

THE MEMPHIS DEPOT TENNESSEE

ADMINISTRATIVE RECORD COVER SHEET

AR File Number 695

**SEMI-ANNUAL GROUNDWATER QUALITY REPORT
(YEAR FOUR, FIRST HALF)
GROUNDWATER INTERIM REMEDIAL ACTION**

DUNN FIELD

MEMPHIS DEFENSE DEPOT, TENNESSEE

PREPARED FOR



MOBILE DISTRICT COE

CONTRACT NO. DACA01-99-D-0040

BY

JACOBS FEDERAL PROGRAMS

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1.0 INTRODUCTION

This report summarizes the results of Year Four, First Half (Y4S1) 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 April 2002 and presents the groundwater surface data through May of 2002. 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.

Continuously monitoring transducers are located in six wells (MW-04, 13, 45, 55, 84, 95). 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.

The 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 Y4S1 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 April, 2002. The sampling method was diffusion bags suspended in the screened interval. Using diffusion bags, discrete depth intervals can 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 19 March and retrieved on 10 April 2002. The sample collected at PZ-02 was the exception to the diffusion bag sampling method. This sample was collected by purging the peizometer with a micro-bailer. Samples were collected from 28 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	<u>Semi-Annual:</u> Volatile Organics/SW8260B	10 April 02
	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-65		
	MW-67		
	MW-68		
	MW-69		
	MW-70		
	MW-71		
	MW-76		
	MW-77		
	MW-78		
	MW-79		
	MW-80		
	MW-95		
	PZ-02		

Recovery Wells	RW-01	<u>Semi-Annual:</u> Volatile Organics/SW8260B	10 April 02
	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 3 equipment blanks, 7 double blind duplicates, 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 Y4S1 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 Y4S1 that was collected for the Dunn Field area on May 1, 2002 was used as the basis for this report. The ground water interpolation data was prepared by the Jacobs Engineering hydrogeology staff. 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 Y4S1 groundwater measurement event was generally to the west. In general, the baseline calculated hydraulic gradient varied from 0.012 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 Y4S1 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 (PCA), 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 Y4S1 monitoring period, an effluent discharge sample was collected in February, April and May 2002 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 February and May) and added TCL Semi-Volatile Organics (Method 8270C) and Metals (EPA 200 series) in April. 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.

Effluent samples collected revealed an increasing trend in the concentration of chloroform. This directly corresponds to the commencement of operation of the four newest recovery wells (RW-1, RW-1A, RW-1B and RW-2). These wells were installed in the southern half of Dunn Field in an area of greater chloroform concentration. Levels of chloroform had risen to approximately 50 ug/L by the collection of the May sample. This exceeds the POTW permit level of 20 ug/L monthly average and 40 ug/L one-time maximum. DDMT has requested a variance in the permit from the City of Memphis.

Also to be included in the variance request will be Cis 1,2 Dichloroethene which has hovered near the permit limit for several of the previous sampling events.

3.2.2 Recovery Well Analytical Results Summary

Y4S1 groundwater samples were collected from the all eleven recovery wells on April 10, 2002. The groundwater samples were analyzed for TCL Volatile Organics (Method 8260B). Results are provided in Tables 2. Y4S1 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. 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-8. Tetrachloroethene was detected above MCLs in RW-1A, RW-4, RW-5, RW-6, RW-8, and RW-9. 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 an increase over the previous sample from 11.4 to 24.1 ug/L. TCE increased from 28.6 to 58.2 ug/L.

RW-01A Three compounds (Carbon Tetrachloride, PCA and TCE) exceeded the MCLs during the Y4S1 sample event. Carbon Tetrachloride and TCE showed an increase from the previous sample (43.8 to 44.5 ug/L and 265 to 289 ug/L respectively). PCA also increased slightly from 11.5 to 13.3 ug/L.

Two other compounds which do not have established MCL limits (chloroform and 1,1,2,2 – PCA) were detected at high concentrations (700 and 156 ug/L respectively).

RW-01B Two compounds (Carbon Tetrachloride and TCE) exceeded the MCLs during the Y4S1 sample event. Carbon Tetrachloride exhibited a slight increase from the last sample (18.5 to 22.5 ug/L). TCE also increased slightly from 25.6 to 34.8 ug/L.

RW-2 Two compounds (Carbon Tetrachloride and TCE) exceeded the MCLs during the Y4S1 sample event. Carbon Tetrachloride exhibited a slight decrease from the last sample (14.1 to 13 ug/L). TCE increased from 53.3 to 63.9 ug/L.

RW-03 Two compounds (Carbon Tetrachloride and TCE) exceeded the MCLs during the Y4S1 sample event. Carbon Tetrachloride exhibited a slight decrease from the last sample (10.4 to 9.75 ug/L). TCE increased from 75.8 to 87.2 ug/L.

RW-04 Two compounds (PCA and TCE) were detected at concentrations exceeding MCLs during Y4S1. TCE has exceeded MCLs during each of the sampling events. During Y4S1 TCE decreased from 717 to 665 ug/L. PCA exceeded the MCL for the second consecutive time in the last four sampling events. The concentration decreased slightly from 7.67 to 6.21 ug/L.

RW-05 PCA and TCE exceeded MCLs during this sample event. PCA was detected at 5.89 ug/L and TCE was detected at 400 ug/L (a decrease from 770 ug/L last sampling period). These two constituents have exceeded MCLs in the majority of past sampling events.

RW-06 PCA and TCE exceeded the MCL during this sample event. PCA was detected at 28.7 ug/L and TCE was found at 5.42 ug/L. Both constituents have consistently exceeded the MCL in previous events.

RW-07 TCE exceeded MCLs during this sample event with TCE remaining relatively unchanged from the previous sample (74.1 ug/L). PCA had consistently exceeded the MCLs, but dipped below 5 ug/L this event.

RW-08 Four compounds (1,1 – DCE, Cis 1,2 - DCE, PCA, and TCE) exceeded the MCL concentration during the Y4S1 sampling event. TCE has consistently exceeded MCLs in each of the previous events. TCE increased from 148 to 288 ug/L. TCE has shown an increasing trend over the last four sample events. PCA increased slightly from 5.78 to 10.4 ug/L. Cis 1,2 Dichloroethene has also consistently exceeded MCLs exhibited an increase from 96.4 to 130 ug/L this period. 1,1 – DCE exceeded the MCL at this location for the second consecutive time with a concentration of 14.2 ug/L. 1,1,2,2 – PCA was also detected at a concentration of 171 ug/L.

RW-09 Three compounds (1,1-DCE, PCA, and TCE) exceeded the MCL this period. 1,1-DCE decreased slightly from 56 to 32.4 ug/L. PCA increased from 3.9 to 42.9 ug/L. TCE increased from 3.51 to 42.2 ug/L.

3.2.3 Monitoring Well Analytical Results Summary

Y4S1 groundwater samples were collected from select monitoring wells at the site. The samples were analyzed for TCL Volatile Organics (Method (8260B)). Y4S1 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 Y4S1 event. Only compounds detected during any sampling event have been reported in the tables. Diffusion bag samplers were used to collect all samples except for PZ-02. This sample was collected by using a disposable bailer. Diffusion bag 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 significant decrease from 227 to 33.1 ug/L since the last sample event. 1,1 DCE increased slightly from 31.2 to 39.5 ug/L.

No significant vertical stratification of TCE was noted in this well during this sampling event. In the previous event there was a more significant variation between the upper and lower five-foot screened intervals.

MW-32 Two compounds (Carbon Tetrachloride and TCE) were detected at concentrations exceeding the MCLs. Both CarbonTetrachloride and TCE have been detected at concentrations exceeding MCLs in each of the prior sampling events. Carbon Tetrachloride showed a decrease from 42.7 to 12.1 ug/L and TCE decreased from 238 to 37.9 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. Both of these compounds exhibited a significant decrease this sampling period, with chloroform decreasing from 828 to 102 ug/L and 1,1,2,2-PCA decreasing from 216 to 24 ug/L.

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, although it is worth noting that chloroform

concentrations appear to be slowly increasing at this location (from 1.46 to 10.5 ug/L since the last sampling event).

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 No constituents were detected which exceeded the MCLs during this sample event. Carbon Tetrachloride slightly exceeded the MCL during the previous event, but showed a decrease from 6.47 to 4.36 ug/L. 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 Only one compound (1,1 - DCE) was detected at a concentration exceeding the MCLs during Y4S1. TCE has exceeded MCLs for the previous three sample events, but decreased to less than 5 ug/L for this event. 1,1 - DCE concentrations have exceeded MCLs in each event except for Y2Q1 and decreased slightly from 31.4 to 26.4 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 Y4S1 sampling event. Carbon Tetrachloride decreased slightly from 19.7 to 14.4 ug/L and TCE showed a significant increase for the second consecutive event, rising from 259 to 723 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 6.

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 31.6 ug/L in Y4S1.

MW-57 Three compounds (Carbon Tetrachloride, PCA, and TCE) were detected at concentrations exceeding MCLs. Carbon Tetrachloride increased slightly from 37.5 to 42.8 ug/L. TCE decreased from 77.4 to 66.4 ug/L. Each of these compounds has

exceeded MCLs in each of the prior four sampling events. PCA increased slightly from 5.24 to 6.08 ug/L. Additionally, chloroform was detected at a concentration of 15.1 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-65 This was the first time this well had been sampled. No VOCs were detected.

MW-67 No contaminants were found which exceeded the MCLs.

MW-68 No compounds were detected at a concentration exceeding the MCLs. TCE which had exceeded the MCL in the previous sampling event was not detected.

MW-69 TCE was the only compound detected this sampling event that exceeded the MCL (128 ug/L). This well had shown a decreasing trend until this event. No VOCs were detected in the bottom five-foot sample interval.

MW-70 Five compounds (Cis-DCE, PCA, 1,1,2-TCA, TCE and Vinyl Chloride) were detected at concentrations exceeding MCLs. Concentrations of the detected compounds were increased from the previous sampling event. Cis-DCE increased 92.8 to 114 ug/L. PCA increased from ND to 13.5 ug/L. 1,1,2-TCA increased from ND to 7.35 ug/L. TCE increased from 2340 to 2940 ug/L. Vinyl Chloride increased from ND to 17 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, with the exception of Vinyl Chloride. This compound was not detected in the upper five feet but was found in the lower five-ft sample.

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 2540 ug/L.

MW-71 Three VOC compounds (Carbon Tetrachloride, 1,1,2-TCA and TCE) were detected at concentrations exceeding MCLs during Y4S1. 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 22.6 to 20.3 ug/L. 1,1,2-TCA increased slightly from 5.17 to 6 ug/L. TCE also decreased from 186 to 184 ug/L. 1,1,2-TCA and TCE were found in lower concentrations in the lower five feet of well screen.

Two additional compounds for which there is no established MCL were also detected at high concentrations. Chloroform was found at a concentration of 788 ug/L and 1,1,2,2 – PCA was detected at a concentration of 332 ug/L.

MW-76 As in the previous two sample rounds, one compound (TCE) was detected at a concentration exceeding the MCL. TCE increased in concentration from 117 to 142 ug/L. The higher concentration of TCE was detected in the lowest screened interval (the upper screen interval had a concentration of 90.7 ug/L).

Additionally, 1,1,2,2 TCE (for which there is no MCL) was detected at a relatively high concentration of 117 ug/L.

MW-77 This is the second time this well has been sampled. Four compounds were detected exceeding the MCLs as opposed to only one during the last sampling event. Cis 1,2 – DCE was detected at a concentration of 176 ug/L. PCA was detected at 7.18 ug/L. 1,1,2-TCA was detected at 9.46 ug/L. TCE concentrations increased significantly from 1620 to 3170 ug/L.

1,1,2,2 PCA was also detected at a high concentration of 4330 ug/L. Although this was only the second time this well had been sampled, a definite increasing trend is apparent.

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

MW-79 Three compounds (1,1 DCE, PCA, and TCE) were detected at concentrations exceeding the MCLs. 1,1 DCE showed a slight decrease from 37.6 to 18.8 ug/L. PCA decreased slightly from 16.6 to 6.96 ug/L and TCE decreased from 11.9 to 6.87 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.

PZ-02 This monitoring point was added to the sampling scheme beginning with the Y4S1 event. Two constituents were detected exceeding the MCLs. 1,1-DCE was detected at a concentration of 112 ug/L. TCE was detected at 24.4 ug/L. Because this is a one-inch piezometer, diffusion bags could not be used to collect the sample. A ¾-inch bailer was used to purge and sample the piezometer.

3.3 QA/QC Results

The data validation process indicated that the data is useable and is of good quality. 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 and as far west as MW-44.
- 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 and MW-71, the highest concentrations of chloroform are found. Chloroform appears to have migrated west-northwest with high concentrations also noted in MW-32 and MW-54. The deeper nested well MW-37 adjacent to MW-32 shows no sign of contamination. Other localized concentrations of chloroform are found in RW-8 and RW-9.
- TCE and PCA 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 PCA appear to be migrating west northwest, with MW-77, 76, 31, 79 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 0.012 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 February, April and May. The detected concentrations were slightly above 50 ug/L which exceeded the monthly average (50 ug/L) but were well below the peak one-time value of 100 ug/L. Chloroform has also exceeded the discharge limits during this monitoring period. The chloroform increase directly correlates with bringing the four newest recovery wells on-line. These wells were installed in an area of high chloroform concentration. The DDMT has requested that the discharge limits for Cis 1,2-dichloroethene and chloroform be raised to continue to allow untreated water to be discharged to the POTW. A decision is expected prior to the next monitoring event.
- 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 fifth consecutive monitoring period. A new well directly to the west of MW-44 is to be installed prior to the next monitoring event.
- Use of diffusion bags allows the determination of vertical changes in concentration with depth. Some stratification was noted, especially in wells 44, 70, 71 and most noticeably at MW-54. At other locations, no significant changes in concentration with screen depth were noted.
- Although this is only the second time it has been sampled, Well MW-77 has shown an increasing trend in all of the target compounds.
- MW-70 has previously had detection of vinyl chloride, but this sample's value of 17 ug/L is the highest. The concentration of vinyl chloride needs to be watched carefully in the next few sample events.
- MW-79 has again shown values of several target compounds exceeding the MCL. A new well north and west of MW-79 is to be installed prior to the next sample event.
- PZ-02 has been sampled for the first time and exhibits the highest concentration of 1,1-dichloroethene of any sampled well. Since this well is hydraulically upgradient of Dunn Field, an off-site source is indicated. Other wells showing concentrations of this compound are hydraulically down-gradient from the potential source area near PZ-02.

