108-86-1-----	Bromobenzene	1.00	U
74-97-5-----	Bromochloromethane	1.00	U
75-27-4-----	Bromodichloromethane	1.00	U
75-25-2-----	Bromoform	1.00	U
78-93-3-----	2-Butanone	20.00	U
74-83-9-----	Bromomethane	1.00	U
104-51-8-----	n-Butylbenzene	1.00	U
135-98-8-----	sec-Butylbenzene	1.00	U
98-06-6-----	tert-Butylbenzene	1.00	U
75-15-0-----	Carbon Disulfide	1.00	U
56-23-5-----	Carbon Tetrachloride	1.00	U
108-90-7-----	Chlorobenzene	1.00	U
124-48-1-----	Chlorodibromomethane	1.00	U
75-00-3-----	Chloroethane	1.00	U
110-75-8-----	2-Chloroethyl vinyl ether	20.00	U
67-66-3-----	Chloroform	1.00	U
74-87-3-----	Chloromethane	1.00	U
126-99-8-----	Chloroprene	1.00	U
95-49-8-----	2-Chlorotoluene	1.00	U
106-43-4-----	4-Chlorotoluene	1.00	U
96-12-8-----	1,2-Dibromo-3-chloropropane	1.00	U
106-93-4-----	1,2-Dibromoethane	1.00	U
74-95-3-----	Dibromomethane	1.00	U
95-50-1-----	1,2-Dichlorobenzene	1.00	U
541-73-1-----	1,3-Dichlorobenzene	1.00	U
106-46-7-----	1,4-Dichlorobenzene	1.00	U
1476-11-5-----	cis-1,4-Dichloro-2-butene	1.00	U

FORM I VOA-GCMS

000032

FORM 1 777 438 CLIENT SAMPLE NO.
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

V412211LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix: (soil/water) WATER

Lab Prep Batch: V412211

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0402005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 12/21/01

GC Column: ID: 2.00 (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
110-57-6	trans-1,4-Dichloro-2-butene	1.00	U
75-71-8	Dichlorodifluoromethane	1.00	U
75-34-3	1,1-Dichloroethane	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
75-35-4	1,1-Dichloroethene	1.00	U
156-59-2	cis-1,2-Dichloroethene	1.00	U
156-60-5	trans-1,2-Dichloroethene	1.00	U
78-87-5	1,2-Dichloropropane	1.00	U
142-28-9	1,3-Dichloropropane	1.00	U
594-20-7	2,2-Dichloropropane	1.00	U
563-58-6	1,1-Dichloropropene	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
108-20-3	Di isopropyl ether	1.00	U
123-91-1	1,4-Dioxane	100.0	U
141-78-6	Ethyl Acetate	5.00	U
100-41-4	Ethylbenzene	1.00	U
97-63-2	Ethyl methacrylate	1.00	U
110-00-9	Furan	1.00	U
87-68-3	Hexachlorobutadiene	1.00	U
110-54-3	Hexane	1.00	U
591-78-6	2-Hexanone	5.00	U
74-88-4	Iodomethane	1.00	U
78-83-1	Isobutyl Alcohol	100.0	U
98-82-8	Isopropylbenzene	1.00	U
99-87-6	4-Isopropyltoluene	1.00	U
126-98-7	Methacrylonitrile	10.00	U
75-09-2	Methylene Chloride	4.60	J
80-62-6	Methyl methacrylate	1.00	U
108-10-1	4-Methyl-2-Pentanone	5.00	U
1634-04-4	Methyl-tertbutyl-Ether	1.00	U
91-20-3	Naphthalene	1.00	U
107-12-0	Propionitrile	10.00	U

FORM I VOA-GCMS

000033

777 439

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V412211LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix: (soil/water) WATER

Lab Prep Batch: V412211

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0402005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 12/21/01

GC Column: ID: 2.00 (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
109-60-4	n-Propyl Acetate	1.00	U
103-65-1	n-Propylbenzene	1.00	U
100-42-5	Styrene	1.00	U
630-20-6	1,1,1,2-Tetrachloroethane	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane	1.00	U
127-18-4	Tetrachloroethene	1.00	U
109-99-9	Tetrahydrofuran	1.00	U
87-61-6	1,2,3-Trichlorobenzene	1.00	U
108-88-3	Toluene	1.00	U
71-55-6	1,1,1-Trichloroethane	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	1.00	U
79-01-6	Trichloroethene	1.00	U
75-69-4	Trichlorofluoromethane	1.00	U
96-18-4	1,2,3-Trichloropropane	1.00	U
95-63-6	1,2,4-Trimethylbenzene	1.00	U
120-82-1	1,2,4-Trichlorobenzene	1.00	U
108-67-8	1,3,5-Trimethylbenzene	1.00	U
108-05-4	Vinyl Acetate	20.00	U
75-01-4	Vinyl Chloride	1.00	U
108-38-3	Xylene-mp	1.00	U
95-47-6	Xylene-o	1.00	U

FORM I VOA-GCMS

000034

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 440 CLIENT SAMPLE NO.

V412211LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix: (soil/water) WATER

Lab Sample ID: V412211LB

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0402005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 12/21/01

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.				
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Lab Name: ETC, INC.

Lab Prep Batch: V412211

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix Spike - Sample No.: V412211LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acetone	100.0		106.9	107	59-151
Acetonitrile	1000		1028	103	57-143
Acrolein	100.0		94.20	94	59-134
Acrylonitrile	100.0		99.07	99	60-146
Allyl chloride	100.0		87.62	88	74-120
Benzene	100.0		98.31	98	72-124
Bromobenzene	100.0		102.8	103	77-120
Bromochloromethane	100.0		97.16	97	74-120
Bromodichloromethane	100.0		93.54	94	68-119
Bromoform	100.0		105.1	105	66-136
2-Butanone	100.0		103.4	103	55-151
Bromomethane	100.0		86.79	87	40-134
n-Butylbenzene	100.0		94.38	94	69-129
sec-Butylbenzene	100.0		81.13	81	72-127
tert-Butylbenzene	100.0		103.5	104	73-126
Carbon Disulfide	100.0		102.0	102	60-133
Carbon Tetrachloride	100.0		98.14	98	64-123
Chlorobenzene	100.0		92.98	93	77-112
Chlorodibromomethane	100.0		92.18	92	72-118
Chloroethane	100.0		104.3	104	64-142
2-Chloroethyl vinyl eth	100.0		84.83	85	22-165
Chloroform	100.0		94.34	94	70-115
Chloromethane	100.0		100.1	100	58-139
Chloroprene	100.0		93.58	94	73-118
2-Chlorotoluene	100.0		109.8	110	65-132
4-Chlorotoluene	100.0		107.2	107	67-127
1,2-Dibromo-3-chloropro	100.0		89.22	89	56-134
1,2-Dibromoethane	100.0		90.92	91	74-118

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

* Values outside of QC limits

COMMENTS:

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

777 442

Lab Name: ETC, INC.

Lab Prep Batch: V412211

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix Spike - Sample No.: V412211LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dibromomethane	100.0		91.00	91	75-114
1,2-Dichlorobenzene	100.0		91.93	92	80-113
1,3-Dichlorobenzene	100.0		94.14	94	77-119
1,4-Dichlorobenzene	100.0		89.46	89	78-116
cis-1,4-Dichloro-2-bute	100.0		114.2	114	70-130
trans-1,4-Dichloro-2-bu	100.0		109.6	110	62-138
Dichlorodifluoromethane	100.0		101.1	101	48-145
1,1-Dichloroethane	100.0		91.57	92	76-118
1,2-Dichloroethane	100.0		100.5	100	62-124
1,1-Dichloroethene	100.0		86.25	86	69-121
cis-1,2-Dichloroethene	100.0		88.86	89	76-114
trans-1,2-Dichloroethen	100.0		85.04	85	72-121
1,2-Dichloropropane	100.0		96.34	96	64-133
1,3-Dichloropropane	100.0		88.94	89	68-128
2,2-Dichloropropane	100.0		102.0	102	67-132
1,1-Dichloropropene	100.0		100.4	100	76-117
cis-1,3-Dichloropropene	100.0		92.53	92	77-120
trans-1,3-Dichloroprope	100.0		101.8	102	73-124
Di isopropyl ether	100.0		96.44	96	62-160
1,4-Dioxane	2000		2110	106	56-131
Ethyl Acetate	100.0		100.9	101	52-151
Ethylbenzene	100.0		96.57	96	77-111
Ethyl methacrylate	200.0		166.4	83	57-140
Furan	100.0		150.1	150*	52-124
Hexachlorobutadiene	100.0		90.86	91	69-137
Hexane	100.0		103.6	104	70-130
2-Hexanone	100.0		86.26	86	53-144
Iodomethane	100.0		131.0	131	51-153

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

* Values outside of QC limits

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: V412211

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix Spike - Sample No.: V412211LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	2000		1840	92	60-134
Isopropylbenzene	100.0		100.1	100	74-125
4-Isopropyltoluene	100.0		106.7	107	72-127
Methacrylonitrile	1000		979.2	98	70-125
Methylene Chloride	100.0		100.4	100	76-115
Methyl methacrylate	200.0		185.4	93	57-147
4-Methyl-2-Pentanone	100.0		92.82	93	42-144
Methyl-tertbutyl-Ether	100.0		103.8	104	62-122
Naphthalene	100.0		95.77	96	53-124
Propionitrile	1000		1026	103	58-139
n-Propyl Acetate	100.0		158.3	158	88-170
n-Propylbenzene	100.0		107.3	107	75-125
Styrene	100.0		99.10	99	77-117
1,1,1,2-Tetrachloroetha	100.0		74.52	74*	79-113
1,1,2,2-Tetrachloroetha	100.0		84.27	84	67-126
Tetrachloroethene	100.0		83.52	84	77-115
Tetrahydrofuran	100.0		87.40	87	76-181
1,2,3-Trichlorobenzene	100.0		98.34	98	62-132
Toluene	100.0		78.03	78	77-115
1,1,1-Trichloroethane	100.0		91.06	91	63-122
1,1,2-Trichloroethane	100.0		86.47	86	69-117
1,1,2-trichloro-1,2,2-t	100.0		91.22	91	70-130
Trichloroethene	100.0		82.95	83	75-113
Trichlorofluoromethane	100.0		102.5	102	55-130
1,2,3-Trichloropropane	100.0		103.2	103	62-130
1,2,4-Trimethylbenzene	100.0		105.1	105	69-126
1,2,4-Trichlorobenzene	100.0		99.34	99	68-132
1,3,5-Trimethylbenzene	100.0		105.0	105	69-128

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

* Values outside of QC limits

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: V412211

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix Spike - Sample No.: V412211LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Vinyl Acetate	100.0		90.40	90	28-146
Vinyl Chloride	100.0		104.6	105	65-134
Xylene-mp	200.0		187.7	94	77-115
Xylene-o	100.0		94.80	95	77-115

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: 2 out of 88 outside limits

COMMENTS:

777 445

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V412211

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix Spike - Sample No.: V412212LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
1,1,1,2-Tetrachloroetha	100.0		79.10	79	79-113

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 1 outside limits

COMMENTS:

FORM III VOA-GCMS

000040

FORM 3
WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

777 446

Lab Name: ETC, INC.

Lab Prep Batch: V412211

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix Spike - Sample No.: 011262302

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Benzene	100.0	0.000	121.1	121	72-124
Chlorobenzene	100.0	0.000	100.3	100	77-112
1,1-Dichloroethene	100.0	0.000	95.99	96	69-121
Toluene	100.0	0.000	92.12	92	77-115
Trichloroethene	100.0	0.000	93.20	93	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD REC.
Benzene	100.0	104.4	104	15	20 72-124
Chlorobenzene	100.0	102.7	103	3	20 77-112
1,1-Dichloroethene	100.0	99.48	99	3	20 69-121
Toluene	100.0	90.81	91	1	20 77-115
Trichloroethene	100.0	94.96	95	2	20 75-113

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:

777 447

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

Lab Name: ETC, INC.

Contract:

V401031LB

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Lab File ID: 0303005

Lab Prep Batch: V401031

Date Analyzed: 01/03/02

Time Analyzed: 1103

GC Column: ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC4

Lab Sample ID: 1LB

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	V401031LCS	1LCS	0201002LCS	0857
02	011262301	011262301	0501007	1210
03	011260201	011260201	0701009	1313
04	011260201	011260201	0801010	1345
05	011260202	011260202	0901011	1416
06	011262301MS	MS	1801020	1859
07	011262301MSD	MSD	1901021	1930
08				
09				
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COMMENTS:

FORM 1 777 448 CLIENT SAMPLE NO.
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

V401031LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix: (soil/water) WATER

Lab Prep Batch: V401031

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0303005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 01/03/02

GC Column: ID: 2.00 (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
67-64-1	Acetone	20.00	U
75-05-8	Acetonitrile	20.00	U
107-02-8	Acrolein	20.00	U
107-13-1	Acrylonitrile	20.00	U
107-05-1	Allyl chloride	1.00	U
71-43-2	Benzene	1.00	U
108-86-1	Bromobenzene	1.00	U
74-97-5	Bromochloromethane	1.00	U
75-27-4	Bromodichloromethane	1.00	U
75-25-2	Bromoform	1.00	U
78-93-3	2-Butanone	20.00	U
74-83-9	Bromomethane	1.00	U
104-51-8	n-Butylbenzene	1.00	U
135-98-8	sec-Butylbenzene	1.00	U
98-06-6	tert-Butylbenzene	1.00	U
75-15-0	Carbon Disulfide	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
108-90-7	Chlorobenzene	1.00	U
124-48-1	Chlorodibromomethane	1.00	U
75-00-3	Chloroethane	1.00	U
110-75-8	2-Chloroethyl vinyl ether	20.00	U
67-66-3	Chloroform	1.00	U
74-87-3	Chloromethane	1.00	U
126-99-8	Chloroprene	1.00	U
95-49-8	2-Chlorotoluene	1.00	U
106-43-4	4-Chlorotoluene	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane	1.00	U
106-93-4	1,2-Dibromoethane	1.00	U
74-95-3	Dibromomethane	1.00	U
95-50-1	1,2-Dichlorobenzene	1.00	U
541-73-1	1,3-Dichlorobenzene	1.00	U
106-46-7	1,4-Dichlorobenzene	1.00	U
1476-11-5	cis-1,4-Dichloro-2-butene	1.00	U

777 449

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V401031LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix: (soil/water) WATER

Lab Prep Batch: V401031

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0303005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 01/03/02

GC Column: ID: 2.00 (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

110-57-6-----	trans-1,4-Dichloro-2-butene	1.00	U
75-71-8-----	Dichlorodifluoromethane	1.00	U
75-34-3-----	1,1-Dichloroethane	1.00	U
107-06-2-----	1,2-Dichloroethane	1.00	U
75-35-4-----	1,1-Dichloroethene	1.00	U
156-59-2-----	cis-1,2-Dichloroethene	1.00	U
156-60-5-----	trans-1,2-Dichloroethene	1.00	U
78-87-5-----	1,2-Dichloropropane	1.00	U
142-28-9-----	1,3-Dichloropropane	1.00	U
594-20-7-----	2,2-Dichloropropane	1.00	U
563-58-6-----	1,1-Dichloropropene	1.00	U
10061-01-5-----	cis-1,3-Dichloropropene	1.00	U
10061-02-6-----	trans-1,3-Dichloropropene	1.00	U
108-20-3-----	Di isopropyl ether	5.00	U
123-91-1-----	1,4-Dioxane	100.0	U
141-78-6-----	Ethyl Acetate	5.00	U
100-41-4-----	Ethylbenzene	1.00	U
97-63-2-----	Ethyl methacrylate	1.00	U
110-00-9-----	Furan	1.00	U
87-68-3-----	Hexachlorobutadiene	1.00	U
110-54-3-----	Hexane	1.00	U
591-78-6-----	2-Hexanone	5.00	U
74-88-4-----	Iodomethane	1.00	U
78-83-1-----	Isobutyl Alcohol	100.0	U
98-82-8-----	Isopropylbenzene	1.00	U
99-87-6-----	4-Isopropyltoluene	1.00	U
126-98-7-----	Methacrylonitrile	10.00	U
75-09-2-----	Methylene Chloride	5.00	U
80-62-6-----	Methyl methacrylate	1.00	U
108-10-1-----	4-Methyl-2-Pentanone	5.00	U
1634-04-4-----	Methyl-tertbutyl-Ether	5.00	U
91-20-3-----	Naphthalene	1.00	U
107-12-0-----	Propionitrile	10.00	U

FORM I VOA-GCMS

000044

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

777 450

CLIENT SAMPLE NO.

V401031LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix: (soil/water) WATER

Lab Prep Batch: V401031

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0303005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 01/03/02

GC Column: ID: 2.00 (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

109-60-4-----n-Propyl Acetate	1.00	U
103-65-1-----n-Propylbenzene	1.00	U
100-42-5-----Styrene	1.00	U
630-20-6-----1,1,1,2-Tetrachloroethane	1.00	U
79-34-5-----1,1,2,2-Tetrachloroethane	1.00	U
127-18-4-----Tetrachloroethene	1.00	U
109-99-9-----Tetrahydrofuran	1.00	U
87-61-6-----1,2,3-Trichlorobenzene	1.00	U
108-88-3-----Toluene	1.00	U
71-55-6-----1,1,1-Trichloroethane	1.00	U
79-00-5-----1,1,2-Trichloroethane	1.00	U
76-13-1-----1,1,2-trichloro-1,2,2-triflu	1.00	U
79-01-6-----Trichloroethene	1.00	U
75-69-4-----Trichlorofluoromethane	1.00	U
96-18-4-----1,2,3-Trichloropropane	1.00	U
95-63-6-----1,2,4-Trimethylbenzene	1.00	U
120-82-1-----1,2,4-Trichlorobenzene	1.00	U
108-67-8-----1,3,5-Trimethylbenzene	1.00	U
108-05-4-----Vinyl Acetate	20.00	U
75-01-4-----Vinyl Chloride	1.00	U
108-38-3-----Xylene-mp	1.00	U
95-47-6-----Xylene-o	1.00	U

777 451

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

V401031LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix: (soil/water) WATER

Lab Sample ID: 1LB

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0303005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 01/03/02

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-GCMS-TIC

000046

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

777 452

Lab Name: ETC, INC.

Lab Prep Batch: V401031

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix Spike - Sample No.: V401031LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acetone	100.0		68.26	68	59-151
Acetonitrile	1000		746.2	75	57-143
Acrolein	100.0		99.73	100	59-134
Acrylonitrile	100.0		74.25	74	60-146
Allyl chloride	100.0		82.43	82	74-120
Benzene	100.0		99.31	99	72-124
Bromobenzene	100.0		87.62	88	77-120
Bromochloromethane	100.0		80.56	80	74-120
Bromodichloromethane	100.0		81.82	82	68-119
Bromoform	100.0		79.04	79	66-136
2-Butanone	100.0		79.18	79	55-151
Bromomethane	100.0		78.92	79	40-134
n-Butylbenzene	100.0		99.63	100	69-129
sec-Butylbenzene	100.0		109.0	109	72-127
tert-Butylbenzene	100.0		88.23	88	73-126
Carbon Disulfide	100.0		89.65	90	60-133
Carbon Tetrachloride	100.0		87.92	88	64-123
Chlorobenzene	100.0		91.89	92	77-112
Chlorodibromomethane	100.0		76.86	77	72-118
Chloroethane	100.0		82.94	83	64-142
2-Chloroethyl vinyl eth	100.0		88.49	88	22-165
Chloroform	100.0		83.76	84	70-115
Chloromethane	100.0		81.67	82	58-139
Chloroprene	100.0		88.78	89	73-118
2-Chlorotoluene	100.0		94.57	94	65-132
4-Chlorotoluene	100.0		88.32	88	67-127
1,2-Dibromo-3-chloropro	100.0		74.02	74	56-134
1,2-Dibromoethane	100.0		74.92	75	74-118

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

* Values outside of QC limits

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: V401031

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix Spike - Sample No.: V401031LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dibromomethane	100.0		82.00	82	75-114
1,2-Dichlorobenzene	100.0		99.20	99	80-113
1,3-Dichlorobenzene	100.0		102.3	102	77-119
1,4-Dichlorobenzene	100.0		97.49	97	78-116
cis-1,4-Dichloro-2-bute	100.0		74.72	75	70-130
trans-1,4-Dichloro-2-bu	100.0		88.53	88	62-138
Dichlorodifluoromethane	100.0		59.17	59	48-145
1,1-Dichloroethane	100.0		84.13	84	76-118
1,2-Dichloroethane	100.0		76.34	76	62-124
1,1-Dichloroethene	100.0		87.14	87	69-121
cis-1,2-Dichloroethene	100.0		87.33	87	76-114
trans-1,2-Dichloroethen	100.0		92.86	93	72-121
1,2-Dichloropropane	100.0		87.29	87	64-133
1,3-Dichloropropane	100.0		80.58	80	68-128
2,2-Dichloropropane	100.0		92.94	93	67-132
1,1-Dichloropropene	100.0		99.78	100	76-117
cis-1,3-Dichloropropene	100.0		87.39	87	77-120
trans-1,3-Dichloroprope	100.0		82.77	83	73-124
Di isopropyl ether	100.0		96.43	96	62-160
1,4-Dioxane	2000		1524	76	56-131
Ethyl Acetate	100.0		78.55	78	52-151
Ethylbenzene	100.0		93.51	94	77-111
Ethyl methacrylate	200.0		134.6	67	57-140
Furan	100.0		119.7	120	52-124
Hexachlorobutadiene	100.0		102.5	102	69-137
Hexane	100.0		113.5	114	70-130
2-Hexanone	100.0		67.19	67	53-144
Iodomethane	100.0		88.86	89	51-153

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

* Values outside of QC limits

COMMENTS:

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

777 454

Lab Name: ETC, INC.

Lab Prep Batch: V401031

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix Spike - Sample No.: V401031LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	2000		1620	81	60-134
Isopropylbenzene	100.0		93.79	94	74-125
4-Isopropyltoluene	100.0		88.99	89	72-127
Methacrylonitrile	1000		779.0	78	70-125
Methylene Chloride	100.0		84.58	84	76-115
Methyl methacrylate	200.0		147.0	74	57-147
4-Methyl-2-Pentanone	100.0		73.20	73	42-144
Methyl-tertbutyl-Ether	100.0		85.05	85	62-122
Naphthalene	100.0		98.36	98	53-124
Propionitrile	1000		751.3	75	58-139
n-Propyl Acetate	100.0		120.2	120	88-170
n-Propylbenzene	100.0		94.74	95	75-125
Styrene	100.0		94.38	94	77-117
1,1,1,2-Tetrachloroetha	100.0		89.12	89	79-113
1,1,2,2-Tetrachloroetha	100.0		86.82	87	67-126
Tetrachloroethene	100.0		93.68	94	77-115
Tetrahydrofuran	100.0		80.47	80	76-181
1,2,3-Trichlorobenzene	100.0		105.3	105	62-132
Toluene	100.0		85.55	86	77-115
1,1,1-Trichloroethane	100.0		88.50	88	63-122
1,1,2-Trichloroethane	100.0		81.46	81	69-117
1,1,2-trichloro-1,2,2-t	100.0		104.8	105	70-130
Trichloroethene	100.0		90.70	91	75-113
Trichlorofluoromethane	100.0		72.51	72	55-130
1,2,3-Trichloropropane	100.0		78.87	79	62-130
1,2,4-Trimethylbenzene	100.0		85.88	86	69-126
1,2,4-Trichlorobenzene	100.0		110.4	110	68-132
1,3,5-Trimethylbenzene	100.0		87.74	88	69-128

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

* Values outside of QC limits

COMMENTS:

777 455

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V401031

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix Spike - Sample No.: V401031LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Vinyl Acetate	100.0		89.20	89	28-146
Vinyl Chloride	100.0		85.52	86	65-134
Xylene-mp	200.0		187.7	94	77-115
Xylene-o	100.0		93.92	94	77-115

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 88 outside limits

COMMENTS:

FORM 3
WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

777 456

Lab Name: ETC, INC.

Lab Prep Batch: V401031

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix Spike - Sample No.: 011262301

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Benzene	100.0	0.000	150.2	150*	72-124
Chlorobenzene	100.0	0.000	116.8	117*	77-112
1,1-Dichloroethene	100.0	0.000	115.4	115	69-121
Toluene	100.0	0.000	122.7	123*	77-115
Trichloroethene	100.0	0.000	134.4	134*	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD REC.
=====	=====	=====	=====	=====	=====
Benzene	100.0	128.3	128*	16	20 72-124
Chlorobenzene	100.0	115.2	115*	2	20 77-112
1,1-Dichloroethene	100.0	115.6	116	1	20 69-121
Toluene	100.0	117.7	118*	4	20 77-115
Trichloroethene	100.0	114.2	114*	16	20 75-113

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: 8 out of 10 outside limits

COMMENTS:

777 457

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level III
GC/MS Semi-Volatiles**

000052

CASE NARRATIVE
GC/MS SEMI-VOLATILE COMPOUNDS - AQUEOUS

Client Name Sverdrup/Jacobs Engineering
Project Name Memphis Depot
ETC Order# 0112-602

SAMPLE PRESERVATION

All aqueous samples maintained at 4 degrees C until extraction.

HOLDING TIMES

Sample Extraction All aqueous samples extracted within 7 days.

METHOD

Preparation: SW-846 3510C
Analysis: SW-846 8270C

QUALITY CONTROL

QC Batch Form 4 Summary
P07012 P07012LB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits.

Method Blank FORM 4
P07012LB

Target analytes were not detected in the method blank.

Laboratory Control Sample FORM 3
P07012LCS/LCSD

All target analyte acceptance criteria met, except as listed below.

Benzidine was flagged for low recoveries in the LCS/LCSD. 2,4-Dimethylphenol was flagged for low recovery in the LCSD.

RPDs for multiple analytes were flagged as outside QC limits due to lower recoveries in the LCSD.

Matrix Spike / Matrix Spike Dup FORM 3
Batch P07012

Due to the limited amount of sample available, no MS/MSD was extracted/analyzed. Refer to Laboratory Control Sample(s) for system verification.

CALIBRATION

DFTPP Daily 12-Hour Tune All criteria met. FORM 5
Initial Calibration All criteria met. FORM 6
Calibration Verification All criteria met. FORM 7 Responses >30% do not affect the data.

Semi-Volatile Internal Standard Area and RT FORM 8

Calibration Verification standard(s) Internal Standard Areas and Retention Times within QC limits.

SAMPLE ANALYSIS

Instrumentation HP 5890 Series II GC, 5971MSD/HP 6890 GC, 5973MSD
Dilutions Required No dilutions required.

CB
Project Manager

FORM 2
WATER BNA-GCMS SURROGATE RECOVERY

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

	CLIENT SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (TBP) #	S6 (2FP) #	S7 #	S8 #	TOT OUT
01	P07012LB	54	51	70	23	55	34			0
02	P07012LCS	65	67	82	25	76	36			0
03	P07012LCSD	71	69	80	28	71	40			0
04	011260202	51	51	53	23	54	33			0
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06										
07										
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QC LIMITS

S1 (NBZ) = Nitrobenzene-d5 (29-110)
 S2 (FBP) = 2-Fluorobiphenyl (38-107)
 S3 (TPH) = Terphenyl-d14 (33-122)
 S4 (PHL) = Phenol-d6 (7- 58)
 S5 (TBP) = 2,4,6-Tribromophenol (16-138)
 S6 (2FP) = 2-Fluorophenol (8- 88)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D Surrogate diluted out

FORM 4
BNA-GCMS METHOD BLANK SUMMARY

777 460

CLIENT SAMPLE NO.

P07012LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Lab File ID: 0301005

Lab Prep Batch: P07012

Instrument ID: BNA1

Lab Sample ID: P07012LB

Matrix: (soil/water) WATER

Date Analyzed: 01/03/02

Level: (low/med) LOW

Time Analyzed: 1715

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	=====	=====	=====	=====
01	P07012LCS	P07012LCS	0401006	01/03/02
02	P07012LCSD	P07012LCSD	0501007	01/03/02
03	011260202	011260202	0601008	01/03/02
04				
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COMMENTS:

777 461

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

P07012LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix: (soil/water) WATER

Lab Prep Batch: P07012

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: 0301005

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: 1 (mL)

Date Analyzed: 01/03/02

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

83-32-9-----	Acenaphthene	2.00	U
208-96-8-----	Acenaphthylene	2.00	U
98-86-2-----	Acetophenone	5.00	U
62-53-3-----	Aniline	5.00	U
120-12-7-----	Anthracene	2.00	U
92-87-5-----	Benzidine	20.00	U
56-55-3-----	Benz(a)Anthracene	2.00	U
205-99-2-----	Benzo(b)fluoranthene	2.00	U
207-08-9-----	Benzo(k)fluoranthene	2.00	U
191-24-2-----	Benzo(ghi)perylene	2.00	U
50-32-8-----	Benzo(a)pyrene	2.00	U
65-85-0-----	Benzoic acid	50.00	U
100-51-6-----	Benzyl alcohol	5.00	U
111-91-1-----	Bis(2-chloroethoxy)methane	5.00	U
111-44-4-----	Bis(2-chloroethyl) ether	5.00	U
108-60-1-----	Bis(2-chloroisopropyl) ether	5.00	U
117-81-7-----	Bis(2-ethylhexyl) phthalate	5.00	U
101-55-3-----	4-Bromophenyl phenyl ether	5.00	U
85-68-7-----	Butyl benzyl phthalate	5.00	U
86-74-8-----	Carbazole	2.00	U
106-47-8-----	4-Chloroaniline	5.00	U
510-15-6-----	Chlorobenzilate	5.00	U
59-50-7-----	4-Chloro-3-methylphenol	5.00	U
91-58-7-----	2-Chloronaphthalene	2.00	U
95-57-8-----	2-Chlorophenol	5.00	U
7005-72-3-----	4-Chlorophenyl phenyl ether	5.00	U
218-01-9-----	Chrysene	2.00	U
53-70-3-----	Dibenz(a,h)anthracene	2.00	U
132-64-9-----	Dibenzofuran	5.00	U
84-74-2-----	Di-n-butyl phthalate	5.00	U
95-50-1-----	1,2-Dichlorobenzene	5.00	U
541-73-1-----	1,3-Dichlorobenzene	5.00	U
106-46-7-----	1,4-Dichlorobenzene	5.00	U

FORM I BNA-GCMS

000056

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET

777 462

CLIENT SAMPLE NO.