TABLES

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

Laboratory Analyses	DL	Units	Sample Identification Number		MW-30-Y2Q4		MW-30-Y3S1		MW-30-Y3S2		MW-30-Y4S1		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	0011216-08	0102408-01	0110129-19	0110129-20	0204273-01	0204273-02	0204273-02	0204273-02		
				Sample Depth Interval	07-Nov-00	13-Feb-01	03-Oct-01	03-Oct-01	10-Apr-02	10-Apr-02	10-Apr-02	59 8-57 8		
					NA	NA	49 2-51 2	56 2-58 2	50 8-52 8	50 8-52 8	59 8-57 8			
Laboratory Analyses														
TCL Volatile Organics (Method 8260B)														
Acetone	1	ug/L	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	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	6.47	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	5	0.16
Chlorobenzene	1	ug/L	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	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	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	7	0.044
Trans 1,2-Dichloroethene	1	ug/L	ND	ND	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	ND	ND	70	61
1,1,2,2-Tetrachloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	0.053
Tetrachloroethene	1	ug/L	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	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	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	0.19
Trichloroethene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	1.6
Vinyl Chloride	1	ug/L	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

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

Laboratory Analyses	DL	Units	Sample Identification Number		MW-31-Y2Q4		MW-31-Y3S1		MW-31-Y3S2		MW-31-Y4S1		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	0011216-07	0102408-02	010129-21	0110129-22	0204273-03	0204273-04	0204273-04	0204273-04		
				Sample Depth Interval	07-Nov-00	14-Feb-01	03-Oct-01	03-Oct-01	10-Apr-02	10-Apr-02	10-Apr-02	10-Apr-02		
					NA	NA	72-2-74.2	77-5-79.5	72-2-74.2	77-2-79.2	77-2-79.2	77-2-79.2		
TCL Volatile Organics (Method 8260B)														
Acetone	1	ug/L	ND		ND	ND	ND	ND	ND	ND	ND	ND	NS	6100
Benzene	1	ug/L	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	NS	0.17
Carbon Disulfide	1	ug/L	ND		8.97	ND	ND	ND	ND	1.36	ND	ND	NS	1000
Carbon Tetrachloride	1	ug/L	ND		2.76	1.25	ND	ND	ND	ND	ND	ND	5	0.16
Chlorobenzene	1	ug/L	ND		ND	ND	ND	ND	ND	ND	ND	ND	100	110
Chloroform	1	ug/L	ND		25.1	1.61	ND	ND	ND	ND	ND	ND	NS	0.15
Chloromethane	1	ug/L	ND		ND	ND	ND	ND	ND	ND	ND	ND	NS	3.6
1,1-Dichloroethane	1	ug/L	ND		ND	0.54 J	ND	0.54 J	ND	0.65 J	ND	ND	NS	800
1,2-Dichloroethane	1	ug/L	ND		ND	ND	ND	ND	ND	ND	ND	ND	5	0.12
1,1,1-Trichloroethane	1	ug/L	31.5		7.98	20.6	31.2	31.2	20.6	39.5	20.6	39.5	7	0.044
1,1,2-Trichloroethane	1	ug/L	4.53		49.3	34.4	4.83	4.83	5.34	2.51	5.34	2.51	100	120
Trans 1,2-Dichloroethene	1	ug/L	4.24		148	44.2	5.53	5.53	6.78	2.66	6.78	2.66	70	61
Cis 1,2-Dichloroethene	1	ug/L	ND		14.8	ND	ND	ND	ND	ND	ND	ND	NS	0.053
1,1,2,2-Tetrachloroethane	1	ug/L	0.92 J		5.02	2.1	4.19	4.19	1	1.24	1	1.24	5	1.1
Tetrachloroethene	1	ug/L	ND		ND	ND	ND	ND	ND	ND	ND	ND	1000	750
Toluene	1	ug/L	ND		ND	ND	ND	ND	ND	ND	ND	ND	70	190
1,2,4-Trichlorobenzene	1	ug/L	ND		ND	ND	ND	ND	ND	ND	ND	ND	200	540
1,1,1-Trichloroethane	1	ug/L	ND		ND	1.2	0.70 J	0.70 J	ND	0.50 J	ND	0.50 J	5	0.19
1,1,2-Trichloroethane	1	ug/L	18.5		233	227	38.1	38.1	33.1	21.5	33.1	21.5	5	1.6
Trichloroethene	1	ug/L	ND		ND	ND	ND	ND	ND	ND	ND	ND	2	0.019
Vinyl Chloride	1	ug/L	ND		ND	ND	ND	ND	ND	ND	ND	ND		

Only compounds detected are listed

ug/L = micrograms per liter

DL = Detection Limit

TCL = Target Compound List

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Water Standards

RBCs = Risk Based Contaminants

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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	Sample Identification Number Laboratory & Lab Sample ID No Date Sample Collected Sample Depth Interval	DL	Units	MW-32-Y2Q3	MW-32-Y3S1	MW-32-Y3S2	MW-32-Y4S1	Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1999)
				0008674-08 24-Aug-00	0102558-11 20-Feb-01	0110130-06 03-Oct-01	0204273-05 10-Apr-02		
				NA	NA	64 3-65 5	64 3-65 3		
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	47.2	19.7	42.7	12.1	5	0.16
Chlorobenzene	1		ug/L	ND	ND	ND	ND	100	110
Chloroform	1		ug/L	171	434	828	102	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	2.68	2.42	5.82 J	1.26	100	120
Cis 1,2-Dichloroethane	1		ug/L	5.68	9.44	12.6 J	4.21	70	61
1,1,2,2-Tetrachloroethane	1		ug/L	2.12	68.2	216	24	NS	0.053
Tetrachloroethane	1		ug/L	5.9	3.74	ND	0.82 J	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	0.59 J	5	0.19
Trichloroethene	1		ug/L	89.2	60.4	238	37.9	5	1.6
Vinyl Chloride	1		ug/L	ND	ND	ND	ND	2	0.019

Only compounds detected are listed

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TCL = Target Compound List

BDL = Below Detection Limit

MCL = Maximum Contaminant Level - Primary Drinking

Water Standards

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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

Laboratory Analyses	Sample Identification Number Laboratory & Lab Sample ID No. Date Sample Collected Sample Depth Interval	DL	Units	MW-33-Y2Q4	MW-33-Y3S1	MW-33-Y3S2	MW-33-Y4S1	Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1998)
				0011258-05 08-Nov-00	0102451-11 15-Feb-01	0110130-27 03-Oct-01	0204273-06 10-Apr-02		
				NA	NA	58-60	58 1-60 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
Bromochloromethane	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-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		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
Trichloroethane	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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TABLE 1
Semi-Annual Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number													USEPA Region III RBCs-Tap Water (October 7, 1999)	
Laboratory & Lab Sample ID No														
Date Sample Collected														
Sample Depth Interval														
MW-34-Y2Q4	MW-34-Y3S1	MW-34-Y3S2			MW-34-Y4S1			Maximum Contaminant Level (MCL)-Primary Drinking Water Standard						
0011216-09	0102556-09	0110129-16	0110129-17	0110129-18	0204273-07	0204273-08	0204273-09							
07-Nov-00	20-Feb-01	03-Oct-01	03-Oct-01	03-Oct-01	10-Apr-02	10-Apr-02	10-Apr-02							
NA	NA	146-148	149 5-151 5	155 5-157 5	145-147	150-152	155-157							
Laboratory Analyses														
DL		Units												
TCL Volatile Organics (Method 8260B)														
Acetone	1	ug/L											NS	6100
Benzene	1	ug/L											5	0 32
Bromodichloromethane	1	ug/L											NS	0 17
Carbon Disulfide	1	ug/L											NS	1000
Carbon Tetrachloride	1	ug/L											5	0 16
Chlorobenzene	1	ug/L											100	110
Chloroform	1	ug/L											NS	0 15
Chloromethane	1	ug/L											NS	3 6
1,1-Dichloroethane	1	ug/L											NS	800
1,2-Dichloroethane	1	ug/L											5	0 12
1,1-Dichloroethene	1	ug/L											7	0 044
Trans 1,2-Dichloroethene	1	ug/L											100	120
Cis 1,2-Dichloroethene	1	ug/L											70	61
1,1,2,2-Tetrachloroethane	1	ug/L											NS	0 053
Tetrachloroethene	1	ug/L											5	1 1
Toluene	1	ug/L											1000	750
1,2,4-Trichlorobenzene	1	ug/L											70	190
1,1,1-Trichloroethane	1	ug/L											200	540
1,1,2-Trichloroethane	1	ug/L											5	0 19
Trichloroethene	1	ug/L											5	1 6
Vinyl Chloride	1	ug/L											2	0 019

Only compounds detected are listed

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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-37-Y3S1		MW-37-Y3S2		MW-37-Y4S1			Maximum Contaminant Level (MCL)-Primary Drinking Water Standard		USEPA Region III RBCs-Tap Water (October 7, 1989)	
			0102558-10 20-Feb-01	0110130-07 03-Oct-01	0110130-08 03-Oct-01	0110130-09 03-Oct-01	0204273-10 10-Apr-02	0204273-12 10-Apr-02	0204273-13 10-Apr-02				
			NA	172.5-174.5	177.5-179.5	182.5-184.5	172.3-174.3	177.3-179.3	182.3-184.3				
Laboratory Analyses			DL	Units									
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	3.41	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	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	
	1,1,1-Trichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	7	0.044	
	Trans 1,2-Dichloroethene	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	ND	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	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	ND	ND	ND	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

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

Laboratory Analyses	DL	Units	Sample Identification Number		MW-40-Y2Q4		MW-40-Y3S1		MW-40-Y3S2		MW-40-Y4S1		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	0011258-03	0102408-04	0102408-04	0110129-30	03-Oct-01	03-Oct-01	0204273-14	10-Apr-02		
			Sample Depth Interval		07-Nov-00	14-Feb-01	NA	91-5-93 5	91-5-93 5	91-5-93 5	91-6-93 6	91-6-93 6		
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
Bromochloromethane	1	ug/L			ND	ND	ND	ND	ND	ND	ND	ND	NS	0.17
Carbon Disulfide	1	ug/L			ND	4.73	ND	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	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

Sample Identification Number Laboratory & Lab Sample ID No. Date Sample Collected Sample Depth Interval					MW-42-Y3S1 0102558-03 19-Feb-01 NA	MW-42-Y3S2 0110129-01 03-Oct-01 57 5-58 5	MW-42-Y4S1 0204273-15 10-Apr-02 57-58	Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs+Tap Water (October 7, 1998)
Laboratory Analyses		DL	Units						
TCL Volatile Organics (Method 8260B)									
Acetone	1	ug/L		61.8	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-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
Tetrachloroethene	1	ug/L		ND	ND	ND	ND	5	1.1
Toluene	1	ug/L		36.8	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 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	MW-43-Y3S1		MW-43-Y3S2		MW-43-Y4S1		Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs- Tap Water (October 7, 1995)
		0102556-04 19-Feb-01	0110130-04 03-Oct-01	0110130-05 03-Oct-01	0204273-16 10-Apr-02	0204273-17 10-Apr-02	0204273-17 10-Apr-02		
		NA	183 5-185 5	183 5-170 5	183 5-185 6	183 5-170 6	183 5-170 6		
TCL Volatile Organics (Method 8260B)									
Acetone	1	ug/L	6360	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	8.26	ND	ND	ND	0.56 J	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
1,1,1-Trichloroethane	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	9.59	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	1.02	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

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	DL	Units	MW-44-Y2Q4				MW-44-Y3S2				MW-44-Y4S1				Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1999)
			0011258-04 08-Nov-00	0102451-07 15-Feb-01	0110129-05 03-Oct-01	0110129-06 03-Oct-01	0110129-06 03-Oct-01	0110129-06 03-Oct-01	0110129-06 03-Oct-01	0110129-06 03-Oct-01	0204273-18 10-Apr-02	0204273-19 10-Apr-02	0204273-20 10-Apr-02	0204273-20 10-Apr-02		
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	1.66	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	0.17
Carbon Disulfide	1	ug/L	ND	94.2	ND	ND	ND	ND	ND	ND	1.06	ND	ND	ND	NS	1000
Carbon Tetrachloride	1	ug/L	2.1	ND	ND	ND	ND	ND	ND	ND	ND	4.36	2.1	ND	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	1.23	ND	2.05	ND	ND	ND	ND	ND	ND	2.81	1.29	ND	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	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	120
Cis 1,2-Dichloroethane	1	ug/L	0.62 J	0.40 J	ND	ND	ND	ND	ND	ND	ND	1.1	ND	ND	70	61
1,1,2,2-Tetrachloroethane	1	ug/L	ND	12.7	1.29	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	0.053
Tetrachloroethane	1	ug/L	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	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	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	0.19
Trichloroethane	1	ug/L	0.79 J	3.76	ND	2.77	ND	1.26	ND	ND	ND	2.05	0.85 J	ND	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

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

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acceptance ranges

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bration 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-51-Y2Q4				MW-51-Y3S1				MW-51-Y3S2				MW-51-Y4S1				Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1998)
				0011258-01 08-Nov-00	NA	NA	NA	0102556-08 20-Feb-01	NA	NA	NA	0110130-12 03-Oct-01	58 5-80 5	0110130-13 03-Oct-01	63 5-65 5	0204273-21 10-Apr-02	58-60	0204273-24 10-Apr-02	63-65		
TCL Volatile Organics (Method 8260B)																					
Acetone	1	ug/L		ND				ND				ND		ND		ND		ND		NS	6100
Benzene	1	ug/L		ND				ND				ND		ND		ND		ND		5	0.32
Bromochloromethane	1	ug/L		ND				ND				ND		ND		ND		ND		NS	0.17
Carbon Disulfide	1	ug/L		ND				ND				ND		ND		ND		ND		NS	1000
Carbon Tetrachloride	1	ug/L		ND				ND				ND		ND		ND		ND		5	0.16
Chlorobenzene	1	ug/L		ND				ND				ND		ND		ND		ND		100	110
Chloroform	1	ug/L		ND				ND				ND		ND		ND		ND		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		57.9				15.8				31.4		26.9		18.2		26.4		7	0.044
Trans 1,2-Dichloroethane	1	ug/L		ND				ND				ND		ND		ND		ND		100	120
Cis 1,2-Dichloroethane	1	ug/L		ND				ND				ND		ND		ND		ND		70	61
1,1,2,2-Tetrachloroethane	1	ug/L		ND				ND				ND		ND		ND		ND		NS	0.053
Tetrachloroethene	1	ug/L		3.51				1.86				2.13		1		ND		ND		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		1.79				ND				0.71 J		0.74 J		ND		ND		200	540
1,1,2-Trichloroethane	1	ug/L		ND				ND				ND		ND		ND		ND		5	0.19
Trichloroethene	1	ug/L		13.2				6.09				9.88		10.7		1.9		1.72		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

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 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	MW-54-Y2Q4				MW-54-Y3S1				MW-54-Y3S2				MW-54-Y4S1				Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1999)
			0011216-06 07-Nov-00	0102451-10 15-Feb-01	0110129-23 03-Oct-01	0110129-24 03-Oct-01	0110129-25 03-Oct-01	0204274-01 10-Apr-02	0204274-02 10-Apr-02	0204274-03 10-Apr-02	0204274-04 10-Apr-02	0204274-05 10-Apr-02	0204274-06 10-Apr-02	0204274-07 10-Apr-02	0204274-08 10-Apr-02	0204274-09 10-Apr-02	0204274-10 10-Apr-02	0204274-11 10-Apr-02		
TCL Volatile Organics (Method 8260B)			NA	NA	81 8-83 8	84-88	91-93	82 1-84 1	85 6-87 6	86 6-88 6	87 6-89 6	88 6-91 6	89 6-93 6	90 6-95 6	91 6-97 6	92 6-99 6	93 6-101 6	94 6-103 6		
Acetone	1	ug/L	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	5	0 32
Bromodichloromethane	1	ug/L	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	249	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	1000
Carbon Tetrachloride	1	ug/L	12.8	11.2	179	7.7	19.7	2 96	14.2	14.4	14.2	14.4	14.2	14.4	14.2	14.4	14.2	14.4	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	19 8	14 2	6 87	11 9	12	5 54	8 84	8 15	8 84	8 15	8 84	8 15	8 84	8 15	8 84	8 15	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-Dichloroethene	1	ug/L	2 58	1 79	1 13	4 15	5 28	5 11	9 95	9 17	5 11	9 95	9 17	5 11	9 95	9 17	5 11	100	120	
Cis 1,2-Dichloroethene	1	ug/L	34 6	21 1	11 3	27 6	31 4	24 2	43 7	41 7	24 2	43 7	41 7	24 2	43 7	41 7	24 2	70	61	
1,1,2,2-Tetrachloroethane	1	ug/L	22 7	37	3 93	8 67	11	9 06	18 1	17 5	9 06	18 1	17 5	9 06	18 1	17 5	9 06	NS	0 053	
Tetrachloroethene	1	ug/L	0 91 J	0 80 J	ND	ND	1 89	ND	1 62	2 08	ND	1 62	2 08	ND	1 62	2 08	ND	5	1 1	
Toluene	1	ug/L	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	70	190	
1,1,1-Trichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	200	540	
1,1,2-Trichloroethane	1	ug/L	1 24	ND	ND	ND	ND	ND	1 19	1 1	ND	1 19	1 1	ND	1 19	1 1	ND	5	0 19	
Trichloroethene	1	ug/L	29.2	28.3	20.2	105	259	127	618	723	127	618	723	127	618	723	127	5	1 6	
Vinyl Chloride	1	ug/L	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

RBCs = Risk Based Contaminants

NS = no standard NP = not performed

NA = not available

B = Analyte detected in associated method and/or

equipment blank

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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

Laboratory Analyses	DL	Units	Sample Identification Number		MW-56-Y2Q4		MW-56-Y3S1		MW-56-Y3S2		MW-56-Y4S1		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	07-Nov-00	19-Feb-01	0102558-06	0110129-15	03-Oct-01	68 1-70 1	0204274-04	10-Apr-02		
			Sample Depth Interval		NA	NA	NA	NA	NA	NA	69 6-70 6	NA		
TCL Volatile Organics (Method 8260B)														
Acetone	1	ug/L	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	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	ND	ND	ND	0.71 J	ND	ND	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	39.4	ND	ND	ND	27.8	ND	ND	ND	31.6	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	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	7	0.044
1,1,2-Trichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	120
Trans 1,2-Dichloroethene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	70	61
Cis 1,2-Dichloroethene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	0.053
1,1,2,2-Tetrachloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	1.1
Tetrachloroethene	1	ug/L	ND	ND	ND	0.71 J	ND	ND	ND	ND	ND	ND	1000	750
Toluene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	70	190
1,2,4-Trichlorobenzene	1	ug/L	1.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	200	540
1,1,1-Trichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	0.19
1,1,2-Trichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	1.6
Trichloroethene	1	ug/L	1.54	ND	1.99	ND	ND	1.18	ND	ND	1.27	ND	2	0.019
Vinyl Chloride	1	ug/L	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

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 Laboratory & Lab Sample ID No Date Sample Collected Sample Depth Interval										MW-57-Y2Q4		MW-57-Y3S1		MW-57-Y3S2		MW-57-Y4S1		Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1989)				
										0011216-01	0102451-16	0110129-12	0110129-13	0204274-05	0204274-06	10-Apr-02	10-Apr-02	67-69					
										07-Nov-00	15-Feb-01	03-Oct-01	03-Oct-01	64 5-65 5	64 5-65 5	64 5-65 5	67-69						
										NA	NA	65-67	67 5-69 5										
Laboratory Analyses										DL	Units												
TCL Volatile Organics (Method 8260B)																							
Acetone	1	ug/L	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	5	0 32					
Bromodichloromethane	1	ug/L	12.4	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	NS	1000					
Carbon Tetrachloride	1	ug/L	48.3	44.4	37.1	37.5	38.5	42.8	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	100	110						
Chloroform	1	ug/L	8.93	11.8	25.9	28	13.4	15.1	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	NS	3 6						
1,1-Dichloroethane	1	ug/L	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	5	0 12						
1,1-Dichloroethene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7	0 044						
Trans 1,2-Dichloroethene	1	ug/L	1.5	1.42	1.73	1.68	1.63	1.88	ND	ND	ND	ND	ND	ND	ND	100	120						
Cis 1,2-Dichloroethene	1	ug/L	0.41 J	0.44 J	0.86 J	0.97 J	0.51 J	0.55 J	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	ND	ND	ND	ND	ND	NS	0 053						
Tetrachloroethene	1	ug/L	5.07	5.01	5.24	4.58	6.08	5.02	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	1000	750						
1,2,4 - Trichlorobenzene	1	ug/L	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	200	540						
1,1,2-Trichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	0 19						
Trichloroethene	1	ug/L	30.9	28.3	73.4	77.4	58.8	66.4	ND	ND	ND	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	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

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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

Laboratory Analyses	DL	Units	Sample Identification Number		MW-58-Y2Q4		MW-58-Y3S1		MW-58-Y3S2		MW-58-Y4S1		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	0011218-04	08-Nov-00	0102558-05	19-Feb-01	0110128-14	03-Oct-01	0204274-07	10-Apr-02		
			Sample Depth Interval		NA		NA		65-67		64-9-68	9		
TCL Volatile Organics (Method 8260B)														
Acetone	1	ug/L	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	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	ND	ND	ND	0.43 J	ND	ND	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	1.91	ND	ND	2.05	ND	1.85	ND	2.75	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	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	7	0.044
Trans 1,2-Dichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	120
Cis 1,2-Dichloroethane	1	ug/L	ND	ND	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	ND	ND	NS	0.053
Tetrachloroethene	1	ug/L	ND	ND	ND	0.40 J	ND	ND	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	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	0.19
Trichloroethene	1	ug/L	2.72	ND	ND	2.47	ND	1.78	ND	2.46	ND	ND	5	1.6
Vinyl Chloride	1	ug/L	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

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-65-Y4S1 0204274-08 10-Apr-02	MW-65-Y4S1 0204274-09 10-Apr-02	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	NS	6100
Benzene	1	ug/L	ND	5	0.32
Bromodichloromethane	1	ug/L	ND	NS	0.17
Carbon Disulfide	1	ug/L	ND	NS	1000
Carbon Tetrachloride	1	ug/L	ND	5	0.16
Chlorobenzene	1	ug/L	ND	100	110
Chloroform	1	ug/L	ND	NS	0.15
Chloromethane	1	ug/L	ND	NS	3.6
1,1-Dichloroethane	1	ug/L	ND	NS	800
1,2-Dichloroethane	1	ug/L	ND	5	0.12
1,1,1-Trichloroethane	1	ug/L	ND	7	0.044
Trans 1,2-Dichloroethene	1	ug/L	ND	100	120
Cis 1,2-Dichloroethene	1	ug/L	ND	70	61
1,1,2,2-Tetrachloroethane	1	ug/L	ND	NS	0.053
Tetrachloroethene	1	ug/L	ND	5	1.1
Toluene	1	ug/L	ND	1000	750
1,2,4-Trichlorobenzene	1	ug/L	ND	70	190
1,1,1-Trichloroethane	1	ug/L	ND	200	540
1,1,2-Trichloroethane	1	ug/L	ND	5	0.19
Trichloroethene	1	ug/L	ND	5	1.6
Vinyl Chloride	1	ug/L	ND	2	0.019

Only compounds detected are listed

ug/L = micrograms per liter

DL = Detection Limit

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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 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-67-Y3S1	MW-67-Y3S2			MW-67-Y4S1			Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1999)
				NP	0110129-31	0110129-32	0110129-33	0204274-11	0204274-12	0204274-13		
				NP	3-Oct-01	3-Oct-01	3-Oct-01	10-Apr-02	10-Apr-02	10-Apr-02		
					261 5-263 5	266 5-268 8	271-273	261-263	266-268	271-273		
Laboratory Analyses	DL	Units										
TCL Volatile Organics (Method 8260B)												
Acetone	1	ug/L	NP	ND	ND	ND	ND	ND	ND	ND	NS	6100
Benzene	1	ug/L	NP	ND	ND	ND	ND	ND	ND	ND	5	0 32
Bromodichloromethane	1	ug/L	NP	ND	ND	ND	ND	ND	ND	ND	NS	0 17
Carbon Disulfide	1	ug/L	NP	ND	ND	ND	5 25	ND	ND	ND	NS	1000
Carbon Tetrachloride	1	ug/L	NP	ND	ND	ND	ND	ND	ND	ND	5	0 16
Chlorobenzene	1	ug/L	NP	ND	ND	ND	ND	ND	ND	ND	100	110
Chloroform	1	ug/L	NP	ND	ND	ND	ND	ND	ND	ND	NS	0 15
Chloromethane	1	ug/L	NP	ND	ND	ND	ND	ND	ND	ND	NS	3 6
1,1-Dichloroethane	1	ug/L	NP	ND	ND	ND	ND	ND	ND	ND	NS	800
1,2-Dichloroethane	1	ug/L	NP	ND	ND	ND	ND	ND	ND	ND	5	0 12
1,1-Dichloroethene	1	ug/L	NP	ND	ND	ND	ND	ND	ND	ND	7	0 044
Trans 1,2-Dichloroethene	1	ug/L	NP	ND	ND	ND	ND	ND	ND	ND	100	120
Cis 1,2-Dichloroethene	1	ug/L	NP	ND	ND	ND	ND	ND	ND	ND	70	61
1,1 2,2-Tetrachloroethane	1	ug/L	NP	ND	ND	ND	ND	ND	ND	ND	NS	0 053
Tetrachloroethene	1	ug/L	NP	ND	ND	ND	ND	ND	ND	ND	5	1 1
Toluene	1	ug/L	NP	ND	ND	ND	ND	ND	ND	ND	1000	750
1,2,4 - Trichlorobenzene	1	ug/L	NP	ND	ND	ND	ND	ND	ND	ND	70	190
1,1,1-Trichloroethane	1	ug/L	NP	ND	ND	ND	ND	ND	ND	ND	200	540
1,1,2-Trichloroethane	1	ug/L	NP	ND	ND	ND	ND	ND	ND	ND	5	0 19
Trichloroethene	1	ug/L	NP	ND	ND	ND	ND	ND	ND	ND	5	1 6
Vinyl Chloride	1	ug/L	NP	ND	ND	ND	ND	ND	ND	ND	2	0 019

Only compounds detected are listed

ug/L = micrograms per liter

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acceptance ranges

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ibration 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-68-Y2Q4 0011258-06 08-Nov-00 NA	MW-68-Y3S1 0102408-06 14-Feb-01 NA	MW-68-Y3S2 0110130-17 03-Oct-01 74 5-76 5		MW-68-Y4S1 0204274-14 10-Apr-02 74 1-76 1		0204274-15 10-Apr-02 79 1-81.1		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	789	ND	ND	ND	ND	ND	ND	ND	NS	6100	
Benzene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	0 32	
Bromodichloromethane	1	ug/L	0 47 J	ND	ND	ND	ND	ND	ND	ND	ND	NS	0 17	
Carbon Disulfide	1	ug/L	ND	1 73	ND	ND	ND	ND	ND	ND	ND	NS	1000	
Carbon Tetrachloride	1	ug/L	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	100	110	
Chloroform	1	ug/L	ND	ND	ND	ND	ND	3 5	ND	ND	ND	NS	0 15	
Chloromethane	1	ug/L	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	NS	800	
1,2-Dichloroethane	1	ug/L	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	7	0 044	
Trans 1,2-Dichloroethane	1	ug/L	1 4	4 14	ND	ND	0 78 J	ND	ND	ND	ND	100	120	
Cis 1,2-Dichloroethane	1	ug/L	1 9	4 38	ND	ND	3 12	ND	ND	ND	ND	70	61	
1,1,2,2-Tetrachloroethane	1	ug/L	ND	ND	ND	ND	4 15	1 01	ND	ND	ND	NS	0 053	
Tetrachloroethane	1	ug/L	0 40 J	0 92 J	ND	ND	1 6	ND	ND	ND	ND	5	1 1	
Toluene	1	ug/L	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	70	190	
1,1,1-Trichloroethane	1	ug/L	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	5	0 19	
Trichloroethane	1	ug/L	3 21	9 67	0 50 J	ND	6 56	ND	ND	ND	ND	5	1 6	
Vinyl Chloride	1	ug/L	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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acceptance ranges

E = Concentration exceeds the established method cal-

ibration 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-69-Y2Q4	MW-69-Y3S1	MW-69-Y3S2		MW-69-Y4S1		Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1999)
0011335-01 08-Nov-00 NA	0102451-15 14-Feb-01 NA	0110130-19 03-Oct-01 85 5-87 5	0110130-20 03-Oct-01 91 5-93 5	0204274-16 10-Apr-02 88 4-88 4	0204274-17 10-Apr-02 91 4-93 4		
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	ND	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	2 12	ND	1 52	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-Dichloroethene	1	ug/L	ND	ND	ND	7	0 044
Trans 1,2-Dichloroethene	1	ug/L	12 3	ND	4 14	100	120
Cis 1,2-Dichloroethene	1	ug/L	23 1	ND	7 92	70	61
1,1,2,2-Tetrachloroethane	1	ug/L	ND	ND	ND	NS	0 053
Tetrachloroethene	1	ug/L	6 39	ND	1 84	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
Trichloroethene	1	ug/L	464	1 01	128	5	1 6
Vinyl Chloride	1	ug/L	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

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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

Laboratory Analyses	Sample Identification Number Laboratory & Lab Sample ID No Date Sample Collected Sample Depth Interval	DL	Units	MW-70-Y2Q4				MW-70-Y3S1				MW-70-Y3S2				MW-70-Y4S1				Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1999)
				0011335-10 09-Nov-00	0102451-13 15-Feb-01	0110130-02 03-Oct-01	0110130-03 03-Oct-01	0102474-18 10-Apr-02	0204274-19 10-Apr-02	84 3-86 3	89 3-91 3	ND	ND	ND	ND	ND	ND	ND	ND		
TCL Volatile Organics (Method 8260B)																					
Acetone	1		ug/L	ND	50.4	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	5	0.32
Bromodichloromethane	1		ug/L	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	NS	1000
Carbon Tetrachloride	1		ug/L	1.81	0.45 J	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	100	110
Chloroform	1		ug/L	9.37	1.47	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	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	1	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-Dichloroethene	1		ug/L	57.3	7.65	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	120
Cis 1,2-Dichloroethene	1		ug/L	247	34.3	92.8 J	55.9 J	114	69.2	114	69.2	114	69.2	114	69.2	114	69.2	114	69.2	70	61
1,1,2,2-Tetrachloroethane	1		ug/L	3370	482	1320	766	2540	1580	13.5	327	117	117	117	117	117	117	117	117	NS	0.053
Tetrachloroethene	1		ug/L	32.5	5.73	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	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	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	200	540
1,1,2-Trichloroethane	1		ug/L	16	1.99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	0.19
Trichloroethene	1		ug/L	4040	544	2340	1170	2940	1490	7.35	5.2	17	17	17	17	17	17	17	17	5	1.6
Vinyl Chloride	1		ug/L	1.69	0.93 J	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

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

Laboratory Analyses	DL	Units	Sample Identification Number		MW-71-Y204		MW-71-Y3S1		MW-71-Y3S2		MW-71-Y4S1			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	09-Nov-00	15-Feb-01	0102451-12	0110130-10	0110130-11	0204274-20	0204274-23	10-Apr-02	73 B-75 8		
			Sample Depth Interval		NA	NA		72-74	75-77	71 3-72 3					
TCL Volatile Organics (Method 8260B)															
Acetone	1	ug/L	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	5	0 32
Bromodichloromethane	1	ug/L	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	NS	1000
Carbon Tetrachloride	1	ug/L	26.5	24.9	21.8	22.6	20.3	17	20.3	17	20.3	17	20.3	5	0 16
Chlorobenzene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	110
Chloroform	1	ug/L	865**	624	839	857	788	233	788	233	788	233	788	NS	0 15
Chloromethane	1	ug/L	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	NS	800
1,2-Dichloroethane	1	ug/L	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	7	0 044
Trans 1,2-Dichloroethane	1	ug/L	2 29	1 87	2 91 J	9 09 J	3 36	1 76	3 36	1 76	3 36	1 76	3 36	100	120
Cis 1,2-Dichloroethane	1	ug/L	6 49	6 89	7 94 J	262	9 64	3 3	9 64	3 3	9 64	3 3	9 64	70	61
1,1,2,2-Tetrachloroethane	1	ug/L	108	66 2	268	262	332	68 1	332	68 1	332	68 1	332	NS	0 053
Tetrachloroethane	1	ug/L	4 09	5.16	ND	ND	1 96	1 32	1 96	1 32	1 96	1 32	1 96	5	1 1
Toluene	1	ug/L	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	70	190
1,1,1-Trichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	200	540
1,1,2-Trichloroethane	1	ug/L	2 99	1 98	5.17 J	186	6	1 36	6	1 36	6	1 36	6	5	0 19
Trichloroethane	1	ug/L	95.6	77.8	159	186	184	70.9	184	70.9	184	70.9	184	5	1 6
Vinyl Chloride	1	ug/L	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

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RBCs = Risk Based Contaminants

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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-76-Y3S1		MW-7B-Y3S2		MW-76-Y4S1		Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1999)
	DL	Units	0102408-08	0110130-21	0110130-22	0204274-24	0204275-01			
			14-Feb-01	03-Oct-01	03-Oct-01	10-Apr-02	10-Apr-02			
			NA	86 5-88 5	91 5-93 5	86-88	91-93			
Laboratory Analyses										
VTCL Volatile Organics (Method 8260B)										
Acetone	1	ug/L	ND	ND	ND	ND	ND	ND	NS	6100
Benzene	1	ug/L	ND	ND	ND	ND	ND	ND	5	0.32
Bromodichloromethane	1	ug/L	ND	ND	ND	ND	ND	ND	NS	0.17
Carbon Disulfide	1	ug/L	0.77 J	ND	ND	ND	ND	ND	NS	1000
Carbon Tetrachloride	1	ug/L	ND	ND	ND	ND	ND	ND	5	0.16
Chlorobenzene	1	ug/L	ND	ND	ND	ND	ND	ND	100	110
Chloroform	1	ug/L	ND	ND	ND	ND	1.22	ND	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-Dichloroethene	1	ug/L	ND	ND	ND	ND	ND	ND	7	0.044
Trans 1,2-Dichloroethene	1	ug/L	6.84	1.91 J	7.57 J	5.29	7.71	ND	100	120
Cis 1,2-Dichloroethene	1	ug/L	17.8	4.67 J	19.6	10.6	13.5	ND	70	61
1,1,2,2-Tetrachloroethane	1	ug/L	694	106	332	117	15.5	ND	NS	0.053
Tetrachloroethene	1	ug/L	3.98	ND	ND	ND	1.81	ND	5	1.1
Toluene	1	ug/L	ND	ND	ND	1.23	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	ND	ND	ND	ND	ND	ND	5	0.19
Trichloroethene	1	ug/L	258	72.2	117	90.7	142	ND	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

RBCs = Risk Based Contaminants

NS = no standard NP = not performed

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equipment blank

J = Estimated value - presence of the compound was

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

Laboratory Analyses	DL	Units	Sample Identification Number		MW-77-Y3S2		MW-77-Y4S1		Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1988)
			Laboratory & Lab Sample ID No	Date Sample Collected	0110130-01	0204275-02	10-Apr-02	84 9-88 9		
				Sample Depth Interval	85-87					
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
Bromochloromethane	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	5 39	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-Dichloroethane	1	ug/L			20 1 J	42 2	176	ND	100	120
Cis 1,2-Dichloroethane	1	ug/L			76.4 J	1820	4330	ND	70	61
1,1,2,2-Tetrachloroethane	1	ug/L			ND	ND	7.18	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	9.46	ND	5	0 19
Trichloroethene	1	ug/L			1620	ND	3170	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