P07012LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix: (soil/water) WATER

Lab Prep Batch: P07012

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: 0301005

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: 1 (mL)

Date Analyzed: 01/03/02

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

91-94-1-----	3,3'-Dichlorobenzidine	10.00	U
120-83-2-----	2,4-Dichlorophenol	5.00	U
87-65-0-----	2,6-Dichlorophenol	5.00	U
84-66-2-----	Diethyl phthalate	5.00	U
119-93-7-----	3,3-Dimethylbenzidine	10.00	U
105-67-9-----	2,4-Dimethyphenol	5.00	U
131-11-3-----	Dimethyl phthalate	5.00	U
534-52-1-----	4,6-Dinitro-2-methylphenol	10.00	U
51-28-5-----	2,4-Dinitrophenol	20.00	U
121-14-2-----	2,4-Dinitrotoluene	5.00	U
606-20-2-----	2,6-Dinitrotoluene	5.00	U
122-39-4-----	N-NitrosdiphyAm/Diphenylamin	5.00	U
117-84-0-----	Di-n-octyl phthalate	5.00	U
62-50-0-----	Ethyl methanesulfonate	5.00	U
206-44-0-----	Fluoranthene	2.00	U
86-73-7-----	Fluorene	2.00	U
118-74-1-----	Hexachlorobenzene	5.00	U
87-68-3-----	Hexachlorobutadiene	5.00	U
77-47-4-----	Hexachlorocyclopentadiene	5.00	U
67-72-1-----	Hexachloroethane	5.00	U
193-39-5-----	Indeno (1,2,3-cd) pyrene	2.00	U
78-59-1-----	Isophorone	5.00	U
66-27-3-----	Methyl methanesulfonate	5.00	U
91-57-6-----	2-Methylnaphthalene	2.00	U
95-48-7-----	2-Methylphenol	5.00	U
108-39-4-----	3&4-Methylphenol	5.00	U
91-20-3-----	Naphthalene	2.00	U
88-74-4-----	2-Nitroaniline	10.00	U
99-09-2-----	3-Nitroaniline	10.00	U
100-01-6-----	4-Nitroaniline	10.00	U
98-95-3-----	Nitrobenzene	5.00	U
88-75-5-----	2-Nitrophenol	10.00	U
100-02-7-----	4-Nitrophenol	5.00	U

FORM I BNA-GCMS

000057

777 463

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

P07012LB

Lab Name: ETC, INC. Contract:
Lab Code: Case No.: SAS No.: SDG No.: 0112602
Matrix: (soil/water) WATER Lab Prep Batch: P07012
Sample wt/vol: 1000 (g/mL) ML Lab File ID: 0301005
Level: (low/med) LOW Date Received: _____
% Moisture: _____ decanted: (Y/N) _____ Date Extracted: _____
Concentrated Extract Volume: 1 (mL) Date Analyzed: 01/03/02
Injection Volume: 1.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg) UG/L	Q
924-16-3-----	N-Nitrosodibutylamine	5.00	U
55-18-5-----	N-Nitrosodiethylamine	5.00	U
62-75-9-----	N-Nitrosodimethylamine	5.00	U
621-64-7-----	N-Nitrosodi-n-propylamine	5.00	U
82-68-8-----	Pentachloronitrobenzene	10.00	U
87-86-5-----	Pentachlorophenol	10.00	U
62-44-2-----	Phenacetin	5.00	U
85-01-8-----	Phenanthrene	2.00	U
108-95-2-----	Phenol	5.00	U
129-00-0-----	Pyrene	2.00	U
110-86-1-----	Pyridine	5.00	U
95-94-3-----	1,2,4,5-Tetrachlorobenzene	5.00	U
58-90-2-----	2,3,4,6-Tetrachlorophenol	5.00	U
120-82-1-----	1,2,4-Trichlorobenzene	5.00	U
95-95-4-----	2,4,5-Trichlorophenol	5.00	U
88-06-2-----	2,4,6-Trichlorophenol	5.00	U
103-33-3-----	1,2-Dphnylhydrzine/Azobenzen	5.00	U

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

777 464

CLIENT SAMPLE NO.

P07012LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix: (soil/water) WATER

Lab Sample ID: P07012LB

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: 0301005

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: 1 (mL)

Date Analyzed: 01/03/02

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	3.73	1.21	J
2. 584-94-1	HEXANE, 2,3-DIMETHYL-	4.57	1.13	NJ
3. 102-82-9	TRIBUTYLAMINE	5.50	0.901	NJ
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FORM I BNA-GCMS-TIC

000059

777 465

FORM 3
WATER BNA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: P07012

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix Spike - Sample No.: P07012LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Acenaphthene	50.00		37.03	74	38-117
Acenaphthylene	50.00		39.46	79	37-114
Acetophenone	50.00		34.48	69	32-108
Aniline	50.00		29.44	59	16-133
Anthracene	50.00		37.54	75	34-128
Benzidine	50.00		7.31	15*	22-176
Benz(a)Anthracene	50.00		39.98	80	36-127
Benzo(b)fluoranthene	50.00		41.12	82	36-131
Benzo(k)fluoranthene	50.00		40.29	80	32-132
Benzo(ghi)perylene	50.00		37.62	75	26-123
Benzo(a)pyrene	50.00		39.57	79	34-131
Benzoic acid	50.00		17.77	36	11- 58
Benzyl alcohol	50.00		28.56	57	20-109
Bis(2-chloroethoxy)meth	50.00		35.24	70	20-126
Bis(2-chloroethyl)ether	50.00		31.67	63	16-122
Bis(2-chloroisopropyl)e	50.00		35.02	70	28-108
Bis(2-ethylhexyl)phthal	50.00		39.23	78	21-162
4-Bromophenyl phenyl et	50.00		37.02	74	31-124
Butyl benzyl phthalate	50.00		38.87	78	33-142
Carbazole	50.00		44.00	88	20-147
4-Chloroaniline	50.00		36.70	73	24-127
Chlorobenzilate	50.00		36.36	73	35-118
4-Chloro-3-methylphenol	50.00		37.84	76	35-117
2-Chloronaphthalene	50.00		39.08	78	29-137
2-Chlorophenol	50.00		28.72	57	27-102
4-Chlorophenyl phenyl e	50.00		36.89	74	39-110
Chrysene	50.00		41.19	82	30-124
Dibenz(a,h)anthracene	50.00		40.66	81	27-124

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

* Values outside of QC limits

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: P07012

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix Spike - Sample No.: P07012LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Dibenzofuran	50.00		37.09	74	40-108
Di-n-butyl phthalate	50.00		33.32	67	19-158
1,2-Dichlorobenzene	50.00		28.34	57	26-100
1,3-Dichlorobenzene	50.00		26.48	53	21-102
1,4-Dichlorobenzene	50.00		27.52	55	24- 99
3,3'-Dichlorobenzidine	50.00		57.64	115	6-192
2,4-Dichlorophenol	50.00		34.41	69	32-110
2,6-Dichlorophenol	50.00		36.02	72	31-112
Diethyl phthalate	50.00		37.48	75	36-130
3,3-Dimethylbenzidine	50.00		3.32	7	6-192
2,4-Dimethyphenol	50.00		26.59	53	34-105
Dimethyl phthalate	50.00		37.58	75	34-123
4,6-Dinitro-2-methylphe	50.00		34.06	68	27-128
2,4-Dinitrophenol	50.00		29.03	58	10-132
2,4-Dinitrotoluene	50.00		35.37	71	24-147
2,6-Dinitrotoluene	50.00		36.13	72	36-125
N-NitrsdiphyAm/Dipheny	100.0		78.99	79	35-116
Di-n-octyl phthalate	50.00		38.60	77	29-136
Ethyl methanesulfonate	50.00		31.47	63	20-121
Fluoranthene	50.00		34.00	68	28-127
Fluorene	50.00		37.51	75	41-116
Hexachlorobenzene	50.00		35.33	71	18-136
Hexachlorobutadiene	50.00		28.58	57	22-109
Hexachlorocyclopentadie	50.00		22.23	44	10-102
Hexachloroethane	50.00		24.68	49	16-107
Indeno (1,2,3-cd) pyrene	50.00		40.40	81	22-126
Isophorone	50.00		35.16	70	31-116
Methyl methanesulfonate	50.00		22.25	44	15- 82

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: P07012

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix Spike - Sample No.: P07012LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
2-Methylnaphthalene	50.00		34.49	69	34-108
2-Methylphenol	50.00		27.50	55	22- 97
3&4-Methylphenol	50.00		26.02	52	21- 96
Naphthalene	50.00		32.48	65	33-108
2-Nitroaniline	50.00		37.92	76	32-127
3-Nitroaniline	50.00		46.45	93	28-142
4-Nitroaniline	50.00		34.02	68	23-139
Nitrobenzene	50.00		33.22	66	27-117
2-Nitrophenol	50.00		32.55	65	25-114
4-Nitrophenol	50.00		13.54	27	1- 76
N-Nitrosodibutylamine	50.00		38.10	76	31-126
N-Nitrosodiethylamine	50.00		29.41	59	28-107
N-Nitrosodimethylamine	50.00		19.60	39	14- 84
N-Nitrosodi-n-propylami	50.00		36.17	72	29-114
Pentachloronitrobenzene	50.00		38.28	76	34-135
Pentachlorophenol	50.00		36.52	73	17-142
Phenacetin	50.00		37.07	74	29-141
Phenanthrene	50.00		36.84	74	40-120
Phenol	50.00		12.95	26	11- 55
Pyrene	50.00		34.96	70	20-154
Pyridine	50.00		12.76	26	10- 71
1,2,4,5-Tetrachlorobenz	50.00		32.97	66	28-110
2,3,4,6-Tetrachlorophen	50.00		39.50	79	28-118
1,2,4-Trichlorobenzene	50.00		28.78	58	23-106
2,4,5-Trichlorophenol	50.00		38.20	76	26-118
2,4,6-Trichlorophenol	50.00		37.39	75	26-115
1,2-Dphnylhydrzine/Azob	50.00		42.40	85	45-135

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

* Values outside of QC limits

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: P07012

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix Spike - Sample No.: P07012LCS

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
Acenaphthene	50.00	28.69	57	26*	20	38-117
Acenaphthylene	50.00	30.18	60	27*	20	37-114
Acetophenone	50.00	35.50	71	3	20	32-108
Aniline	50.00	27.90	56	5	20	16-133
Anthracene	50.00	29.56	59	24*	20	34-128
Benzidine	50.00	6.32	13*	14	20	22-176
Benz(a)Anthracene	50.00	38.82	78	2	20	36-127
Benzo(b)fluoranthene	50.00	43.31	87	6	20	36-131
Benzo(k)fluoranthene	50.00	45.51	91	13	20	32-132
Benzo(ghi)perylene	50.00	35.00	70	7	20	26-123
Benzo(a)pyrene	50.00	42.82	86	8	20	34-131
Benzoic acid	50.00	16.88	34	6	20	11- 58
Benzyl alcohol	50.00	33.21	66	15	20	20-109
Bis(2-chloroethoxy)meth	50.00	36.83	74	6	20	20-126
Bis(2-chloroethyl)ether	50.00	37.01	74	16	20	16-122
Bis(2-chloroisopropyl)e	50.00	40.96	82	16	20	28-108
Bis(2-ethylhexyl)phthal	50.00	39.58	79	1	20	21-162
4-Bromophenyl phenyl et	50.00	26.51	53	33*	20	31-124
Butyl benzyl phthalate	50.00	39.35	79	1	20	33-142
Carbazole	50.00	52.94	106	18	20	20-147
4-Chloroaniline	50.00	35.58	71	3	20	24-127
Chlorobenzilate	50.00	40.82	82	12	20	35-118
4-Chloro-3-methylphenol	50.00	36.02	72	5	20	35-117
2-Chloronaphthalene	50.00	30.72	61	24*	20	29-137
2-Chlorophenol	50.00	33.38	67	16	20	27-102
4-Chlorophenyl phenyl e	50.00	28.76	58	24*	20	39-110
Chrysene	50.00	38.90	78	5	20	30-124
Dibenz(a,h)anthracene	50.00	39.05	78	4	20	27-124

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: P07012

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix Spike - Sample No.: P07012LCS

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
Dibenzofuran	50.00	28.57	57	26*	20	40-108
Di-n-butyl phthalate	50.00	31.27	62	8	20	19-158
1,2-Dichlorobenzene	50.00	32.62	65	13	20	26-100
1,3-Dichlorobenzene	50.00	30.51	61	14	20	21-102
1,4-Dichlorobenzene	50.00	31.80	64	15	20	24- 99
3,3'-Dichlorobenzidine	50.00	43.61	87	28*	20	6-192
2,4-Dichlorophenol	50.00	34.51	69	0	20	32-110
2,6-Dichlorophenol	50.00	35.49	71	1	20	31-112
Diethyl phthalate	50.00	30.76	62	19	20	36-130
3,3-Dimethylbenzidine	50.00	3.47	7	0	20	6-192
2,4-Dimethyphenol	50.00	5.46	11*	131*	20	34-105
Dimethyl phthalate	50.00	29.55	59	24*	20	34-123
4,6-Dinitro-2-methylphe	50.00	27.11	54	23*	20	27-128
2,4-Dinitrophenol	50.00	24.05	48	19	20	10-132
2,4-Dinitrotoluene	50.00	29.89	60	17	20	24-147
2,6-Dinitrotoluene	50.00	30.54	61	16	20	36-125
N-NitrsdiphylAm/Dipheny	100.0	85.16	85	7	20	35-116
Di-n-octyl phthalate	50.00	44.51	89	14	20	29-136
Ethyl methanesulfonate	50.00	36.80	74	16	20	20-121
Fluoranthene	50.00	32.84	66	3	20	28-127
Fluorene	50.00	29.96	60	22*	20	41-116
Hexachlorobenzene	50.00	26.76	54	27*	20	18-136
Hexachlorobutadiene	50.00	29.76	60	5	20	22-109
Hexachlorocyclopentadie	50.00	15.06	30	38*	20	10-102
Hexachloroethane	50.00	27.48	55	12	20	16-107
Indeno (1,2,3-cd) pyrene	50.00	39.01	78	4	20	22-126
Isophorone	50.00	36.09	72	3	20	31-116
Methyl methanesulfonate	50.00	26.24	52	17	20	15- 82

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

* Values outside of QC limits

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: P07012

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Matrix Spike - Sample No.: P07012LCS

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
2-Methylnaphthalene	50.00	35.17	70	1	20	34-108
2-Methylphenol	50.00	25.48	51	8	20	22- 97
3&4-Methylphenol	50.00	22.84	46	12	20	21- 96
Naphthalene	50.00	33.68	67	3	20	33-108
2-Nitroaniline	50.00	28.43	57	28*	20	32-127
3-Nitroaniline	50.00	33.08	66	34*	20	28-142
4-Nitroaniline	50.00	30.14	60	12	20	23-139
Nitrobenzene	50.00	34.45	69	4	20	27-117
2-Nitrophenol	50.00	33.91	68	4	20	25-114
4-Nitrophenol	50.00	11.48	23	16	20	1- 76
N-Nitrosodibutylamine	50.00	38.57	77	1	20	31-126
N-Nitrosodiethylamine	50.00	35.82	72	20	20	28-107
N-Nitrosodimethylamine	50.00	22.89	46	16	20	14- 84
N-Nitrosodi-n-propylami	50.00	40.13	80	10	20	29-114
Pentachloronitrobenzene	50.00	46.38	93	20	20	34-135
Pentachlorophenol	50.00	29.06	58	23*	20	17-142
Phenacetin	50.00	51.30	103	33*	20	29-141
Phenanthrene	50.00	29.34	59	22*	20	40-120
Phenol	50.00	14.72	29	11	20	11- 55
Pyrene	50.00	44.92	90	25*	20	20-154
Pyridine	50.00	7.14	14	60*	20	10- 71
1,2,4,5-Tetrachlorobenz	50.00	25.10	50	28*	20	28-110
2,3,4,6-Tetrachlorophen	50.00	30.33	61	26*	20	28-118
1,2,4-Trichlorobenzene	50.00	30.00	60	3	20	23-106
2,4,5-Trichlorophenol	50.00	28.34	57	28*	20	26-118
2,4,6-Trichlorophenol	50.00	26.32	53	34*	20	26-115
1,2-Dphnylhydrzine/Azob	50.00	43.34	87	2	20	45-135

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 25 out of 83 outside limits
Spike Recovery: 3 out of 166 outside limits

COMMENTS:

777 471

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level IV
Metals (ICP/GFAA/CV)**

900066

ENVIRONMENTAL TESTING & CONSULTING, INC
ICP Metals Sequence Check List

Sequence ID : 010302 System ID : ICP1 Date/Time: 1-3-0918

Analyst : SH
Supervisor: JF

1. Instrument Profile Intensity Check (Manganese)
2. Initial Calibration
 - a. Initial Calibration Blank (STD1-Blank)
 - b. Initial Calibration Standard 1 (C1) 3 Exposures at less than 3% RSD
 - c. Initial Calibration Standard 2 (C2) 3 Exposures at less than 3% RSD
 - d. Initial Calibration Standard 3 (C3) 3 Exposures at less than 3% RSD
 - e. Initial Calibration Standard 4 (C4) 3 Exposures at less than 3% RSD
 - f. Standardization Report

9140

3. Initial Calibration Readback (+/- 5% Difference Check Table)

Failures

a. Initial Calibration Standard 1 (C1)	_____	✓	_____
b. Initial Calibration Standard 2 (C2)	_____	✓	_____
c. Initial Calibration Standard 3 (C3)	_____	✓	_____
d. Initial Calibration Standard 4 (C4)		✓	

4. Initial Calibration Verification

e.	Initial Calibration Blank (ICB) – All elements below MDL/MQL	✓	
f.	Initial Calibration Verification (ICV1) – (5%)	✓	OK AT 10%
g.	Low Level Check (LLC1) – (20%)	✓	Ca, Y
h.	Low Level Check (LLC2) – (20%)	—	Ca
i.	Interelement Correction Standard – Initial (ICSAB) – (20%)	✓	
j.	Interelement Correction Standard – Final (ICSAB) – (20%)	✓	

Comments

Applicable ETC Order Nos. for this sequence:

V29AQ29	0112621		
V155054	622		
0201001	597		
0112602	543		
0201026	V29AQ28		
027	0112623		
0112564	543		
552	496		
538	460		
571	V155061		
584	0112545		
586			

Table Name: PLASMA1

Autosampler Type: TYPE TJA

Sample Positions: 42/192

QC Positions: 19/19

Sets: 1

Rinse Station location is rack -1, pos. -1.

--- Racks ---

Rack #	Type	Usage	#Pos Left	Analyses/Pos
1	Aux. (L) Rack	STD/QC/BLANK	19	10
2	Sample (16mm)	Samples	0	1
3	Sample (16mm)	Samples	0	1
4	Sample (16mm)	Samples	0	1
5	Sample (16mm)	Samples	42	1

--- Sample Sets ---

Set#	Type	Prepare?	Description	Method	#Pos	Rack#	StartPos
1	Normal	No	010302	ICPT	150	2	1

--- Preparation Info ---

Set#	Uptake	Uptake#2	Final	Dil.Factor

No Samples Prepared.

Rack #1

Pos	Row	Col	Sample Name	Set #	#Used	Type
(1...19			Not Used)			

Rack #2

Pos	Row	Col	Sample Name	Set #	#Used	Type
1	1	1	V29AQ29 SB	1	-NA-	Sample
2	1	2	V15SO54 SB	1	-NA-	Sample
3	1	3	V29AQ29 LC	1	-NA-	Sample
4	1	4	V15SO54 LC	1	-NA-	Sample
5	1	5	020100101	1	-NA-	Sample
6	1	6	020100103	1	-NA-	Sample
7	1	7	011260201 D	1	-NA-	Sample
8	1	8	011260201	1	-NA-	Sample
9	1	9	011260201 MS	1	-NA-	Sample
10	1	10	011260201 MSD	1	-NA-	Sample
11	1	11	CCB1	1	-NA-	Sample
12	1	12	CCV1	1	-NA-	Sample
13	2	1	11260201 5	1	-NA-	Sample
14	2	2	11260201 D	1	-NA-	Sample
15	2	3	20102601	1	-NA-	Sample
16	2	4	20102701	1	-NA-	Sample
17	2	5	CCB2	1	-NA-	Sample
18	2	6	CCV2	1	-NA-	Sample
19	2	7	11256402 10	1	-NA-	Sample
20	2	8	11256406 10	1	-NA-	Sample
21	2	9	11256408 10	1	-NA-	Sample

Rack #2

Row	Col	Sample Name	Set #	#Used	Type
22	2	10 11255201 PDS	1	-NA-	Sample
23	2	11 11253802 PDS	1	-NA-	Sample
24	2	12 11257101	1	-NA-	Sample
25	3	1 11258404	1	-NA-	Sample
26	3	2 11258406	1	-NA-	Sample
27	3	3 11258609	1	-NA-	Sample
28	3	4 11258609 5	1	-NA-	Sample
29	3	5 CCB3	1	-NA-	Sample
30	3	6 CCV3	1	-NA-	Sample
31	3	7 11258603 5	1	-NA-	Sample
32	3	8 11258613 PDS	1	-NA-	Sample
33	3	9 11258613 DT	1	-NA-	Sample
34	3	10 11255101 MSD	1	-NA-	Sample
35	3	11 11258614	1	-NA-	Sample
36	3	12 11258614 MS	1	-NA-	Sample
37	4	1 11258614 MSD	1	-NA-	Sample
38	4	2 11262101	1	-NA-	Sample
39	4	3 11262101 D	1	-NA-	Sample
40	4	4 11262101 MS	1	-NA-	Sample
41	4	5 CCB4	1	-NA-	Sample
42	4	6 CCV4	1	-NA-	Sample
43	4	7 11262201	1	-NA-	Sample
44	4	8 11262202	1	-NA-	Sample
45	4	9 11262203	1	-NA-	Sample
46	4	10 11262204	1	-NA-	Sample
47	4	11 11262205	1	-NA-	Sample
48	4	12 11262206	1	-NA-	Sample

Rack #3

Pos	Row	Col	Sample Name	Set #	#Used	Type
1	1	1	11262207	1	-NA-	Sample
2	1	2	11262208	1	-NA-	Sample
3	1	3	11262208 MS	1	-NA-	Sample
4	1	4	11262208 MSD	1	-NA-	Sample
5	1	5	CCB5	1	-NA-	Sample
6	1	6	CCV5	1	-NA-	Sample
7	1	7	11259701	1	-NA-	Sample
8	1	8	11259702	1	-NA-	Sample
9	1	9	11254303	1	-NA-	Sample
10	1	10	11254304	1	-NA-	Sample
11	1	11	V29AQ28 SB	1	-NA-	Sample
12	1	12	V29AQ28 LC	1	-NA-	Sample
13	2	1	11262301	1	-NA-	Sample
14	2	2	11262302	1	-NA-	Sample
15	2	3	11254302	1	-NA-	Sample
16	2	4	11254305	1	-NA-	Sample
17	2	5	CCB6	1	-NA-	Sample
18	2	6	CCV6	1	-NA-	Sample
19	2	7	11254306	1	-NA-	Sample
20	2	8	11249601	1	-NA-	Sample
21	2	9	11246001	1	-NA-	Sample

Rack #3

Pos	Row	Col	Sample Name	Set #	#Used	Type
22	2	10	11246001 MS	1	-NA-	Sample
23	2	11	11246001 MSD	1	-NA-	Sample
24	2	12	V15SO61 SB	1	-NA-	Sample
25	3	1	V15SO61 LC	1	-NA-	Sample
26	3	2	11254502	1	-NA-	Sample
27	3	3	11254504	1	-NA-	Sample
28	3	4	11254506	1	-NA-	Sample
29	3	5	CCB7	1	-NA-	Sample
30	3	6	CCV7	1	-NA-	Sample
31	3	7	11254509	1	-NA-	Sample
32	3	8	11254511	1	-NA-	Sample
33	3	9	11254513	1	-NA-	Sample
34	3	10	11254515	1	-NA-	Sample
35	3	11	11254518	1	-NA-	Sample
36	3	12	11254520	1	-NA-	Sample
37	4	1	11254522	1	-NA-	Sample
38	4	2	CCB8	1	-NA-	Sample
39	4	3	CCV8	1	-NA-	Sample
40	4	4	ICSA	1	-NA-	Sample
41	4	5	ICSAB	1	-NA-	Sample
42	4	6	(empty)	1	-NA-	-NA-
43	4	7	(empty)	1	-NA-	-NA-
44	4	8	(empty)	1	-NA-	-NA-
45	4	9	(empty)	1	-NA-	-NA-
46	4	10	(empty)	1	-NA-	-NA-
47	4	11	(empty)	1	-NA-	-NA-
48	4	12	(empty)	1	-NA-	-NA-

Rack #4

Pos	Row	Col	Sample Name	Set #	#Used	Type
1	1	1	(empty)	1	-NA-	-NA-
2	1	2	(empty)	1	-NA-	-NA-
3	1	3	(empty)	1	-NA-	-NA-
4	1	4	(empty)	1	-NA-	-NA-
5	1	5	(empty)	1	-NA-	-NA-
6	1	6	(empty)	1	-NA-	-NA-
7	1	7	(empty)	1	-NA-	-NA-
8	1	8	(empty)	1	-NA-	-NA-
9	1	9	(empty)	1	-NA-	-NA-
10	1	10	(empty)	1	-NA-	-NA-
11	1	11	(empty)	1	-NA-	-NA-
12	1	12	(empty)	1	-NA-	-NA-
13	2	1	(empty)	1	-NA-	-NA-
14	2	2	(empty)	1	-NA-	-NA-
15	2	3	(empty)	1	-NA-	-NA-
16	2	4	(empty)	1	-NA-	-NA-
17	2	5	(empty)	1	-NA-	-NA-
18	2	6	(empty)	1	-NA-	-NA-
19	2	7	(empty)	1	-NA-	-NA-
20	2	8	(empty)	1	-NA-	-NA-
21	2	9	(empty)	1	-NA-	-NA-

FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
ICP METALS

Lab Name Environmental Testing and Consulting, Inc

Date/Time of Sequence 01/03/02 0918 Instrument ICPT

Initial Calibration Source C1 M6-28-10 C2 M6-29-01 C3 M6-32-09 C4 M6-33-03

Continuing Calibration Source ICV/CCV M6-32-16

Analyte	Initial Calibration Verification			Continuing CCV1			Continuing CCV2			Found			Flag		
	True	Found	%Diff(1)	True	Found	%Diff(1)	Found	%Diff(1)	Flag	Found	%Diff(1)	Flag	Found	%Diff(1)	Flag
Silver	100	98.1	2	100	99	1	100	0	<5	100	0	<5			
Arsenic	500	522	4	500	528	6	538	8	<10	538	8	<10			
Barium	1000	990	1	1000	1000	0	1020	2	<5	1020	2	<5			
Cadmium	100	98.6	1	100	99.7	0	102	2	<5	102	2	<5			
Chromium	200	204	2	200	206	3	210	5	<5	210	5	<10			
Iron	1000	1040	4	1000	1050	5	1070	7	<5	1070	7	<10			
Manganese	100	105	5	100	106	6	108	8	<10	108	8	<10			
Lead	500	515	3	500	523	5	532	6	<5	532	6	<10			
Selenium	500	497	1	500	503	1	511	2	<5	511	2	<5			

(1) Percent difference from true value. ICP Method 6010B - 10% ICP Method 200.7 - 5%

000071

777 476

FORM 3
INITIAL AND CONTINUING CALIBRATION BLANKS
ICP METALS

Lab Name Environmental Testing and Consulting, Inc Instrument ICPT

Date/Time of Sequence 01/03/02 0918

Analyte	Initial Calibration Blank ug/L	CCB1	CCB2	Continuing Calibration Blank ug/L									
Silver	ND	ND	ND										
Arsenic	ND	ND	ND										
Barium	ND	ND	ND										
Cadmium	ND	ND	ND										
Chromium	ND	ND	ND										
Iron	ND	ND	ND										
Manganese	ND	ND	ND										
Lead	ND	ND	ND										
Selenium	ND	ND	ND										

000072

FORM 4
INTERFERENCE CHECK SAMPLE
ICP METALS

Lab Name Environmental Testing and Consulting, Inc

Date/Time of Sequence

01/03/02 0918

Instrument

ICPT

Concentration Units: ug/L

Analyte	True Sol	Initial Found		Final Found	
	AB	Sol AB	%REC	Sol AB	%REC
Silver	200	211	106	206	103
Aluminum	250000	251000	100	246000	98
Arsenic	200	204	102	201	101
Barium	200	209	105	204	102
Calcium	250000	252000	101	244000	98
Cadmium	200	195	98	193	97
Chromium	200	197	99	194	97
Iron	100000	101000	101	99000	99
Magnesium	250000	254000	102	246000	98
Manganese	200	205	103	200	100
Lead	200	202	101	196	98
Selenium	200	202	101	197	99

Analyte	True Sol	Initial Found		Final Found	
	A	Sol A	%REC	Sol A	%REC
Silver	0	ND	0	ND	0
Aluminum	250000	251000	100	248000	99
Arsenic	0	ND	0	ND	0
Barium	0	ND	0	ND	0
Calcium	250000	254000	102	247000	99
Cadmium	0	ND	0	ND	0
Chromium	0	ND	0	ND	0
Iron	100000	101000	101	99900	100
Magnesium	250000	254000	102	247000	99
Manganese	0	ND	0	ND	0
Lead	0	ND	0	ND	0
Selenium	0	ND	0	ND	0

%R - Recovery should be within 20%.

ENVIRONMENTAL TESTING & CONSULTING, INC

Mercury Sequence Check List

Sequence ID: 020103000203DBDate/Time: 1/3/02 0949Analyst: JFSupervisor: A

Instrument ID: CETAC M-6000A

1. General Maintenance Check

Action Taken

- a. Lamp Warm-up ☒
- b. Pump Winding ☒
- c. Check GLS ☒
- d. Nafion Dryer ☒

2. Sequence Check List

Initial Calibration

- a. Initial Calibration Blank (STD1-Blank)
- b. Initial Calibration Standard 1 0.20 ug/L
- c. Initial Calibration Standard 2 1.0 ug/L
- d. Initial Calibration Standard 3 2.0 ug/L
- e. Initial Calibration Standard 4 5.0 ug/L
- f. Initial Calibration Standard 5 10.0 ug/L

3. Regression coefficient (minimum = 0.995)

4. Initial Calibration Blank (ICB) - All elements below MQL

Water = 0.20 ug/L Soil = 0.02 mg/Kg

5. Initial Calibration Verification (ICV) - 2nd Source SRN: M-6-33-21

Concentration 5.0 ug/L +/- 10%

Found: 5.34 %Difference: 7

6. Continuing Calibration Blank (CCB) - All elements below MQL indicate by ✓

Metal	CCB1	CCB2	CCB3	CCB4	CCB5	CCB6	CCB7	CCB8	CCB9	CCB10	CCB11	CCB12	CCB13	CCB14	CCB15
Hg	✓	✓	✓	F	✓										

7. Continuing Calibration Verification (CCV) - Range: EPA 90-110% SW-846 80-120%

All elements within QC limits indicate by ✓ (Concentration same as ICV) SRN: M-6-33-21

Metal	CCV1	CCV2	CCV3	CCV4	CCV5	CCV6	CCV7	CCV8	CCV9	CCV10	CCV11	CCV12	CCV13	CCV14	CCV15
Hg	✓	✓	✓	F	✓										

Applicable ETC Order Nos. for this sequence:

SBLC V04A026112551112692201001112602112659BLK DIS5112701112622112691112690112660

Thursday, January 03, 2002

Tube	Rack ID	Sample ID	Weight	Volume	Sample
1		ICB	1	1	Unknow
2		ICV	1	1	Unknow
3		V09AQ26 SB	1	1	Unknow
4		V09AQ26 LC	1	1	Unknow
5		11260201B	1	1	Unknow
6		11260201C	1	1	Unknow
7		11260201C MS	1	1	Unknow
8		11260201C MSD	1	1	Unknow
9		11262201	1	1	Unknow
10		11262202	1	1	Unknow
11		11262203	1	1	Unknow
12		11262204	1	1	Unknow
13		CCB1	1	1	Unknow
14		CCV1	1	1	Unknow
15		11262205	1	1	Unknow
16		11262206	1	1	Unknow
17		11262207	1	1	Unknow
18		11262208	1	1	Unknow
19		11255101	1	1	Unknow
20		11265904	1	1	Unknow
21		11265904 MS	1	1	Unknow
22		11265904 MSD	1	1	Unknow
23		11265902	1	1	Unknow
24		11265903	1	1	Unknow
25		CCB2	1	1	Unknow
26		CCV2	1	1	Unknow
27		11265901	1	1	Unknow
28		11269101	1	1	Unknow
29		11269102	1	1	Unknow
30		11269201	1	1	Unknow
31		BLK DISS	1	1	Unknow
32		11269002	1	1	Unknow
33		11269002 MS	1	1	Unknow
34		11269002 MSD	1	1	Unknow
35		V09AQ27 SB	1	1	Unknow
36		V09AQ27 LC	1	1	Unknow
37		CCB3	1	1	Unknow
38		CCV3	1	1	Unknow
39		20100101	1	1	Unknow
40		20100103	1	1	Unknow
41		20100103 MS	1	1	Unknow
42		20100103 MSD	1	1	Unknow
43		11270101	1	1	Unknow
44		11270102	1	1	Unknow
45		11270103	1	1	Unknow
46		11270104	1	1	Unknow

777 481

Thursday, January 03, 2002

Tube	Rack ID	Sample ID	Weight	Volume	Sample
48		11270106	1	1	Unknow
49		CCB4	1	1	Unknow
50		CCV4	1	1	Unknow
51		11266001	1	1	Unknow
52		11266002	1	1	Unknow
53		11260201C PDS	1	1	Unknow
54		20100103 PDS	1	1	Unknow
55		CCB5	1	1	Unknow
56		CCV5	1	1	Unknow

000076

FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
MERCURY

Lab Name Environmental Testing and Consulting, Inc

Date/Time of Sequence 01/03/02 0949

Instrument

M6000

Initial Calibration Source C1 M6-33-20

Continuing Calibration Source ICV/CCV M6-33-21

Analyte	Initial Calibration Verification			True	Continuing CCV1			Continuing CCV2			Continuing CCV3		
	True	Found	%Diff(1)	Flag	Found	%Diff(1)	Flag	Found	%Diff(1)	Flag	Found	%Diff(1)	Flag
Mercury	5.00	5.34	6.8	<10	5.00	5.31	6.2	<10	5.35	7.0	5.35	7.0	<10

000077

777 482

FORM 3
INITIAL AND CONTINUING CALIBRATION BLANKS
ICP METALS

Lab Name Environmental Testing and Consulting, Inc Date/Time of Sequence 01/03/02 0949 Instrument M6000

Analyte	MDL ug/L	Initial Cal Blank (ICB) ug/L	CCB1	CCB2	CCB3	Continuing Calibration Blank ug/L									
Mercury	0.06	ND	ND	ND	ND										

000078

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level IV
GC/MS Volatiles**

ENVIRONMENTAL TESTING & CONSULTING, INC

GC/MS VOC Method 8260B Sequence Check List (SW-846)

Sequence ID: V412211 Matrix: _____ HBN: _____
 Date: 12/26/01 Analyst: (Signature)
 Applicable ETC Order Nos. for this sequence:
0112-496 0112-623 0112-512 521
0112-602 -495 -477 510

Validated

1. BFB Daily 12-Hour Tune Meets Criteria. No analyses begins until criteria are met. (SOP) ✓
2. Initial Calibration Verification Criteria - Method : V410242.8260.M
 - a. SPCC - Mean RF ≥ 0.10 (≥ 0.30 for Chlorobenzene / 1122-Tetrachloroethene) ✓
 - b. CCC - RSD of RF for CCCs and Target Analytes MUST BE $\leq 30\%$ ✓
 - c. RSD of analytes $\leq 15\%$ may use Average RF for quantitation ✓
 - d. Analytes w/RSD $> 15\%$ use Linear Regression - correlation coefficient ≥ 0.99 ✓
3. Calibration Verification - Each 12-Hour Shift
 - a. SPCC - Mean RF ≥ 0.10 (≥ 0.30 for Chlorobenzene / 1122-Tetrachloroethene) ✓
 - b. CCC - % Difference for Average RF Calibration - $\leq 20\%$ ✓
 - c. CCC - % Drift for Linear Regression Calibration - $\leq 20\%$ ✓
 - d. % Difference/% Drift for all other Target Analytes - $\leq 30\%$ ✓
Indomethacin @ 31.0
 - e. Internal Standards - Retention Times within ± 30 seconds from Mid-Point ICAL STD ✓
 - f. Internal Standards - Areas within (-50% to +100%) from Mid-Point ICAL STD ✓
4. Method Blanks included in this sequence :

Analyze daily or for each analytical batch (20 samples): _____ ✓
 List compounds identified in Method Blank w/concentration.
 Flag final result "B-Detected in Blank"
V412211213 Methyl P 4.60ug/L
5. Matrix Spike/Matrix Spike Duplicates included in this sequence :

Analyze daily or for each matrix (ms/msd per 20 samples of same matrix) ✓
 List MS/MSD(s) performed with any failures :
0112-623-2
6. Laboratory Control Samples included in this sequence :

Must contain all Target Analytes. ✓
V412211205
7. Surrogate Recoveries within QC Limits ✓
8. All positive compounds within calibration range ✓

Narrative/Notes :

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

777 486

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Lab File ID: 0101001

BFB Injection Date: 12/21/01

Instrument ID: VOC4

BFB Injection Time: 1403

GC Column:

ID: 2.00 (mm)

Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.6
75	30.0 - 60.0% of mass 95	46.3
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	Greater than 50.0% of mass 95	65.4
175	5.0 - 9.0% of mass 174	4.8 (7.4)1
176	95.0 - 101.0% of mass 174	65.2 (99.7)1
177	5.0 - 9.0% of mass 176	4.3 (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	V412211LCS	1LCS	0201002LCS	12/21/01	1417
02	DSC100PPB		0201002	12/21/01	1417
03	V412212LCS	2LCS	0202003LCS	12/21/01	1452
04	DSC100PPB		0202003	12/21/01	1452
05	V412211LB	V412211LB	0402005	12/21/01	1645
06	011260201	011260201	0701008	12/21/01	1818
07	011262302	011262302	1101012	12/21/01	2022
08	011262302MS	MS	2001021	12/22/01	0059
09	011262302MSD	MSD	2101022	12/22/01	0130
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

777 487

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Instrument ID: VOC4

Calibration Date: 12/21/01 Time: 1417

Lab File ID: 0201002

Init. Calib. Date(s): 10/24/01 10/24/01

Heated Purge: (Y/N) Y

Init. Calib. Times: 1433 1946

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
Acetone	106.9	100.0	AVRG	6.9	30.0
Acetonitrile	1028	1000	AVRG	2.8	30.0
Acrolein	94.20	100.0	AVRG	5.8	30.0
Acrylonitrile	99.07	100.0	AVRG	0.9	30.0
Allyl chloride	87.62	100.0	AVRG	12.4	30.0
Benzene	98.31	100.0	AVRG	1.7	30.0
Bromobenzene	102.8	100.0	AVRG	2.8	30.0
Bromochloromethane	97.16	100.0	AVRG	2.8	30.0
Bromodichloromethane	93.54	100.0	AVRG	6.5	30.0
Bromoform	105.1	100.0	AVRG	5.1	30.0
2-Butanone	103.4	100.0	AVRG	3.4	30.0
Bromomethane	86.79	100.0	AVRG	13.2	30.0
n-Butylbenzene	94.38	100.0	AVRG	5.6	30.0
sec-Butylbenzene	81.13	100.0	AVRG	18.9	30.0
tert-Butylbenzene	103.5	100.0	AVRG	3.5	30.0
Carbon Disulfide	102.0	100.0	AVRG	2.0	30.0
Carbon Tetrachloride	98.14	100.0	AVRG	1.9	30.0
Chlorobenzene	92.98	100.0	AVRG	7.0	30.0
Chlorodibromomethane	92.18	100.0	AVRG	7.8	30.0
Chloroethane	104.3	100.0	AVRG	4.3	30.0
2-Chloroethyl vinyl ether	84.83	100.0	AVRG	15.2	30.0
Chloroform	94.34	100.0	AVRG	5.7	20.0
Chloromethane	100.1	100.0	AVRG	0.1	30.0
Chloroprene	93.58	100.0	AVRG	6.4	30.0
2-Chlorotoluene	109.8	100.0	AVRG	9.8	30.0
4-Chlorotoluene	107.2	100.0	AVRG	7.2	30.0
1,2-Dibromo-3-chloropropane	89.22	100.0	AVRG	10.8	30.0
1,2-Dibromoethane	90.92	100.0	AVRG	9.1	30.0
Dibromomethane	91.00	100.0	AVRG	9.0	30.0
1,2-Dichlorobenzene	91.93	100.0	AVRG	8.1	30.0
1,3-Dichlorobenzene	94.14	100.0	AVRG	5.9	30.0
1,4-Dichlorobenzene	89.46	100.0	AVRG	10.5	30.0
cis-1,4-Dichloro-2-butene	114.2	100.0	AVRG	14.2	30.0
trans-1,4-Dichloro-2-butene	109.6	100.0	AVRG	9.6	30.0
Dichlorodifluoromethane	101.1	100.0	AVRG	1.1	30.0
1,1-Dichloroethane	91.57	100.0	AVRG	8.4	30.0
1,2-Dichloroethane	100.5	100.0	AVRG	0.5	30.0

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

777 488

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Instrument ID: VOC4

Calibration Date: 12/21/01 Time: 1417

Lab File ID: 0201002

Init. Calib. Date(s): 10/24/01 10/24/01

Heated Purge: (Y/N) Y

Init. Calib. Times: 1433 1946

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
1,1-Dichloroethene	86.25	100.0	AVRG	13.8	20.0
cis-1,2-Dichloroethene	88.86	100.0	AVRG	11.1	30.0
trans-1,2-Dichloroethene	85.04	100.0	AVRG	15.0	30.0
1,2-Dichloropropane	96.34	100.0	LINR	3.7	20.0
1,3-Dichloropropane	88.94	100.0	AVRG	11.1	30.0
2,2-Dichloropropane	102.0	100.0	AVRG	2.0	30.0
1,1-Dichloropropene	100.4	100.0	AVRG	0.4	30.0
cis-1,3-Dichloropropene	92.53	100.0	AVRG	7.5	30.0
trans-1,3-Dichloropropene	101.8	100.0	AVRG	1.8	30.0
Di isopropyl ether	96.44	100.0	AVRG	3.6	30.0
1,4-Dioxane	2110	2000	AVRG	5.5	30.0
Ethyl Acetate	100.9	100.0	AVRG	0.9	30.0
Ethylbenzene	96.57	100.0	AVRG	3.4	20.0
Ethyl methacrylate	166.4	200.0	AVRG	16.8	30.0
Furan	150.1	153.0	AVRG	1.9	30.0
Hexachlorobutadiene	90.86	100.0	AVRG	9.1	30.0
Hexane	103.6	117.0	AVRG	11.4	30.0
2-Hexanone	86.26	100.0	AVRG	13.7	30.0
Iodomethane	131.0	100.0	AVRG	31.0	30.0
Isobutyl Alcohol	1840	2000	AVRG	8.0	30.0
Isopropylbenzene	100.1	100.0	AVRG	0.1	30.0
4-Isopropyltoluene	106.7	100.0	AVRG	6.7	30.0
Methacrylonitrile	979.2	1000	AVRG	2.1	30.0
Methylene Chloride	100.4	100.0	LINR	0.4	30.0
Methyl methacrylate	185.4	200.0	AVRG	7.3	30.0
4-Methyl-2-Pentanone	92.82	100.0	AVRG	7.2	30.0
Methyl-tertbutyl-Ether	103.8	100.0	AVRG	3.8	30.0
Naphthalene	95.77	100.0	AVRG	4.2	30.0
Propionitrile	1026	1000	AVRG	2.6	30.0
n-Propyl Acetate	158.3	151.0	LINR	4.8	30.0
n-Propylbenzene	107.3	100.0	AVRG	7.3	30.0
Styrene	99.10	100.0	AVRG	0.9	30.0
1,1,1,2-Tetrachloroethane	98.49	100.0	AVRG	1.5	30.0
1,1,2,2-Tetrachloroethane	84.27	100.0	AVRG	15.7	30.0
Tetrachloroethene	83.52	100.0	AVRG	16.5	30.0
Tetrahydrofuran	87.40	91.50	AVRG	4.5	30.0
1,2,3-Trichlorobenzene	98.34	100.0	AVRG	1.7	30.0

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Instrument ID: VOC4

Calibration Date: 12/21/01 Time: 1417

Lab File ID: 0201002

Init. Calib. Date(s): 10/24/01 10/24/01

Heated Purge: (Y/N) Y

Init. Calib. Times: 1433 1946

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Toluene	78.03	100.0	AVRG	22.0	20.0
1,1,1-Trichloroethane	91.06	100.0	AVRG	8.9	30.0
1,1,2-Trichloroethane	86.47	100.0	AVRG	13.5	30.0
1,1,2-trichloro-1,2,2-triflu	91.22	100.0	AVRG	8.8	30.0
Trichloroethene	82.95	100.0	AVRG	17.0	30.0
Trichlorofluoromethane	102.5	100.0	AVRG	2.5	30.0
1,2,3-Trichloropropane	103.2	100.0	AVRG	3.2	30.0
1,2,4-Trimethylbenzene	105.1	100.0	AVRG	5.1	30.0
1,2,4-Trichlorobenzene	99.34	100.0	AVRG	0.7	30.0
1,3,5-Trimethylbenzene	105.0	100.0	AVRG	5.0	30.0
Vinyl Acetate	90.40	100.0	AVRG	9.6	30.0
Vinyl Chloride	104.6	100.0	AVRG	4.6	20.0
Xylene-mp	187.7	200.0	AVRG	6.2	30.0
Xylene-o	94.80	100.0	AVRG	5.2	30.0
=====	=====	=====	=====	=====	=====
Dibromofluoromethane	50.17	50.00	AVRG	0.3	30.0
Toluene-d8	47.23	50.00	AVRG	5.5	30.0
Bromofluorobenzene	55.68	50.00	AVRG	11.4	30.0
1,2-Dichloroethane-d4	52.05	50.00	AVRG	4.1	30.0

<-

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

777 490

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Instrument ID: VOC4

Calibration Date: 12/21/01 Time: 1452

Lab File ID: 0202003

Init. Calib. Date(s): 10/24/01 10/24/01

Heated Purge: (Y/N) Y

Init. Calib. Times: 1433 1946

GC Column:

ID: 2.00 (mm)

COMPOUND	RRF	RRF100	MIN RRF	%D	MAX %D
=====	=====	=====	=====	=====	=====
Toluene	0.929	0.891		4.1	20.0
=====	=====	=====	=====	=====	=====
Dibromofluoromethane	0.653	0.654		0.2	30.0
Toluene-d8	1.306	1.281		1.9	30.0
Bromofluorobenzene	0.536	0.533		0.6	30.0
1,2-Dichloroethane-d4	0.690	0.761		10.3	30.0

FORM VII VOA-GCMS

000085

777 491

VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Lab File ID (Standard): 0202003

Date Analyzed: 12/21/01

Instrument ID: VOC4

Time Analyzed: 1452

GC Column:

ID: 2.00 (mm)

Heated Purge: (Y/N) Y

	IS1 AREA #	RT #	IS2 (DFB) AREA #	RT #	IS3 (CBZ) AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	1150845	6.92	1896752	7.51	1912092	9.71
UPPER LIMIT	2301690	7.42	3793504	8.01	3824184	10.21
LOWER LIMIT	575423	6.42	948376	7.01	956046	9.21
=====	=====	=====	=====	=====	=====	=====
CLIENT SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V412211LB	1082051	6.92	1653425	7.52	1492564	9.72
02 011260201	986876	6.92	1699657	7.52	1360729	9.71
03 011262302	939724	6.92	1613041	7.52	1285255	9.71
04 011262302MS	1021364	6.92	1826158	7.52	1683678	9.71
05 011262302MSD	1112557	6.92	1908306	7.52	1734938	9.72
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS1 = Pentafluorobenzene
 IS2 (DFB) = 1,4-Difluorobenzene
 IS3 (CBZ) = Chlorobenzene-d5

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.

FORM 8
VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

777 492

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Lab File ID (Standard): 0202003

Date Analyzed: 12/21/01

Instrument ID: VOC4

Time Analyzed: 1452

GC Column:

ID: 2.00 (mm)

Heated Purge: (Y/N) Y

	IS4 (DCB)					
	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	715184	11.53				
UPPER LIMIT	1430368	12.03				
LOWER LIMIT	357592	11.03				
=====	=====	=====	=====	=====	=====	=====
CLIENT						
SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V412211LB	634402	11.53				
02 011260201	583986	11.54				
03 011262302	550098	11.54				
04 011262302MS	658638	11.54				
05 011262302MSD	651137	11.54				
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
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19						
20						
21						
22						

IS4 (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.

ENVIRONMENTAL TESTING & CONSULTING, INC
GC/MS VOC Method 8260B Sequence Check List (SW-846)

Sequence ID: 1401031 Matrix: H₂O HBN: _____

Date: 1-4-02

Analyst JS

Applicable ETC Order Nos. for this sequence:

Super 01/4/02

0112-623-1-3 0112-602-1,2
0112-659-1-4 0201-037-1-3

Validated

1. BFB Daily 12-Hour Tune Meets Criteria. No analyses begins until criteria are met. (SOP) ✓

2. Initial Calibration Verification Criteria - Method: 1412271.8260m

- a. SPCC - Mean RF ≥ 0.10 (≥ 0.30 for Chlorobenzene / 1122-Tetrachloroethene) ✓
- b. CCC - RSD of RF for CCCs and Target Analytes MUST BE $\leq 30\%$ ✓
- c. RSD of analytes $\leq 15\%$ may use Average RF for quantitation ✓
- d. Analytes w/RSD $> 15\%$ use Linear Regression - correlation coefficient > 0.99 ✓

3. Calibration Verification - Each 12-Hour Shift

- a. SPCC - Mean RF ≥ 0.10 (≥ 0.30 for Chlorobenzene / 1122-Tetrachloroethene) ✓
- b. CCC - % Difference for Average RF Calibration - $\leq 20\%$ ✓
- c. CCC - % Drift for Linear Regression Calibration - $\leq 20\%$ ✓
- d. % Difference/% Drift for all other Target Analytes - $\leq 30\%$ ✓

Acetone, DCEM, Ethyl Meth, 2-Hexanone

- e. Internal Standards - Retention Times within ± 30 seconds from Mid-Point ICAL STD ✓
- f. Internal Standards - Areas within (-50% to +100%) from Mid-Point ICAL STD ✓

4. Method Blanks included in this sequence :

Analyze daily or for each analytical batch (20 samples): _____

List compounds identified in Method Blank w/concentration. _____

Flag final result "B-Detected in Blank"

Methanol BDL

5. Matrix Spike/Matrix Spike Duplicates included in this sequence :

Analyze daily or for each matrix (ms/msd per 20 samples of same matrix)

List MS/MSD(s) performed with any failures :

* 8 out of 10 recoveries exceed limits

6. Laboratory Control Samples included in this sequence :

Must contain all Target Analytes. 0/88

7. Surrogate Recoveries within QC Limits ✓

8. All positive compounds within calibration range ✓

Narrative/Notes :

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

777 494

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Lab File ID: 0101001

BFB Injection Date: 01/03/02

Instrument ID: VOC4

BFB Injection Time: 0835

GC Column:

ID: 2.00 (mm)

Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.8
75	30.0 - 60.0% of mass 95	48.1
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	0.0 (0.0)1
174	Greater than 50.0% of mass 95	57.6
175	5.0 - 9.0% of mass 174	5.0 (8.7)1
176	95.0 - 101.0% of mass 174	57.4 (99.6)1
177	5.0 - 9.0% of mass 176	3.7 (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	V401031LCS	1LCS	0201002LCS	01/03/02	0857
02	DSC100PPB		0201002	01/03/02	0857
03	V401031LB	1LB	0303005	01/03/02	1103
04	011262301	011262301	0501007	01/03/02	1210
05	011260201	011260201	0701009	01/03/02	1313
06	011260201	011260201	0801010	01/03/02	1345
07	011260202	011260202	0901011	01/03/02	1416
08	011262301MS	MS	1801020	01/03/02	1859
09	011262301MSD	MSD	1901021	01/03/02	1930
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Instrument ID: VOC4

Calibration Date: 01/03/02 Time: 0857

Lab File ID: 0201002

Init. Calib. Date(s): 12/27/01 12/27/01

Heated Purge: (Y/N) Y

Init. Calib. Times: 1552 2105

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
Acetone	68.26	100.0	LINR	31.7	30.0
Acetonitrile	746.2	1000	LINR	25.4	30.0
Acrolein	99.73	100.0	AVRG	0.3	30.0
Acrylonitrile	74.25	100.0	LINR	25.8	30.0
Allyl chloride	82.43	100.0	AVRG	17.6	30.0
Benzene	99.31	100.0	AVRG	0.7	30.0
Bromobenzene	87.62	100.0	AVRG	12.4	30.0
Bromochloromethane	80.56	100.0	AVRG	19.4	30.0
Bromodichloromethane	81.82	100.0	AVRG	18.2	30.0
Bromoform	79.04	100.0	AVRG	21.0	30.0
2-Butanone	79.18	100.0	AVRG	20.8	30.0
Bromomethane	78.92	100.0	AVRG	21.1	30.0
n-Butylbenzene	99.63	100.0	AVRG	0.4	30.0
sec-Butylbenzene	109.0	100.0	AVRG	9.0	30.0
tert-Butylbenzene	88.23	100.0	AVRG	11.8	30.0
Carbon Disulfide	89.65	100.0	AVRG	10.4	30.0
Carbon Tetrachloride	87.92	100.0	AVRG	12.1	30.0
Chlorobenzene	91.89	100.0	AVRG	8.1	30.0
Chlorodibromomethane	76.86	100.0	AVRG	23.1	30.0
Chloroethane	82.94	100.0	AVRG	17.1	30.0
2-Chloroethyl vinyl ether	88.49	100.0	AVRG	11.5	30.0
Chloroform	83.76	100.0	AVRG	16.2	20.0
Chloromethane	81.67	100.0	AVRG	18.3	30.0
Chloroprene	88.78	100.0	AVRG	11.2	30.0
2-Chlorotoluene	94.57	100.0	AVRG	5.4	30.0
4-Chlorotoluene	88.32	100.0	AVRG	11.7	30.0
1,2-Dibromo-3-chloropropane	74.02	100.0	AVRG	26.0	30.0
1,2-Dibromoethane	74.92	100.0	AVRG	25.1	30.0
Dibromomethane	82.00	100.0	LINR	18.0	30.0
1,2-Dichlorobenzene	99.20	100.0	AVRG	0.8	30.0
1,3-Dichlorobenzene	102.3	100.0	AVRG	2.3	30.0
1,4-Dichlorobenzene	97.49	100.0	AVRG	2.5	30.0
cis-1,4-Dichloro-2-butene	74.72	100.0	AVRG	25.3	30.0
trans-1,4-Dichloro-2-butene	88.53	100.0	AVRG	11.5	30.0
Dichlorodifluoromethane	59.17	100.0	AVRG	40.8	30.0
1,1-Dichloroethane	84.13	100.0	AVRG	15.9	30.0
1,2-Dichloroethane	76.34	100.0	AVRG	23.7	30.0

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FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

777 496

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Instrument ID: VOC4

Calibration Date: 01/03/02 Time: 0857

Lab File ID: 0201002

Init. Calib. Date(s): 12/27/01 12/27/01

Heated Purge: (Y/N) Y

Init. Calib. Times: 1552 2105

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
1,1-Dichloroethene	87.14	100.0	AVRG	12.9	20.0
cis-1,2-Dichloroethene	87.33	100.0	AVRG	12.7	30.0
trans-1,2-Dichloroethene	92.86	100.0	AVRG	7.1	30.0
1,2-Dichloropropane	87.29	100.0	LINR	12.7	20.0
1,3-Dichloropropane	80.58	100.0	AVRG	19.4	30.0
2,2-Dichloropropane	92.94	100.0	AVRG	7.1	30.0
1,1-Dichloropropene	99.78	100.0	AVRG	0.2	30.0
cis-1,3-Dichloropropene	87.39	100.0	AVRG	12.6	30.0
trans-1,3-Dichloropropene	82.77	100.0	AVRG	17.2	30.0
Di isopropyl ether	96.43	100.0	AVRG	3.6	30.0
1,4-Dioxane	1524	2000	AVRG	23.8	30.0
Ethyl Acetate	78.55	100.0	AVRG	21.4	30.0
Ethylbenzene	93.51	100.0	AVRG	6.5	20.0
Ethyl methacrylate	134.6	200.0	AVRG	32.7	30.0
Furan	119.7	153.0	AVRG	21.8	30.0
Hexachlorobutadiene	102.5	100.0	AVRG	2.5	30.0
Hexane	113.5	117.0	AVRG	3.0	30.0
2-Hexanone	67.19	100.0	AVRG	32.8	30.0
Iodomethane	88.86	100.0	AVRG	11.1	30.0
Isobutyl Alcohol	1620	2000	LINR	19.0	30.0
Isopropylbenzene	93.79	100.0	AVRG	6.2	30.0
4-Isopropyltoluene	88.99	100.0	AVRG	11.0	30.0
Methacrylonitrile	779.0	1000	AVRG	22.1	30.0
Methylene Chloride	84.58	100.0	LINR	15.4	30.0
Methyl methacrylate	147.0	200.0	AVRG	26.5	30.0
4-Methyl-2-Pentanone	73.20	100.0	AVRG	26.8	30.0
Methyl-tertbutyl-Ether	85.05	100.0	AVRG	15.0	30.0
Naphthalene	98.36	100.0	AVRG	1.6	30.0
Propionitrile	751.3	1000	LINR	24.9	30.0
n-Propyl Acetate	120.2	151.0	LINR	20.4	30.0
n-Propylbenzene	94.74	100.0	AVRG	5.3	30.0
Styrene	94.38	100.0	AVRG	5.6	30.0
1,1,1,2-Tetrachloroethane	89.12	100.0	AVRG	10.9	30.0
1,1,2,2-Tetrachloroethane	86.82	100.0	AVRG	13.2	30.0
Tetrachloroethene	93.68	100.0	AVRG	6.3	30.0
Tetrahydrofuran	80.47	91.50	LINR	12.0	30.0
1,2,3-Trichlorobenzene	105.3	100.0	AVRG	5.3	30.0

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VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Instrument ID: VOC4

Calibration Date: 01/03/02 Time: 0857

Lab File ID: 0201002

Init. Calib. Date(s): 12/27/01 12/27/01

Heated Purge: (Y/N) Y

Init. Calib. Times: 1552 2105

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Toluene	85.55	100.0	AVRG	14.4	20.0
1,1,1-Trichloroethane	88.50	100.0	AVRG	11.5	30.0
1,1,2-Trichloroethane	81.46	100.0	AVRG	18.5	30.0
1,1,2-trichloro-1,2,2-triflu	104.8	100.0	AVRG	4.8	30.0
Trichloroethene	90.70	100.0	AVRG	9.3	30.0
Trichlorofluoromethane	72.51	100.0	AVRG	27.5	30.0
1,2,3-Trichloropropane	78.87	100.0	AVRG	21.1	30.0
1,2,4-Trimethylbenzene	85.88	100.0	AVRG	14.1	30.0
1,2,4-Trichlorobenzene	110.4	100.0	AVRG	10.4	30.0
1,3,5-Trimethylbenzene	87.74	100.0	AVRG	12.3	30.0
Vinyl Acetate	89.20	100.0	AVRG	10.8	30.0
Vinyl Chloride	85.52	100.0	AVRG	14.5	20.0
Xylene-mp	187.7	200.0	AVRG	6.2	30.0
Xylene-o	93.92	100.0	AVRG	6.1	30.0
=====	=====	=====	=====	=====	=====
Dibromofluoromethane	37.60	40.90	AVRG	8.1	30.0
Toluene-d8	38.54	50.00	AVRG	22.9	30.0
Bromofluorobenzene	37.54	40.80	AVRG	8.0	30.0
1,2-Dichloroethane-d4	33.45	50.00	AVRG	33.1	30.0

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Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Lab File ID (Standard): 0201002

Date Analyzed: 01/03/02

Instrument ID: VOC4

Time Analyzed: 0857

GC Column:

ID: 2.00 (mm)

Heated Purge: (Y/N) Y

	IS1 AREA #	RT #	IS2 (DFB) AREA #	RT #	IS3 (CBZ) AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	941533	6.90	1456749	7.49	1019112	9.69
UPPER LIMIT	1883066	7.40	2913498	7.99	2038224	10.19
LOWER LIMIT	470767	6.40	728375	6.99	509556	9.19
=====	=====	=====	=====	=====	=====	=====
CLIENT SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V401031LB	645571	6.90	921653	7.49	598556	9.69
02 011262301	583467	6.90	861331	7.49	499642*	9.69
03 011260201	569990	6.90	921637	7.49	553380	9.69
04 011260201	547406	6.90	822530	7.49	548967	9.69
05 011260202	509177	6.90	825611	7.49	516643	9.69
06 011262301MS	542363	6.90	893343	7.49	701406	9.69
07 011262301MSD	597075	6.90	953969	7.49	751542	9.69
08						
09						
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19						
20						
21						
22						

IS1 = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

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.

FORM 8
VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Lab File ID (Standard): 0201002

Date Analyzed: 01/03/02

Instrument ID: VOC4

Time Analyzed: 0857

GC Column:

ID: 2.00 (mm)

Heated Purge: (Y/N) Y

	IS4 (DCB)					
	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	297425	11.51				
UPPER LIMIT	594850	12.01				
LOWER LIMIT	148713	11.01				
=====	=====	=====	=====	=====	=====	=====
CLIENT						
SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V401031LB	175543	11.51				
02 011262301	158839	11.52				
03 011260201	164634	11.52				
04 011260201	166798	11.52				
05 011260202	166351	11.52				
06 011262301MS	183368	11.51				
07 011262301MSD	187816	11.51				
08						
09						
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12						
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14						
15						
16						
17						
18						
19						
20						
21						
22						

IS4 (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.