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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

Sample Identification Number			MW-7B-Y3S1		MW-7B-Y3S2			MW-7B-Y4S1			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	0102408-05	14-Feb-01	0110130-14	0110130-15	0110130-16	0204275-03	0204275-04	0204275-05		
			NA		53-55	58-60	63-65	52 4-54 4	57 4-59 4	62 4-64 4		
Laboratory Analyses												
DL		Units										
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	ND	5 36	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-Dichloroethene	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

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TCL = Target Compound List

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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

Laboratory Analyses	Sample Identification Number Laboratory & Lab Sample ID No. Date Sample Collected Sample Depth Interval	DL	Units	MW-79-Y3S1				MW-79-Y3S2				MW-79-Y4S1				Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1999)
				0110129-28 03-Oct-01 85-87	0110129-27 03-Oct-01 90-92	0110129-28 03-Oct-01 95-97	0110129-29 03-Oct-01 100-102	0204275-06 10-Apr-02 84 5-98 5	0204275-07 10-Apr-02 89 5-91.5	0204275-09 10-Apr-02 94 5-98 5	0204275-10 10-Apr-02 99 5-101 5						
TCL Volatile Organics (Method 8260B)																	
Acetone	1	ug/L		97.9	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	5	0.32	
Bromodichloromethane	1	ug/L		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	NS	1000	
Carbon Tetrachloride	1	ug/L		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	100	110	
Chloroform	1	ug/L		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	NS	3.6	
1,1-Dichloroethane	1	ug/L		1.02	0.43 J	0.40 J	1.02	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	5	0.12	
1,1-Dichloroethene	1	ug/L		30.1	21	22.8	37.6	17.4	16.4	18.8	18.5	ND	ND	ND	7	0.044	
Trans 1,2-Dichloroethene	1	ug/L		ND	0.75 J	0.96 J	ND	1.09	ND	ND	ND	ND	ND	ND	100	120	
Cis 1,2-Dichloroethene	1	ug/L		2.52	0.62 J	0.88 J	ND	0.88 J	ND	ND	ND	ND	ND	ND	70	61	
1,1,2,2-Tetrachloroethane	1	ug/L		3.34	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	0.053	
Tetrachloroethene	1	ug/L		14	6.28	6.85	16.6	3.39	3.56	6.96	6.64	ND	ND	ND	5	1.1	
Toluene	1	ug/L		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	70	190	
1,1,1-Trichloroethane	1	ug/L		ND	0.35 J	0.39 J	0.60 J	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	5	0.19	
Trichloroethene	1	ug/L		9.6	8.8	10.8	11.9	9	6.05	6.87	5.79	ND	ND	ND	5	1.6	
Vinyl Chloride	1	ug/L		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

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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-80-Y3S1				MW-80-Y3S2				MW-80-Y4S1				Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1988)
				0102556-02	19-Feb-01	0110129-02	03-Oct-01	0110129-03	03-Oct-01	0110129-04	03-Oct-01	0204275-11	10-Apr-02	0204275-12	10-Apr-02		
				NA	61 2-63 2	65 2-67 2	67 2-69 2	61 3-63 3	64 8-68 8	69 8-71 8	NS	NS	NS	NS	NS		
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	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	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		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	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-Dichloroethene	1	ug/L		ND	ND	ND	ND	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	ND	ND	ND	ND	70	61
1,1,2-Tetrachloroethane	1	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	0.053
Tetrachloroethene	1	ug/L		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	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		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	0.19
Trichloroethene	1	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	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

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			MW-95-Y3S1		MW-95-Y3S2		MW-95-Y4S1				Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1989)									
Laboratory & Lab Sample ID No.			0102408-03		0110129-08		0110129-09		0110129-10		0110129-11		0204275-14		0204275-15		0204275-16		0204275-17		
Date Sample Collected			14-Feb-01		03-Oct-01		03-Oct-01		03-Oct-01		03-Oct-01		10-Apr-02		10-Apr-02		10-Apr-02		10-Apr-02		
Sample Depth Interval			NA		41 5-43 5		46 5-48 5		51 5-53 5		57 5-59 5		41 3-43 3		46 3-48 3		51 3-53 3		56 3-58 3		
Laboratory Analyses			DL	Units																	
TCL Volatile Organics (Method 8260B)																					
Acetone	1	ug/L		ND																6100	
Benzene	1	ug/L		ND																0.32	
Bromodichloromethane	1	ug/L		ND																0.17	
Carbon Disulfide	1	ug/L		190																1000	
Carbon Tetrachloride	1	ug/L		ND																0.16	
Chlorobenzene	1	ug/L		ND																110	
Chloroform	1	ug/L		ND																0.15	
Chloromethane	1	ug/L		ND																3.6	
1,1-Dichloroethane	1	ug/L		ND																800	
1,2-Dichloroethane	1	ug/L		ND																0.12	
1,1-Dichloroethene	1	ug/L		ND																0.044	
Trans 1,2-Dichloroethene	1	ug/L		ND																120	
Cis 1,2-Dichloroethene	1	ug/L		ND																61	
1,1,2,2-Tetrachloroethane	1	ug/L		ND																0.053	
Tetrachloroethene	1	ug/L		ND																1.1	
Toluene	1	ug/L		ND																750	
1,2,4-Trichlorobenzene	1	ug/L		ND																190	
1,1,1-Trichloroethane	1	ug/L		ND																540	
1,1,2-Trichloroethane	1	ug/L		ND																0.19	
Trichloroethene	1	ug/L		ND																5	
Vinyl Chloride	1	ug/L		ND																1.6	
																				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

Only compounds detected are listed
 ug/L = micrograms per liter
 TDL = 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

Only compounds detected are listed

µg/L = micrograms per liter

DL = Detection Limit

ICl = Target Compound List

BDL = Below Detection Limit

MCL = Maximum Contaminant Level

Water Standards

EDIPONTIUM 1000

NRBCs = Risk Based Contaminants

2014 = not available

NA = not available

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-Y2Q4 0011335-06	RW-1A-Y2S1 NP	RW-1A-Y2S2 0110528-02	RW-1A-Y4S1 0204276-06	RW-1A-Y2Q4 0011335-07	RW-1B-Y3S1 NP	RW-1B-Y3S2 0110528-03	RW-1B-Y4S1 0204276-07	Maximum Contaminant Level (MCL)-Primary	USEPA Region III RBCs-Tap Water
TCL Volatile Organics (Method 8260B)														
Acetone	20			ug/L	ND	NP	ND	ND	ND	NP	ND	ND	NS	6100
2-Butanone (MEK)	20			ug/L	ND	NP	ND	ND	ND	NP	ND	ND	NS	1900
Carbon Disulfide	10			ug/L	ND	NP	88.80	ND	ND	NP	ND	ND	NS	1000
Carbon Tetrachloride	1			ug/L	15.60	NP	43.80	44.50	20.10	NP	18.50	22.50	5	0.16
Chloroform	1			ug/L	420**	NP	889.00	700.00	37.00	NP	29.80	26.40	NS	0.15
1,1-Dichloroethane	1			ug/L	ND	NP	ND	ND	ND	NP	ND	ND	NS	800
1,2-Dichloroethane	1			ug/L	ND	NP	ND	1.23	ND	NP	ND	ND	5	0.12
1,1,1-Trichloroethane	1			ug/L	ND	NP	ND	ND	ND	NP	ND	ND	7	0.044
Trans 1,2-Dichloroethane	1			ug/L	1.58	NP	4.80 J	5.41	1.22	NP	1.78	2.48	100	120
Cis 1,2-Dichloroethane	1			ug/L	3.29	NP	12.6 J	12.10	3.66	NP	9.46	10.70	70	61
1,1,2,2-Tetrachloroethane	1			ug/L	43.90	NP	226.00	156.00	ND	NP	1.30	ND	NS	0.053
Tetrachloroethane	1			ug/L	2.62	NP	11.50	13.30	1.93	NP	2.01	2.99	5	1.1
1,1,1-Trichloroethane	1			ug/L	ND	NP	ND	ND	ND	NP	ND	ND	200	540
1,1,2-Trichloroethane	1			ug/L	1.39	NP	5.05 J	3.41	ND	NP	0.43 J	ND	5	0.19
Trichloroethane	1			ug/L	66.40	NP	265.00	289.00	21.10	NP	25.60	34.80	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		Units		RW-01-Y2Q4 0011335-05	RW-01-Y3S1 NP	RW-01-Y3S2 0110528-01	RW-01-Y4S1 0204275-21	RW-02-Y2Q4 0011335-09	RW-02-Y3S1 NP	RW-02-Y3S2 0110528-01	RW-02-Y4S1 0204275-22	Maximum Contaminant Level (MCL)-Primary	USEPA Region III RBCs-Tap Water	
Laboratory Analyses						DL	Units									
TCL Volatile Organics (Method 8260B)																
Acetone	20	ug/L				ND	NP	ND	ND	ND	NP	ND	ND	NS	6100	
2-Butanone (MEK)	20	ug/L				ND	NP	ND	ND	ND	NP	ND	ND	NS	1900	
Carbon Disulfide	10	ug/L				ND	NP	572	ND	ND	NP	ND	ND	NS	1000	
Carbon Tetrachloride	1	ug/L				46.10	NP	11.40	24.10	23.80	NP	14.10	13.00	5	0.16	
Chloroform	1	ug/L				13.10	NP	33.40	68.20	20.20	NP	24.90	34.40	NS	0.15	
1,1-Dichloroethane	1	ug/L				ND	NP	ND	ND	ND	NP	ND	ND	NS	800	
1,2-Dichloroethane	1	ug/L				ND	NP	ND	ND	ND	NP	ND	ND	5	0.12	
1,1-Dichloroethene	1	ug/L				ND	NP	ND	ND	ND	NP	ND	ND	7	0.044	
Trans 1,2-Dichloroethene	1	ug/L				1.18	NP	0.66 J	1.55	1.83	NP	4.00	5.22	100	120	
Cis 1,2-Dichloroethene	1	ug/L				ND	NP	0.49 J	1.16	12.10	NP	59.40	65.90	70	61	
1,1,2,2-Tetrachloroethane	1	ug/L				ND	NP	ND	ND	2.18	NP	60.90	77.10	NS	0.053	
Tetrachloroethene	1	ug/L				3.77	NP	2.76	4.36	1.36	NP	1.35	1.48	5	1.1	
1,1,1-Trichloroethane	1	ug/L				ND	NP	ND	ND	ND	NP	ND	ND	200	540	
1,1,2-Trichloroethane	1	ug/L				ND	NP	ND	ND	ND	NP	2.16	2.74	5	0.19	
Trichloroethene	1	ug/L				28.00	NP	28.60	58.20	17.20	NP	53.30	63.90	5	1.6	

Only compounds detected are listed

ug/L = micrograms per liter

DL = Detection Limit

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

Laboratory Analyses	Sample Identification Number		Date Sample Collected	DL	Units	RW-03-Y204										RW-04-Y204		Maximum Contaminant Level (MCL)-Primary	USEPA Region III RBCs-Tap Water
	Laboratory & Lab Sample ID No					RW-03-Y204	RW-03-Y204	RW-03-Y204	RW-03-Y204	RW-03-Y204	RW-03-Y204	RW-03-Y204	RW-03-Y204	RW-03-Y204	RW-03-Y204	RW-03-Y204	RW-03-Y204		
TCL Volatile Organics (Method 8260B)																			
Acetone	20	ug/L				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	NS	1900
Carbon Disulfide	10	ug/L				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	1000
Carbon Tetrachloride	1	ug/L				16.00	5.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	0.18
Chloroform	1	ug/L				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	0.15
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				7.53	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	120
Cis 1,2-Dichloroethane	1	ug/L				160.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	70	61
1,1,2,2-Tetrachloroethane	1	ug/L				97.50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	0.053
Tetrachloroethane	1	ug/L				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	1.1
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				62.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	0.19
Trichloroethane	1	ug/L																5	1.8

Only compounds detected are listed

ug/L = micrograms per liter

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NS = no standard NP = not performed

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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 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-Y2Q4 0011593-05 20-Nov-00	RW-05-Y3S1 0102451-02 15-Feb-01	RW-05-Y3S2 0110528-07 18-Oct-01	RW-05-Y4S1 0204276-01 10-Apr-02	RW-06-Y2Q4 0011593-04 20-Nov-00	RW-06-Y3S1 NP	RW-06-Y3S2 0110528-09 18-Oct-01	RW-06-Y4S1 0204323-01 11-Apr-02	Maximum Contaminant Level (MCL)-Primary	USEPA Region III RBCs-Tap Water
Laboratory Analyses														
TCL Volatile Organics (Method 8260B)														
Acetone	20			ug/L	ND	ND	ND	ND	ND	NP	ND	ND	NS	6100
2-Butanone (MEK)	20			ug/L	76.40	ND	ND	ND	47.90	NP	ND	45.60	NS	1900
Carbon Disulfide	10			ug/L	ND	ND	166.00	ND	ND	NP	ND	ND	NS	1000
Carbon Tetrachloride	1			ug/L	ND	ND	ND	ND	ND	NP	ND	ND	5	0.16
Chloroform	1			ug/L	ND	1.00	ND	1.24	2.38	NP	293.00	1.37	NS	0.15
1,1-Dichloroethane	1			ug/L	ND	ND	ND	ND	ND	NP	ND	ND	NS	800
1,2-Dichloroethane	1			ug/L	ND	ND	ND	ND	ND	NP	ND	ND	5	0.12
1,1-Dichloroethene	1			ug/L	ND	ND	ND	ND	ND	NP	ND	ND	7	0.044
Trans 1,2-Dichloroethene	1			ug/L	ND	10.10	9.28 J	5.08	1.25	NP	2.63	0.76 J	100	120
Cis 1,2-Dichloroethene	1			ug/L	ND	36.10	32.80	15.80	3.14	NP	6.64	1.39	70	61
1,1,2,2-Tetrachloroethane	1			ug/L	ND	381.00	1710.00	196.00	ND	NP	ND	ND	NS	0.053
Tetrachloroethene	1			ug/L	ND	6.19	6.88 J	5.89	2.18	NP	20.40	28.70	5	1.1
1,1,1-Trichloroethane	1			ug/L	ND	ND	ND	ND	ND	NP	ND	ND	200	540
1,1,2-Trichloroethane	1			ug/L	ND	ND	ND	ND	ND	NP	ND	ND	5	0.19
Trichloroethene	1			ug/L	1.89	407.00	757.00	400.00	11.30	NP	34.50	5.42	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