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-OCT-2001 14:33
 End Cal Date : 24-OCT-2001 19:46
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCBDC\DD\chem\voc4.i\V410242.B\V410242.8260.m
 Cal Date : 25-Oct-2001 08:59 lisa

Calibration File Names:

Level 1: \\ETCBDC\DD\chem\voc4.i\V410242.B\0301004.D
 Level 2: \\ETCBDC\DD\chem\voc4.i\V410242.B\0401005.D
 Level 3: \\ETCBDC\DD\chem\voc4.i\V410242.B\0601007.D
 Level 4: \\ETCBDC\DD\chem\voc4.i\V410242.B\0701008.D
 Level 5: \\ETCBDC\DD\chem\voc4.i\V410242.B\0801009.D
 Level 6: \\ETCBDC\DD\chem\voc4.i\V410242.B\0901010.D
 Level 7: \\ETCBDC\DD\chem\voc4.i\V410242.B\1001011.D
 Level 8: \\ETCBDC\DD\chem\voc4.i\V410242.B\1101012.D
 Level 9: \\ETCBDC\DD\chem\voc4.i\V410242.B\1201013.D
 Level 10: \\ETCBDC\DD\chem\voc4.i\V410242.B\1301014.D

Compound	0.500000		1.0000		5.0000		20.0000		50.0000		100.0000		Curve		Coefficients		RSD or R^2
	Level 1	Level 2	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10	Level 1	Level 2	m1	m2	
1 Dichlorodifluoromethane	0.97213	0.95013	0.94312	1.01738	1.00663	1.04224	AVRG								0.96365		7.04260
	1.04297	0.92814	0.82458	0.90914													

000095

777 500

Sam Savage
 10-26-01
 10/26/01
 10/26/01

777 501

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-OCT-2001 14:33
 End Cal Date : 24-OCT-2001 19:46
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc4.i\V410242.B\V410242.8260.m
 Cal Date : 25-Oct-2001 08:59 lisa

Compound	0.500000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	b	Coefficients m1	m2	\$RSD or R^2
2 Chloromethane	0.70152 0.58984	0.57801 0.52870	0.61302 0.45990	0.52598 0.52673	0.53065	0.59540	AVRG		0.56497		11.67925
3 Vinyl Chloride	0.41504 0.59121	0.55814 0.53043	0.61838 0.49026	0.56120 0.51833	0.54778	0.57876	AVRG		0.54096		10.62800
4 Bromomethane	0.50805 0.47705	0.52888 0.48754	0.48448 0.45601	0.47790 0.49421	0.45649	0.49288	AVRG		0.48615		4.43967
5 Chloroethane	0.25529 0.32833	0.25532 0.30304	0.35699 0.28265	0.31411 0.30450	0.31534	0.32438	AVRG		0.30399		10.54341
6 Acrolein	++++ 0.04131	++++ 0.03332	++++ ++++	0.03677 ++++	0.03069	0.02911	AVRG		0.03424		14.32308

000096

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-OCT-2001 14:33
 End Cal Date : 24-OCT-2001 19:46
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc4.i\V410242.B\V410242.8260.m
 Cal Date : 25-Oct-2001 08:59 lisa

Compound	0.500000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients	m2	RSD
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					or R^2
7 Trichlorofluoromethane	1.16026	1.21300	1.34269	1.31597	1.18371	1.18760	AVRG		1.16499		10.58693
	1.21715	1.05716	0.96331	1.00903							
8 Acetonitrile	++++	0.02489	0.03313	0.03355	0.02717	0.02730	AVRG		0.02891		12.30411
	0.02743	++++	++++	++++							
9 Acetone	++++	++++	0.03122	0.03297	0.02880	0.02763	AVRG		0.02811		10.62012
	0.02789	0.02716	0.02337	0.02588							
10 Furan	++++	1.05748	1.16309	1.15498	1.02991	1.06795	AVRG		1.02918		10.35521
	1.08312	0.90945	0.85766	0.93897							
11 1,1-Dichloroethene	0.51648	0.52424	0.57495	0.55918	0.49645	0.50924	AVRG		0.51338		7.79658
	0.54784	0.48238	0.44463	0.47838							

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-OCT-2001 14:33
 End Cal Date : 24-OCT-2001 19:46
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc4.i\410242.B\410242.8260.m
 Cal Date : 25-Oct-2001 08:59 lisa

Compound	0.500000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	b	Coefficients ml	m2	%RSD or R ²
12 Acrylonitrile	0.09954 ++++	0.09308 ++++	0.08292 ++++	0.09200 0.11016	0.09761	0.09877	AVRG		0.09630		8.66909
13 Iodomethane	0.55621 ++++	0.54686 ++++	0.53122 0.47889	0.52399 0.50565		0.61396	AVRG		0.55461		10.59563
14 Methylene Chloride	12388 812722	18829 ++++	44395 ++++	138765 ++++	302315	620602	LINR	-0.01891	0.49236		0.99613
15 1,1,2-trichloro-1,2,2-trifluo	0.63380 0.68628	0.69759 0.62159	0.69775 0.56081	0.69300 0.60181	0.63935	0.63219	AVRG		0.64642		7.17477
16 Allyl chloride	0.91424 0.80745	0.79900 0.72903	0.89847 0.66284	0.84670 0.72632	0.78047	0.79042	AVRG		0.79549		9.78522

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-OCT-2001 14:33
 End Cal Date : 24-OCT-2001 19:46
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc4.i\V410242.B\V410242.8260.m
 Cal Date : 25-Oct-2001 08:59 lisa

Compound	0.500000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients m1	m2	RSD or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
17 Carbon Disulfide	1.58809	1.72791	1.79773	1.68785	1.53451	1.60071	AVRG		1.60183		7.57827
	1.65238	1.52032	1.37206	1.53677							
18 trans-1,2-Dichloroethene	0.62495	0.59923	0.60078	0.60037	0.57486	0.57152	AVRG		0.57540		5.84241
	0.58546	0.53954	0.52134	0.53596							
19 Methyl-tertbutyl-Ether	1.46529	1.37018	1.50544	1.52302	1.46321	1.44905	AVRG		1.40505		6.25164
	1.37186	1.33334	1.28365	1.28546							
20 Propionitrile	0.03267	0.03871	0.04101	0.04451	0.03763	0.03741	AVRG		0.03654		11.08086
	0.03421	0.03406	0.03258	0.03265							
21 1,1-Dichloroethane	1.01540	0.98146	1.07218	1.07143	1.02274	1.01481	AVRG		0.98979		6.52198
	1.00212	0.92096	0.90182	0.89500							

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Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-OCT-2001 14:33
 End Cal Date : 24-OCT-2001 19:46
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc4.i\V410242.B\V410242.8260.m
 Cal Date : 25-Oct-2001 08:59 lisa

Compound	0.500000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	b	Coefficients ml	m2	RSD or R^2
22 Vinyl Acetate	++++ 0.77464	++++ 0.77773	++++ 0.73976	0.91967 0.74507	0.83279	0.83793	AVRG		0.80394		7.95038
23 Chloroprene	1.13848 1.08550	1.11913 0.96022	1.19023 0.92231	1.20699 0.86828	1.09447	1.07124	AVRG		1.06568		10.63170
24 2-Butanone	++++ 0.04320	++++ 0.04153	0.04829 0.03935	0.05271 0.03766	0.04683	0.04482	AVRG		0.04430		11.15286
25 Hexane	++++ 0.74050	++++ 0.65795	0.82532 0.61355	0.86931 0.58994	0.73317	0.71114	AVRG		0.71761		13.54231
26 Di isopropyl ether	++++ 1.50754	1.70469 1.41871	1.66235 1.40402	1.74529 1.32184	1.58561	1.55028	AVRG		1.54448		9.38520

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

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 Method file : \\ETCDBC\DD\chem\voc4.i\V410242.B\V410242.8260.m
 Cal Date : 25-Oct-2001 08:59 lisa

Compound	0.500000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients	m1	m2	%RSD or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6						
27 Methacrylonitrile	0.13099	0.13215	0.13417	0.14533	0.12259	0.11468	AVRG			0.11909		13.76472
28 cis-1,2-Dichloroethene	0.59543	0.53426	0.52811	0.51862			AVRG			0.57875		6.72712
29 Ethyl Acetate	0.33852	0.31951	0.30671	0.31191	0.35214	0.35736	AVRG			0.34355		9.02520
30 Bromochloromethane	0.26260	0.24962	0.26758	0.25728	0.24984	0.24783	AVRG			0.24426		6.90469
31 Chloroform	1.40516	1.34461	1.24725	1.27029	1.22669	1.20626	AVRG			1.21487		9.22697
	1.20723	1.10822	1.07769	1.05530								

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Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-OCT-2001 14:33
 End Cal Date : 24-OCT-2001 19:46
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc4.i\V410242.B\V410242.8260.m
 Cal Date : 25-Oct-2001 08:59 lisa

Compound	0.500000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	b	Coefficients ml	m2	%RSD or R ²
32 Isobutyl Alcohol	++++ 0.01329	++++ 0.01329	0.01648 0.01229	0.01804 0.01231	0.01497	0.01476	AVRG		0.01443		14.17654
33 2,2-Dichloropropane	++++ 1.07298	1.16393 0.95887	1.13915 0.90207	1.13707 0.88359	1.06218	1.06665	AVRG		1.04294		9.99286
35 Tetrahydrofuran	++++ 0.14714	++++ 0.14481	0.13437 0.13290	0.17794 0.13867	0.15677	0.15526	AVRG		0.14848		9.97711
38 1,2-Dichloroethane	0.76306 0.75840	0.78654 0.71945	0.81471 0.67702	0.86924 0.66261	0.80172	0.81714	AVRG		0.76699		8.49138
39 1,1,1-Trichloroethane	1.26536 1.29351	1.29468 1.18332	1.33745 1.12111	1.37830 1.10889	1.30042	1.31740	AVRG		1.26004		7.25825

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

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 End Cal Date : 24-OCT-2001 19:46
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc4.i\V410242.B\V410242.8260.m
 Cal Date : 25-Oct-2001 08:59 Lisa

Compound	0.500000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients	m1	m2	%RSD or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6						
	120.0000	150.0000	170.0000	200.0000								
	Level 7	Level 8	Level 9	Level 10								
40 1,1-Dichloropropene	0.94782	0.90775	0.93531	0.95761	0.88909	0.91848	AVRG			0.88480		7.39962
	0.90292	0.82121	0.79693	0.77087								
41 Carbon Tetrachloride	0.98421	1.07996	1.09740	1.15293	1.14189	1.11366	AVRG			1.06460		6.72265
	1.09892	1.01175	1.03131	0.93397								
42 Benzene	2.08294	2.17245	2.17085	2.14551	2.34859	2.03843	AVRG			2.05831		8.52387
	1.94892	1.83684	2.09078	1.74782								
44 Dibromomethane	0.23977	0.23651	0.23816	0.25395	0.22710	0.21335	AVRG			0.21997		10.09605
	0.20689	0.20179	0.19453	0.18765								
45 1,2-Dichloropropane	6379	10500	36231	168357	393306	626886	LINR	-0.10644		0.27757		0.99229
	719627	1088203	1239578	1240658								

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

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 Quant Method : ISTD
 Target Version : 4.00
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 Method file : \\ETCDBC\DD\chem\voc4.i\V410242.B\V410242.8260.m
 Cal Date : 25-Oct-2001 08:59 lisa

Compound	0.500000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients ml	m2	%RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
46 Trichloroethene	0.41359	0.41107	0.39005	0.41920	0.37123	0.36541	AVRG		0.37521		8.82993
47 Bromodichloromethane	0.37528	0.33311	0.32971	0.34342			AVRG		0.55680		8.57914
48 n-Propyl Acetate	0.60774	0.58635	0.57407	0.63991	0.56701	0.54888	AVRG				
	0.54006	0.51100	0.50137	0.49164							
49 Methyl methacrylate	0.21829	0.19108	0.18981	0.22751	0.18947	0.16621	AVRG				
	0.15611	0.16519	0.15834	0.15834							
50 1,4-Dioxane	0.00194	0.00207	0.00189	0.00186	0.00220	0.00215	AVRG		0.00215		14.38932

Environmental Testing and Consulting, Inc.

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 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc4.i\410242.B\410242.8260.m
 Cal Date : 25-Oct-2001 08:59 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	b	Coefficients ml	m2	%RSD or R^2
51 2-Chloroethyl vinyl ether	0.37993 0.29488	0.40223 0.29704	0.35477 0.28766	0.40641 ++++	0.35154	0.30366	AVRG		0.34201		13.92065
52 cis-1,3-Dichloropropene	0.60379 0.59206	0.64653 0.50691	0.56319 0.49563	0.62128 0.47426	0.56206	0.59882	AVRG		0.56645		10.12549
53 4-Methyl-2-Pentanone	++++ 0.26698	++++ 0.24374	0.23995 0.23300	0.31555 0.21473	0.26530	0.28205	AVRG		0.25766		12.31646
54 trans-1,3-Dichloropropene	0.53306 0.53568	0.55093 0.46008	0.52073 0.44789	0.56825 0.48467	0.50971	0.54475	AVRG		0.51558		7.72118
55 1,1,2-Trichloroethane	0.25715 0.23516	0.26562 0.20463	0.25436 0.19627	0.25250 0.21729	0.22240	0.24025	AVRG		0.23456		10.07904

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Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-OCT-2001 14:33
 End Cal Date : 24-OCT-2001 19:46
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc4.i\V410242.B\V410242.8260.m
 Cal Date : 25-Oct-2001 08:59 lisa

Compound	0.500000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	b	Coefficients ml	m2	%RSD or R ²
57 Ethyl methacrylate	0.23549 0.19698	0.24511 0.16925	0.23353 ++++	0.22751 ++++	0.19157	0.20450	AVRG		0.21299		12.38532
58 Toluene	++++ 0.89786	1.13442 0.73726	1.02096 ++++	0.97034 ++++	0.84582	0.89935	AVRG		0.92943		13.74312
59 1,3-Dichloropropane	0.51136 0.49645	0.54491 0.42291	0.54212 0.41352	0.53286 0.44426	0.47559	0.50272	AVRG		0.48867		9.85225
60 2-Hexanone	++++ 0.10133	++++ 0.09150	0.10885 0.08678	0.11477 0.09400	0.09749	0.10672	AVRG		0.10018		9.48776
61 Chlorodibromomethane	0.38260 0.41542	0.44295 0.35595	0.42570 0.35164	0.42460 0.38464	0.38442	0.42338	AVRG		0.39913		7.89985

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-OCT-2001 14:33
 End Cal Date : 24-OCT-2001 19:46
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc4.i\V410242.B\V410242.8260.m
 Cal Date : 25-Oct-2001 08:59 lisa

Compound	0.5000000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients	m1	m2	%RSD or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6						
120.0000	150.0000	170.0000	200.0000									
Level 7	Level 8	Level 9	Level 10									
62 1,2-Dibromoethane	0.26653	0.28216	0.30433	0.30809	0.26944	0.29566	AVRG			0.27827		7.69154
63 Tetrachloroethene	0.32834	0.32924	0.31407	0.31393	0.27151	0.29834	AVRG			0.29381		10.04748
64 1,1,1,2-Tetrachloroethane	0.39561	0.40149	0.41996	0.43811	0.39994	0.39473	AVRG			0.39453		5.91706
66 Chlorobenzene	1.08681	1.02090	1.01229	1.02035	0.91309	0.86783	AVRG			0.93024		10.36095
67 Ethylbenzene	2.15167	2.20368	2.15854	2.12345	1.89612	1.87310	AVRG			1.95710		9.41421

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-OCT-2001 14:33
 End Cal Date : 24-OCT-2001 19:46
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETC\BDC\DD\chem\voc4.i\V410242.B\V410242.8260.m
 Cal Date : 25-Oct-2001 08:59 lisa

Compound	0.500000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	b	Coefficients m1	m2	RSR or R^2
68 Xylene-mp	0.59841 0.52147	0.68061 0.51573	0.67498 0.50571	0.64185 0.47465	0.54562	0.54810	AVRG		0.58071		14.44875
69 Bromoform	0.20006 0.22158	0.23056 0.23163	0.24295 0.22214	0.26063 0.20789	0.23556	0.23267	AVRG		0.22857		7.49939
70 trans-1,4-Dichloro-2-butene	0.11456 0.11198	0.10290 0.11655	0.12906 0.11093	0.13876 0.10098	0.12198	0.11976	AVRG		0.11675		9.78409
71 Styrene	1.04862 0.88879	1.07015 0.87926	1.00769 0.86827	1.02922 0.81258	0.90267	0.92324	AVRG		0.94305		9.38864
72 Xylene-o	0.59357 0.49288	0.63998 0.48964	0.63686 0.47802	0.60711 0.44805	0.52354	0.52053	AVRG		0.54302		12.92937

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-OCT-2001 14:33
 End Cal Date : 24-OCT-2001 19:46
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDDC\DD\chem\voc4.i\V410242.B\V410242.8260.m
 Cal Date : 25-Oct-2001 08:59 lisa

Compound	0.500000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients	m1	m2	%RSD or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6						
73 1,1,2,2-Tetrachloroethane	0.91813	0.89035	0.91607	0.99578	0.95775	0.85428	AVRG			0.86863		9.19563
	0.82291	0.79800	0.76756	0.76549								
74 cis-1,4-Dichloro-2-butene	0.09923	0.11046	0.11496	0.12262	0.10968	0.10695	AVRG			0.10494		9.73515
	0.09953	0.10306	0.09600	0.08693								
75 1,2,3-Trichloropropane	++++	0.10919	0.10641	0.11582	0.09968	0.09490	AVRG					
	0.08855	0.09241	0.08572	0.08040						0.09701		12.07833
76 Isopropylbenzene	1.87944	1.79679	1.81359	1.80981	1.60585	1.66882	AVRG			1.67834		8.28326
	1.60728	1.57853	1.57465	1.44859								
78 Bromobenzene	0.40113	0.38551	0.39572	0.39583	0.35093	0.35329	AVRG			0.36006		8.91376
	0.33729	0.33625	0.33510	0.30958								

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Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-OCT-2001 14:33
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 Quant Method : ISTD
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 Method file : \\ETCDBC\DD\chem\voc4.i\V410242.B\V410242.8260.m
 Cal Date : 25-Oct-2001 08:59 lisa

Compound	0.500000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients	m2	%RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
	120.0000	150.0000	170.0000	200.0000							
	Level 7	Level 8	Level 9	Level 10							
79 n-Propylbenzene	2.32607	2.34673	2.33459	2.32867	2.01747	2.17805	AVRG				
	2.07046	2.06029	2.01956	1.86048					2.15425		8.02711
80 2-Chlorotoluene	1.54838	1.47921	1.39167	1.36433	1.27001	1.26612	AVRG				
	1.20209	1.19203	1.18233	1.08142					1.29776		11.23164
81 4-Chlorotoluene	1.75556	1.47249	1.60908	1.51940	1.32021	1.42120	AVRG				
	1.28953	1.32981	1.29487	1.19608					1.42082		12.00598
82 1,3,5-Trimethylbenzene	1.44013	1.44535	1.46019	1.43590	1.22452	1.30045	AVRG				
	1.24583	1.23353	1.18899	1.11892					1.30938		9.59902
83 1,2,4-Trimethylbenzene	1.44774	1.40562	1.47855	1.44169	1.22952	1.28360	AVRG				
	1.23691	1.23798	1.18760	1.10202					1.30512		9.87751

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Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-OCT-2001 14:33
 End Cal Date : 24-OCT-2001 19:46
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCBDC\DD\chem\voc4.i\V410242.B\V410242.8260.m
 Cal Date : 25-Oct-2001 08:59 lisa

Compound	0.500000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	b	Coefficients ml	m2	\$RSD or R^2
85 tert-Butylbenzene	1.19807 1.08352	1.21315 1.06752	1.19561 1.03877	1.21673 0.96642	1.03967	1.10777	AVRG		1.11272		7.93640
86 sec-Butylbenzene	1.87212 1.65042	1.86483 1.63597	1.88979 1.59299	1.86617 1.46354	1.60615	1.71002	AVRG		1.71520		8.71165
87 4-Isopropyltoluene	1.41196 1.22112	1.43297 1.20505	1.42166 1.16767	1.38530 1.08155	1.20060	1.25639	AVRG		1.27843		9.75204
89 1,3-Dichlorobenzene	1.87171 1.75579	1.81694 1.68055	1.66127 1.67691	1.76811 1.68313	1.72043	1.73848	AVRG		1.73733		3.91181
90 1,4-Dichlorobenzene	1.87269 1.57405	1.76330 1.61957	1.66127 1.52048	1.70794 1.52686	1.59897	1.65210	AVRG		1.64972		6.61410

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Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-OCT-2001 14:33
 End Cal Date : 24-OCT-2001 19:46
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc4.i\V410242.B\V410242.8260.m
 Cal Date : 25-Oct-2001 08:59 lisa

Compound	0.5000000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients m1	m2	%RSD or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
91 1,2-Dichlorobenzene	1.52509	1.53316	1.49159	1.54576	1.44885	1.51042					
	1.50813	1.42484	1.40876	1.43671			AVRG		1.48333		3.32446
92 n-Butylbenzene	3.81309	3.85474	3.91226	4.04234	3.79198	3.96621					
	4.04727	3.76185	3.66299	3.73877			AVRG		3.85915		3.37108
93 1,2-Dibromo-3-chloropropane	0.20851	0.16211	0.16679	0.18100	0.16450	0.16306					
	0.15521	0.15884	0.15015	0.15091			AVRG		0.16611		10.43754
94 1,2,4-Trichlorobenzene	0.90420	0.86693	0.85270	0.82901	0.74162	0.79170					
	0.80746	0.81427	0.79715	0.81293			AVRG		0.82180		5.45952
95 Naphthalene	1.90618	1.73975	1.65414	1.70272	1.45301	1.58625					
	1.60575	1.65427	1.55601	1.60229			AVRG		1.64604		7.36512

Environmental Testing and Consulting, Inc.

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 Method file : \\ETCDBC\DD\chem\voc4.i\410242.B\410242.8260.m
 Cal Date : 25-Oct-2001 08:59 lisa

Compound	0.500000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients	m2	RSR
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					or R^2
96 Hexachlorobutadiene	0.58251	0.56548	0.59938	0.60727	0.55408	0.58054	AVRG		0.59231		3.78629
	0.61329	0.61227	0.58522	0.62309							
97 1,2,3-Trichlorobenzene	0.78149	0.69318	0.72054	0.70894	0.62372	0.67216	AVRG		0.70084		5.66740
	0.71464	0.70617	0.68692	0.70062							
34 Dibromofluoromethane	0.60801	0.64401	0.66936	0.67175	0.65981	0.66477	AVRG		0.65328		3.41252
	0.67110	0.63742	++++	++++							
37 1,2-Dichloroethane-d4	0.63834	0.69243	0.70400	0.73776	0.69380	0.71780	AVRG		0.68955		4.76496
	0.68160	0.65064	++++	++++							
56 Toluene-d8	1.29319	1.36271	1.35633	1.31140	1.17059	1.34760	AVRG		1.30565		6.47972
	1.41136	1.19201	++++	++++							

777 519

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-OCT-2001 14:33
 End Cal Date : 24-OCT-2001 19:46
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc4.i\V410242.B\V410242.8260.m
 Cal Date : 25-Oct-2001 08:59 lisa

Compound	0.500000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients m1	m2	SRSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
	120.0000	150.0000	170.0000	200.0000							
	Level 7	Level 8	Level 9	Level 10							
\$ 77 Bromofluorobenzene	0.53274	0.57475	0.56865	0.56015	0.49657	0.52419	AVRG		0.53602		5.32130
	0.51436	0.51673	++++	++++							

Curve	Formula	Units
Averaged	Amt = Rsp/ml	Response
Linear	Amt = b + Rsp/ml	Response

000114

Report Date : 28-Dec-2001 08:55

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-DEC-2001 15:52
End Cal Date : 27-DEC-2001 21:05
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETC\BDC\CHEM\voc4.i\V412271.B\V412271.8260.m
Cal Date : 28-Dec-2001 08:45 mike

Calibration File Names:

Level 1: M:\voc4.i\V412271.B\0301003.D
Level 2: M:\voc4.i\V412271.B\0402005.D
Level 3: M:\voc4.i\V412271.B\0501006.D
Level 4: M:\voc4.i\V412271.B\0601007.D
Level 5: M:\voc4.i\V412271.B\0701008.D
Level 6: M:\voc4.i\V412271.B\0801009.D
Level 7: M:\voc4.i\V412271.B\0901010.D
Level 8: M:\voc4.i\V412271.B\1001011.D
Level 9: M:\voc4.i\V412271.B\1101012.D
Level 10: M:\voc4.i\V412271.B\1201013.D

Compound	0.500000		1.0000		5.0000		20.0000		50.0000		100.0000		Curve	b	Coefficients		m2	%RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10	Level 11	Level 12			m1			
1 Dichlorodifluoromethane	120.0000	150.0000	170.0000	200.0000														
	Level 7	Level 8	Level 9	Level 10														
	2.00376	1.75176	1.43626	2.26754	2.11641	2.29171												
	2.03902	2.12873	2.08120	2.04195		AVRG									2.01583			12.52367

000115

777 520

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-DEC-2001 15:52
 End Cal Date : 27-DEC-2001 21:05
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\CHEM\voc4.i\412271.B\412271.8260.m
 Cal Date : 28-Dec-2001 08:45 mike

Compound	0.500000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients m1	m2	RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
2 Chloromethane	120.0000	150.0000	170.0000	200.0000							
	Level 7	Level 8	Level 9	Level 10							
	++++	0.20561	0.22832	0.24089	0.24363	0.26463	AVRG		0.23466		8.60122
	0.21484	0.24208	0.25727	0.21471							
3 Vinyl Chloride	0.40266	0.38435	0.41282	0.42263	0.50068	0.47286	AVRG		0.43882		8.14938
	0.43731	0.46487	0.46166	0.42840							
4 Bromomethane	0.40235	0.34792	0.26632	0.33876	0.35489	0.36183	AVRG		0.34928		9.83862
	0.33948	0.36277	0.36793	0.35056							
5 Chloroethane	0.31514	0.26843	0.27135	0.31063	0.30807	0.28241	AVRG		0.28183		7.62473
	0.26135	0.27158	0.27263	0.25673							
6 Acrolein	++++	++++	++++	0.04387	0.03872	0.03553	AVRG		0.03735		11.16710
	0.03299	0.03565	++++	++++							

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-DEC-2001 15:52
 End Cal Date : 27-DEC-2001 21:05
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\CHEM\voc4.i\V412271.B\V412271.8260.m
 Cal Date : 28-Dec-2001 08:45 mike

Compound	0.500000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	b	Coefficients ml	m2	RSR or R ²
7 Trichlorofluoromethane	1.07616 1.06897	1.23779 1.08958	1.20342 1.09961	1.19710 1.02494	1.24212	1.12523	AVRG		1.13649		6.80952
8 Acetonitrile	++++ 390427	5147 496680	18819 530715	86540 ++++	175096	353395	LINR	-0.64615	0.02754		0.99555
9 Acetone	++++ 47646	++++ 59198	3794 63314	12343 74102	23135	41566	LINR	-0.22854	0.03083		0.99643
10 Furan	++++ 1.10525	1.22619 1.13664	1.23138 1.16452	1.23135 1.09653	1.24904	1.16952	AVRG		1.17894		4.92311
11 1,1-Dichloroethene	0.49968 0.41684	0.56429 0.43099	0.49556 0.44284	0.46557 0.41104	0.47874	0.44415	AVRG		0.46497		10.01055
CCC											

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-DEC-2001 15:52
 End Cal Date : 27-DEC-2001 21:05
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\CHEM\voc4.i\412271.B\412271.8260.m
 Cal Date : 28-Dec-2001 08:45 mike

Compound	0.500000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients	m2	%RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
12 Acrylonitrile	++++	++++	++++	++++	++++	++++					
	170283	217231	233107	266396	78178	150832	LINR	-0.24678	0.11109		0.99569
13 Iodomethane	++++	0.64492	0.73698	0.82077	0.81621	0.75531					
	0.70804	0.72983	0.74195	0.67882			AVRG		0.73698		7.79534
14 Methylene Chloride	27855	26663	54744	162345	344589	643926					
	747135	930568	1050294	1185277			LINR	-0.10234	0.51229		0.99839
15 1,1,2-trichloro-1,2,2-trifluo	0.50750	0.60898	0.64171	0.64942	0.65747	0.66365					
	0.63857	0.71907	0.63994	0.66058			AVRG		0.63869		8.43727
16 Allyl chloride	1.13502	0.90468	0.83255	0.83872	0.84580	0.78784					
	0.74762	0.76236	0.77676	0.74071			AVRG		0.83721		13.92795

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-DEC-2001 15:52
 End Cal Date : 27-DEC-2001 21:05
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETC\BDC\CHEM\voc4.i\V412271.B\V412271.8260.m
 Cal Date : 28-Dec-2001 08:45 mike

Compound	0.500000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients	m2	%RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
17 Carbon Disulfide	2.20075	2.11981	1.88277	1.79523	1.88022	1.76730	AVRG				9.80937
	1.67343	1.74302	1.78882	1.64446					1.84958		
18 trans-1,2-Dichloroethene	0.78555	0.56842	0.58340	0.56514	0.57398	0.55601	AVRG				12.59538
	0.53183	0.55531	0.56421	0.53547					0.58193		
19 Methyl-tertbutyl-Ether	2.28245	2.14903	1.91481	2.18307	1.89551	1.89007	AVRG				8.26316
	1.84270	1.99114	1.81489	1.85944					1.98231		
20 Propionitrile	++++	7211	27311	137571	266196	513005					
	575968	737225	797201	921408			LINEAR	-0.91430	0.03996		0.99639
21 1,1-Dichloroethane	1.19219	1.18461	1.13140	1.15217	1.16733	1.08115	AVRG				5.15971
	1.04834	1.06176	1.08656	1.04185					1.11474	✓	
SPEC											

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-DEC-2001 15:52
 End Cal Date : 27-DEC-2001 21:05
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\CHEM\VOG4.i\V412271.B\V412271.8260.m
 Cal Date : 28-Dec-2001 08:45 mike

Compound	0.500000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients m1	m2	%RSD or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
22 Vinyl Acetate	0.91139	1.01019	0.91999	1.16663	0.97483	0.98209	AVRG		0.98051		9.37813
23 Chloroprene	1.61125	1.52289	1.39968	1.36119	1.38175	1.37581	AVRG		1.40026		6.91551
24 2-Butanone	0.06394	0.06471	0.06663	0.08200	0.06664	0.06760	AVRG		0.06696		9.58733
25 Hexane	0.85678	0.93909	0.88404	0.87087	0.87897	0.91777	AVRG		0.91893		8.51400
26 Di isopropyl ether	2.08048	2.26011	2.00300	2.14124	2.01859	2.14966	AVRG		2.10532		4.63708

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-DEC-2001 15:52
 End Cal Date : 27-DEC-2001 21:05
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\CHEM\voc4.i\V412271.E\V412271.8260.m
 Cal Date : 28-Dec-2001 08:45 mike

Compound	0.500000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients	m2	%RSD
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6			m1		or R^2
27 Methacrylonitrile	0.23359	0.20729	0.19319	0.23455	0.18650	0.19015	AVRG		0.19822		10.32909
	0.17933	0.19266	0.18063	0.18429							
28 cis-1,2-Dichloroethene	0.80976	0.67778	0.60731	0.61834	0.62234	0.58371	AVRG		0.62284		11.77140
	0.56775	0.58331	0.58879	0.56928							
29 Ethyl Acetate	+++++	+++++	0.50993	0.62095	0.48459	0.49652	AVRG		0.50028		10.34440
	0.46331	0.49626	0.46410	0.46647							
30 Bromochloromethane	0.31836	0.28607	0.25394	0.26470	0.25678	0.25194	AVRG		0.26011		9.61114
	0.23560	0.24426	0.25160	0.23783							
31 Chloroform	1.51683	1.55203	1.45438	1.49866	1.48146	1.42394	AVRG		1.44863		4.35791
	1.36319	1.40411	1.42271	1.36895							
CCC											

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-DEC-2001 15:52
 End Cal Date : 27-DEC-2001 21:05
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\CHEM\voc4.i\V412271.B\V412271.8260.m
 Cal Date : 28-Dec-2001 08:45 mike

Compound	0.500000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients ml	m2	%RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
32 Isobutyl Alcohol	++++ 442144	++++ 575911	23413 594159	114011 706564	198506	391740	LINR	-2.89225	0.01500		0.99460
33 2,2-Dichloropropane	++++ 1.32965	1.31032 1.44527	1.37887 1.34149	1.35423 1.37835	1.34669	1.36457	AVRG		1.36105		2.83580
35 Tetrahydrofuran	++++ 203372	5143 258329	10920 265848	53330 314893	94602	184885	LINR	-0.12229	0.14874		0.99121
38 1,2-Dichloroethane	1.24921 1.12710	1.11515 1.19742	1.14250 1.13528	1.28192 1.09181	1.16162	1.18904	AVRG		1.16910		5.17177
39 1,1,1-Trichloroethane	1.39344 1.44942	1.40195 1.59038	1.41249 1.49227	1.40532 1.50028	1.45289	1.46608	AVRG		1.45645		4.14376

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-DEC-2001 15:52
 End Cal Date : 27-DEC-2001 21:05
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\CHEM\voc4.i\V412271.B\V412271.8260.m
 Cal Date : 28-Dec-2001 08:45 mike

Compound	0.500000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients ml	m2	%RSD or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
40 1,1-Dichloropropene	0.78539	1.03347	1.07014	1.01623	1.07606	1.11313	AVRG		1.06166		10.20042
	1.09737	1.18493	1.11054	1.12931							
41 Carbon Tetrachloride	0.97561	1.22994	1.24340	1.22156	1.28722	1.30552	AVRG				
	1.27958	1.38559	1.30473	1.30940					1.25425		8.67767
42 Benzene	2.59514	2.41203	2.32159	2.35914	2.34827	2.56440	AVRG				
	2.46750	2.69339	2.56099	2.62630					2.49487		5.23450
44 Dibromomethane	++++	0.35476	0.28376	0.29758	0.28363	0.25799	AVRG				
	0.24944	0.24879	0.25399	0.24263					0.27473		12.95917
45 1,2-Dichloropropane	7297	10623	38583	160933	348147	745024	LINE				
CCC	905115	1224880	1311472	1603968				0.03178	0.44088		0.99802

$\frac{1}{6} \text{ RSD} = 22.6\%$

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-DEC-2001 15:52
 End Cal Date : 27-DEC-2001 21:05
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\CHEM\VOCA.i\V412271.B\V412271.8260.m
 Cal Date : 28-Dec-2001 08:45 mike

Compound	0.500000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	b	Coefficients ml	m2	%RSD or R ²
46 Trichloroethene	0.31903 0.38826	0.38151 0.41872	0.35613 0.42159	0.34915 0.42865	0.39549	0.38900	AVRG		0.38475		9.08655
47 Bromodichloromethane	0.89451 0.76285	0.88106 0.80018	0.72884 0.81291	0.77406 0.82013	0.83371	0.78902	AVRG		0.80972		6.31116
48 n-Propyl Acetate	++++ 0.70481	0.90777 0.72162	0.72879 0.71432	0.91186 ++++	0.77493	0.73763	AVRG		0.77522		11.04799
49 Methyl methacrylate	0.35778 0.25066	0.29772 0.25562	0.27226 0.25442	0.31192 ++++	0.27570	0.26298	AVRG		0.28212		12.41890
50 1,4-Dioxane	++++ 0.00163	++++ 0.00185	0.00213 0.00189	0.00250 0.00195	0.00212	0.00211	AVRG		0.00202		12.64790

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-DEC-2001 15:52
 End Cal Date : 27-DEC-2001 21:05
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\CHEM\voc4.i\V412271.B\V412271.8260.m
 Cal Date : 28-Dec-2001 08:45 mike

Compound	0.500000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients ml	m2	%RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
51 2-Chloroethyl vinyl ether	0.46318	0.43932	0.40711	0.42489	0.41518	0.41236	AVRG		0.42719		4.31357
	0.40927	0.43683	0.43654	++++							
52 cis-1,3-Dichloropropene	0.75249	0.74362	0.74201	0.78224	0.78754	0.77192	AVRG		0.77319		2.98331
	0.75908	0.78684	0.79784	0.80827							
53 4-Methyl-2-Pentanone	++++	++++	0.35179	0.44895	0.37317	0.35072	AVRG				
	0.32949	0.32616	0.33053	0.31022					0.35263		12.32745
54 trans-1,3-Dichloropropene	0.75208	0.74356	0.74225	0.78172	0.78818	0.77345	AVRG				
	0.76036	0.78785	0.79909	0.80936					0.77379		3.02559
55 1,1,2-Trichloroethane	0.30300	0.31762	0.26816	0.29007	0.27612	0.27746	AVRG				
	0.26685	0.27587	0.27465	++++					0.28331		6.02039

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-DEC-2001 15:52
 End Cal Date : 27-DEC-2001 21:05
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCBDC\CHEM\VOIC4.i\412271.B\412271.8260.m
 Cal Date : 28-Dec-2001 08:45 mike

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	b	Coefficients m1	m2	%RSD or R ²
57 Ethyl methacrylate	0.38603 0.26435	0.34188 0.26213	0.28251 ++++	0.33050 ++++	0.30630	0.28499	AVRG		0.30734		13.98490
58 Toluene CCC	++++ 0.91111	1.00271 0.89894	0.90493 ++++	0.86658 ++++	1.03463	0.93028	AVRG		0.93560		6.47019
59 1,3-Dichloropropane	0.63725 0.66089	0.66591 0.67439	0.64153 0.68632	0.70454 0.65219	0.68861	0.69573	AVRG		0.67074		3.43633
60 2-Hexanone	++++ 0.22576	++++ 0.21712	0.25720 0.21428	0.31068 ++++	0.26247	0.24661	AVRG		0.24773		13.59865
61 Chlorodibromomethane	0.50203 0.52747	0.52890 0.53373	0.49010 0.55274	0.55313 0.52101	0.55746	0.54251	AVRG		0.53091		4.17921

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-DEC-2001 15:52
 End Cal Date : 27-DEC-2001 21:05
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\CHEM\VOIC4.i\V412271.B\V412271.8260.m
 Cal Date : 28-Dec-2001 08:45 mike

Compound	0.5000000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients ml	m2	%RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
62 1,2-Dibromoethane	0.39552	0.39549	0.37537	0.41794	0.40879	0.39651	AVRG		0.38341		6.24688
63 Tetrachloroethene	0.19233	0.30325	0.29176	0.27120	0.32742	0.30341	AVRG		0.29013		13.05700
64 1,1,1,2-Tetrachloroethane	0.54182	0.54335	0.58230	0.52155	0.53592	0.55279	AVRG		0.57010		8.64504
66 Chlorobenzene SRC	1.05890	1.25566	1.17428	0.99248	1.12050	1.05930	AVRG		1.11291		9.39281
67 Ethylbenzene CCC	1.74969	2.56861	2.40716	2.01587	2.42833	2.21968	AVRG		2.26548		12.22237

777 533

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-DEC-2001 15:52
 End Cal Date : 27-DEC-2001 21:05
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\CHEM\voc4.i\412271.B\412271.8260.m
 Cal Date : 28-Dec-2001 08:45 mike

Compound	0.500000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	b	Coefficients ml	m2	\$RSD or R^2
68 Xylene-mp	0.60360 0.61722	0.75785 0.60609	0.67340 0.77839	0.57146 0.76653	0.68730	0.63820	AVRG		0.67000		11.24574
69 Bromoform	0.36943 0.34227	0.39607 0.31779	0.40389 0.36001	0.41165 0.33920	0.38148	0.38077	AVRG		0.37025		8.22824
70 trans-1,4-Dichloro-2-butene	0.14592 0.14273	0.18709 0.13051	0.17407 0.14621	0.19092 0.14369	0.17478	0.16392	AVRG				13.08430
71 Styrene	0.81036 0.91973	1.08909 0.89650	1.04173 1.12063	0.93641 1.10483	1.10626	1.00111	AVRG				10.70061
72 Xylene-o	0.50144 0.54040	0.65308 0.52615	0.62579 0.66203	0.52625 0.64818	0.64102	0.58383	AVRG		0.59082		10.54171

000128

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-DEC-2001 15:52
 End Cal Date : 27-DEC-2001 21:05
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\CHEM\voc4.i\V412271.B\V412271.8260.m
 Cal Date : 28-Dec-2001 08:45 mike

Compound	0.500000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients	m2	%RSD
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					or R^2
73 1,1,2,2-Tetrachloroethane	1.0000	150.0000	170.0000	200.0000							
	Level 7	Level 8	Level 9	Level 10							
	++++	1.59624	1.45185	1.60788	1.37539	1.48269					
	1.19127	1.06849	++++	++++			AVRG		1.39626	✓	14.47894
74 cis-1,4-Dichloro-2-butene	0.19928	0.17842	0.16247	0.20635	0.19155	0.16723					
	0.13998	0.13724	0.15905	0.16510			AVRG		0.17067		13.66062
75 1,2,3-Trichloropropane	++++	0.14772	0.16553	0.17729	0.15925	0.14515					
	0.12334	0.11355	0.12811	0.13230			AVRG		0.14358		14.69421
76 Isopropylbenzene	1.40794	2.18439	2.02261	1.74912	2.14397	1.88593					
	1.72477	1.65711	2.04836	2.04481			AVRG		1.88690		13.11885
78 Bromobenzene	0.32428	0.43247	0.40880	0.35072	0.41262	0.35664					
	0.32156	0.31000	0.38553	0.38589			AVRG		0.36885		11.53478

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-DEC-2001 15:52
 End Cal Date : 27-DEC-2001 21:05
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\CHEM\VOIC4.i\V412271.B\V412271.8260.m
 Cal Date : 28-Dec-2001 08:45 mike

Compound	0.500000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	b	Coefficients ml	m2	%RSD or R ²
79 n-Propylbenzene	1.68468 1.89285	2.43331 1.89925	2.29228 2.35420	1.97552 2.41005	2.44480	2.08750	AVRG		2.14744		12.76753
80 2-Chlorotoluene	1.12855 1.19329	1.51080 1.20341	1.44798 1.50704	1.34804 1.52246	1.51636	1.31280	AVRG		1.36907		11.16736
81 4-Chlorotoluene	1.34676 1.38036	1.84424 1.38381	1.54293 1.74914	1.31050 1.75012	1.69607	1.40002	AVRG		1.54039		13.06099
82 1,3,5-Trimethylbenzene	1.15463 1.28356	1.68178 1.31779	1.52745 1.65089	1.33067 1.64547	1.61711	1.35826	AVRG		1.45676		12.96070
83 1,2,4-Trimethylbenzene	1.15463 1.28329	1.68163 1.31728	1.52672 1.65089	1.33046 1.64335	1.61316	1.35653	AVRG		1.45580		12.93714

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-DEC-2001 15:52
 End Cal Date : 27-DEC-2001 21:05
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\CHEM\voc4.i\412271.B\412271.8260.m
 Cal Date : 28-Dec-2001 08:45 mike

Compound	0.500000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	b	Coefficients m1	m2	RSR or R ²
85 tert-Butylbenzene	0.88345 0.97760	1.32118 1.02536	1.25739 1.28607	1.10068 1.29245	1.32638	1.06914	AVRG		1.15397		14.02882
86 sec-Butylbenzene	1.28241 1.27939	1.63858 1.34463	1.55179 1.63575	1.32320 1.64168	1.57622	1.31680	AVRG		1.45905		11.06080
87 4-Isopropyltoluene	1.02553 1.24821	1.48552 1.33876	1.39683 1.50581	1.23142 1.55013	1.48781	1.20241	AVRG		1.34724		12.50420
89 1,3-Dichlorobenzene	1.58074 1.70187	1.82761 1.70692	1.82239 1.78911	1.66664 1.69926	1.83163	1.78147	AVRG		1.74076		4.76556
90 1,4-Dichlorobenzene	1.57767 1.77132	1.80135 1.78304	1.70133 1.84000	1.64271 1.79476	1.81991	2.01347	AVRG		1.77456		6.67126

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-DEC-2001 15:52
 End Cal Date : 27-DEC-2001 21:05
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\CHEM\voc4.i\V412271.B\V412271.8260.m
 Cal Date : 28-Dec-2001 08:45 mike

Compound	0.500000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients	m2	%RSD or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
91 1,2-Dichlorobenzene	1.23750	1.47416	1.48686	1.39324	1.54128	1.50371	AVRG		1.45764		6.02103
	1.52947	1.49325	1.46298	1.45396							
92 n-Butylbenzene	3.58801	4.66035	4.51314	4.16597	4.71826	4.48822	AVRG		4.36806		8.05022
	4.72781	4.47856	4.17029	4.17003							
93 1,2-Dibromo-3-chloropropane	++++	0.31440	0.25562	0.28938	0.23961	0.25904	AVRG		0.26433		13.78662
	0.30954	0.22941	0.21761	++++							
94 1,2,4-Trichlorobenzene	0.87541	1.14315	0.98734	0.95564	0.90561	1.03492	AVRG		0.97111		8.35577
	0.98720	0.87113	1.00133	0.94941							
95 Naphthalene	++++	2.12450	1.84039	1.89714	1.58628	1.87569	AVRG		1.81508		8.49599
	1.81938	1.65011	1.77183	1.77037							

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-DEC-2001 15:52
 End Cal Date : 27-DEC-2001 21:05
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\CHEM\voc4.i\412271.B\412271.8260.m
 Cal Date : 28-Dec-2001 08:45 mike

Compound	0.500000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	b	Coefficients m1	m2	RSR or R^2
96 Hexachlorobutadiene	0.67157 0.87078	0.76412 0.69055	0.78837 0.84673	0.72793 0.80509	0.73388 0.87648	0.89551 0.87648	AVRG		0.77755		9.34253
97 1,2,3-Trichlorobenzene	0.80133 0.87515	1.02377 0.79183	0.83089 0.85755	0.86284 0.84983	0.77550 0.89551	0.89551 0.89551	AVRG		0.85642		8.19909
34 Dibromofluoromethane	0.80510 0.71352	0.77296 0.71483	0.79000 0.71420	0.74821 0.70336	0.75013 0.74329	0.74329 0.74329	AVRG		0.74556		4.69742
37 1,2-Dichloroethane-d4	1.05576 0.98882	1.01901 1.03578	1.03513 0.97850	1.08782 0.95156	0.99974 1.01257	1.01257 1.01257	AVRG		1.01647		3.89081
56 Toluene-d8	1.54328 1.46015	1.64415 1.36120	1.47182 1.51921	1.35252 1.43087	1.61240 1.50338	1.50338 1.50338	AVRG		1.48990		6.43868

Report Date : 28-Dec-2001 08:55

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Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-DEC-2001 15:52
 End Cal Date : 27-DEC-2001 21:05
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETC\BDC\CHEM\voc4.i\V412271.B\V412271.8260.m
 Cal Date : 28-Dec-2001 08:45 mike

Compound	0.500000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients	m2	MSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
	120.0000	150.0000	170.0000	200.0000							
	Level 7	Level 8	Level 9	Level 10							
\$ 77 Bromofluorobenzene	0.66422	0.76562	0.70296	0.59667	0.71372	0.63301	AVRG		0.65475		10.49105
	0.58695	0.53297	0.66750	0.68387							

Curve	Formula	Units
Averaged	Amt = Rsp/ml	Response
Linear	Amt = b + Rsp/ml	Response

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level IV
GC/MS Semi-Volatiles**

777 541

ENVIRONMENTAL TESTING & CONSULTING, INC
GC/MS BNA Sequence Check List (SW-846)Sequence ID B1010301System ID BNA 1Date 1/4/02Analyst ESM

Applicable ETC Order Nos. for this sequence:

0112600 01126380112602 0112623

Validated

1. DFTPP Daily 12-Hour Tune Meets Criteria. No analysis begins until criteria are met. (SOP) ✓2. Degradation/Peak Tailing Check (may be combined with DFTPP Tune): ✓a. DDT to DDE/DDD $\leq 20\%$ Benzidine/PCP - Normal Response with no visible peak tailing.2. Initial Calibration Verification Criteria - Method : B1122901.Ma. SPCC - Mean RF ≥ 0.050 ✓b. CCC - RSD of RF for CCCs and Target Analytes MUST BE $\leq 30\%$ ✓c. RSD of analytes $\leq 15\%$ may use Average RF for quantitation ✓d. Analytes w/RSD $> 15\%$ use Linear Regression - correlation coefficient ≥ 0.99 ✓

3. Calibration Verification - Each 12-Hour Shift

a. SPCC - RF ≥ 0.050 ✓b. CCC - % Difference for Average RF Calibration - $\leq 20\%$ ✓c. CCC - % Drift for Linear Regression Calibration - $\leq 20\%$ ✓d. % Difference/% Drift for all other Target Analytes - $\leq 30\%$ ✓✓ Benzidine, 3,3 Dimethyl benzidine, Nitrobenzene, 4 Nitroaniline all high responsee. Internal Standards - Retention Times within ± 30 seconds from Mid-Point ICAL STD ✓f. Internal Standards - Areas within (-50% to +100%) from Mid-Point ICAL STD ✓

3. Method Blanks included in this sequence :

Analyze for each analytical batch (20 samples): ✓

List compounds identified in Method Blank w/concentration.

Flag final result "B-Detected in Blank"

107012LB - OK

4. Matrix Spike/Matrix Spike Duplicates included in this sequence :

Analyze for each analytical batch (20 samples) . List MS/MSD(s) performed with any failures : NA

5. Laboratory Control Samples included in this sequence :

Must contain all Target Analytes.

107012 LCS/ICSD $\rightarrow$ 2 of 166 spike recoveries outside limits
26 of 83 RPD's6. Surrogate Recoveries within QC Limits ✓7. All positive compounds within calibration range ✓

Narrative/Notes :

DFTPP Ion Abundance/Ratio Criteria Chart

Ion	Abundance Criteria	Base Peak	Other	Test
198	Base Peak, 100% relative abundance	100.00		PASS
51	30 - 60% of mass 198	51.39		PASS
68	Less than 2% of mass 69	0.00	(0.00)	PASS
69	Mass 69 relative abundance	58.23		PASS
70	Less than 2% of mass 69	0.31	(0.52)	PASS
127	40 - 60% of mass 198	55.79		PASS
197	0 - 1% of mass 198	0.00		PASS
199	5 - 9% of mass 198	7.06		PASS
275	10 - 30% of mass 198	27.41		PASS
365	Greater than 1% of mass 198	3.50		PASS
441	Present, but less than mass 443	12.39	(78.76)	PASS
442	Greater than 40% of mass 198	78.30		PASS
443	17 - 23% of mass 442	15.73	(20.09)	PASS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	0.6489362	5.000	PASS
Benzidine	1.1582915	3.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	633398			N/A
4,4-DDE	0	0.0	15.0	PASS
4,4-DDD	26453	4.0	15.0	PASS
4,4-DDD + DDE	26453	4.0	15.0	PASS

Tuning Sample, //ETCBDC/DD/chem/bnal.i/B1010301.B/0101001.D/0101001.D, *** PASSED **

777 543

FORM 5
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Lab File ID: 0101001

DFTPP Injection Date: 01/03/02

Instrument ID: BNA1

DFTPP Injection Time: 1530

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	51.4
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	58.2
70	Less than 2.0% of mass 69	0.3 (0.5)1
127	40.0 - 60.0% of mass 198	55.8
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.1
275	10.0 - 30.0% of mass 198	27.4
365	Greater than 1.0% of mass 198	3.50
441	Present, but less than mass 443	12.4
442	Greater than 40.0% of mass 198	78.3
443	17.0 - 23.0% of mass 442	15.7 (20.1)2

1-Value is % mass 69

2-Value is % mass 442

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	8270 CV1		0202004	01/03/02	1653
02	P07012LB	P07012LB	0301005	01/03/02	1715
03	P07012LCS	P07012LCS	0401006	01/03/02	1737
04	P07012LCSD	P07012LCSD	0501007	01/03/02	1758
05	011260202	011260202	0601008	01/03/02	1820
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7
BNA-GCMS CONTINUING CALIBRATION CHECK

777 544

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Instrument ID: BNA1

Calibration Date: 01/03/02 Time: 1653

Lab File ID: 0202004

Init. Calib. Date(s): 12/29/01 12/29/01

Init. Calib. Times: 0923 1217

GC Column: DB-5MS ID: 0.25 (mm)

COMPOUND	SAMPLE AMOUNT	CAL50 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Acenaphthene	51.27	50.00	AVRG	2.5	20.0
Acenaphthylene	53.27	50.00	AVRG	6.5	30.0
Acetophenone	54.14	50.00	AVRG	8.3	30.0
Aniline	57.24	50.00	AVRG	14.5	30.0
Anthracene	51.73	50.00	AVRG	3.5	30.0
Benzidine	94.02	50.00	LINR	88.0	35.0
Benz(a)Anthracene	50.93	50.00	AVRG	1.9	30.0
Benzo(b)fluoranthene	53.12	50.00	AVRG	6.2	30.0
Benzo(k)fluoranthene	54.45	50.00	AVRG	8.9	30.0
Benzo(ghi)perylene	48.92	50.00	AVRG	2.2	30.0
Benzo(a)pyrene	55.99	50.00	AVRG	12.0	20.0
Benzoic acid	48.46	50.00	LINR	3.1	35.0
Benzyl alcohol	55.05	50.00	AVRG	10.1	30.0
Bis(2-chloroethoxy)methane	53.67	50.00	AVRG	7.3	30.0
Bis(2-chloroethyl)ether	54.97	50.00	AVRG	9.9	30.0
Bis(2-chloroisopropyl)ether	55.98	50.00	AVRG	12.0	30.0
Bis(2-ethylhexyl)phthalate	48.54	50.00	AVRG	2.9	30.0
4-Bromophenyl phenyl ether	55.45	50.00	AVRG	10.9	30.0
Butyl benzyl phthalate	48.86	50.00	AVRG	2.3	30.0
Carbazole	59.31	50.00	LINR	18.6	30.0
4-Chloroaniline	51.57	50.00	AVRG	3.1	30.0
Chlorobenzilate	44.92	50.00	AVRG	10.2	35.0
4-Chloro-3-methylphenol	52.95	50.00	AVRG	5.9	20.0
2-Chloronaphthalene	53.25	50.00	AVRG	6.5	30.0
2-Chlorophenol	53.98	50.00	AVRG	8.0	30.0
4-Chlorophenyl phenyl ether	49.73	50.00	AVRG	0.5	30.0
Chrysene	51.22	50.00	AVRG	2.4	30.0
Dibenz(a,h)anthracene	52.63	50.00	AVRG	5.3	30.0
Dibenzofuran	50.90	50.00	AVRG	1.8	30.0
Di-n-butyl phthalate	45.94	50.00	AVRG	8.1	30.0
1,2-Dichlorobenzene	53.80	50.00	AVRG	7.6	30.0
1,3-Dichlorobenzene	52.61	50.00	AVRG	5.2	30.0
1,4-Dichlorobenzene	53.16	50.00	AVRG	6.3	20.0
3,3'-Dichlorobenzidine	62.74	50.00	AVRG	25.5	30.0
2,4-Dichlorophenol	53.38	50.00	AVRG	6.8	20.0
2,6-Dichlorophenol	55.09	50.00	AVRG	10.2	30.0
Diethyl phthalate	49.08	50.00	2ORDR	1.8	30.0

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777 545

FORM 7
BNA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Instrument ID: BNA1

Calibration Date: 01/03/02 Time: 1653

Lab File ID: 0202004

Init. Calib. Date(s): 12/29/01 12/29/01

Init. Calib. Times: 0923 1217

GC Column: DB-5MS ID: 0.25 (mm)

COMPOUND	SAMPLE AMOUNT	CAL50 AMOUNT	CURVE	%D	MAX %d
3,3-Dimethylbenzidine	80.45	50.00	2ORDR	60.9	35.0
2,4-Dimethyphenol	54.92	50.00	AVRG	9.8	30.0
Dimethyl phthalate	48.59	50.00	AVRG	2.8	30.0
4,6-Dinitro-2-methylphenol	48.02	50.00	LINR	4.0	30.0
2,4-Dinitrophenol	47.42	50.00	2ORDR	5.2	30.0
2,4-Dinitrotoluene	43.66	50.00	AVRG	12.7	30.0
2,6-Dinitrotoluene	44.13	50.00	AVRG	11.7	30.0
N-NitrosodiphenylAm/Diphenylamin	57.83	50.00	AVRG	15.7	20.0
Di-n-octyl phthalate	50.78	50.00	2ORDR	1.6	20.0
Ethyl methanesulfonate	52.36	50.00	AVRG	4.7	30.0
Fluoranthene	51.39	50.00	LINR	2.8	20.0
Fluorene	50.04	50.00	AVRG	0.1	30.0
Hexachlorobenzene	54.82	50.00	AVRG	9.6	30.0
Hexachlorobutadiene	52.07	50.00	AVRG	4.1	20.0
Hexachlorocyclopentadiene	49.53	50.00	AVRG	0.9	30.0
Hexachloroethane	52.69	50.00	AVRG	5.4	30.0
Indeno (1,2,3-cd) pyrene	51.85	50.00	AVRG	3.7	30.0
Isophorone	54.00	50.00	AVRG	8.0	30.0
Methyl methanesulfonate	52.50	50.00	AVRG	5.0	30.0
2-Methylnaphthalene	52.54	50.00	AVRG	5.1	30.0
2-Methylphenol	56.08	50.00	AVRG	12.2	30.0
3&4-Methylphenol	55.00	50.00	AVRG	10.0	30.0
Naphthalene	57.99	50.00	2ORDR	16.0	30.0
2-Nitroaniline	50.24	50.00	AVRG	0.5	30.0
3-Nitroaniline	43.56	50.00	2ORDR	12.9	30.0
4-Nitroaniline	30.43	50.00	AVRG	39.1	30.0
Nitrobenzene	52.64	50.00	AVRG	5.3	30.0
2-Nitrophenol	52.02	50.00	AVRG	4.0	20.0
4-Nitrophenol	42.65	50.00	AVRG	14.7	30.0
N-Nitrosodibutylamine	53.89	50.00	AVRG	7.8	30.0
N-Nitrosodiethylamine	53.70	50.00	AVRG	7.4	30.0
N-Nitrosodimethylamine	53.58	50.00	AVRG	7.2	30.0
N-Nitrosodi-n-propylamine	53.84	50.00	AVRG	7.7	30.0
Pentachloronitrobenzene	53.59	50.00	AVRG	7.2	30.0
Pentachlorophenol	47.27	50.00	LINR	5.5	20.0
Phenacetin	47.47	50.00	AVRG	5.1	35.0
Phenanthrene	51.32	50.00	AVRG	2.6	30.0

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FORM 7
BNA-GCMS CONTINUING CALIBRATION CHECK

777 546

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Instrument ID: BNA1

Calibration Date: 01/03/02 Time: 1653

Lab File ID: 0202004

Init. Calib. Date(s): 12/29/01 12/29/01

Init. Calib. Times: 0923 1217

GC Column: DB-5MS ID: 0.25 (mm)

COMPOUND	SAMPLE AMOUNT	CAL50 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Phenol	54.84	50.00	AVRG	9.7	20.0
Pyrene	50.32	50.00	LINR	0.6	30.0
Pyridine	56.01	50.00	AVRG	12.0	30.0
1,2,4,5-Tetrachlorobenzene	56.29	50.00	AVRG	12.6	30.0
2,3,4,6-Tetrachlorophenol	54.74	50.00	AVRG	9.5	30.0
1,2,4-Trichlorobenzene	51.94	50.00	AVRG	3.9	30.0
2,4,5-Trichlorophenol	53.68	50.00	AVRG	7.4	30.0
2,4,6-Trichlorophenol	54.10	50.00	AVRG	8.2	20.0
1,2-Dphnylhydrzine/Azobenzen	59.99	50.00	AVRG	20.0	30.0
=====	=====	=====	=====	=====	=====
Nitrobenzene-d5	51.58	50.00	AVRG	3.2	30.0
2-Fluorobiphenyl	52.64	50.00	AVRG	5.3	30.0
Terphenyl-d14	41.71	50.00	AVRG	16.6	30.0
Phenol-d6	54.49	50.00	AVRG	9.0	30.0
2,4,6-Tribromophenol	48.67	50.00	2ORDR	2.7	30.0
2-Fluorophenol	54.03	50.00	AVRG	8.1	30.0

777 547

FORM 8
BNA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Lab File ID (Standard): 0202004

Date Analyzed: 01/03/02

Instrument ID: BNA1

Time Analyzed: 1653

	IS1(DCB)	RT	IS2(NPT)	RT	IS3(ANT)	RT
	AREA #	#	AREA #	#	AREA #	#
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	346727	4.92	1416790	5.62	711030	6.54
UPPER LIMIT	693454	5.42	2833580	6.12	1422060	7.04
LOWER LIMIT	173364	4.42	708395	5.12	355515	6.04
=====	=====	=====	=====	=====	=====	=====
CLIENT						
SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 P07012LB	376748	4.92	1469844	5.62	766544	6.54
02 P07012LCS	371537	4.92	1501251	5.62	799930	6.54
03 P07012LCSD	343126	4.92	1424814	5.62	775332	6.54
04 011260202	380079	4.92	1498039	5.61	800695	6.54
05						
06						
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19						
20						
21						
22						

IS1 (DCB) = 1,4-Dichlorobenzene-d4

IS2 (NPT) = Naphthalene-d8

IS3 (ANT) = Acenaphthene-d10

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 internal standard area values with an asterisk.

* Values outside of QC limits.

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0112602

Lab File ID (Standard): 0202004

Date Analyzed: 01/03/02

Instrument ID: BNA1

Time Analyzed: 1653

	IS4 (PHN)		IS5 (CRY)		IS6 (PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	893683	7.34	429908	9.22	314353	11.32
UPPER LIMIT	1787366	7.84	859816	9.72	628706	11.82
LOWER LIMIT	446842	6.84	214954	8.72	157177	10.82
=====	=====	=====	=====	=====	=====	=====
CLIENT						
SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 P07012LB	1153015	7.33	568860	9.22	422035	11.32
02 P07012LCS	1052824	7.34	423850	9.22	305307	11.32
03 P07012LCSD	1240652	7.33	676327	9.22	467140	11.32
04 011260202	1318309	7.33	1146153*	9.22	879786*	11.32
05						
06						
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18						
19						
20						
21						
22						

IS4 (PHN) = Phenanthrene-d10

IS5 (CRY) = Chrysene-d12

IS6 (PRY) = Perylene-d12

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 internal standard area values with an asterisk.

* Values outside of QC limits.

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

```

Start Cal Date      : 29-DEC-2001 09:23
End Cal Date       : 29-DEC-2001 12:17
Quant Method       : ISTD
Target Version     : 4.00
Integrator         : HP RTE
Method file        : \\ETCDBC\DD\chem\bna1.i\B1122901.B\B1122901.M
Cal Date           : 30-Dec-2001 07:39 erica

```

Calibration File Names:

Level	1:	2:	3:	4:	5:	6:	7:	8:	9:
Level 1	ETCBDC	DD	chem	bnal	i	B1122901	B	0301004	D
Level 2	ETCBDC	DD	chem	bnal	i	B1122901	B	0401005	D
Level 3	ETCBDC	DD	chem	bnal	i	B1122901	B	0501006	D
Level 4	ETCBDC	DD	chem	bnal	i	B1122901	B	0601007	D
Level 5	ETCBDC	DD	chem	bnal	i	B1122901	B	0701008	D
Level 6	ETCBDC	DD	chem	bnal	i	B1122901	B	0801009	D
Level 7	ETCBDC	DD	chem	bnal	i	B1122901	B	0901010	D
Level 8	ETCBDC	DD	chem	bnal	i	B1122901	B	1001011	D
Level 9	ETCBDC	DD	chem	bnal	i	B1122901	B	1101012	D

Compound	Coefficients										GRSD or R^2
	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	b	m1	m2	
1 N-Nitrosodimethylamine	1.04884	0.93712	1.03457	1.00166	1.02904	1.02163					
	1.03766	1.05563	1.01488				AVRG		1.02012		3.45554

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 29-DEC-2001 09:23
 End Cal Date : 29-DEC-2001 12:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETC\BDC\DD\chem\bna1.i\B1122901.B\B1122901.M
 Cal Date : 30-Dec-2001 07:39 erica

Compound	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	b	Coefficients ml	m2	%RSD or R^2
2 Pyridine	100.0000 Level 7	120.0000 Level 8	160.0000 Level 9								
	++++	1.43280	1.72363	1.65532	1.76527	1.68137					
	1.69294	1.75408	1.61437				AVRG		1.66497		6.38243
3 Methyl methanesulfonate	1.04235	0.92294	0.97342	0.93460	0.95507	0.91024					
	0.88537	0.86474	0.84805				AVRG		0.92631		6.43696
5 N-Nitrosodiethylamine	0.70157	0.64117	0.69052	0.68019	0.69401	0.69838					
	0.69613	0.69405	0.69228				AVRG		0.68759		2.67559
6 Ethyl methanesulfonate	1.35135	1.18432	1.28599	1.22674	1.26063	1.22301					
	1.21156	1.17809	1.18516				AVRG		1.23410		4.60519
8 Phenol <i>ccc</i>	2.00719	1.80142	1.93396	1.84809	1.87267	1.79157					
	1.74344	1.70229	1.62486				AVRG		1.81394		6.47057

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Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

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 End Cal Date : 29-DEC-2001 12:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCBDC\DD\chem\bna1.i\B1122901.B\B1122901.M
 Cal Date : 30-Dec-2001 07:39 erica

Compound	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	b	Coefficients m1 m2	%RSD or R ²
9 Aniline	0.89399 0.77746	0.78565 0.80010	0.87063 0.75319	0.81094	0.85821	0.78543	AVRG		0.81507	5.88484
10 Bis(2-chloroethyl) ether	1.42424 1.12145	1.25116 1.12037	1.32704 1.02691	1.24316	1.19152	1.13644	AVRG		1.20470	10.05076
11 2-Chlorophenol	1.39601 1.36153	1.30045 1.34933	1.41809 1.34017	1.35297	1.40772	1.36910	AVRG		1.36615	2.68892
12 1,3-Dichlorobenzene	1.70742 1.43187	1.51783 1.42023	1.60018 1.29452	1.48482	1.47102	1.43137	AVRG		1.48436	7.90640
14 1,4-Dichlorobenzene CCC	1.80844 1.42334	1.54944 1.42585	1.65176 1.30099	1.51573	1.49167	1.45818	AVRG		1.51393	9.68273

Environmental Testing and Consulting, Inc.

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 Method file : \\ETCDBC\DD\chem\bnal.i\B1122901.B\B1122901.M
 Cal Date : 30-Dec-2001 07:39 erica

Compound	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	b	Coefficients m1	m2	RSD or R ²
15 Benzyl alcohol	0.84064 0.94389	0.78894 0.98926	0.89018 0.94588	0.89138	0.97853	0.93965	AVRG		0.91204		7.19630
16 1,2-Dichlorobenzene	1.59567 1.27472	1.43727 1.24664	1.51230 ++++	1.42184	1.39616	1.32228	AVRG		1.40086		8.44769
17 2-Methylphenol	1.22098 1.11133	1.15090 1.06411	1.19314 0.95048	1.16486	1.21476	1.15328	AVRG		1.13598		7.51071
18 Bis(2-chloroisopropyl) ether	2.41978 1.82823	2.08314 1.80768	2.16380 ++++	2.00510	1.96433	1.85531	AVRG		2.01592		10.21189
19 3,4-Methylphenol	1.29043 1.34404	1.22313 1.33131	1.34310 1.31450	1.30235	1.40962	1.37485	AVRG		1.32592		4.00533

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Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 29-DEC-2001 09:23
 End Cal Date : 29-DEC-2001 12:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bnal.i\B1122901.B\B1122901.M
 Cal Date : 30-Dec-2001 07:39 erica

Compound	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	b	Coefficients m1	m2	SRSD or R^2
20 Acetophenone	0.54981 0.46648	0.49946 0.44830	0.52929 0.39916	0.49192	0.49351	0.47441	AVRG		0.48359		9.14445
21 N-Nitrosodi-n-propylamine SPC	0.30459 0.27514	0.27732 0.27014	0.30513 0.23320	0.27898	0.27778	0.27564	AVRG		0.27755		7.56393
22 Hexachloroethane	0.19336 0.16149	0.16578 0.15773	0.18154 0.14180	0.16608	0.16167	0.16045	AVRG		0.16555		8.83758
24 Nitrobenzene	0.50372 0.40449	0.45587 0.39892	0.47882 0.34988	0.43615	0.42792	0.40623	AVRG		0.42911		10.78159
25 Isophorone	0.72671 0.67694	0.68767 0.66139	0.75532 0.59741	0.71231	0.69226	0.66542	AVRG		0.68616		6.54943

Environmental Testing and Consulting, Inc.