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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 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		RW-07-Y2Q4		RW-07-Y3S1		RW-07-Y3S2		RW-07-Y4S1		RW-08-Y2Q4		RW-08-Y3S1		RW-08-Y3S2		RW-08-Y4S1		Maximum Contaminant Level (MCL)-Primary		USEPA Region III RBCs-Tap Water	
Laboratory Analyses		DL		0011593-03 20-Nov-00		NP		0110528-10 18-Oct-01		0204276-2 10-Apr-02		0011593-02 20-Nov-00		0102451-03 15-Feb-01		0110528-11 18-Oct-01		0204276-03 10-Apr-02					
TCL Volatile Organics (Method 8260B)		Units																					
Acetone	20	ug/L	ND	NP	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS		6100	
2-Butanone (MEK)	20	ug/L	ND	NP	ND	ND	ND	ND	ND	ND	ND	43.40	ND	ND	ND	ND	ND	ND	ND	NS		1900	
Carbon Disulfide	10	ug/L	ND	NP	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS		1000	
Carbon Tetrachloride	1	ug/L	0.43 J	NP	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.05	ND	ND	ND	1.49	ND	5		0.16	
Chloroform	1	ug/L	3.08	NP	3.41	ND	2.64	ND	ND	ND	ND	6.53	ND	11.40	ND	14.00	15.30	ND	ND	NS		0.15	
1,1-Dichloroethane	1	ug/L	ND	NP	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS		800	
1,2-Dichloroethane	1	ug/L	ND	NP	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	NP	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.65	9.83	9.83	14.20	ND	ND	7		0.044	
Trans 1,2-Dichloroethene	1	ug/L	22.90	NP	13.20	ND	12.70	ND	ND	11.90	ND	ND	ND	30.50	23.70	38.00	38.00	ND	ND	100		120	
Cis 1,2-Dichloroethene	1	ug/L	86.60	NP	58.10	ND	51.20	ND	ND	40.10	ND	ND	ND	118.00	96.40	96.40	130.00	ND	ND	70		61	
1,1,2,2-Tetrachloroethane	1	ug/L	49.80	NP	66.10	ND	115.00	ND	ND	115.00	ND	ND	ND	166.00	120.00	120.00	171.00	ND	ND	NS		0.053	
Tetrachloroethene	1	ug/L	9.30	NP	6.17	ND	4.96	ND	ND	4.96	ND	2.02	ND	7.22	5.78	5.78	10.40	ND	ND	5		1.1	
1,1,1-Trichloroethane	1	ug/L	ND	NP	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	160 J	2.98	ND	ND	200		540	
1,1,2-Trichloroethane	1	ug/L	1.88	NP	1.18	ND	1.87	ND	ND	1.87	ND	ND	ND	2.08	1.60 J	1.60 J	2.98	ND	ND	5		0.19	
Trichloroethene	1	ug/L	101.00	NP	73.50	ND	74.10	ND	ND	74.10	ND	56.90	ND	105.00	148.00	148.00	288.00	ND	ND	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			RW-09-Y204	RW-09-Y3S1	RW-09-Y3S2	RW-09-Y4S1	Maximum Contaminant Level (MCL)-Primary	USEPA Region III RBCs-Tap Water
Date Sample Collected			0011593-01 20-Nov-00	0102451-04 15-Feb-01	0110528-12 18-Oct-01	0204278-04 10-Apr-02		
Laboratory Analyses			DL	Units				
TCL Volatile Organics (Method 8260B)								
Acetone	20	ug/L		ND	ND	ND	ND	6100
2-Butanone (MEK)	20	ug/L		131.00	ND	ND	ND	1900
Carbon Disulfide	10	ug/L		ND	ND	ND	ND	1000
Carbon Tetrachloride	1	ug/L		ND	1.00	1.21	1.23	5
Chloroform	1	ug/L		13.30	13.70	15.80	12.10	NS
1,1-Dichloroethane	1	ug/L		1.82	1.49	1.33	1.21	NS
1,2-Dichloroethane	1	ug/L		ND	ND	0.51 J	ND	5
1,1-Dichloroethene	1	ug/L		52.50	46.10	56.00	32.40	7
Trans 1,2-Dichloroethene	1	ug/L		ND	1.42	1.61	2.41	100
Cis 1,2-Dichloroethene	1	ug/L		2.02	4.74	5.37	7.23	70
1,1,2,2-Tetrachloroethane	1	ug/L		ND	3.01	3.90	5.07	NS
Tetrachloroethene	1	ug/L		54.30	38.60	3.90	42.90	5
1,1,1-Trichloroethane	1	ug/L		1.92	1.39	1.44	1.28	200
1,1,2-Trichloroethane	1	ug/L		ND	ND	ND	ND	5
Trichloroethene	1	ug/L		36.30	22.40	3.51	42.20	5

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 3
Summary of Analytical Results for Total Effluent (through May 2002) of the Groundwater Recovery System

Sample Identification Number Laboratory ID No	ST-EFF-01 Week 1 of System Startup Testing	ST-EFF-02* Week 2 of System Startup Testing	ST-EFF-03 Week 1 of System Operation (O&M)	ST-EFF-04 Week 2 of System Operation (O&M)	ST-EFF-05 Week 3 of System Operation (O&M)	ST-EFF-06 Week 4 of System Operation (O&M)	City of Memphis Industrial Wastewater Discharge Max. Levels
Total System Effluent Sample Collected	9810617-01	9810819-01	9811020-01	9811479-01	9811705-01	9812045-01	
Date Effluent Sample Collected	19-Oct-98	26-Oct-98	9-Nov-98	16-Nov-98	23-Nov-98	30-Nov-98	
Instantaneous Flow Rate	230 GPM/231,200 GPD	155* GPM/223,200 GPD	199 GPM/286,560 GPD	169.8 GPM/244,512 GPD	158.8 GPM/228,872 GPD	145.0 GPM/208,800 GPD	561,600 GPD
Totalized Flow	1,382,400 GAL	3,408,480 GAL	5,978,548 GAL	7,748,890 GAL	9,343,370 GAL	10,969,840 GAL	
LABORATORY ANALYSES	DL	Units					Monthly Ave./Over City Max.
pH (Method 150.1)	5.6	5.9	5.8	5.6	5.6	5.8	5.5 to 10.0
TAL Metals (EPA 200 Series)							mg/L
Aluminum (Method 200.7)	ND	ND	ND	ND	ND	ND	1/2
Arsenic (Method 208.2)	ND	ND	ND	ND	ND	ND	0.04/0.1
Barium (Method 200.7)	0.104	0.107	0.109	0.117	0.112	0.124	NS
Bismuth (Method 200.7)	ND	ND	ND	ND	ND	ND	0.01/0.02
Cadmium (Method 200.7)	ND	21.6	24.7	25.3	24.8	28.5	NS
Calcium (Method 200.7)	ND	ND	ND	ND	ND	ND	0.2/0.4
Chromium (Method 200.7)	ND	ND	ND	ND	ND	ND	0.2/0.4
Copper (Method 200.7)	ND	ND	ND	ND	ND	ND	10/20
Iron (Method 200.7)	0.07	0.048	0.022	0.019	0.038	0.01	0.15/0.3
Lead (Method 200.7)	ND	ND	ND	ND	ND	ND	NS
Magnesium (Method 200.7)	11.7	11.3	12.6	13	12.5	13	NS
Manganese (Method 200.7)	ND	ND	ND	0.015	0.014	0.048	NS
Mercury (Method 245.1)	ND	ND	ND	ND	ND	ND	0.001/0.002
Nickel (Method 200.7)	ND	ND	ND	ND	ND	ND	0.1/0.3
Potassium (Method 200.7)	0.916	0.781	0.883	1.15	0.9	0.703	NS
Sodium (Method 200.7)	27.8	28.3	27.7	28.7	26.6	26.1	NS
Zinc (Method 200.7)	0.047	0.129	0.095	0.098	0.063	0.062	0.3/1.0
TCL Volatile Organics (Method 8260B)							ug/L
Carbon Tetrachloride	2.9	4.3	3.06	3.27	4.07	3.22	20/40
Chloroform	13.6	12.9	14.9	18.1	20.6	16.4	20/40
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	NS
1,1-Dichloroethene	11.6	5.42	9.98	13.9	15.8	14.6	50/100
Cis 1,2-Dichloroethene	29.2	43.6	30	33.3	37.3	32.8	50/100
Trans 1,2-Dichloroethene	5.96	9.27	6.88	7.47	8.42	7.47	50/100
Methylene Chloride	ND	ND	ND	ND	ND	ND	500/1000
1,1,2,2-Tetrachloroethane	87.1	159	234	234	272	176	60/120
Tetrachloroethene	25.7	22.6	28.9	30	34.4	25.6	20/40
Toluene	ND	ND	ND	ND	ND	ND	10/20
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	10/20
1,1,2-Trichloroethane	1.81	2.82	1.59	1.46	1.3	1.1	50/100
1,1,2,2-Tetrachloroethane	108	226	195	225	217	180	400/800
TCL Semi-Volatile Organics (Method 8270C)							ug/L
Bis(2-ethylhexyl)phthalate	ND	23.6B	ND	ND	26B	ND	10/20
Di-n-butyl Phthalate	91.2	2.5J	ND	ND	ND	ND	30/60
Naphthalene	ND	ND	ND	ND	ND	ND	10/20
Phenol	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-09 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 = analysis detected in associated method and/or equipment blank

ug/L = micrograms per liter

GPD = gallons per day

DL = detection limit

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

A=Effluent meter zeroed out 03-Nov-99

Table 3
Summary of Analytical Results for Total Effluent (through May 2002) of the Groundwater Recovery System

Sample Identification Number	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 Discharge Max. Levels
Laboratory ID No.	9812784-01	9812784-02	9901689-01	9902884-01	9902702-01	9902702-02	9902758-01	9902754-01	
Total System Effluent Sample Description	Week 7 of System Operation (O&M)	Week 13 of System Operation (O&M)	Week 13 of System Operation (O&M)	Week 17 of System Operation (O&M)	Week 17 of System Operation (O&M)	Week 17 of System Operation (O&M)	Week 17 of System Operation (O&M)	Week 17 of System Operation (O&M)	
Date Effluent Sample Collected	18-Dec-98	26-Jan-99	26-Jan-99	22-Feb-99	23-Feb-99	23-Feb-99	24-Feb-99	25-Feb-99	
Instantaneous Flow Rate	98.4 GPM/141,598 GPD	116.7 GPM/168,048 GPD	108.1 GPM/155,884 GPD	104.2 GPM/150,048 GPD	104.2 GPM/150,048 GPD	104.2 GPM/150,048 GPD	104.2 GPM/150,048 GPD	104.2 GPM/150,048 GPD	561,800 GPD
Totalized Flow	14,448,100 GAL	20,527,972 GAL	24,868,250 GAL	24,868,250 GAL	24,868,250 GAL	24,868,250 GAL	24,868,250 GAL	24,868,250 GAL	25,017,530 GAL
LABORATORY ANALYSES	DL	Units	DL	Units	DL	Units	DL	Units	Monthly Avg./One Day Max.
pH (Method 150.1)	5.8	5.8	6.5	6.1	6.1	6.1	6.1	6.1	5.5 to 10.0
TAL Metals (EPA 200 Series)									
Aluminum (Method 200.7)	0.06	mg/L	ND	ND	ND	ND	ND	ND	1/2
Arsenic (Method 206.2)	0.003	mg/L	ND	ND	ND	ND	ND	ND	0.04/0.1
Barium (Method 200.7)	0.003	mg/L	0.118	0.119	0.109	0.109	0.109	0.109	NS
Cadmium (Method 200.7)	0.005	mg/L	ND	ND	ND	ND	ND	ND	0.01/0.02
Calcium (Method 200.7)	0.015	mg/L	25.2	27.1	23.1	23.1	23.1	23.1	NS
Chromium (Method 200.7)	0.009	mg/L	ND	ND	ND	ND	ND	ND	0.2/0.4
Copper (Method 200.7)	0.008	mg/L	ND	ND	ND	ND	ND	ND	0.2/0.4
Iron (Method 200.7)	0.009	mg/L	0.020	0.044	0.151	0.151	0.151	0.151	10/20
Lead (Method 200.7)	0.06	mg/L	ND	ND	ND	ND	ND	ND	0.15/0.3
Magnesium (Method 200.7)	0.04	mg/L	11.9	12.5	11.3	11.3	11.3	11.3	NS
Manganese (Method 200.7)	0.003	mg/L	0.097	0.175	0.049	0.049	0.049	0.049	NS
Mercury (Method 245.1)	0.0002	mg/L	ND	ND	ND	ND	ND	ND	0.001/0.002
Nickel (Method 200.7)	0.02	mg/L	ND	ND	ND	ND	ND	ND	0.1/0.3
Potassium (Method 200.7)	0.25	mg/L	0.808	0.927	0.951	0.951	0.951	0.951	NS
Sodium (Method 200.7)	0.05	mg/L	25.3	26.5	24.1	24.1	24.1	24.1	NS
Zinc (Method 200.7)	0.01	mg/L	0.115	0.048	0.065	0.065	0.065	0.065	0.3/1.0
VCL Volatile Organics (Method 8260B)									
Carbon Tetrachloride	1	ug/L	4.50	2.32	2.53	2.53	2.53	2.53	ug/L
Chloroform	1	ug/L	10.1	9.95	6.84	6.84	6.84	6.84	20/40
1,1-Dichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	20/40
1,1-Dichloroethene	1	ug/L	4.8	13.3	19.5	19.5	19.5	19.5	NS
Cis 1,2-Dichloroethene	1	ug/L	43.4	34	36.2	36.2	36.2	36.2	50/100
Trans 1,2-Dichloroethene	1	ug/L	9.78	7.85	11	11	11	11	50/100
Methylene Chloride	5	ug/L	ND	ND	ND	ND	ND	ND	50/100
1,1,2,2-Tetrachloroethane	1/50/100	ug/L	175	60.1	48.8	48.8	48.8	48.8	10/20
Tetrachloroethene	1	ug/L	11.8	17.9	16.5	16.5	16.5	16.5	500/1000
Toluene	1	ug/L	ND	ND	ND	ND	ND	ND	60/120
1,1,1-Trichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	20/40
1,1,2-Trichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	10/20
Trichloroethene	1/50/100	ug/L	183	118	144	144	144	144	50/100
TCL Semi-Volatile Organics (Method 8270C)									
Bis(2-ethylhexyl)phthalate	10	ug/L	11.9	ND	ND	ND	ND	ND	ug/L
Di-n-butyl Phthalate	5	ug/L	ND	ND	ND	ND	ND	ND	10/20
Naphthalene	2	ug/L	ND	ND	ND	ND	ND	ND	30/60
Phenol	5	ug/L	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

^ = 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

GPD = gallons per day

DL = detection limit

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 May 2002) of the Groundwater Recovery System

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 Discharge Max. Levels
Laboratory ID No	Week 21 of System Operation (GMA)	Week 26 of System Operation (GMA)	Week 27-Apr-99	Week 30 of System Operation (GMA)	Week 30-Jun-99	Week 38 of System Operation (GMA)	9907539-02	
Total System Effluent Sample Description	26-Mar-99	105.3 GPM/151,632 GPD	27-Apr-99	30-Jun-99	21-Jul-99	80.8 GPM/118,498 GPD		
Date Effluent Sample Collected	28-Mar-99	28,964,822 GAL	32,187,280 GAL	40,550,862 GAL	42,847,212 GAL			
Instantaneous Flow Rate	94.3 GPM/135,782 GPD							561,600 GPD
Totalized Flow								-
Units								Monthly Ave./One Day Max. 5.5 to 10.0
LABORATORY ANALYSES								
pH (Method 150.1)	5.7	6.8	6.2	6.0	5.9	5.8	5.9	mg/L
Aluminum (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	1/2
Arsenic (Method 208.2)	0.108	0.108	0.114	0.11	0.107	0.101	0.089	0.04/0.1
Barium (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	NS
Cadmium (Method 200.7)	22.7	23	22.8	23.1	21.4	21	21.2	0.01/0.02
Calcium (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	NS
Chromium (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	0.2/0.4
Copper (Method 200.7)	0.034	0.025	0.034	0.012	0.016	0.016	0.011	0.2/0.4
Iron (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	0.2/0.4
Lead (Method 200.7)	11.3	11.6	11.7	11.4	10.5	10.6	10.8	0.15/0.3
Magnesium (Method 200.7)	0.04	0.029	0.03	0.031	0.027	0.014	0.059	NS
Manganese (Method 200.7)	0.003	ND	ND	ND	ND	ND	ND	NS
Mercury (Method 245.1)	0.0002	ND	ND	ND	ND	ND	ND	0.001/0.002
Nickel (Method 200.7)	0.02	0.728	0.859	0.844	0.767	0.835	0.806	0.1/0.3
Potassium (Method 200.7)	23.8	22.9	24.1	24.2	23.6	22.8	22.4	NS
Sodium (Method 200.7)	0.068	0.04	0.045	0.047	0.028	0.028	0.03	NS
Zinc (Method 200.7)	0.01							0.3/1.0
TCL Volatile Organics (Method 8260B)								ug/L
Carbon Tetrachloride	1	2.17	1.47	2.25	2.29	1.48	1.29	20/40
Chloroform	1	5.59	6.63	4.54	9.3	8.46	7.93	20/40
1,1-Dichloroethane	1	ND	ND	ND	ND	ND	ND	NS
1,1,1-Trichloroethane	1	13.9	11.8	16.2	17.8	14.2	13.4	50/100
Cis 1,2-Dichloroethane	1	37	37	42.8	48.3	34.1	32.5	50/100
Trans 1,2-Dichloroethane	1	10.8	9.77	12.0	13.7	10.1	9.68	50/100
Methylene Chloride	5	ND	ND	ND	ND	ND	ND	10/20
1,1,2,2-Tetrachloroethane	1	29.3	38.9	58.1	76.4	65.1	59.8	500/1000
1,1,1,2-Tetrachloroethane	1	18.7	12.9	16.1	17	14.6	13.3	60/120
Toluene	1	ND	ND	ND	1.59	1	ND	20/40
1,1,1-Trichloroethane	1	ND	ND	ND	ND	ND	ND	10/20
1,1,2-Trichloroethane	1	ND	ND	ND	ND	ND	ND	50/100
Trichloroethene	1/50/100	116	116	150	163	117	110	400/800
TCL Semi-Volatile Organics (Method 8270C)								ug/L
Bis(2-ethylhexyl)phthalate	10	24.48	ND	13.6B	ND	ND	ND	10/20
Di-n-butyl Phthalate	5	ND	ND	ND	ND	ND	ND	30/60
Naphthalene	2	ND	ND	ND	ND	ND	ND	10/20
Phenol	5	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