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 Cal Date : 30-Dec-2001 07:39 erica

Compound	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	b	Coefficients ml	m2	SRSD or R ²
26 2-Nitrophenol <i>ccc</i>	0.17503	0.17395	0.19168	0.19807	0.19084	0.19467	AVRG		0.18898		4.73772
27 2,4-Dimethylphenol	0.19888	0.19378	0.18588								
	0.36335	0.32821	0.36590	0.34212	0.36280	0.35156	AVRG		0.34640		4.99670
28 Bis(2-chloroethoxy)methane	0.49403	0.43305	0.46437	0.43086	0.42598	0.40812	AVRG		0.42383		9.39735
	0.40717	0.39512	0.35577								
29 Benzoic acid	++++	14454	50244	144724	526754	965494					
	1194182	1371658	2005506				LTNR	0.15137	0.29894		0.99888
30 2,4-Dichlorophenol <i>ccc</i>	0.23448	0.23402	0.25669	0.24651	0.26077	0.26834	AVRG		0.25273		5.09097
	0.26469	0.26257	0.24654								

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Environmental Testing and Consulting, Inc.

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 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bna1.i\B1122901.B\B1122901.M
 Cal Date : 30-Dec-2001 07:39 erica

Compound	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	b	Coefficients ml	m2	%RSD or R^2
31 1,2,4-Trichlorobenzene	0.33718 0.29879	0.30132 0.29048	0.31490 0.26455	0.29308	0.29564	0.29511	AVRG		0.29901		6.51572
33 Naphthalene	89650 3281729	220501 ++++	419481 ++++	842154	1973906	2894103	QUAD	0.03106	0.62124	0.34194	0.99892
34 4-Chloroaniline	0.53810 0.42280	0.51524 0.40879	0.54594 ++++	0.49563	0.49899	0.44028	AVRG		0.48322		10.89651
35 2,6-Dichlorophenol	0.25497 0.25081	0.23499 0.23893	0.25655 0.21296	0.25010	0.25775	0.25053	AVRG		0.24529		5.85233
36 Hexachlorobutadiene <i>ccc</i>	0.17964 0.16419	0.15766 0.16091	0.16557 0.14253	0.15701	0.16093	0.16233	AVRG		0.16120		5.99914

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Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

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 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bna1.i\B1122901.B\B1122901.M
 Cal Date : 30-Dec-2001 07:39 erica

Compound	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	b	Coefficients ml	m2	RSD or R^2
37 N-Nitrosodibutylamine	0.25214 0.25798	0.24384 0.25625	0.27090 0.24135	0.26072	0.26706	0.25452	AVRG		0.25608		3.78105
38 4-Chloro-3-methylphenol ccc	0.27489 0.30012	0.26942 0.29674	0.29961 0.27798	0.29540	0.31222	0.29750	AVRG		0.29154		4.84159
39 2-Methylnaphthalene	0.74927 0.58368	0.66329 0.56821	0.71020 ++++	0.67054	0.66785	0.59177	AVRG		0.65060		9.87106
40 Hexachlorocyclopentadiene spcc	0.21832 0.27379	0.22081 0.25944	0.23490 0.25233	0.23726	0.25578	0.28690	AVRG		0.24884		9.30494
41 1,2,4,5-Tetrachlorobenzene	0.53599 0.51402	0.49378 0.48653	0.52200 0.46505	0.48346	0.50704	0.52969	AVRG		0.50417		4.68589

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 29-DEC-2001 09:23
 End Cal Date : 29-DEC-2001 12:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDDC\DD\chem\bnal.i\B1122901.B\B1122901.M
 Cal Date : 30-Dec-2001 07:39 erica

Compound	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	b	Coefficients ml	m2	RSR or R ²
42 2,4,6-Trichlorophenol	100.0000 Level 7	120.0000 Level 8	160.0000 Level 9								
	0.28768	0.28640	0.33669	0.32272	0.35332	0.37002	AVRG		0.33760		9.55169
	0.36871	0.35842	0.35445								
43 2,4,5-Trichlorophenol	0.30782	0.31360	0.35899	0.34343	0.38230	0.38661	AVRG		0.35840		9.32675
	0.38863	0.38581	++++								
45 2-Chloronaphthalene	1.21608	1.10443	1.19520	1.10791	1.09396	1.06170	AVRG		1.09780		7.22657
	1.01888	0.98427	++++								
46 2-Nitroaniline	++++	0.34598	0.40339	0.39306	0.41293	0.35817					
	0.36819	0.40365	0.39128				AVRG		0.38458		6.28858
47 Dimethyl phthalate	1.36985	1.22283	1.33941	1.23800	1.20336	1.06974					
	1.06580	1.09044	++++				AVRG		1.19993		9.82260

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 29-DEC-2001 09:23
 End Cal Date : 29-DEC-2001 12:17
 Quant Method : ISTD
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 Integrator : HP RTE
 Method file : \\ETC\BDC\DD\chem\bnal.i\B1122901.B\B1122901.M
 Cal Date : 30-Dec-2001 07:39 erica

Compound	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	b	Coefficients ml	m2	SRSD or R ²
48 2,6-Dinitrotoluene	++++ 0.15243	++++ 0.16904	0.20660 ++++	0.19009	0.18591	0.14532	AVRG		0.17490		13.46124
49 Acenaphthylene	1.69609 1.32663	1.55646 1.27253	1.69896 ++++	1.56630	1.49894	1.37528	AVRG		1.49890		10.78603
50 3-Nitroaniline	8229 543347	24327 793139	53924 ++++	111983	218557	372343	QUAD	-0.10013	5.98532	-2.80429	0.99571
52 Acenaphthene	1.27094 0.95799	1.10877 0.92318	1.19092 ++++	1.08445	1.05220	0.97181	AVRG		1.07003		11.21308
53 2,4-Dinitrophenol	++++ 308755	14340 402256	32312 530311	72265	193546	236053	QUAD	-0.07037	7.34498	-0.96727	0.99125

*RF = 0.154

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 29-DEC-2001 09:23
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 Method file : \\ETCDBC\DD\chem\bna1.i\B1122901.B\B1122901.M
 Cal Date : 30-Dec-2001 07:39 erica

Compound	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	b	Coefficients ml	m2	SRSD or R^2
54 4-Nitrophenol <i>SPCL</i>	++++ 0.18833	0.16766 0.21335	0.21551 0.22398	0.21715	0.23653	0.17886	AVRG		0.20517		11.70546
55 Dibenzofuran	1.59016 1.28632	1.49716 1.28118	1.66071 ++++	1.54207	1.53559	1.31761	AVRG		1.47635		11.08186
56 2,4-Dinitrotoluene	++++ 0.30723	0.31470 0.34970	0.37098 0.34999	0.34184	0.35132	0.28599	AVRG		0.33397		8.48796
57 2,3,4,6-Tetrachlorophenol	0.18958 0.24468	0.21033 0.24241	0.25521 0.22356	0.25648	0.28376	0.24846	AVRG		0.23939		11.63547
58 Diethyl phthalate	47606 2019296	126560 2419116	258262 2762912	539294	1297889	1654469	QUAD	0.02042	0.59505	0.20610	0.99608

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

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 End Cal Date : 29-DEC-2001 12:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bnal.i\B1122901.B\B1122901.M
 Cal Date : 30-Dec-2001 07:39 erica

Compound	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	b	Coefficients ml	m2	%RSD or R ²
59 Fluorene	1.35747 1.01658	1.21264 1.00766	1.32510 ++++	1.23247	1.20985	1.04582	AVRG		1.17595		11.65705
60 4-Chlorophenyl phenyl ether	0.61946 0.54390	0.54083 0.56788	0.60236 0.52236	0.56766	0.59045	0.54480	AVRG		0.56663		5.66934
61 4-Nitroaniline	0.29500 ++++	0.33282 ++++	0.40178 ++++	0.34399	0.27432	++++	AVRG		0.32958		14.92661
62 4,6-Dinitro-2-methylphenol	++++ 363368	13468 444941	32603 ++++	73585	218665	266900	LINR	0.02265	0.11894		0.99337
63 N-Nitrosodiphenylamine ccc	0.52767 0.53485	0.47854 0.50832	0.51073 0.44502	0.48944	0.50223	0.55036	AVRG		0.50524		6.28014

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

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 End Cal Date : 29-DEC-2001 12:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETC\BDC\DD\chem\bna1.i\B1122901.B\B1122901.M
 Cal Date : 30-Dec-2001 07:39 erica

Compound	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	b	Coefficients ml	m2	%RSD or R ²
64 1,2-Diphenylhydrazine/Azobenzene	1.08326 0.92820	0.97774 0.82189	1.04007 ++++	0.97693	0.94297	1.02556	AVRG		0.97458		8.24345
66 Phenacetin	0.21878 0.28779	0.26844 0.29296	0.32831 0.29426	0.30147	0.31126	0.28227	AVRG		0.28728		10.73828
67 4-Bromophenyl phenyl ether	0.20844 0.23692	0.18876 0.23241	0.20204 0.20543	0.19772	0.21190	0.23772	AVRG		0.21348		8.40941
68 Hexachlorobenzene	0.24408 0.25793	0.21190 0.25612	0.22761 0.22766	0.21791	0.23686	0.26006	AVRG		0.23779		7.50802
69 Pentachlorophenol <i>ccc</i>	++++ 425310	13332 572174	32265 765997	77784	242837	303727	LINR	0.05832	0.14202		0.99748

* %RSD = 19.1

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 29-DEC-2001 09:23
 End Cal Date : 29-DEC-2001 12:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCBDC\DD\chem\bnal.i\B1122901.B\B1122901.M
 Cal Date : 30-Dec-2001 07:39 erica

Compound	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	b	Coefficients ml	m2	RSD or R ²
70 Pentachloronitrobenzene	100.0000 Level 7	120.0000 Level 8	160.0000 Level 9								
	0.08183	0.07956	0.09042	0.08317	0.08483	0.08329	AVRG		0.08140		6.73465
	0.08139	0.07782	0.07026								
72 Phenanthrene	1.20967	1.04885	1.13383	1.01594	0.96868	0.94290	AVRG		1.00324		12.77563
	0.89258	0.81349	++++								
73 Anthracene	1.07508	0.97889	1.05256	0.98344	0.93863	0.89787	AVRG		0.94860		9.90563
	0.86726	0.79504	++++								
74 Carbazole	48159	137071	282271	546099	1191542	1196678	LINR	-0.11260	0.54979		0.99291
	1659683	2303540	++++								
75 Di-n-butyl phthalate	1.16079	1.13999	1.25184	1.08524	0.99000	0.90114	AVRG		1.05769		13.28025
	0.87484	++++	++++								

777 562

000157

777 563

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 29-DEC-2001 09:23
 End Cal Date : 29-DEC-2001 12:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bna1.i\B1122901.B\B1122901.M
 Cal Date : 30-Dec-2001 07:39 erica

Compound	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	b	Coefficients ml	m2	%RSD or R ²
76 Fluoranthene	57560 2180271	160874 2692179	315419 ++++	570921	1343258	1559018	LINR	-0.07693	0.68541		0.99578
77 Benzidine	++++ ++++	33143 ++++	65727 ++++	81503	163777	202973	LINR	-0.16215	0.20632		0.99203
78 Pyrene	55165 2132260	160345 ++++	309864 ++++	550797	1316706	1517381	LINR	-0.05349	0.69737		0.99798
80 Chlorobenzilate	0.35034 0.45019	0.36127 0.47233	0.43132 0.48521	0.46800	0.47062	0.46298	AVRG		0.43914		11.31379
81 3,3-Dimethylbenzidine	++++ 503373	++++ 673094	59880 ++++	74605	204168	260538	QUAD	-0.08896	4.38243	-1.54802	0.99646

* %RSD = 16.6

000158

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 29-DEC-2001 09:23
 End Cal Date : 29-DEC-2001 12:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETC\BDC\DD\chem\bnal.i\B1122901.B\B1122901.M
 Cal Date : 30-Dec-2001 07:39 erica

Compound	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	b	Coefficients ml	m2	%RSD or R ²
82 Butyl benzyl phthalate	0.51366 0.68134	0.55601 0.68814	0.64541 0.67193	0.66998	0.65395	0.67365	AVRG		0.63934		9.62833
83 Benz(a)Anthracene	1.19601 1.11576	1.06953 1.12187	1.11969 1.07025	1.05791	1.06009	1.09113	AVRG		1.10025		4.01198
85 3,3'-Dichlorobenzidine	0.21108 0.23001	0.21349 0.24272	0.26296 0.27172	0.24915	0.18053	0.18397	AVRG		0.22729		14.32917
86 Chrysene	1.13830 1.06144	1.00673 1.04783	1.05767 0.98465	0.99820	0.99434	1.01749	AVRG		1.03407		4.67406
87 Bis(2-ethylhexyl)phthalate	++++ 0.87194	0.61333 0.88515	0.76926 0.87573	0.76832	0.81233	0.85431	AVRG		0.80630		11.26392

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 29-DEC-2001 09:23
 End Cal Date : 29-DEC-2001 12:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bnal.i\B1122901.B\B1122901.M
 Cal Date : 30-Dec-2001 07:39 erica

Compound	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	b	Coefficients m1	m2	%RSD or R ²
88 Di-n-octyl phthalate <i>ccc</i>	++++ 1686684	54287 2020444	122636 3006537	217853	786101	1016991	QUAD	0.12598	0.80634	-0.00100	0.99781
89 Benzo(b)fluoranthene	1.16578 1.18401	1.06894 1.34654	1.20588 ++++	1.14980	1.15548	1.16893	AVRG		1.18079		6.58866
90 Benzo(k)fluoranthene	1.13549 1.21892	1.03874 1.30674	1.16146 ++++	1.18146	1.12186	1.20276	AVRG		1.17093		6.70120
91 Benzo(a)pyrene <i>ccc</i>	0.81166 1.04154	0.77129 1.09694	0.92529 ++++	0.90540	0.96492	1.01602	AVRG		0.94163		11.88456
93 Indeno(1,2,3-cd)pyrene	0.79263 1.03537	0.71478 0.91011	0.72775 ++++	0.75673	0.90865	0.91972	AVRG		0.84572		13.50767

* %RSD = 25.0

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 29-DEC-2001 09:23
 End Cal Date : 29-DEC-2001 12:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDDC\DD\chem\bna1.i\B1122901.B\B1122901.M
 Cal Date : 30-Dec-2001 07:39 Erica

Compound	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	b	Coefficients m1	m2	RSR or R ²
94 Dibenz(a,h)anthracene	0.63206 0.83452	0.59255 0.73742	0.59084 +++++	0.59901	0.73378	0.73546	AVRG		0.68195		13.29749
95 Benzo(ghi)perylene	0.68168 0.80287	0.62070 0.69411	0.61183 0.67777	0.61076	0.72526	0.71720	AVRG		0.68246		9.21500
\$ 4 2-Fluorophenol	1.41442 1.39592	1.28454 1.37609	1.43117 1.31964	1.38787	1.36493	1.38229	AVRG		1.37298		3.32560
\$ 7 Phenol-d6	1.84923 1.73413	1.67028 1.71261	1.83320 1.62752	1.77994	1.78400	1.71912	AVRG		1.74556		4.18058
\$ 23 Nitrobenzene-d5	0.52926 0.42938	0.47176 0.43052	0.49599 0.38657	0.45959	0.46664	0.43213	AVRG		0.45576		9.20780

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 29-DEC-2001 09:23
 End Cal Date : 29-DEC-2001 12:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bnal.i\B1122901.B\B1122901.M
 Cal Date : 30-Dec-2001 07:39 erica

Compound	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	b	Coefficients ml	m2	%RSD or R^2
\$ 44 2-Fluorobiphenyl	1.47427 1.12250	1.26262 1.06281	1.38537 ++++	1.24358	1.26132	1.17394	AVRG		1.24830		10.74816
\$ 65 2,4,6-Tribromophenol	3934 395423	12607 555840	28816 764291	67949	198007	285393	QUAD	0.08507	7.62342	-0.93256	0.99764
\$ 79 Terphenyl-d14	++++ 1.10858	1.11657 1.21073	1.23388 1.10840	1.30089	1.25577	1.17387	AVRG		1.18858		6.19093

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 29-DEC-2001 09:23
End Cal Date : 29-DEC-2001 12:17
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCDBC\DD\chem\bnal.i\B1122901.B\B1122901.M
Cal Date : 30-Dec-2001 07:39 erica

Curve	Formula	Units
Averaged	Amt = Rsp/ml	Response
Linear	Amt = b + Rsp/ml	Response
Quad	Amt = b + ml*Rsp + m2*Rsp^2	Response

APPENDIX D

**DATA EVALUATION OF
SEMI-ANNUAL GROUNDWATER
SAMPLES**

Technical Memorandum

*Jacobs Federal Programs
Saint Louis, Missouri*

TO: Kraig Smith, Project Manager

FROM: Ethan Litsey, Program Chemist

DATE: 1 February 2002

SUBJECT: Quality Control Review of Chemical Analytical Data

REFERENCE: Memphis Depot – Dunn Field Groundwater Systems
Jacobs Project Number C5X51106; WBS 060004L

1.0 PURPOSE

This Technical Memorandum (Memorandum) presents an evaluation of the quality of the analytical chemistry data generated in support of the referenced project. The purpose of the evaluation is to document the quality of the reported data and any limitations to the use of the data. Data use limitations are conveyed to data users through the text of this Memorandum and the application of qualifiers to project data as a result of this evaluation. Laboratory data sheets with these qualifiers applied are included as Attachment 1 to this Memorandum. The data users are urged to review the findings of this evaluation and associated data qualifications before using the data for decision-making.

1.1 DATA QUALITY OBJECTIVES

Analytical support for this project required the collection of definitive data. Definitive data is defined in “*Data Quality Objectives Process for Superfund*,” EPA540-R-93-071, U.S EPA Office of Emergency and Remedial Response, September 1993 as follows:

“Definitive data are generated using rigorous analytical methods, such as approved EPA reference methods. Data are analyte-specific, with confirmation of analyte identity and concentration. Methods produce tangible raw data (e.g., chromatograms, spectra, digital values) in the form of paper printouts or computer-generated electronic files. Data may be generated at the site or at an off-site location, as long as the QA/QC requirements are satisfied. For the data to be definitive, either analytical or total measurement error must be determined.”

Specific data quality criteria and procedures to achieve the desired level of quality are documented in the approved Quality Assurance Project Plan (QAPP). Key elements of the quality program relating to this evaluation included:

- Use of an approved, USACE validated laboratory
- Use of a sampling program designed to meet the project objectives
- Use of appropriate analytical methods

- Evaluation of reported QA/QC to verify compliance with data quality objectives.

1.1.1 Analytical Laboratory

The analytical laboratory employed on this project was evaluated by the USACE Hazardous, Toxic and Radioactive Waste Center of Expertise (HTRW-CX) and holds a current letter of validation from HTRW-CX to perform sample analyses in support of the USACE HTRW Program. This validation confirms their ability to produce reliable and defensible data. In addition, the laboratory used was approved by USACE to provide the required project specific analyses. USACE approval of the laboratory is documented in the approved QAPP. The laboratory used was:

Environmental Testing & Consulting, Inc. (ETC)
Contact: Mr. John F. Nevels, Project Manager
2924 Walnut Grove Road
Memphis, TN 38111
Phone: (901) 327-2750
Fax: (901) 327-6334

1.1.2 Sampling Program Design/Project Samples

The sampling program was designed to collect samples representative of site conditions at the time sampled and to generate data of sufficient quality and quantity to make the intended decisions. The basis for selecting the sampling locations, sample collection procedures, frequency and type of samples collected, and the analytical parameters for each sample was documented in the approved project Work Plans.

Project samples included in this evaluation consisted of groundwater and associated field QC samples collected in October of 2001 and distributed to the laboratory for chemical analysis of volatile organic compounds (VOCs). The laboratory reported the results of the analyses in three Laboratory Data Packages (LDPs) each designated by an order number. LDPs included in this evaluation included:

1. ETC Order # 0110129, dated October 17, 2001
2. ETC Order # 0110130, dated October 17, 2001
3. ETC Order # 0110528, dated October 26, 2001

Listing of specific project samples contained in the LDPs, and therefore contained in this evaluation, along with a cross reference of sample field Id numbers to laboratory Id numbers is included on "Analytical Summary/Cross Reference Table" beginning on page 2 of each LDP.

1.1.3 Analytical Methods

In order to obtain definitive data and promote data comparability, the laboratory was required to perform testing within the guidelines of standardized, EPA methods included in the following approved protocol:

- "*Test Methods for Evaluating Solid Waste*," SW-846, 3rd Edition, Update III, U.S. EPA, November 1986, (SW-846).

Specific analytical methods used in the analysis of the project samples included:

- 8260B – VOCs by Gas Chromatography/Mass Spectrometry (GC/MS)

1.1.4 Data Evaluation Procedure

The quality of this data has been evaluated following procedures consistent with those included in the approved QAPP. The procedures are based on “USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review,” EPA-540/R-94-012, February 1994 and “USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review,” EPA-540/R-94-013, February 1994 (*Functional Guidelines*). Data evaluations were also based on the QC requirements of the analytical methods, project DQOs, and informed professional judgment of the evaluator. Data evaluation was performed by qualified Jacobs personnel, experienced in the evaluation of analytical data quality.

The following data quality issues were addressed in this evaluation:

- Review of chain-of-custody and sample receipt forms to evaluate sample receipt data, damaged sample containers, etc.
- Review of laboratory testing methods, detection limits, holding times, data qualifiers, etc.
- Review of field QC blank data to detect contamination from outside sources.
- Review of field QC duplicates to evaluate data reproducibility.
- Review of laboratory QC including laboratory blanks, spike recovery, and duplicates.
- Verification of calibrations as summarized by the laboratory within their Case Narratives.
- Qualify data with appropriate review qualifiers to document data use limitations.
- Document data evaluation findings in terms of the PARCC data quality parameters.

Data quality parameters precision, accuracy, representativeness, comparability, and completeness (PARCC) were evaluated as follows:

- Accuracy - by evaluation of surrogate (SUR), Laboratory Control Sample (LCS), and Matrix Spike/Matrix Spike Duplicate (MS/MSD) percent recoveries (%R).
- Precision - by evaluation of MS/MSD, laboratory duplicate, and field duplicate relative percent differences (RPD).
- Representativeness - by evaluation of sample receipt records, technical holding times, and blank sample results (field and laboratory).
- Comparability - by evaluation of laboratory detection limits, reporting units, and the overall performance of the chosen methods.
- Completeness - by comparing the number of valid measurements obtained to the number of measurements planned for these samples.

Field QC Duplicate Sample Evaluation Procedure

Field QC duplicate samples were collected and analyzed in association with each analytical method at a frequency of approximately 10 percent of the primary samples. Typically, no data qualification is required based solely on nonconforming QC duplicate results unless an individual nonconformance is deemed to be extreme or the data evaluation revealed negative trends. Data qualification, if deemed necessary, may be limited to individual sample results or may include entire data sets. Since no published EPA procedure exists

for evaluation of field duplicate results, the following overview is included to document the procedure and criteria used in this report.

Duplicate results for solid sample matrices that differ by more than a factor of three ($RPD > 100$) and liquid sample matrices that differ by more than a factor of two ($RPD > 67$) were considered to be in 'disagreement'. In the special case where one or both sample results were less than five times the laboratory RL, a difference of $\pm$ three times the RL was used as the evaluation criteria for solids, and $\pm$ two times the RL was used for liquids. Data found out of control were examined to determine if the disagreements were extreme, isolated occurrences, or if negative trends existed.

Duplicate samples found in disagreement do not necessarily indicate an error has been made or inappropriate procedures used. Factors including the natural variability of the sample matrix, high or low analyte concentrations, or the presence of compounds that interfere with analysis can contribute to duplicate disagreement. Negative trends may indicate systematic errors made in sampling, handling, or analytical procedures; or may indicate the selection of an inappropriate protocol. If negative trends or extreme non-conformances exist, associated data were evaluated carefully to determine their validity. Data severely affected by duplicate sample results, if any, are reported with qualifiers and/or notations as to data usability.

1.1.5 Data Qualifier Definitions

The following definitions describe the data qualifiers that may have been assigned to results during this review. Data qualifier definitions are based on those included in the *Functional Guidelines*.

- U The analyte was analyzed for, but was not detected above the laboratory Reporting Limit (RL).
- J The analyte was positively identified; however, the associated numerical value is an estimate of the concentration of the analyte in the sample.
- UJ The analyte was not detected above the RL. However, the RL is an estimate and may or may not represent the actual RL necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected and are therefore unusable due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

1.2 STATEMENT OF DATA QUALITY AND DATA USE LIMITATIONS

QA/QC results associated with this data indicate that the data meet definitive data standards and are of known quality and are acceptable for their intended uses with the qualifiers applied. No results were found to be unusable due to QC deficiencies. QC data demonstrated that the QA mechanisms were effective in ensuring measurement data reliability within expected limits of sampling and analytical error. Sample data, as qualified, are considered representative of actual site conditions at the time sampled.

1.2.1 Summary of Qualifiers Applied to Data During This Evaluation

This section presents a summary of qualifiers applied to sample data as a result of this review. Laboratory

data sheets with these qualifiers applied are included as Attachment 1 to this Memorandum. Section 1.1.5 presents complete qualifier definitions and Section 2.0 contains the review findings along with descriptions of the impact the findings had on project data. Sample data may also have qualifiers applied by the laboratory. Laboratory qualifiers are defined on page 1 of each LDP. Based on this review, project data were qualified as follows:

1. Carbon disulfide data were qualified as estimated ("J" for detections "UJ" for non-detections (NDs)) in the primary/QC duplicate pair MW-67-261.5/ MW-67-100 due to field duplicate precision non-conformance.
2. Carbon disulfide data were qualified as estimated ("J" for detections; "UJ" for NDs) in field samples in laboratory batch V210111 due to laboratory control sample (LCS) accuracy non-conformance. For a list of specific samples affected, see the following laboratory report pages: ETC Order # 0110129 Form 4 - page 103 and ETC Order # 0110130 Form 4 - page 87.
3. 1,1-Dichloroethene detected data were qualified as estimated "J" in field samples in laboratory batch V210122 due to LCS accuracy non-conformance. One field sample, MW-31-100, required qualification due to this non-conformance. For a list of field samples in batch V210122, see the following laboratory report pages: ETC Order # 0110130 Form 4 - page 107.

1.2.2 Additional Data Use Concerns

1. Some analyte concentrations were detected beyond the calibration range of the respective analysis and were designated as such by the laboratory with an "E" flag. In each case, these concentrations were replaced with concentrations from the appropriate secondary dilutions. See section 2.4.3 for specific samples and analytes affected.
2. Carbon disulfide was detected in some of the project samples collected during this event. In a previous sampling event conducted at this site during February of 2001, it was hypothesized that detections of carbon disulfide were from a source other than the site based on the then current historical information. The following is an excerpt from the 2 April 2001 Memorandum "Quality Control Review of Chemical Analytical Data" addressing this issue:

"An additional concern with respect to the use of this data is the detection of carbon disulfide (CS_2) in a number of project samples. Twelve samples were found with varying levels of CS_2 ranging from the reporting limit to 250 ug/L. This analyte had not previously been detected at the site per Kraig Smith, Jacobs Project Manager. Since this constituent had not previously been detected, it is hypothesized that it may be an artifact and not the result of site contamination. The widespread and erratic occurrence of its detection in this data set seemed to support this theory. CS_2 is also the only constituent to generate a field duplicate QC non-conformance further suggesting erratic and artificial presence. However, careful evaluation of applicable data collection procedures including sampling, sample handling and shipping, and laboratory operations did not reveal any other source of the constituent."

Given the detection of carbon disulfide in project samples in this event, it appears that the hypothesis presented in the 2 April 2001 Memorandum was premature. Detections of carbon disulfide in both events appear to be representative of the respective site conditions at the time sampled.

2.0 DATA QUALITY NARRATIVES

Specific findings of this evaluation are discussed in data quality narratives in terms of PARCC data quality parameters. The discussions present a compilation of laboratory QC results found outside project acceptance criteria and provide an assessment of the potential impact those results had on the analytical data. The bulk of the QC results were in control and, therefore, were not summarized in these discussions.

Project sample analyses were grouped into QC batches as defined in SW-846. The laboratory analyzed QC samples associated with each batch. Data qualification, when necessary, may be based on non-conforming batch QC results. Thus, specific findings of this evaluation may be discussed in terms of analytical batches.

2.1 ACCURACY

In general, project accuracy indicators (SUR, LCS, and MS/MSD %Rs) were found to be in control. Some exceptions were noted and were summarized below as Specific Findings. Each exception was evaluated to determine if it had any impact on data use or required data qualification.

Specific Findings:

1. LCS recovery for carbon disulfide = 58% (control 60-133%) in batch V210111. Based on this non-conformance, this parameter was qualified as estimated ("J" for detections "UJ" for NDs) in all field samples in this batch.
2. LCS recovery for 1,1-dichloroethene = 122% (control 69-121%) in batch V210122. Based on this non-conformance, detections of this parameter were qualified as estimated "J" in all field samples in this batch.
3. LCS recoveries were found above criteria for methylene chloride (in batches V210101 and V210121) and chloroform (in batch V210121). These analytes were not detected in field samples analyzed in the respective batches. Since the recoveries were above criteria and the associated data were ND, there was no impact on sample data and no qualification was necessary.
4. MS recoveries were found above criteria for 1,1-dichloroethene ranging up to 140% (control 69-121%) in batches V210091, V210101, V210111, V210121, V210122 and 5497. For organic sample analyses, no action is taken based solely on MS/MSD results as long as the non-conformance is not extreme and analytical control can be demonstrated by other QC. The referenced non-conformances were not extreme and analytical control was demonstrated by acceptable SUR recoveries in each associated sample. LCS recoveries for this compound were also found in control for each analytical batch except V210122. Data in this batch were qualified based on the LCS non-conformance (see Specific Finding #2 above.)
5. MS recoveries were found above criteria for benzene and toluene in batch 5497. For organic sample analyses, no action is taken based solely on MS/MSD results as long as the non-conformance is not extreme and analytical control can be demonstrated by other QC. The referenced non-conformances were not extreme and analytical control was demonstrated by acceptable SUR recoveries in each associated sample and acceptable LCS recoveries for these compounds in the associated batch.

2.2 PRECISION

2.2.1 FIELD QC DUPLICATE SAMPLE PRECISION

In general, project precision indicators for field QC duplicate samples were found to be in control. One exception was noted and was evaluated to determine if it had any impact on data use or required data qualification. The finding is discussed below.

Specific Findings:

1. Carbon disulfide in the QC pair MW-67-261.5 / MW-67-100 (lab sample Id 0110129-31 / 0110130-33) was found beyond criteria as detected in the QC duplicate but ND in the primary sample. This was the only non-conformance out of seven QC duplicate samples collected and therefore is not indicative of a trend. However, since the parameter was detected in the duplicate but not the primary sample, it is unclear what concentration, if any, was present at the site. Based on this, data for this parameter were qualified as estimated ("J" for detections; "UJ" for NDs) in the respective primary/QC duplicate sample pair.

2.2.2 Laboratory Internal QC Sample Precision

QC data indicated that requirements for laboratory internal QC duplicate samples (MS/MSD and laboratory duplicate RPD) were met for each sample analysis.

2.3 REPRESENTATIVENESS

2.3.1 Sample Custody/Handling Documentation Review

The project samples were received at the laboratory adequately preserved, chilled within the required range of 4 ± 2 degrees Celsius, in good condition, and with required custody documentation in order.

2.3.2 Sample Holding Time Review

QC data indicated requirements for holding times were met for each sample analysis.

2.3.3 Blank Sample Results Review

QC data indicated requirements for blank sample results were met, with the exceptions noted below.

Specific Findings:

1. Methylene chloride (a common laboratory contaminant) was detected in two method blank (MB) samples in laboratory batches V210091 and 5497 at a maximum concentration of 2.74 ug/L. No associated results were found at levels below ten times the level found in the MB, thus there was no impact on project data.
2. Toluene = 2.7 ug/L was detected in an equipment blank (EB) sample collected on 10/03/01. No associated results were found at levels below five times the level found in the MB, thus there was no impact on project data.

2.4 COMPARABILITY

Comparability was assessed by evaluation of laboratory detection limits, reporting units, and the overall performance of the chosen methods. Project data comparability was found to be acceptable.

2.4.1 Concentrations Below The Reporting Limit

Although comparability was acceptable, analyte concentrations found below the RL but above the method detection limit (MDL) were qualified as estimated "J" by the laboratory. These data were qualified in compliance with USACE reporting protocol and were not flagged due to quality non-conformances.

2.4.2 Elevated Detection Limits Due to Initial Dilutions

If samples had high analyte concentrations or interferences forcing an initial sample dilution to be performed, the non-detect sample data were impacted by a decrease in sensitivity and elevated detection limits proportional to the dilution factor. No data qualification was required based on the finding of samples analyzed at an initial dilution. However, data users are urged to review these data in order to determine if subsequent loss of sensitivity may impact decisions made based on the data. The following samples were analyzed at an initial dilution with detection limits elevated to a level proportional to the initial dilution factor:

<u>Sample Id #</u>	<u>Lab Id #</u>	<u>Method</u>	<u>Dilution Factor</u>
MW-77-85	0110130-01	8260	100
MW-70-85	0110130-02	8260	200
MW-70-90	0110130-03	8260	100
MW-32-64.5	0110130-06	8260	20
MW-71-72	0110130-10	8260	10
MW-71-75	0110130-11	8260	20
MW-76-86.5	0110130-21	8260	5
MW-76-91.5	0110130-02	8260	10
MW-31-100	0110130-32	8260	5
MW-1A	0110528-02	8260	10
MW-2	0110528-04	8260	10
MW-2	0110528-07	8260	20
MW-2	0110528-08	8260	20
MW-2	0110528-11	8260	5

2.4.3 Data Reporting Guidelines For "E" Flagged Concentrations

The laboratory reported some concentrations flagged with an "E" to indicate that the flagged concentration were beyond the linear range of the analysis. Affected samples were re-analyzed at a secondary dilution designed to bring the "E" concentrations into the appropriate range. The laboratory reported results for the initial and diluted sample analyses. In these cases, it was necessary to report the concentration for each compound from the initial analysis (lowest dilution) that was not flagged with "E". In other words, all results from initial analyses, except those qualified "E," were accepted. The "E" flagged concentrations

were replaced with results from the next lowest dilution not flagged with an "E" for that compound. Samples and parameters flagged "E" by the laboratory and reported from a secondary dilution include the following:

<u>Sample Id #</u>	<u>Lab Id #</u>	<u>Method</u>	<u>Parameter</u>
MW-31-72.2	0110129-21	8260	trichloroethene
MW-54-91	0110129-25	8260	trichloroethene

Occurrences of "E" flagged data do not indicate quality non-conformances if the LDP includes appropriately diluted sample analyses (secondary dilutions) for each "E" flagged concentration. Laboratory "E" flagged concentrations in the evaluated data were accompanied by appropriate secondary dilution analyses.

2.5 COMPLETENESS

Completeness was found to be 100% for all evaluated data.

ATTACHMENT 1
QUALIFIED DATA SHEETS

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 580

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
ETC Order Number **0110129**

ETC Lab ID **0110129-21**
Field ID : **MW-31-72.2**

Matrix : **AQUEOUS**
Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/10/01	LS	8260B 5030B
QC Batch	V210101					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide --	ND	ug/L	1.00	- uJ		
Carbon Tetrachloride	1.25	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	1.61	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	20.6	ug/L	1.00			
trans-1,2-Dichloroethene	34.4	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	2.10	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	22.7	ug/L	1.00	10		
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	44.2	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	94	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	100	80 111
S4 - 1,2-Dichloroethane-d4	94	58 131

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Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
ETC Order Number **0110129**

ETC Lab ID **0110129-21**
Field ID : **MW-31-72.2-DIL**

Matrix : **AQUEOUS**
Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	LS	8260B 5030B
QC Batch	V210111					
Dilution Factor	10					
Trichloroethene	227	ug/L	10.0			
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>			
S1 - Dibromofluoromethane	95		84	115		
S2 - Toluene-d8	94		69	133		
S3 - 4-Bromofluorobenzene	100		80	111		
S4 - 1,2-Dichloroethane-d4	94		58	131		

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Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-22**
 Field ID : **MW-31-77.5**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	LS	8260B 5030B
QC Batch	V210111					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00	4J		
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
1,1-Dichloroethane	0.54J	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	31.2	ug/L	1.00			
trans-1,2-Dichloroethene	4.83	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	4.19	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	0.70J	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	38.1	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	5.53	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	94	84 115
S2 - Toluene-d8	93	69 133
S3 - 4-Bromofluorobenzene	99	80 111
S4 - 1,2-Dichloroethane-d4	91	58 131

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Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-25**
 Field ID : **MW-54-91**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/10/01	LS	8260B 5030B
QC Batch	V210101					
Dilution Factor	1					
Acetone	ND	ug/L	20.0	- 4J		
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	19.7	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00	10		
Chloroform	12.0	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	5.28	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00	259 -228E-		
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	11.0	ug/L	1.00			
Tetrachloroethene	1.89	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	259 -228E-	ug/L	1.00	10		
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	31.4	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	98	84	115
S2 - Toluene-d8	96	69	133
S3 - 4-Bromofluorobenzene	100	80	111
S4 - 1,2-Dichloroethane-d4	98	58	131

ENVIRONMENTAL TESTING & CONSULTING, INC.

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Client Name

Sverdrup/Jacobs Eng.
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID Memphis Army Depot

FID #

Date Arrived 10/04/01

ETC Order Number 0110129

ETC Lab ID 0110129-25

Field ID : MW-54-91-DIL

Matrix : AQUEOUS

Sample Date : 10/03/01

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	MK	8260B 5030B
QC Batch	V210111					
Dilution Factor	10					
Trichloroethene	259	ug/L	10.0			
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>			
S1 - Dibromofluoromethane	96		84	115		
S2 - Toluene-d8	95		69	133		
S3 - 4-Bromofluorobenzene	100		80	111		
S4 - 1,2-Dichloroethane-d4	95		58	131		

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000061

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Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-26**
 Field ID : **MW-79-85**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	LS	8260B 5030B
QC Batch	V210111					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00 - 4J			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	0.41J	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	21.0	ug/L	1.00			
trans-1,2-Dichloroethene	0.75J	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	6.28	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	0.35J	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	8.80	ug/L	1.00			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	0.62J	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	95	84	115
S2 - Toluene-d8	95	69	133
S3 - 4-Bromofluorobenzene	99	80	111
S4 - 1,2-Dichloroethane-d4	94	58	131

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

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Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
ETC Order Number **0110129**

ETC Lab ID **0110129-27**
Field ID : **MW-79-90**

Matrix : **AQUEOUS**
Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	LS	8260B 5030B
QC Batch	V210111					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide -	ND	ug/L	1.00	4J		
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	0.43J	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	22.8	ug/L	1.00			
trans-1,2-Dichloroethene	0.96J	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	6.85	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	0.39J	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	10.8	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	0.88J	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	96	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	98	80 111
S4 - 1,2-Dichloroethane-d4	97	58 131

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ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-28**
 Field ID : **MW-79-95**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	LS	8260B 5030B
QC Batch	V210111					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00	- UT		
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	0.40J	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	21.4	ug/L	1.00			
trans-1,2-Dichloroethene	0.59J	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	6.53	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	0.35J	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	8.27	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	0.57J	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	95	84	115
S2 - Toluene-d8	93	69	133
S3 - 4-Bromofluorobenzene	99	80	111
S4 - 1,2-Dichloroethane-d4	95	58	131

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

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Client Name

**Sverdrup/Jacobs Eng.
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211**Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**ETC Order Number **0110129**ETC Lab ID **0110129-29**Field ID : **MW-79-100**Matrix : **AQUEOUS**Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	LS	8260B 5030B
QC Batch	V210111					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide -	ND	ug/L	1.00	45		
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	1.02	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	37.6	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	16.6	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	0.60J	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	11.9	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	97	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	100	80 111
S4 - 1,2-Dichloroethane-d4	95	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000068

777 589

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-30**
 Field ID : **MW-40-91.5**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	LS	8260B 5030B
QC Batch	V210111					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00	4J		
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	94	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	99	80 111
S4 - 1,2-Dichloroethane-d4	93	58 131

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 590

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-31**
 Field ID : **MW-67-261.5**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	LS	8260B 5030B
QC Batch	V210111					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide -	ND	ug/L	1.00 - <i>UT</i>			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	95	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	96	80 111
S4 - 1,2-Dichloroethane-d4	96	58 131

777 591

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110129**

ETC Lab ID **0110129-32**
 Field ID : **MW-67-266.5**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	LS	8260B 5030B
QC Batch	V210111					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide -	ND	ug/L	1.00	45		
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	97	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	100	80 111
S4 - 1,2-Dichloroethane-d4	96	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000074

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 592

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
ETC Order Number **0110129**

ETC Lab ID **0110129-33**
Field ID : **MW-67-271**

Matrix : **AQUEOUS**
Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	LS	8260B 5030B
QC Batch	V210111					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	5.25	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	95	84	115
S2 - Toluene-d8	94	69	133
S3 - 4-Bromofluorobenzene	100	80	111
S4 - 1,2-Dichloroethane-d4	94	58	131

777 593

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-01**
 Field ID : **MW-77-85**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	ls	8260B 5030B
QC Batch	V210111					
Dilution Factor	100					
Acetone	ND	ug/L	2000			
Benzene	ND	ug/L	100			
Bromodichloromethane	ND	ug/L	100			
Bromoform	ND	ug/L	100			
Bromomethane	ND	ug/L	100			
2-Butanone (MEK)	ND	ug/L	2000			
Carbon Disulfide	ND	ug/L	100			4J
Carbon Tetrachloride	ND	ug/L	100			
Chlorobenzene	ND	ug/L	100			
Chlorodibromomethane	ND	ug/L	100			
Chloroethane	ND	ug/L	100			
Chloroform	ND	ug/L	100			
Chloromethane	ND	ug/L	100			
1,1-Dichloroethane	ND	ug/L	100			
1,2-Dichloroethane	ND	ug/L	100			
1,1-Dichloroethene	ND	ug/L	100			
trans-1,2-Dichloroethene	20.1J	ug/L	100			
1,2-Dichloropropane	ND	ug/L	100			
cis-1,3-Dichloropropene	ND	ug/L	100			
trans-1,3-Dichloropropene	ND	ug/L	100			
Ethylbenzene	ND	ug/L	100			
2-Hexanone (MBK)	ND	ug/L	500			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	500			
Methylene Chloride	ND	ug/L	500			
Styrene	ND	ug/L	100			
1,1,2,2-Tetrachloroethane	1,820	ug/L	100			
Tetrachloroethene	ND	ug/L	100			
Toluene	ND	ug/L	200			
1,1,1-Trichloroethane	ND	ug/L	100			
1,1,2-Trichloroethane	ND	ug/L	100			
Trichloroethene	1,620	ug/L	100			
Vinyl Acetate	ND	ug/L	2000			
Vinyl Chloride	ND	ug/L	100			
Xylenes-m,p	ND	ug/L	100			
Xylenes-o	ND	ug/L	100			
cis-1,2-Dichloroethene	76.4J	ug/L	100			

Surrogate Standard	% Recovery	QC Limits
31 - Dibromofluoromethane	96	84 115
32 - Toluene-d8	95	69 133
33 - 4-Bromofluorobenzene	98	80 111
34 - 1,2-Dichloroethane-d4	96	58 131

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 594

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
ETC Order Number **0110130**

ETC Lab ID **0110130-02**
Field ID : **MW-70-85**

Matrix : **AQUEOUS**
Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	LS	8260B 5030B
QC Batch	V210111					
Dilution Factor	200					
Acetone	ND	ug/L	4000			
Benzene	ND	ug/L	200			
Bromodichloromethane	ND	ug/L	200			
Bromoform	ND	ug/L	200			
Bromomethane	ND	ug/L	200			
2-Butanone (MEK)	ND	ug/L	4000			
Carbon Disulfide -	ND	ug/L	200	- 4J		
Carbon Tetrachloride	ND	ug/L	200			
Chlorobenzene	ND	ug/L	200			
Chlorodibromomethane	ND	ug/L	200			
Chloroethane	ND	ug/L	200			
Chloroform	ND	ug/L	200			
Chloromethane	ND	ug/L	200			
1,2-Dichloroethane	ND	ug/L	200			
1,1-Dichloroethane	ND	ug/L	200			
trans-1,2-Dichloroethene	ND	ug/L	200			
1,2-Dichloropropane	ND	ug/L	200			
cis-1,3-Dichloropropene	ND	ug/L	200			
trans-1,3-Dichloropropene	ND	ug/L	200			
Ethylbenzene	ND	ug/L	200			
2-Hexanone (MBK)	ND	ug/L	1000			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	1000			
Methylene Chloride	ND	ug/L	1000			
Styrene	ND	ug/L	200			
1,1,2,2-Tetrachloroethane	1,320	ug/L	200			
Tetrachloroethene	ND	ug/L	200			
Toluene	ND	ug/L	400			
1,1,1-Trichloroethane	ND	ug/L	200			
1,1,2-Trichloroethane	ND	ug/L	200			
Trichloroethene	2,340	ug/L	200			
Vinyl Acetate	ND	ug/L	4000			
Vinyl Chloride	ND	ug/L	200			
Xylenes-m,p	ND	ug/L	200			
Xylenes-o	ND	ug/L	200			
cis-1,2-Dichloroethene	92.8J	ug/L	200			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	97	84 115
S2 - Toluene-d8	94	69 133
S3 - 4-Bromofluorobenzene	98	80 111
S4 - 1,2-Dichloroethane-d4	97	58 131

777 595

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-03**
 Field ID : **MW-70-90**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	LS	8260B 5030B
QC Batch	V210111					
Dilution Factor	100					
Acetone	ND	ug/L	2000			
Benzene	ND	ug/L	100			
Bromodichloromethane	ND	ug/L	100			
Bromoform	ND	ug/L	100			
Bromomethane	ND	ug/L	100			
2-Butanone (MEK)	ND	ug/L	2000			
Carbon Disulfide -	ND	ug/L	100 -	4J		
Carbon Tetrachloride	ND	ug/L	100			
Chlorobenzene	ND	ug/L	100			
Chlorodibromomethane	ND	ug/L	100			
Chloroethane	ND	ug/L	100			
Chloroform	ND	ug/L	100			
Chloromethane	ND	ug/L	100			
1,1-Dichloroethane	ND	ug/L	100			
1,2-Dichloroethane	ND	ug/L	100			
1,1-Dichloroethene	ND	ug/L	100			
trans-1,2-Dichloroethene	ND	ug/L	100			
1,2-Dichloropropane	ND	ug/L	100			
cis-1,3-Dichloropropene	ND	ug/L	100			
trans-1,3-Dichloropropene	ND	ug/L	100			
Ethylbenzene	ND	ug/L	100			
2-Hexanone (MBK)	ND	ug/L	500			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	500			
Methylene Chloride	ND	ug/L	500			
Styrene	ND	ug/L	100			
1,1,2,2-Tetrachloroethane	766	ug/L	100			
Tetrachloroethene	ND	ug/L	100			
Toluene	ND	ug/L	200			
1,1,1-Trichloroethane	ND	ug/L	100			
1,1,2-Trichloroethane	ND	ug/L	100			
Trichloroethene	1,170	ug/L	100			
Vinyl Acetate	ND	ug/L	2000			
Vinyl Chloride	ND	ug/L	100			
Xylenes-m,p	ND	ug/L	100			
Xylenes-o	ND	ug/L	100			
cis-1,2-Dichloroethene	55.9J	ug/L	100			

Surrogate Standard	% Recovery	QC Limits
31 - Dibromofluoromethane	96	84 115
32 - Toluene-d8	95	69 133
33 - 4-Bromofluorobenzene	100	80 111
34 - 1,2-Dichloroethane-d4	95	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000016

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 596

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-04**
 Field ID : **MW-43-163.5**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/01	LS	8260B 5030B
QC Batch	Y210111					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00 - <i>UT</i>			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	96	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	101	80 111
S4 - 1,2-Dichloroethane-d4	96	58 131

777 597

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-32**
 Field ID : **MW-31-100**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/13/01	LS	8260B 5030B
QC Batch	V210122					
Dilution Factor	5					
Acetone	ND	ug/L	100			
Benzene	ND	ug/L	5.00			
Bromodichloromethane	ND	ug/L	5.00			
Bromoform	ND	ug/L	5.00			
Bromomethane	ND	ug/L	5.00			
2-Butanone (MEK)	ND	ug/L	100			
Carbon Disulfide	ND	ug/L	5.00			
Carbon Tetrachloride	ND	ug/L	5.00			
Chlorobenzene	ND	ug/L	5.00			
Chlorodibromomethane	ND	ug/L	5.00			
Chloroethane	ND	ug/L	5.00			
Chloroform	ND	ug/L	5.00			
Chloromethane	ND	ug/L	5.00			
1,1-Dichloroethane	ND	ug/L	5.00			
1,2-Dichloroethane	ND	ug/L	5.00			
1,1-Dichloroethene	39.9	ug/L	5.00			
trans-1,2-Dichloroethene	5.88	ug/L	5.00			
1,2-Dichloropropane	ND	ug/L	5.00			
cis-1,3-Dichloropropene	ND	ug/L	5.00			
trans-1,3-Dichloropropene	ND	ug/L	5.00			
Ethylbenzene	ND	ug/L	5.00			
2-Hexanone (MBK)	ND	ug/L	25.0			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25.0			
Methylene Chloride	ND	ug/L	25.0			
Styrene	ND	ug/L	5.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	5.00			
Tetrachloroethene	3.06J	ug/L	5.00			
Toluene	ND	ug/L	10.0			
1,1,1-Trichloroethane	ND	ug/L	5.00			
1,1,2-Trichloroethane	ND	ug/L	5.00			
Trichloroethene	39.5	ug/L	5.00			
Vinyl Acetate	ND	ug/L	100			
Vinyl Chloride	ND	ug/L	5.00			
Xylenes-m,p	ND	ug/L	5.00			
Xylenes-o	ND	ug/L	5.00			
cis-1,2-Dichloroethene	6.58	ug/L	5.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	96	84	115
S2 - Toluene-d8	94	69	133
S3 - 4-Bromofluorobenzene	94	80	111
S4 - 1,2-Dichloroethane-d4	99	58	131

ata Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000074

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

777 598

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Army Depot**

FID #

Date Arrived **10/04/01**
 ETC Order Number **0110130**

ETC Lab ID **0110130-33**
 Field ID : **MW-67-100**

Matrix : **AQUEOUS**
 Sample Date : **10/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/13/01	LS	8260B 5030B
QC Batch	V210122					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	4.86	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
Chloromethane	ND	ug/L	1.00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
1 - Dibromofluoromethane	96	84 115
2 - Toluene-d8	94	69 133
3 - 4-Bromofluorobenzene	92	80 111
4 - 1,2-Dichloroethane-d4	98	58 131

APPENDIX E

GROUNDWATER INTERPOLATION EXPLANATION

Groundwater Interpolation of November 1, 2001 Data – Memphis DDMT

by US ERDC at Waterways Experiment Station, Earl V. Edris, Jr.

Groundwater elevation data was collected for the Dunn Field area of Memphis DDMT on November 1, 2001. The groundwater elevations are presented in Table 1. Included in Table 1 are the groundwater elevations for November 7, 2000, January 10, 2001, and March 29, 2001 readings. The top of casing elevations in Table 1 were revised to agree with the latest elevations provided by CH2M HILL. The mesh to which the elevations were interpolated in Table 1 was modified to represent the area where the fluvial clay exists in the Dunn field area as defined by the cross sections developed by CH2MHILL. The mesh was modified to include the area surrounding MW-41, and MW-55, to include two new monitoring wells near MW-53 (wells MW-103 and MW-104). All the values listed in Table 1 are groundwater elevations. A -999 values indicates that the reading for the particular date was not taken.

One interpolation was performed for the November 1 data set. Monitoring wells MW-02, and MW-05, and MW-27 are dry and not included in Table 1. The following monitoring wells are located outside the interpolation mesh: MW-18, MW-19, MW-34, MW-38, MW-62, MW-63, MW-89, and MW-90. Monitoring wells MW-36, MW-37, MW-40, MW-43, and MW-67 are not located in the fluvial aquifer and therefore are not included in the interpolation. An inferred data point with an elevation of 211 ft MSL was added to the data set. This point located along the mesh boundary near the location of MW-40 was based on flow pathways and gradients of surrounding wells.

The interpolation used the ordinary kriging technique to interpolate from spatial data points to a more regular spaced mesh or grid. A mesh that represents the aerial extent of the fluvial clay was used so that resolution can be varied within the interpolation domain. For the mesh, refine points with 30 foot resolution were created at the extraction wells. A series of arcs around the recovery well area was established with a resolution of 100 foot. The outside arc had a resolution of 250 feet. Figures 1 and 2 show the mesh resolution. The ordinary kriging interpolation technique is based on the assumption that the water level elevation varies in a continuous manner and that locations near data points have a certain degree of spatial correlation. Points that are widely separated are statistically independent. This technique uses a variogram to relate the variance of the spatial data points and to develop a relationship that describes this variance. The variogram used for the interpolation is shown in Figure 3. The variogram parameters used for these interpolations are slightly different than the same parameters that were used for the previous quarterly and semiannual interpolations. The difference reflects a better correlation of the water elevation data than the previous interpolations.

A number of figures were prepared for the interpolation data set. Figures 4 through 6 present the November 1 data set without the "deep" wells and wells outside the mesh area. These figures show a fairly uniform water elevation around Dunn Field that dips considerably to the south. Figures 7 through 9 presents the interpolated results of this data set. In the immediate area of the recovery wells, the cone of influence can be seen for those wells that were operational.

Table 1. Groundwater Elevations

Well ID	EASTING	NORTHING	Top of Casing Elevation	Groundwater Elevation November 1, 2001	Groundwater Elevation March 29, 2001	Groundwater Elevation January 10, 2001	Groundwater Elevation November 7, 2000
MW-03	802100.69	281596.25	292.35	221.66	222.01	222.86	223.04
MW-04	802369.19	281278.87	301.61	224.84	225.21	225.77	224.93
MW-06	802069.13	280604.17	289.11	224.00	225.78	225.88	225.50
MW-07	802481.70	281839.88	295.10	226.71	226.46	226.81	226.20
MW-08	802727.91	282001.04	292.59	228.86	228.34	228.41	228.02
MW-09	802516.42	281641.18	304.32	226.43	226.61	226.85	226.32
MW-10	802201.26	281662.55	288.79	223.18	-999	224.00	223.97
MW-11	802099.00	281353.10	299.47	222.66	223.20	224.14	223.14
MW-12	802071.22	281067.19	301.30	224.11	224.10	224.61	223.89
MW-13	802369.21	281033.56	300.01	224.81	225.70	225.97	225.33
MW-14	802288.95	280003.37	302.22	227.22	227.25	227.12	227.83
MW-15	801985.36	280348.88	295.12	224.49	225.17	226.30	226.16
MW-18	802448.08	279136.41	308.04	175.20	175.42	172.02	175.64
MW-19	800782.26	278945.87	290.57	200.92	201.40	201.31	201.70
MW-28	803154.48	281568.58	294.79	233.86	233.42	233.34	233.43
MW-29	802863.96	282104.92	273.22	233.52	232.22	231.80	231.82
MW-30	802013.96	282229.19	275.14	226.59	225.85	226.08	225.54
MW-31	801783.90	281651.53	290.37	218.34	218.40	219.10	218.02
MW-32	801615.51	280834.37	285.38	221.41	221.28	222.05	221.97
MW-33	801561.30	280398.10	280.71	224.18	224.75	225.04	224.81
MW-34	801917.96	279411.21	299.97	156.66	160.40	156.50	160.98
MW-35	802070.44	281072.31	300.46	222.34	224.12	224.65	223.92
MW-36	802887.01	279531.02	310.24	151.53	157.60	151.57	149.79
MW-37	801616.58	280831.22	284.91	151.12	156.85	150.71	157.79
MW-38	802450.43	279141.38	307.45	169.97	172.39	169.53	168.41
MW-40	800948.23	282460.42	262.23	171.05	173.91	170.32	170.35
MW-41	800457.21	279621.65	283.81	217.86	217.56	217.54	217.65
MW-42	800182.40	281883.92	274.83	217.70	217.24	217.21	217.87
MW-43	800111.73	280284.33	284.99	152.75	157.18	152.11	149.47
MW-44	800601.09	281073.71	269.07	212.97	212.91	213.00	213.10
MW-45	804125.99	280728.08	293.22	236.86	236.23	235.84	235.99

Well ID	EASTING	NORTHING	Top of Casing Elevation	Groundwater Elevation November 1, 2001	Groundwater Elevation March 29, 2001	Groundwater Elevation January 10, 2001	Groundwater Elevation November 7, 2000
MW-46	803115.96	281256.81	287.56	232.05	231.78	231.82	231.80
MW-49	803051.31	280211.84	310.49	230.56	230.52	230.48	230.53
MW-51	802828.62	282345.86	275.23	234.62	232.05	231.60	231.44
MW-53	805136.05	279176.66	306.38	232.67	232.33	232.06	232.26
MW-54	801183.32	281160.10	295.35	213.60	213.61	213.72	213.70
MW-55	801204.62	279301.05	292.08	221.05	220.95	220.60	220.75
MW-56	801971.55	279708.26	293.60	225.61	225.74	225.62	225.75
MW-57	802006.19	280184.05	290.77	224.97	226.48	226.53	226.60
MW-58	802066.44	279845.07	290.51	226.29	226.52	226.37	226.52
MW-59	802252.00	281333.67	300.13	223.92	224.36	225.07	224.16
MW-60	802282.05	281424.39	296.86	224.15	224.47	225.16	224.36
MW-61	802347.35	281585.68	294.04	224.73	224.87	225.47	-999
MW-62	801858.16	278289.89	293.65	199.71	199.59	199.43	200.64
MW-63	803585.83	278192.29	306.06	197.46	-999	197.50	197.99
MW-65	803887.68	283529.72	263.22	252.65	256.32	248.75	245.99
MW-68	802040.04	281500.76	278.21	151.59	222.21	223.13	222.45
MW-69	802011.49	281202.55	291.69	221.79	223.12	224.00	223.03
MW-70	801988.49	281029.60	307.02	222.44	223.75	224.35	223.58
MW-71	801804.71	280584.68	304.99	223.06	224.32	225.03	225.74
MW-73	802144.95	280989.42	294.40	222.43	224.55	225.33	-999
MW-74	802044.29	280991.20	300.65	223.87	224.08	224.72	-999
MW-75	802051.10	281080.10	303.68	223.36	223.87	224.46	-999
MW-76	801642.76	281311.98	303.61	222.99	217.40	217.58	-999
MW-77	801815.29	281142.96	302.71	217.04	222.02	222.48	-999
MW-78	802065.28	282051.71	304.42	221.42	224.71	224.98	-999
MW-79	800899.03	281794.22	275.00	225.11	212.57	212.65	-999
MW-80	800199.07	281417.56	285.03	212.63	212.38	212.53	-999
MW-84	802887.01	279531.02	273.81	228.46	228.70	-999	-999
MW-87	802038.55	280696.36	311.15	223.70	221.23	225.47	-999
MW-89	802555.25	278286.97	294.93	183.57	184.98	183.55	-999
MW-90	802539.51	278283.60	303.98	183.94	185.02	183.90	-999
MW-91	802014.43	280474.97	304.19	223.76	224.52	225.99	-999
MW-95	801850.21	282707.50	291.99	228.82	228.37	227.40	-999
MW-103	805160.79	278691.92	259.43	231.92	-999	-999	-999

Well ID	EASTING	NORTHING	Top of Casing Elevation	Groundwater Elevation November 1, 2001	Groundwater Elevation March 29, 2001	Groundwater Elevation January 10, 2001	Groundwater Elevation November 7, 2000
MW-104	805417.72	278677.45	295.76	232.75	-999	-999	-999
PZ-02	803373.00	282748.00	284.39	241.91	241.20	239.22	239.00
RW-01	801973.88	280267.14	296.57	223.50	-999	-999	226.42
RW-01A	801990.08	280386.26	296.83	225.00	-999	-999	225.99
RW-01B	802009.37	280504.87	290.48	221.70	-999	-999	225.62
RW-02	802003.32	280624.56	290.93	223.30	-999	-999	225.13
RW-03	802012.69	280743.76	299.40	226.45	-999	-999	224.85
RW-04	802027.11	280918.07	305.48	223.38	223.32	224.88	224.35
RW-05	802041.97	281113.38	307.25	221.51	-999	-999	223.85
RW-06	802067.17	281264.22	304.94	220.82	222.95	224.12	223.17
RW-07	802079.19	281442.21	297.53	223.74	-999	223.68	222.95
RW-08	802088.53	281574.72	293.34	219.24	222.78	220.64	222.81
RW-09	802232.41	281688.06	290.98	221.89	224.02	222.48	224.34

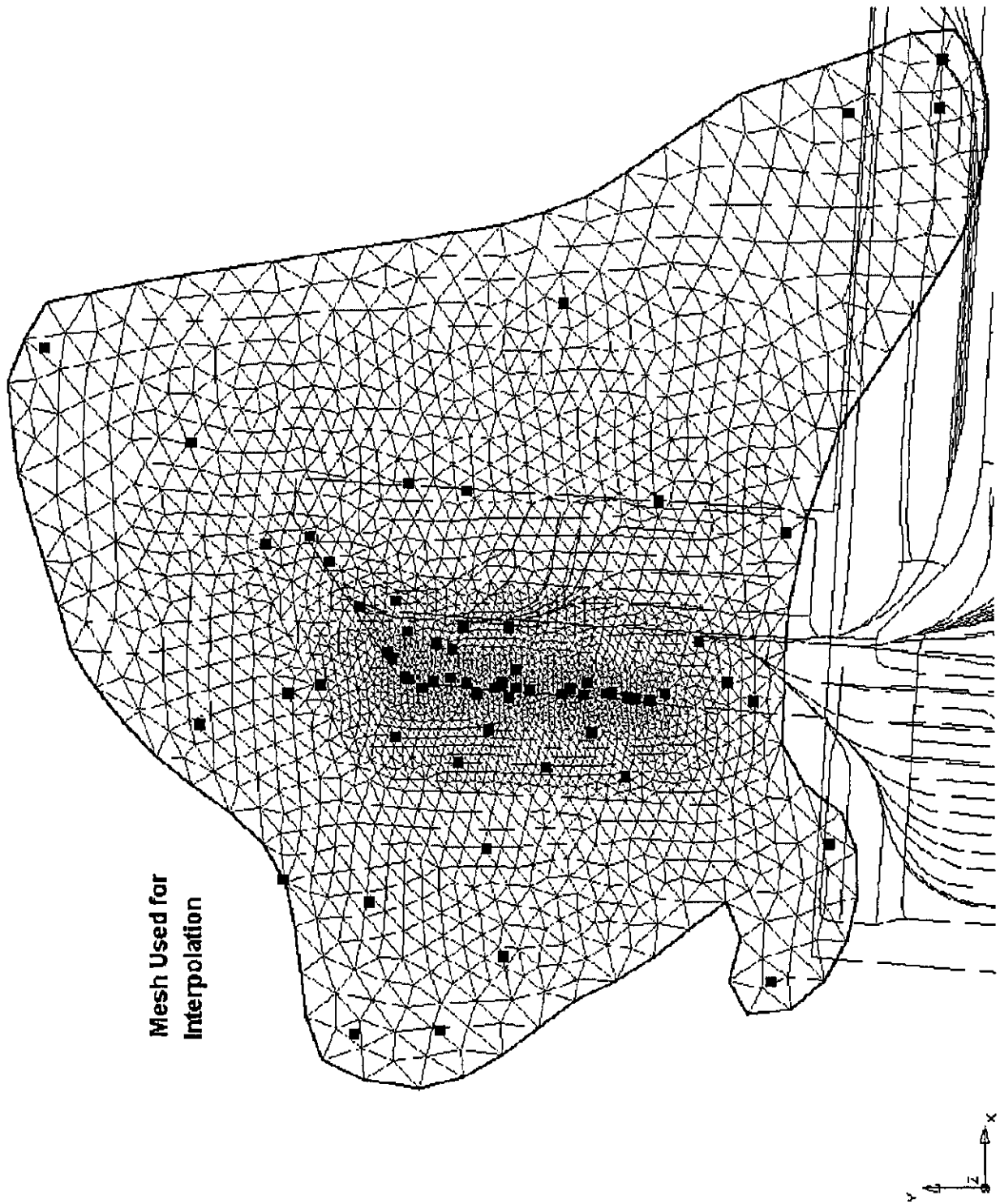


Figure 1. Mesh used for interpolation.