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

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

ND = not detected

mg/L = micrograms 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
91.2 = bold number indicates that value exceeds Discharge Max. Levels

Table 3
Summary of Analytical Results for Total Effluent (through May 2002) of the Groundwater Recovery System

Sample Identification Number	ST-EFF-15	ST-INF-15 (Duplicate)	ST-EFF-16	ST-EFF-17	ST-EFF-18	ST-EFF-116 (Duplicate)	ST-EFF-019	ST-EFF-117 (Duplicate)	City of Memphis Industrial Wastewater
Laboratory ID No	990592-02	990592-01	990592-01	990592-01	990592-01	990592-01	990592-01	990592-01	
Total System Effluent Sample Description	Week 43 of System Operation (O&M)	Week 47 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 55 of System Operation (O&M)	Week 59 of System Operation (O&M)	Week 59 of System Operation (O&M)	
Date Effluent Sample Collected	23-Aug-99	22-Sep-99	22-Sep-99	21-Oct-99	16-Nov-99	16-Nov-99	15-Dec-99	15-Dec-99	
Instantaneous Flow Rate	74.7 GPM / 107.578 GPD	72.2 GPM / 104.112 GPD	72.3 GPM / 104.112 GPD	72.3 GPM / 104.112 GPD	76.2 GPM / 109.728 GPD	76.2 GPM / 109.728 GPD	71.5 GPM / 102.860 GPD	71.5 GPM / 102.860 GPD	561,600 GPD
Totalized Flow	46,332,590 GAL	49,474,353 GAL	52,388,107 GAL	52,388,107 GAL	55,040,162 GAL	55,040,162 GAL	57,672,540 GAL	57,672,540 GAL	--
LABORATORY ANALYSES	DL	Units	DL	Units	DL	Units	DL	Units	Monthly Ave / One Day Max
pH (Method 150.1)	--	SU	5.7	5.7	6.0	5.7	6.1	5.7	5.5 to 10.0
TAL Metals (EPA 200 Series)									
Aluminum (Method 200.7)	0.06	mg/L	0.07	ND	ND	ND	ND	ND	mg/L
Arsenic (Method 206.2)	0.003	mg/L	0.089	ND	ND	ND	ND	ND	0.04 / 0.1
Barium (Method 200.7)	0.003	mg/L	0.089	0.1	0.089	0.1	0.089	0.089	NS
Cadmium (Method 200.7)	0.005	mg/L	ND	ND	ND	ND	ND	ND	0.01 / 0.02
Calcium (Method 200.7)	0.015	mg/L	21.1	20.6	20.6	21.1	21.3	19.8	NS
Chromium (Method 200.7)	0.008	mg/L	ND	ND	ND	ND	ND	ND	0.2 / 0.4
Copper (Method 200.7)	0.008	mg/L	ND	ND	ND	ND	ND	ND	0.2 / 0.4
Iron (Method 200.7)	0.009	mg/L	0.1	0.093	0.088	0.011	0.034	0.015	10 / 20
Lead (Method 200.7)	0.06	mg/L	ND	ND	ND	ND	ND	ND	0.15 / 0.3
Magnesium (Method 200.7)	0.04	mg/L	10.6	10.6	10.3	10.7	10.8	10.2	NS
Manganese (Method 200.7)	0.003	mg/L	0.028	0.018	0.018	0.022	0.022	0.007	NS
Mercury (Method 245.1)	0.0002	mg/L	ND	ND	ND	ND	ND	ND	0.001 / 0.002
Nickel (Method 200.7)	0.02	mg/L	ND	ND	ND	ND	ND	ND	0.1 / 0.3
Potassium (Method 200.7)	0.25	mg/L	0.798	0.79	0.852	0.926	0.82	0.764	NS
Sodium (Method 200.7)	0.05	mg/L	24.6	25.3	22.2	23.0	22.4	21.8	NS
Zinc (Method 200.7)	0.01	mg/L	0.033	ND	0.043	0.028	0.07	0.045	0.3 / 1.0
TCL Volatile Organics (Method 8260B)									
Carbon Tetrachloride	1	ug/L	1.21	1.18	2.05	2.22	1.77	1.18	ug/L
Chloroform	1	ug/L	9.38	9.78	9.88	8.30	7.41	8.81	20 / 40
1,1-Dichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	20 / 40
1,1-Dichloroethene	1	ug/L	17	18	19.3	16.6	16.6	15.7	NS
Cis 1,2-Dichloroethene	1	ug/L	47.1	50.2	49.8	44.1	48.9	47	50 / 100
Trans 1,2-Dichloroethene	1	ug/L	14.6	14.9	14.5	13.0	12.7	12.6	50 / 100
Methylene Chloride	5	ug/L	11.9	12.8	ND	ND	ND	ND	50 / 100
1,1,2,2-Tetrachloroethane	1/50/100	ug/L	137	131	148	183	120	137	500 / 1000
Tetrachloroethene	1	ug/L	19.8	19.8	21.8	19.2	17.9	19.1	60 / 120
Toluene	1	ug/L	ND	ND	ND	ND	ND	ND	20 / 40
1,1,1-Trichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	20 / 40
1,1,2-Trichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	10 / 20
Trichloroethene	1	ug/L	207	216	214	208	177	174	50 / 100
TCL Semi-Volatile Organics (Method 8270C)									
Bis(2-ethylhexyl)phthalate	10	ug/L	ND	ND	10.65	ND	ND	ND	ug/L
Di-n-butyl Phthalate	5	ug/L	ND	ND	ND	ND	ND	ND	10 / 20
Naphthalene	2	ug/L	ND	ND	ND	ND	ND	ND	30 / 60
Phenol	5	ug/L	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-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

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

Table 3
Summary of Analytical Results for Total Effluent (through May 2002) of the Groundwater Recovery System

Sample Identification Number	ST-EFF-020	ST-EFF-021	ST-EFF-121 (Duplicate)	ST-EFF-022	ST-INT-022 (Duplicate)	ST-EFF-023	ST-EFF-024	EOB-024	City of Memphis Industrial Wastewater
Laboratory ID No	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 (C&M)	Week 69 of System Operation (C&M)	Week 72 of System Operation (C&M)	Week 75 of System Operation (C&M)	Week 76 of System Operation (C&M)	Week 76 of System Operation (C&M)	Week 80 of System Operation (C&M)	Week 80 of System Operation (C&M)	
Date Effluent Sample Collected	10-Jan-00	15-Feb-00	15-Mar-00	15-Mar-00	15-Mar-00	14-Apr-00	16-May-00	16-May-00	
Instantaneous Flow Rate	59,949.612 GAL	70.5 GPM/101.654 GPD	62,926.034 GAL	65,383.409 GAL	57.1 GPM/82.224 GPD	57.1 GPM/82.224 GPD	52.1 GPM/75.024 GPD	52.1 GPM/75.024 GPD	56,180 GPD
Totalized Flow	7.0	6.1	5.4	6.1	5.8	6.1	5.9	6.0	5.5 to 10.0
Units	SU								mg/L
LABORATORY ANALYSES									
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
ALUMINUM (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	ND	1/2
ARSENIC (Method 200.2)	ND	ND	ND	ND	ND	ND	ND	ND	0.04/0.1
BARIUM (Method 200.7)	0.069	0.108	0.108	0.106	0.104	0.111	ND	ND	NS
CADMIUM (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	ND	0.01/0.02
CALCIUM (Method 200.7)	19.9	21.0	21.6	21.98	21.88	21.18	21.4	20.8	NS
CHROMIUM (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	ND	0.2/0.4
COPPER (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	ND	0.2/0.4
IRON (Method 200.7)	0.021	0.114	0.036	0.155J*	0.029J*	0.048	ND	ND	10/20
LEAD (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	ND	0.15/0.3
MAGNESIUM (Method 200.7)	10.6	10.8	11.3	11.2	11	10.9	11.4	11	NS
MANGANESE (Method 200.7)	ND	0.025	0.025	0.015	0.015	0.019	ND	ND	NS
MERCURY (Method 245.1)	ND	ND	ND	ND	ND	ND	ND	ND	0.001/0.002
NICKEL (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	ND	0.1/0.3
POTASSIUM (Method 200.7)	0.752	0.816	0.874	0.852	0.809	0.828	0.681	0.892	NS
SODIUM (Method 200.7)	22.8	22.7	23.5	24.6	23.5	22.9	23.3	22.3	NS
ZINC (Method 200.7)	0.038	0.305	0.053	0.04	0.043	0.052	0.045	0.038	0.3/1.0
VCL Volatile Organics (Method 8260B)									
Carbon Tetrachloride	1 ug/L	1.14	1.67	1.56	1.5	1.63	0.87	ND	20/40
Chloroform	1 ug/L	8.34	6.58	7.78	8.36	7.60	7.59	7.76	20/40
1,1-Dichloroethane	1 ug/L	ND	ND	ND	ND	0.47J	ND	ND	NS
1,1-Dichloroethene	1 ug/L	13.8	14.1	12.8	13.5	14.8	14.8	15.8	50/100
Cis 1,2-Dichloroethene	1 ug/L	48	43.7	42.6	43.1	51.5	50.9	52.4	50/100
Trans 1,2-Dichloroethene	1 ug/L	13.4	12.0	13.2	13.4	14.9	15.8	16.3	50/100
Methylene Chloride	5 ug/L	ND	ND	ND	ND	ND	ND	ND	10/20
1,1,2,2-Tetrachloroethane	1/50/100 ug/L	218	189	47.5	51.7	54.7	51	51.3	500/1000
Tetrachloroethene	1 ug/L	17.7	15.3	17.2	18	18	15.2	15.9	60/120
Toluene	1 ug/L	ND	ND	ND	1.53J	ND	ND	ND	20/40
1,1,1-Trichloroethane	1 ug/L	ND	0.48J	0.52J	ND	ND	ND	ND	10/20
1,1,2-Trichloroethane	1 ug/L	ND	0.80J	0.68J*	0.97J	0.96J	ND	0.78	50/100
Trichloroethene	1/50/100 ug/L	189	179	115	121	189	124	129	400/800
TCL Semi-Volatile Organics (Method 8270C)									
Bis(2-ethylhexyl)phthalate	10 ug/L	ND	ND	ND	ND	ND	ND	ND	10/20
Di-n-butyl Phthalate	5 ug/L	ND	ND	ND	ND	ND	ND	ND	30/60
Naphthalene	2 ug/L	ND	ND	ND	ND	ND	ND	ND	10/20
Phenol	5 ug/L	ND	ND	ND	ND	ND	ND	ND	10/20

NOTE: Compounds included in the 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-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

** = 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 = micrograms 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

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

Table 3
Summary of Analytical Results for Total Effluent (through May 2002) of the Groundwater Recovery System

Sample Identification Number	Laboratory ID No	ST-EFF-025	ST-EFF-026	EQB-028	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 65 of System Operation (O&M)	000716-01	0007278-01	0007278-02	0008325-01	0009443-01	0009443-02	0010480-01	0010480-02	
Date Effluent Sample Collected	23-Jun-00	13-Jul-00	13-Jul-00	13-Jul-00	11-Aug-00	19-Sep-00	19-Sep-00	19-Oct-00	18-Oct-00	
Instantaneous Flow Rate	55.09 GPM/79.330 GPD	52.78 GPM/78.003 GPD	52.78 GPM/78.003 GPD	52.78 GPM/78.003 GPD	57.22 GPM/82.398 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	561.800 GPD
Totalized Flow	73,321.838 GAL	75,673.708 GALLONS	75,673.708 GALLONS	75,673.708 GALLONS	78,223.187	80,540.059 GALLONS	80,540.059 GALLONS	82,855.006 GALLONS	82,855.006 GALLONS	Monthly Ave./One Day Max.
DL	Units	5.7	7.7	8.4	6.1	5.8	6.1	6.0	6.0	5.5 to 10.0
LABORATORY ANALYSES										
pH (Method 150.1)										
TAL Metals (EPA 200 Series)										
Aluminum (Method 200.7)	0.06	ND	ND	ND	ND	ND	ND	ND	ND	mg/L
Arsenic (Method 206.2)	0.003	ND	ND	ND	ND	ND	ND	ND	ND	1/2
Barium (Method 200.7)	0.003	0.109	0.104	ND	0.111	0.115	0.117	0.108	0.109	0.04/0.1
Cadmium (Method 200.7)	0.005	ND	ND	ND	ND	ND	ND	ND	ND	NS
Calcium (Method 200.7)	0.015	21.8	21.3	0.067	21.7	22.8	23.1	21.1	21.4	0.01/0.02
Chromium (Method 200.7)	0.009	ND	ND	ND	ND	ND	ND	ND	ND	NS
Copper (Method 200.7)	0.008	ND	ND	ND	ND	ND	ND	ND	ND	0.2/0.4
Iron (Method 200.7)	0.009	0.094	0.029	ND	0.137	0.187	0.739	0.061	0.036	0.2/0.4
Lead (Method 200.7)	0.06	ND	ND	ND	ND	ND	ND	ND	ND	0.2/0.4
Magnesium (Method 200.7)	0.04	11.4	11	ND	10.8	10.9	11	10.3	10.5	0.15/0.3
Manganese (Method 200.7)	0.003	0.014	0.009	ND	0.011	0.010	0.010	ND	ND	NS
Mercury (Method 245.1)	0.0002	ND	ND	ND	ND	ND	ND	ND	ND	NS
Nickel (Method 200.7)	0.02	ND	ND	ND	ND	0.03	0.336	ND	ND	0.001/0.002
Potassium (Method 200.7)	0.25	0.829	0.836	ND	0.67	0.886	0.954	0.886	0.872	0.1/0.3
Sodium (Method 200.7)	0.05	22.0	23.7	3.2	23.8	23.2	23.4	23.7	25.4	NS
Zinc (Method 200.7)	0.01	0.04	0.061	ND	0.045	0.118	0.084	0.094	0.074	NS
TCL Volatile Organics (Method 8260B)										
Carbon Tetrachloride	1	1.3	1.2	ND	1.82	2.31	2.12	1.57	1.65	ug/L
Chloroform	1	9.41	8.92	ND	7.98	9.24	8.30	9.69	8.54	20/40
1,1-Dichloroethane	1	ND	ND	ND	ND	ND	ND	ND	ND	20/40
1,1-Dichloroethene	1	18.6	15	ND	13.2	17.6	17.1	18.8	18	NS
Cis 1,2-Dichloroethene	1	82.7	54.4	ND	44.5	50	46.5	55.7	51	50/100
Trans 1,2-Dichloroethene	1	18.5	15.9	ND	11.6	13.4	11.5	18.0	14.8	50/100
Methylene Chloride	5	ND	ND	ND	ND	ND	ND	ND	ND	10/20
1,1,2,2-Tetrachloroethane	1/50/100	59.2	52	ND	42.7	61.4	60.3	61.3	58.7	500/1000
Tetrachloroethene	1	14.5	13.8	ND	13.8	22.1	22.8	15.9	15.9	60/120
Toluene	1	ND	ND	ND	ND	ND	ND	ND	ND	20/40
1,1,1-Trichloroethane	1	ND	ND	ND	ND	ND	ND	ND	ND	10/20
1,1,2-Trichloroethane	1	0.93	0.695J	ND	0.86J	1.14	ND	ND	1.01	50/100
Trichloroethene	1/50/100	139	123	ND	148	152	159	101	102	400/800
TCL Semi-Volatile Organics (Method 8270C)										
Bis(2-ethylhexyl)phthalate	10	ND	ND	ND	ND	ND	ND	ND	ND	ug/L
Di-n-butyl Phthalate	5	ND	ND	ND	ND	ND	ND	ND	ND	10/20
Naphthalene	2	ND	ND	ND	ND	ND	ND	ND	ND	30/60
Phenol	5	ND	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-09 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

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

ND = not detected

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

A = Effluent meter zeroed out 03-Nov-99

Table 3
Summary of Analytical Results for Total Effluent (through May 2002) of the Groundwater Recovery System

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	001634-01	0012504-01	0012504-02	0101349-01	0105038-01	0105038-02	0109232-01	0112802-02	
Total System Effluent Sample Description	Week 105 of System Operation (O&M)	Week 109 of System Operation (O&M)	Week 109 of System Operation (O&M)	Week 112 of System Operation (O&M)	Week 126 of System Operation (O&M)	Week 126 of System Operation (O&M)	O&M	O&M	
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/15.988 GPD	16.27 GPM/23.435 GPD	16.27 GPM/23.435 GPD	25.45 GPM/36.848 GPD	42.39 GPM/61.042 GPD	42.39 GPM/61.042 GPD	48.9 GPM/69.984 GPD	49.8 GPM/71.772 GPD	
Totalized Flow	83,150,768 GALLONS	83,877,244 GALLONS	83,877,244 GALLONS	85,023,474 GALLONS	85,023,474 GALLONS	85,023,474 GALLONS	101,568,586 GALLONS	105,815,578 GALLONS	
LABORATORY ANALYSES	DL	Units	DL	Units	DL	Units	DL	Units	Monthly Ave./Low Day Max.
pH (Method 150.1)	-	SU	5.8		6.5		7.3		5 to 10.0
TAC Metals (EPA 200. Series)									mg/L
Aluminum (Method 200.7)	0.06	mg/L	ND	ND	ND	ND	ND	Not Tested	1/2
Arsenic (Method 208.2)	0.003	mg/L	ND	ND	ND	ND	ND	Not Tested	0.04/0.1
Barium (Method 200.7)	0.003	mg/L	0.117	ND	0.119	ND	ND	Not Tested	NS
Cadmium (Method 200.7)	0.005	mg/L	ND	ND	ND	ND	ND	Not Tested	0.01/0.02
Calcium (Method 200.7)	0.015	mg/L	20.1	ND	23.4	ND	22.5	Not Tested	NS
Chromium (Method 200.7)	0.009	mg/L	ND	ND	ND	ND	ND	Not Tested	0.2/0.4
Copper (Method 200.7)	0.008	mg/L	ND	ND	ND	ND	ND	Not Tested	0.2/0.4
Iron (Method 200.7)	0.009	mg/L	0.053	ND	0.211	ND	0.322	Not Tested	0.15/0.3
Lead (Method 200.7)	0.06	mg/L	ND	ND	ND	ND	ND	Not Tested	NS
Magnesium (Method 200.7)	0.04	mg/L	9.87	ND	11.5	ND	11.8	Not Tested	NS
Manganese (Method 200.7)	0.003	mg/L	ND	ND	0.009	ND	ND	Not Tested	0.001/0.002
Mercury (Method 245.1)	0.0002	mg/L	ND	ND	ND	ND	ND	Not Tested	0.1/0.3
Nickel (Method 200.7)	0.02	mg/L	0.028	ND	ND	ND	0.038	Not Tested	NS
Potassium (Method 200.7)	0.25	mg/L	0.839	ND	0.978	ND	23.1	Not Tested	NS
Sodium (Method 200.7)	0.05	mg/L	23.1	ND	21.8	ND	0.972	Not Tested	NS
Zinc (Method 200.7)	0.01	mg/L	0.059	ND	0.083	ND	0.121	Not Tested	0.3/1.0
TCU Volatile Organics (Method 826.08)									ug/L
Carbon Tetrachloride	1	ug/L	1.82	ND	ND	ND	1.42	4.82	6.11
Chloroform	1	ug/L	7.88	ND	7.15	ND	14.20	28.30	52.10
1,1-Dichloroethane	1	ug/L	ND	ND	0.51J	ND	ND	ND	0.53 J
1,1-Dichloroethene	1	ug/L	16.7	ND	14.6	ND	18.7	10.7	16.40
Cis 1,2-Dichloroethene	1	ug/L	54.8	ND	19.2	ND	59.2	41.1	38.80
Trans 1,2-Dichloroethene	1	ug/L	ND	ND	ND	ND	15.3	11.4	9.09
Methylene Chloride	5	ug/L	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	150/100	ug/L	29.7	ND	ND	ND	178	57.7	174.00
Tetrachloroethene	1	ug/L	18.3	ND	20.7	ND	28	12.8	21.60
Toluene	1	ug/L	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	1	ug/L	ND	ND	0.52 J	ND	ND	ND	0.65 J
1,1,2-Trichloroethane	1	ug/L	1.05	ND	ND	ND	2.19	0.97 J	1.32
PCU Semi-Volatile Organics (Method 827.0C)									ug/L
Bis(2-ethylhexyl)phthalate	10	ug/L	99.3	ND	57.8	ND	89	136	173.00
Di-n-butyl Phthalate	5	ug/L	ND	ND	ND	ND	ND	Not Tested	ND
Naphthalene	2	ug/L	ND	ND	ND	ND	ND	Not Tested	ND
Phenol	5	ug/L	ND	ND	ND	ND	ND	Not Tested	ND

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-03 was not in operation at the time of sample collection.

J = no standard listed in the Industrial Wastewater Discharge Agreement.

ND = not detected.

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.

ug/L = micrograms per liter.

DL = detection limit.

GPD = gallons per day.

A = Effluent meter zeroed out 03-Nov-99.

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

Table 3
Summary of Analytical Results for Total Effluent (through May 2002) of the Groundwater Recovery System

Sample Identification Number	EFF-2-11-02	EFF-4-10-02	EFF-4-10B-02	E-001	City of Memphis Industrial Wastewater
Laboratory ID No	020225-02	020478-08	020478-10	020517-01	
Total System Effluent Sample Description	QAM	QAM	QAM	QAM	
Date Effluent Sample Collected	11-Feb-02	10-Apr-02	10-Apr-02	7-May-02	
Instantaneous Flow Rate	48.9 GPM/11,772 GPD	54.2 GPM/13,014 GPD	54.2 GPM/13,014 GPD	59 GPM/14,900 GPD	
Totalized Flow	105,815,578 GALLONS	118,900,632 GALLONS	118,900,632 GALLONS	117,495,351 GALLONS	
LABORATORY ANALYSES	DL	Units			Monthly Ave./One Day/Max
pH (Method 150.1)	--	SU	Not Tested	Not Tested	5.5 to 10.0
Aluminum (Method 200.7)	0.08	mg/L	Not Tested	Not Tested	mg/L 1/2
Arsenic (Method 206.2)	0.003	mg/L	Not Tested	Not Tested	0.04/0.1
Barium (Method 200.7)	0.003	mg/L	0.104	Not Tested	NS
Cadmium (Method 200.7)	0.005	mg/L	Not Tested	Not Tested	0.01/0.02
Calcium (Method 200.7)	0.015	mg/L	23.5	Not Tested	NS
Chromium (Method 200.7)	0.009	mg/L	Not Tested	Not Tested	0.2/0.4
Copper (Method 200.7)	0.008	mg/L	0.022	Not Tested	0.2/0.4
Iron (Method 200.7)	0.009	mg/L	0.208	Not Tested	10/20
Lead (Method 200.7)	0.08	mg/L	Not Tested	Not Tested	0.15/0.3
Magnesium (Method 200.7)	0.04	mg/L	11.5	Not Tested	NS
Manganese (Method 200.7)	0.003	mg/L	0.025	Not Tested	NS
Mercury (Method 245.1)	0.0002	mg/L	Not Tested	Not Tested	0.001/0.002
Nickel (Method 200.7)	0.02	mg/L	0.003	Not Tested	0.1/0.3
Potassium (Method 200.7)	0.25	mg/L	0.829	Not Tested	NS
Sodium (Method 200.7)	0.05	mg/L	21.5	Not Tested	NS
Zinc (Method 200.7)	0.01	mg/L	0.282	Not Tested	0.3/1.0
TCL Volatile Organics (Method 8260B)					ug/L
Carbon Tetrachloride	1	ug/L	5.52	5.59	20/40
Chloroform	1	ug/L	52.00	51.00	20/40
1,1-Dichloroethane	1	ug/L	ND	ND	NS
1,1,1-Trichloroethane	1	ug/L	14.30	12.50	50/100
Cis 1,2-Dichloroethane	1	ug/L	55.80	50.80	50/100
Trans 1,2-Dichloroethane	1	ug/L	14.70	10.20	50/100
Methylene Chloride	5	ug/L	ND	ND	10/20
1,1,2,2-Tetrachloroethane	1/50/100	ug/L	124.00	73.20	500/1000
Tetrachloroethane	1	ug/L	17.00	15.40	60/120
Toluene	1	ug/L	ND	ND	20/40
1,1,1-Trichloroethane	1	ug/L	ND	ND	10/20
1,1,2-Trichloroethane	1	ug/L	1.73	1.29	50/100
Trichloroethene	1/50/100	ug/L	158.00	133.00	400/800
TCL Semi-Volatile Organics (Method 8270C)					ug/L
Bis(2-ethylhexyl)phthalate	10	ug/L	ND	Not Tested	10/20
D-n-butyl Phthalate	5	ug/L	ND	Not Tested	30/60
Naphthalene	2	ug/L	ND	Not Tested	10/20
Phenol	5	ug/L	ND	Not Tested	10/20

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
19-Mar-02*	228.32	218.89	220.00	215.68	160.83	157.10	174.66	219.31	157.99	213.46	236.61	213.96

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-65 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
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	NA	222 83	223 94	225 49	NA	NA	NA
16-May-00	226 24	227 19	226 87	NA	151 22	NA	222 82	223 71	225 24	NA	NA	NA
22-Aug-00	225 98	227 02	226 72	NA	NA	221 46	222 51	223 11	225 01	NA	NA	NA
7-Nov-00	225 75	226 60	226 52	NA	NA	222 45	223 03	223 58	225 74	NA	NA	NA
13-Feb-01	225 72	226 64	226 52	NA	153 11	222 68	223 73	224 25	225 14	217 66	222 50	224 75
11-Sep-01*	225 53	226 04	226 23	NA	153 11	221 78	222 45	223 10	223 51	217 10	221 42	224 86
19-Mar-02*	225 92	226 58	226 59	261 92	157 99	222 58	223 36	223 55	223 49	222 49	221 84	226 63

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-79 GWELEV	MW-80 GWELEV	MW-95 GWELEV	PZ-02 GWELEV
3-Feb-99	NA	NA	NA	NA
25-May-99	NA	NA	NA	NA
27-Aug-99	NA	NA	NA	NA
3-Nov-99	NA	NA	NA	NA
7-Feb-00	NA	NA	NA	NA
16-May-00	NA	NA	NA	NA
22-Aug-00	NA	NA	NA	NA
7-Nov-00	NA	NA	NA	NA
13-Feb-01	212.70	212.59	227.52	NA
11-Sep-01*	212.57	212.63	228.68	NA
19-Mar-02*	213.03	213.15	232.36	247.41

Notes:

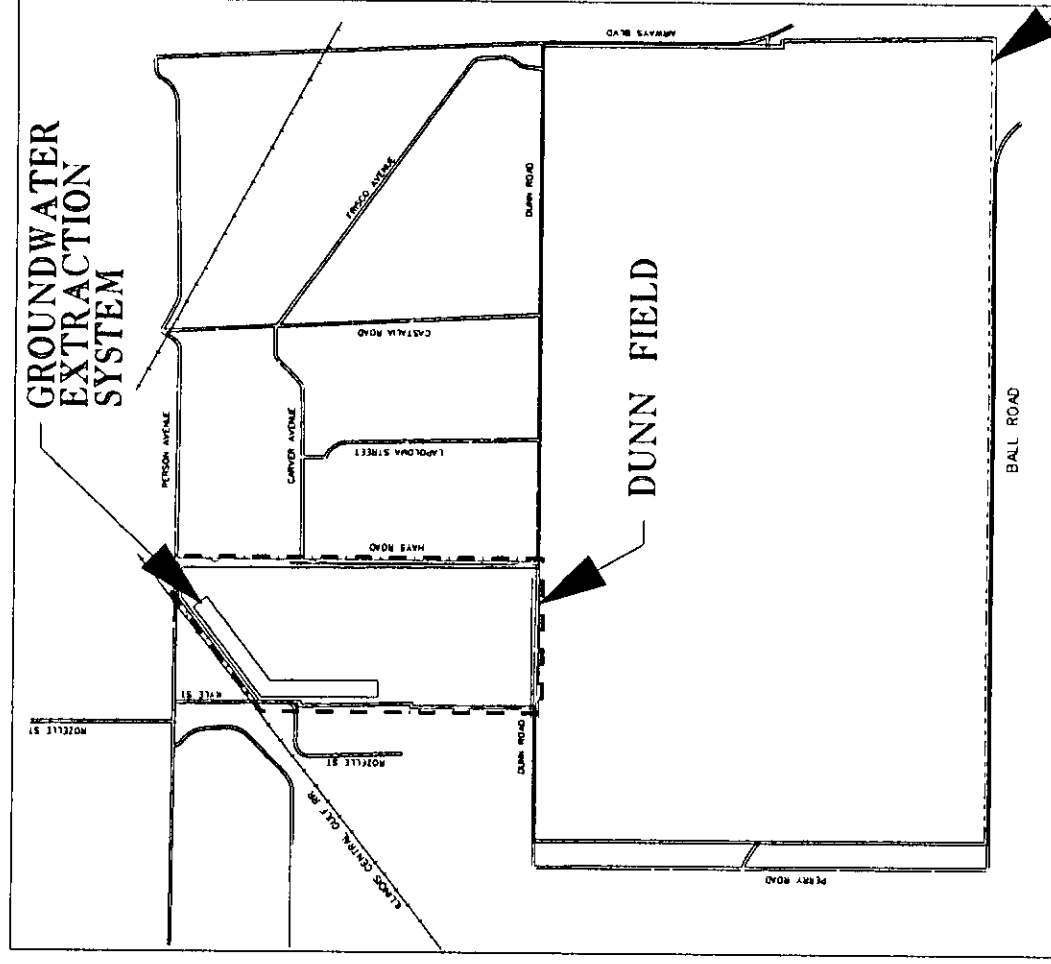
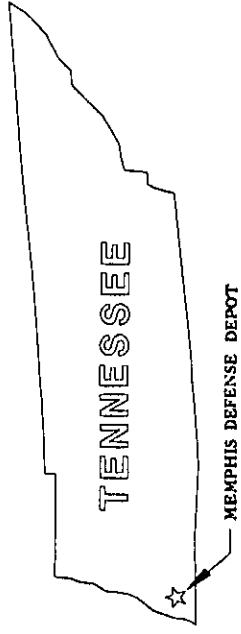
Groundwater elevations are in feet above mean sea level (msl)

Table contains data corresponding to quarterly sampled groundwater wells only.

NA = not available.

* - Diffusion Bags were installed on this date

FIGURES



MEMPHIS DEFENSE DEPOT

APPROXIMATE SCALE 1" = 400'

GROUNDWATER EXTRACTION SYSTEM
DUNN FIELD
MEMPHIS DEFENSE DEPOT

NO	DATE	DESCRIPTION	APPROVED
REVISIONS			
DATE			
DO NOT WRITE			
DRAWN			
CHECKED			
SCALE			
T. 702			
R. SMITH			
S. W. RESSE			
D. G. W. H.			
DO NOT WRITE			

SCALE	F. ZOG
DESIGNED	R. SMITH
DRAWN	S. M. JESSE
CHECKED	D. GUTMAN
APPROVED	V. JENSEN
DATE	OCT 16, 2000



A Jacobs Company

NASHVILLE TENNESSEE

REVENUE PROJECT NO C5X5101

MEMPHIS DEFENSE DEPOT,
DUNN FIELD, AND THE
GROUNDWATER EXTRACTION SYSTEM

FIG. 1

Sheet No. 38



SCALE	7' = 200'
DESIGNED BY	R. SMITH
DRAWN BY	S. M. JESSE
CHECKED BY	D. DUYAN
APPROVED BY	V. JAMSEN
DATE	APRIL 23, 2001

DUNN FIELD
GROUNDWATER EXTRACTION SYSTEM
MEMPHIS DEFENSE DEPOT, TENNESSEE

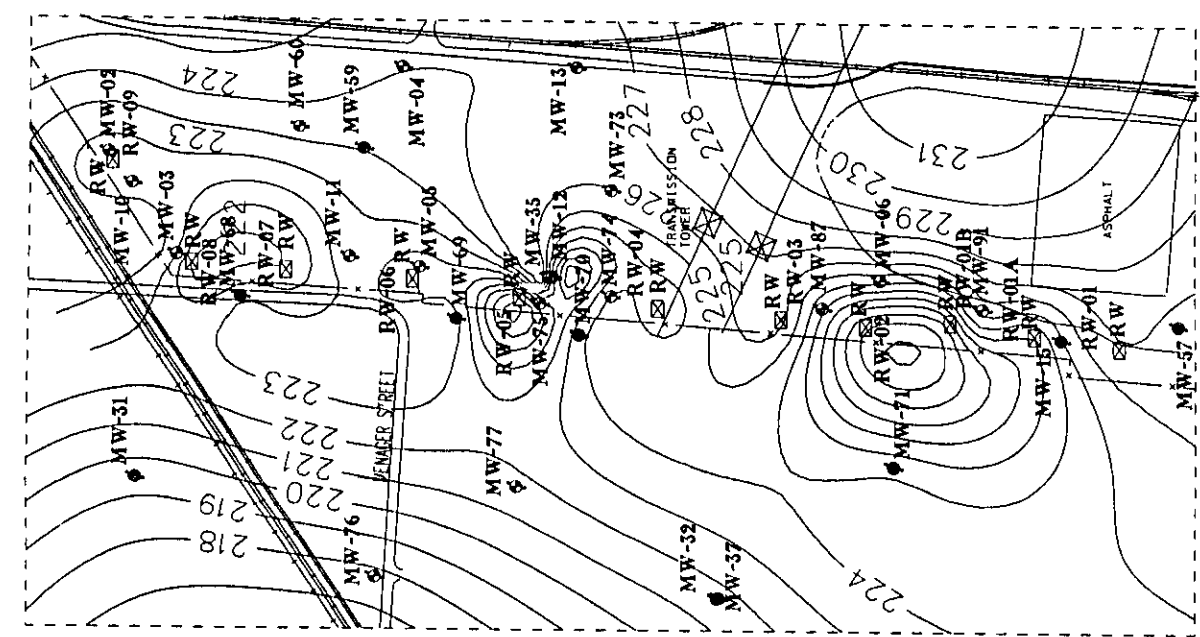
JE Sverdrup
A Jacobs Company
NASHVILLE, TENNESSEE
SVERDRUP PROJECT INCORPORATED