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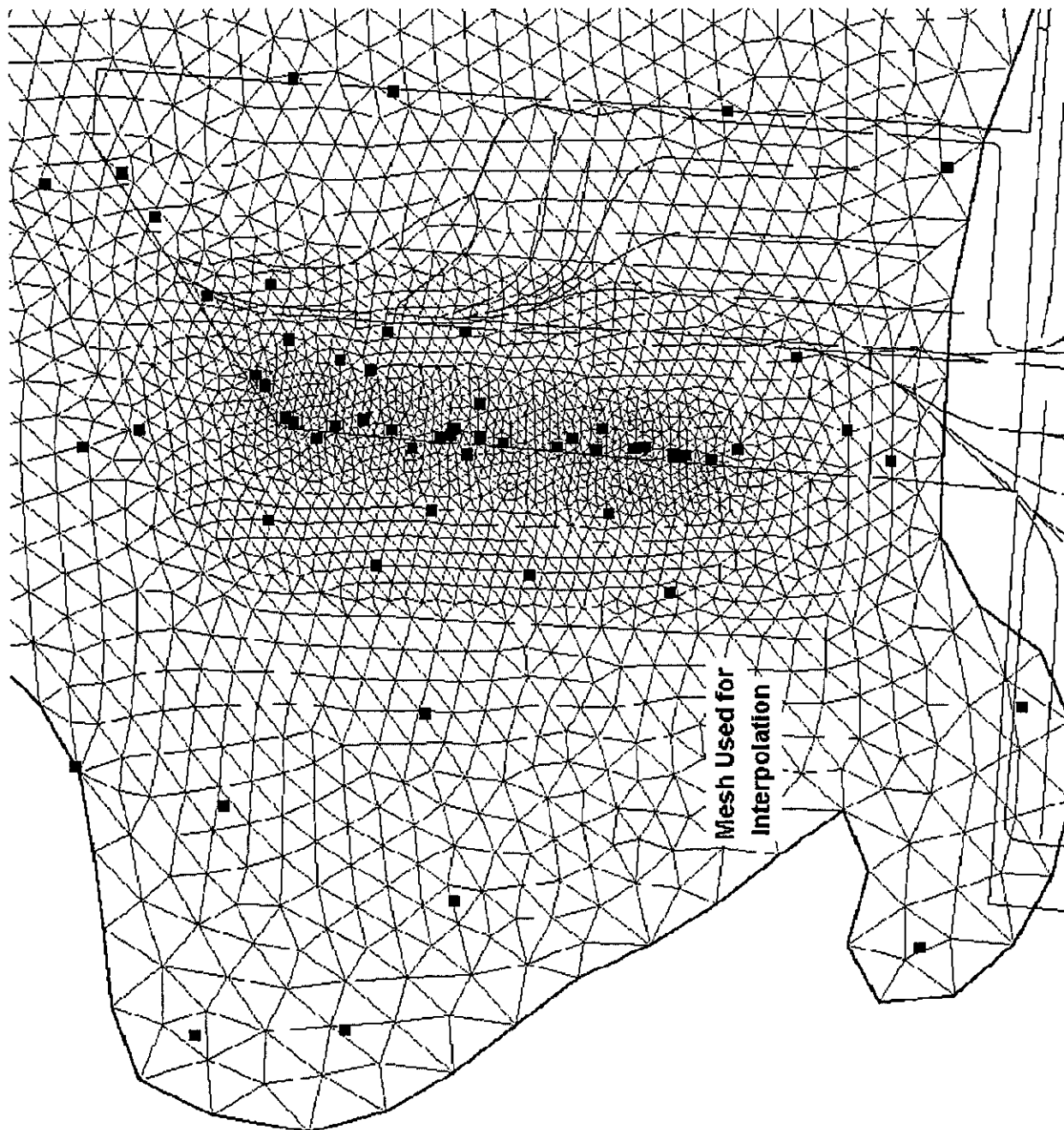


Figure 2. Zoomed area around recovery wells of mesh.

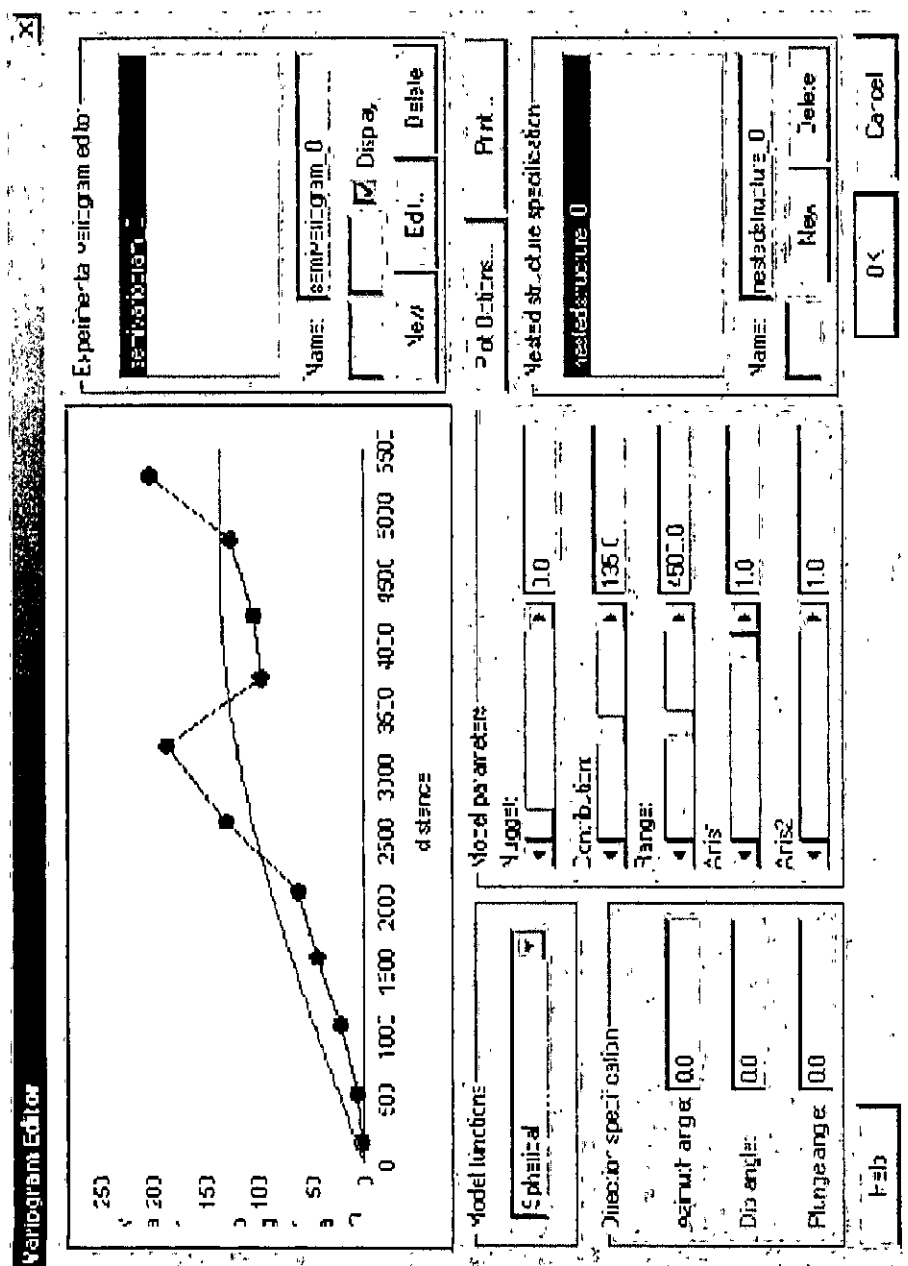


Figure 3. Variogram used for interpolation.

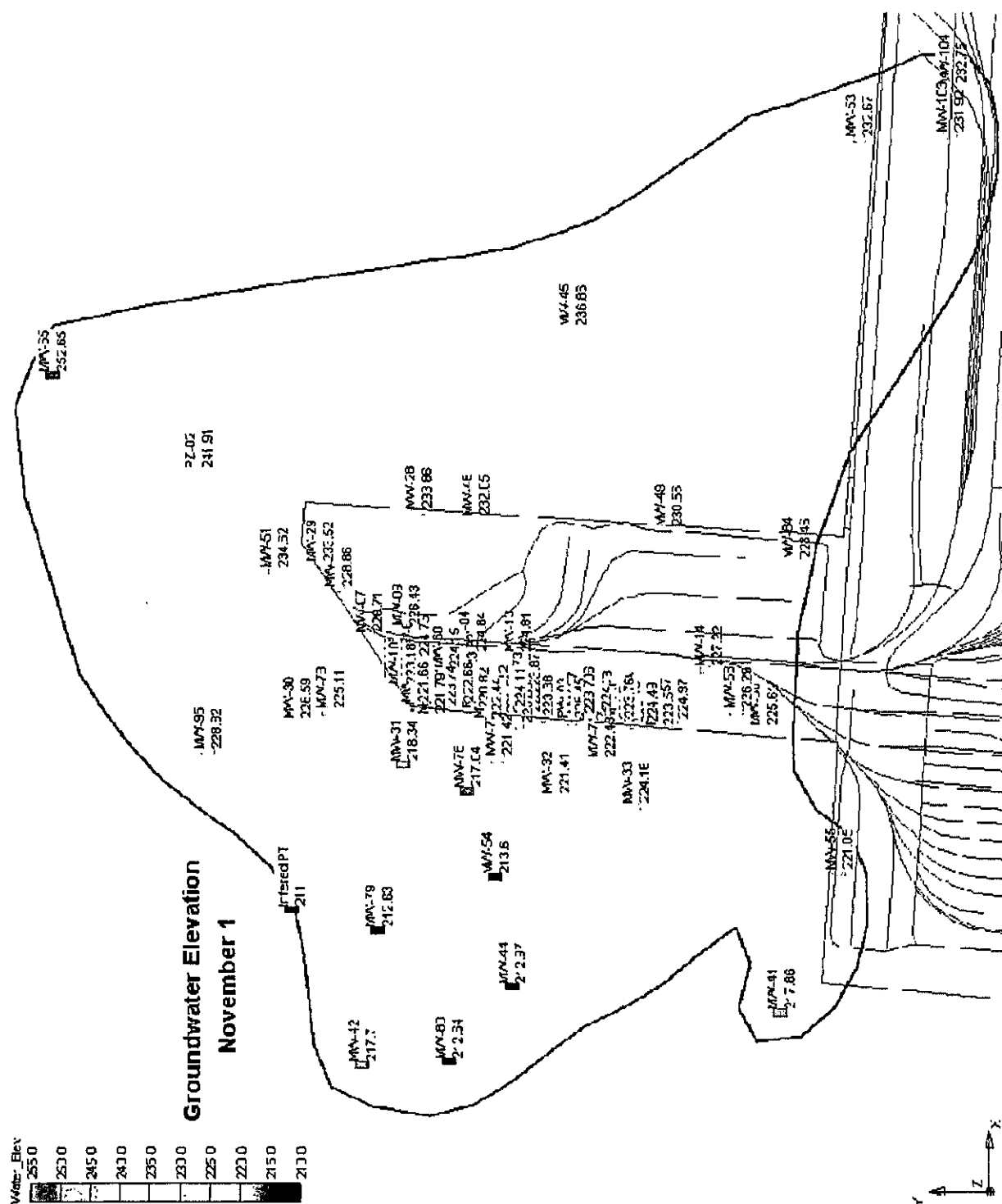


Figure 4. November 1, 2001 groundwater elevation data.

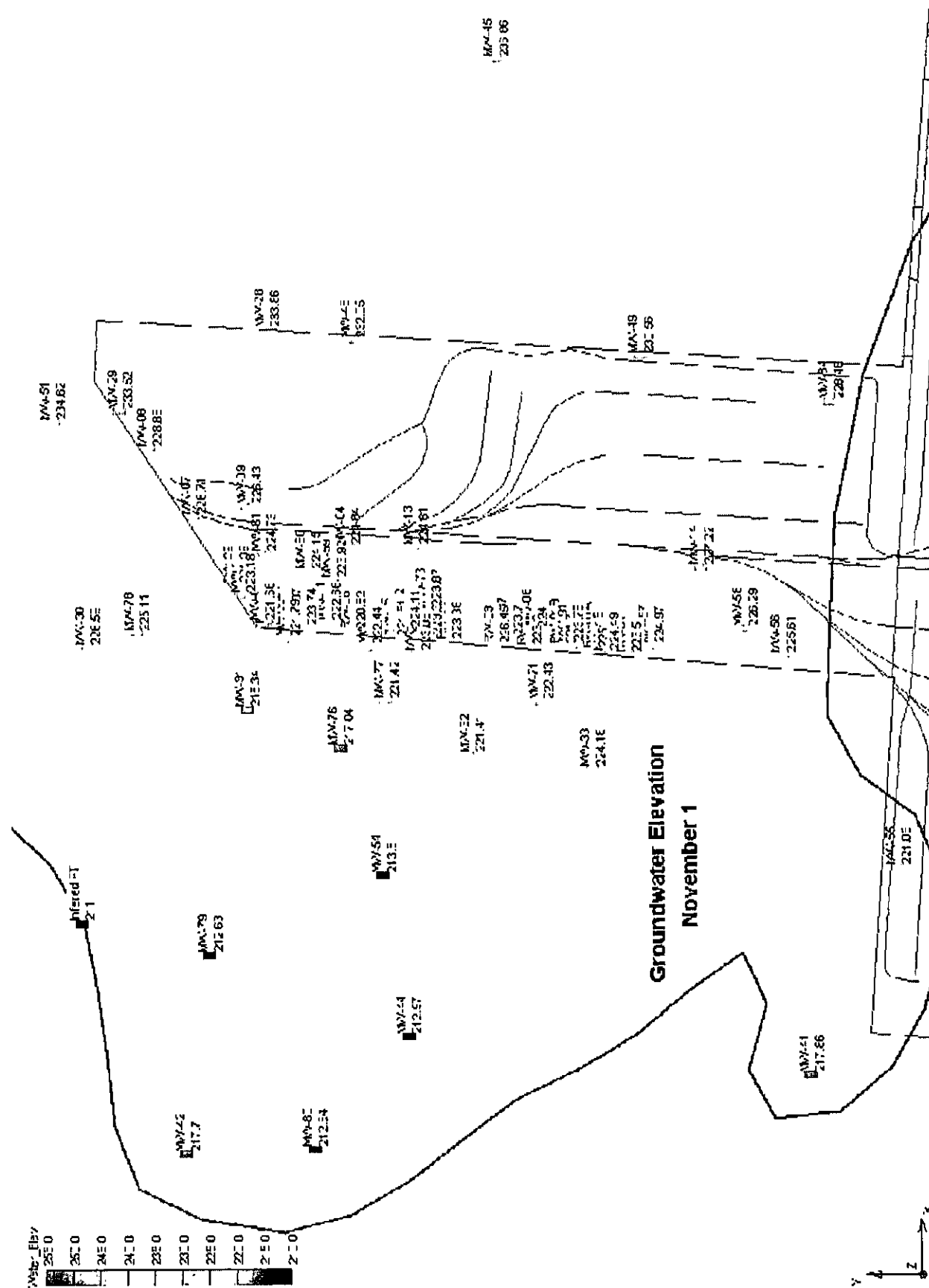


Figure 5. Zoomed view of November 1, 2001 groundwater elevation data.

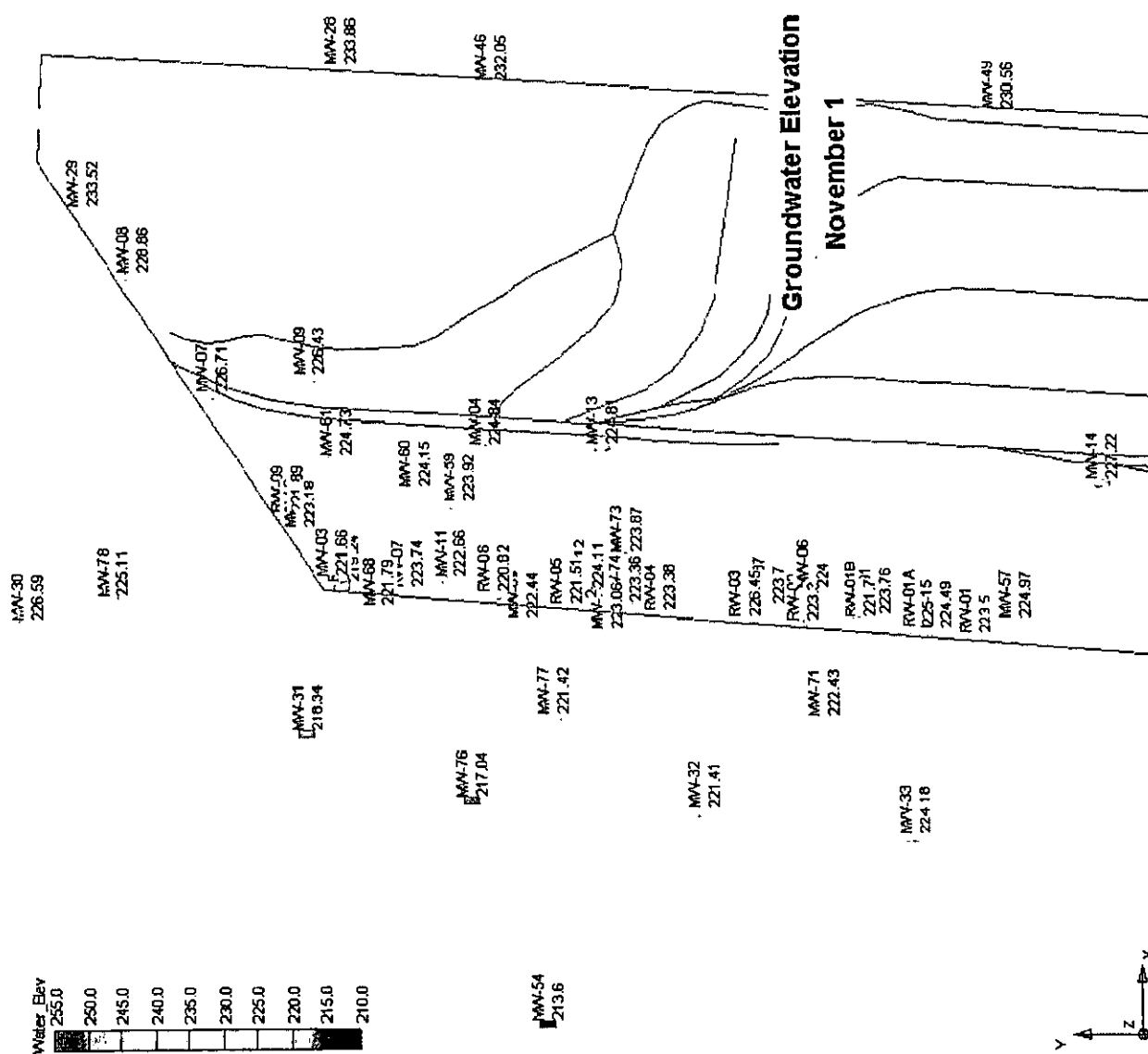


Figure 6. November 1, 2001 groundwater elevation data in the area around recovery wells.

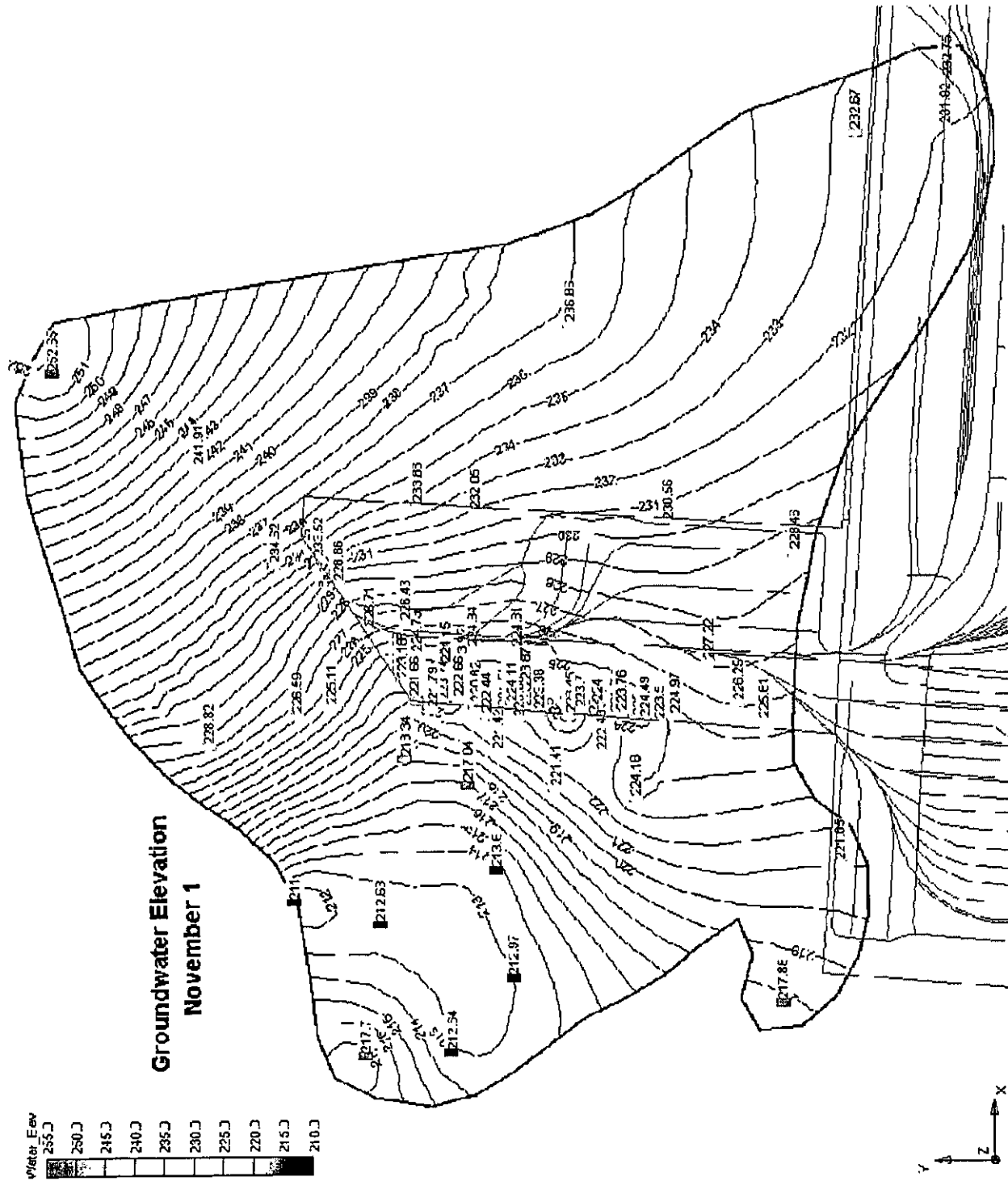


Figure 7. Interpolated one-foot contours of November 1, 2001 groundwater elevation.

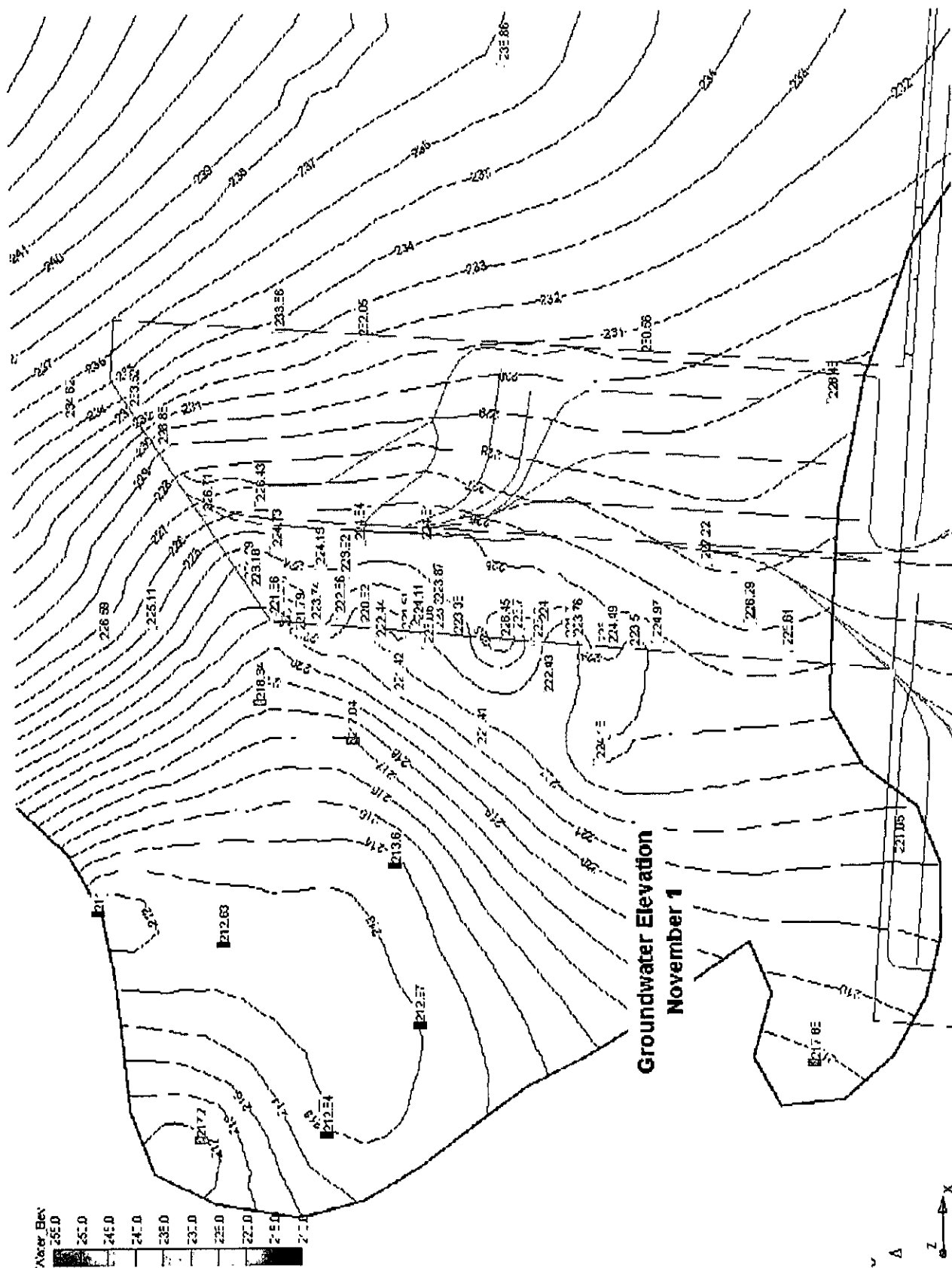


Figure 8. Zoomed view of interpolated one-foot contour of the groundwater elevations for November 1, 2001.

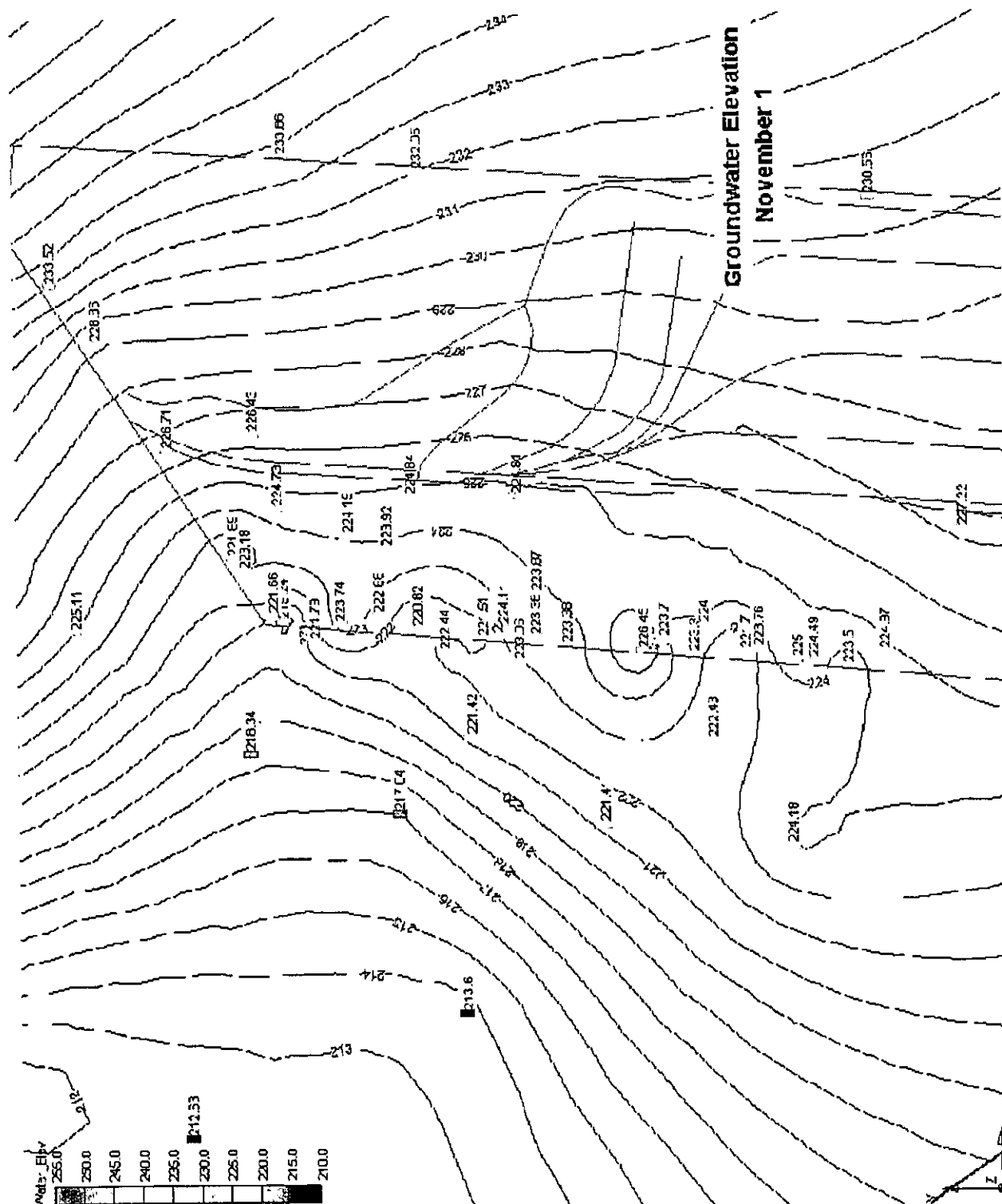


Figure 9. Interpolated one-foot contours of the area around the recovery wells for November 1, 2001.

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ADMINISTRATIVE RECORD

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