GROUNDWATER MONITORING AND
RECOVERY WELL LOCATIONS

FIG. 2

SECRET NO 2 OF 4

695 70



RECOVERY ZONE



LEGEND

- MONITORING WELL
- SELECTED SAMPLING MONITORING WELL
- RECOVERY WELL
- GROUNDWATER CONTOUR

JE JACOBS

DUNN FIELD
GROUNDWATER EXTRACTION SYSTEM
MEMPHIS DEFENSE DEPOT, TENNESSEE

POTENTIOMETRIC SURFACE MAP
Y4S2 (May 1, 2002)
OF SHALLOW AQUIFER

FIG. 3

SHEET No. 3 OF 4

REVISIONS		DATE	BY	APP'D
1	DESIGNED	12/14/2001	J. JACOBSON	
2	CHECKED		V. JENSEN	
3	APPROVED		V. JENSEN	

APPENDIX A
GROUNDWATER MEASUREMENT DATA

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Well ID	MW-13		MW-14		MW-15		MW-18		MW-19		MW-27		MW-28		MW-29		MW-30		MW-31		MW-32	
	TOC Elevation	300.01	302.22	295.12	308.04	290.57	303.86	284.79	273.22	275.14	280.37	285.36	Total Depth (ft)	83.00	60.00	81.00	140.00	96.40	54.00	59.00	78.00	67.80
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	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Kyle
DATE	DTW	GW	DTW	GW	DTW	GW	DTW	GW	DTW	GW	DTW	GW	DTW	GW	DTW	GW	DTW	GW	DTW	GW	DTW	GW
	(BTC)	Elev	(BTC)	Elev	(BTC)	Elev	(BTC)	Elev	(BTC)	Elev	(BTC)	Elev	(BTC)	Elev	(BTC)	Elev	(BTC)	Elev	(BTC)	Elev	(BTC)	Elev
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Well ID	MW-43		MW-34		MW-35		MW-36		MW-37		MW-38		MW-40		MW-41		MW-42		MW-43		MW-44		MW-45		MW-46	
	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	DTW (BTC)	GW Elev	DTW (BTC)	GW Elev
TOT Elevation	289.11		299.87		300.48		310.24		294.91		307.45		292.23		293.81		274.83		284.99		289.07		295.22		287.56	
Total Depth (ft)	80.00		156.80		80.00		209.00		182.80		155.00		95.00		67.00		59.00		173.00		74.00		68.00		72.00	
Location	Off-Site		Dunn Field		Dunn Field		Dunn Field		Kyle		Depot		Off-Site		Off-Site		Off-Site		Elementary School		Off-Site		Off-Site		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	DTW (BTC)	GW Elev	DTW (BTC)	GW Elev	DTW (BTC)	GW Elev
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Well ID	MW-49	MW-51	MW-53	MW-54	MW-55	MW-56	MW-57	MW-58	MW-59	MW-60	MW-61
TOC Elevation	310.49	275.23	306.38	295.35	292.08	293.60	290.77	290.51	300.13	298.86	294.04
Total Depth (ft)	80.00	65.00	82.50	94.50	74.00	69.50	70.50	87.50	85.00	84.00	
Location	Dunn Field	Off-Site	Off-Site	M.G.W. Facility	Depot	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field
DATE	DTW (BTC)	GW Elev	DTW (BTC)	GW Elev	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)
1-Jan-01											
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15-Jan-01											
16-Jan-01	78.83	231.68	74.18	232.20	71.27	228.48	83.88	228.60	75.04	225.09	225.27
17-Jan-01											
18-Jan-01											
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29-Jan-01											
30-Jan-01	80.15	230.34	74.28	232.10	71.46	225.80	84.03	228.74	75.35	224.78	224.81
31-Jan-01											
1-Feb-01											
2-Feb-01											
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18-Feb-01											
19-Feb-01											
20-Feb-01	79.99	230.50	74.28	232.10	71.46	225.80	84.13	228.84	75.27	224.88	89.84
21-Feb-01											
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1-Mar-01											
2-Mar-01	79.06	231.43	74.50	231.86	69.00	226.58	84.01	228.76	75.15	224.98	225.03
3-Mar-01	79.80	230.68	73.09	233.29	71.75	225.90	84.00	228.77	75.29	224.84	224.85
4-Mar-01	79.86	230.63	74.21	232.17	71.47	225.45	84.29	228.48	75.44	224.69	224.68
5-Mar-01	80.37	230.12	74.55	231.63	71.53	225.45	84.44	228.33	75.51	224.82	224.84
6-Mar-01	79.71	230.78	74.62	231.76	71.53	225.42	84.42	228.35	75.44	224.69	224.69
7-Mar-01	80.17	230.32	74.46	231.92	71.15	220.83	84.31	228.48	75.40	224.73	224.83
8-Mar-01	79.98	230.51	74.18	232.20	71.01	221.07	84.17	228.60	75.34	224.79	224.86
9-Mar-01											
10-Mar-01	80.01	230.48	74.24	232.14	71.43	225.80	84.21	228.56	75.59	224.54	224.66
11-Mar-01	80.00	230.49	74.23	232.15	71.41	220.87	84.20	228.57	75.57	224.56	224.70
12-Mar-01											
13-Mar-01											
14-Mar-01	80.01	230.48	74.24	232.14	71.43	225.59	84.21	228.56	75.58	224.54	224.67

[illegible]

[illegible]

Well ID	MW-48	MW-41	MW-43	MW-44	MW-55	MW-56	MW-57	MW-58	MW-59	MW-60	MW-61
TOC Elevation	310.49	275.23	306.38	295.35	292.06	293.60	290.77	290.51	300.13	298.88	294.04
Total Depth (ft)	90.00	65.00	82.50	94.50	74.00	89.50	70.50	87.50	81.00	84.00	
Location	Dunn Field	Off-Site	Off-Site	M. GW Facility	Depot	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field
DATE	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)	DTW (BTC)
10-Aug-01											
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30-Aug-01											
31-Aug-01	80.02	230.47	42.92	232.31	73.99	232.39	81.78	213.57	70.76	224.16	89.33
1-Sep-01											
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Well ID	MW-62	MW-63	MW-65	MW-67	MW-68	MW-69	MW-70	MW-71	MW-73	MW-74	MW-75	
TOC Elevation	293.85	308.06	283.22	278.21	291.89	307.02	304.98	284.4	300.05	303.08	303.61	
Total Depth (ft)	112.50	135.00	52.00	275.00	TBD	92.20	91.00	73.90				
Location	Dept	Dept	Claydale	Off-Site	Kyle St	Off-Site	Off-Site	Off-Site	Dum Field	Dum Field	Kyle St	
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
10-Aug-01												
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1-Sep-01			12.70	250.52		84.62	222.40	223.48	76.75	80.28	80.59	223.02
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Well ID	MW-76	MW-77	MW-78	MW-79	MW-80	MW-84	MW-87	MW-89	MW-90	MW-91	MW-95	PZ-02
TOC Elevation	302.71	304.42	275.00	265.03	273.81	311.15	294.83	303.96	304.19	291.89	259.43	264.39
Total Depth (ft)												54.50
Location	Kyle St.	Kyle St.	Kyle Street	Regan Street	Meadowhill & Rozelle	Dunn Field	Dunn Field	Depot	Depot	Dunn Field	Rozelle St.	Off Site
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
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Well ID	RW-3	RW-4	RW-5	RW-6	RW-7	RW-8	RW-9	RW-10	RW-11	RW-12
TOC Elevation	299.40	305.22	307.25	304.67	297.53	293.09	290.79			
Total Depth (ft)	78.50	85.50	92.50	87.50	80.00	81.00	75.50			
Location	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field
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)
1-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
2-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
3-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
4-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
5-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
6-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
7-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
8-Jan-01	0.3	0.0	1.8	0.0	0.0	0.0	0.0			
9-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
10-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
11-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
12-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
13-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
14-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
15-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
16-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
17-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
18-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
19-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
20-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
21-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
22-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
23-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
24-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
25-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
26-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
27-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
28-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
29-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
30-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
31-Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
1-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
2-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
3-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
4-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
5-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
6-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
7-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
8-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
9-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
10-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
11-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
12-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
13-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
14-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
15-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
16-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
17-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
18-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
19-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
20-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
21-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
22-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
23-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
24-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
25-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
26-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
27-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
28-Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
1-Mar-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
2-Mar-01	3.0	4.3	0.0	11.2	0.0	14.9	14.4	1.0	17	1.5
3-Mar-01	3.0	4.3	0.0	11.2	0.0	14.9	14.4	1.0	17	1.5
4-Mar-01	3.0	4.3	0.0	11.2	0.0	14.9	14.4	1.0	17	1.5
5-Mar-01	3.0	4.3	0.0	11.2	0.0	14.9	14.4	1.0	17	1.5
6-Mar-01	3.0	4.3	0.0	11.2	0.0	14.9	14.4	1.0	17	1.5
7-Mar-01	3.0	4.3	0.0	11.2	0.0	14.9	14.4	1.0	17	1.5
8-Mar-01	3.0	4.3	0.0	11.2	0.0	14.9	14.4	1.0	17	1.5
9-Mar-01	3.0	4.3	0.0	11.2	0.0	14.9	14.4	1.0	17	1.5
10-Mar-01	3.0	4.3	0.0	11.2	0.0	14.9	14.4	1.0	17	1.5
11-Mar-01	3.0	4.3	0.0	11.2	0.0	14.9	14.4	1.0	17	1.5
12-Mar-01	3.0	4.3	0.0	11.2	0.0	14.9	14.4	1.0	17	1.5
13-Mar-01	3.0	4.3	0.0	11.2	0.0	14.9	14.4	1.0	17	1.5
14-Mar-01	1.3	4.3	0.0	11.2	0.0	14.9	14.4	0.0	17	1.5

Well ID	RW-3	RW-4	RW-5	RW-6	RW-7	RW-8	RW-1	RW-1A	RW-1B	RW-2
TOC Elevation	298.40	305.22	307.25	304.67	297.53	293.09				
Total Depth (ft)	76.50	85.50	92.50	87.50	80.00	81.00				
Location	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field
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)
15-Mar-01	0.0	3.5	0.0	7.5	0.0	14.4	0.0	2.6	2.3	1.4
16-Mar-01	0.0	3.5	0.0	7.5	0.0	14.4	0.0	2.6	2.3	1.4
17-Mar-01	0.0	3.5	0.0	7.5	0.0	14.4	0.0	2.6	2.3	1.4
18-Mar-01	0.0	3.5	0.0	7.5	0.0	14.4	0.0	2.6	2.3	1.4
19-Mar-01	0.0	3.5	0.0	7.5	0.0	14.4	0.0	2.6	2.3	1.4
20-Mar-01	0.0	3.5	0.0	7.5	0.0	14.4	0.0	2.6	2.3	1.4
21-Mar-01	0.0	3.5	0.0	7.5	0.0	14.4	0.0	2.6	2.3	1.4
22-Mar-01	0.0	3.5	0.0	7.5	0.0	14.4	0.0	2.6	2.3	1.4
23-Mar-01	0.0	3.5	0.0	7.5	0.0	14.4	0.0	2.6	2.3	1.4
24-Mar-01	0.0	3.5	0.0	7.5	0.0	14.4	0.0	2.6	2.3	1.4
25-Mar-01	0.0	3.5	0.0	7.5	0.0	14.4	0.0	2.6	2.3	1.4
26-Mar-01	0.0	3.5	0.0	7.5	0.0	14.4	0.0	2.6	2.3	1.4
27-Mar-01	0.0	3.5	0.0	7.5	0.0	14.4	0.0	2.6	2.3	1.4
28-Mar-01	0.0	3.5	0.0	7.5	0.0	14.4	0.0	2.6	2.3	1.4
29-Mar-01	0.0	3.5	0.0	7.5	0.0	14.4	0.0	2.6	2.3	1.4
30-Mar-01	0.0	2.9	0.0	6.9	0.0	14.4	0.0	2.6	2.3	1.4
31-Mar-01	0.0	3.0	0.0	6.9	0.0	14.4	0.0	2.6	2.3	1.4
1-Apr-01	0.0	3.0	0.0	6.9	0.0	14.4	0.0	2.6	2.3	1.4
2-Apr-01	0.0	3.0	0.0	6.9	0.0	14.4	0.0	2.6	2.3	1.4
3-Apr-01	0.0	3.0	0.0	6.9	0.0	14.4	0.0	2.6	2.3	1.4
4-Apr-01	0.0	3.0	0.0	6.9	0.0	14.4	0.0	2.6	2.3	1.4
5-Apr-01	0.0	3.0	0.0	6.9	0.0	14.4	0.0	2.6	2.3	1.4
6-Apr-01	0.0	3.0	0.0	6.9	0.0	14.4	0.0	2.6	2.3	1.4
7-Apr-01	0.0	3.0	0.0	6.9	0.0	14.4	0.0	2.6	2.3	1.4
8-Apr-01	0.0	3.0	0.0	6.9	0.0	14.4	0.0	2.6	2.3	1.4
9-Apr-01	0.0	3.0	0.0	6.9	0.0	14.4	0.0	2.6	2.3	1.4
10-Apr-01	0.0	3.0	0.0	6.9	0.0	14.4	0.0	2.6	2.3	1.4
11-Apr-01	0.0	3.0	0.0	6.9	0.0	14.4	0.0	2.6	2.3	1.4
12-Apr-01	0.0	3.0	0.0	6.9	0.0	14.4	0.0	2.6	2.3	1.4
13-Apr-01	0.0	3.0	0.0	6.9	0.0	14.4	0.0	2.6	2.3	1.4
14-Apr-01	0.0	3.0	0.0	6.9	0.0	14.4	0.0	2.6	2.3	1.4
15-Apr-01	0.0	3.0	0.0	6.9	0.0	14.4	0.0	2.6	2.3	1.4
16-Apr-01	0.0	3.0	0.0	6.9	0.0	14.4	0.0	2.6	2.3	1.4
17-Apr-01	0.0	3.0	0.0	6.9	0.0	14.4	0.0	2.6	2.3	1.4
18-Apr-01	0.0	2.4	0.0	6.6	0.0	14.4	0.0	2.6	2.3	1.4
19-Apr-01	0.0	2.4	0.0	6.6	0.0	14.4	0.0	2.6	2.3	1.4
20-Apr-01	0.0	2.4	0.0	6.6	0.0	14.4	0.0	2.6	2.3	1.4
21-Apr-01	0.0	2.4	0.0	6.6	0.0	14.4	0.0	2.6	2.3	1.4
22-Apr-01	0.0	2.4	0.0	6.6	0.0	14.4	0.0	2.6	2.3	1.4
23-Apr-01	0.0	2.4	0.0	6.6	0.0	14.4	0.0	2.6	2.3	1.4
24-Apr-01	0.0	2.4	0.0	6.6	0.0	14.4	0.0	2.6	2.3	1.4
25-Apr-01	0.0	2.4	0.0	6.6	0.0	14.4	0.0	2.6	2.3	1.4
26-Apr-01	0.0	2.4	0.0	6.6	0.0	14.4	0.0	2.6	2.3	1.4
27-Apr-01	0.0	2.4	0.0	6.6	0.0	14.4	0.0	2.6	2.3	1.4
28-Apr-01	0.0	2.4	0.0	6.6	0.0	14.4	0.0	2.6	2.3	1.4
29-Apr-01	0.0	2.4	0.0	6.6	0.0	14.4	0.0	2.6	2.3	1.4
30-Apr-01	0.0	2.4	0.0	6.6	0.0	14.4	0.0	2.6	2.3	1.4
1-May-01	0.0	2.5	0.0	7.5	0.0	14.4	0.0	3.5	0.0	2.1
2-May-01	0.0	2.5	0.0	7.5	0.0	14.4	0.0	3.5	0.0	2.1
3-May-01	0.0	2.5	0.0	7.5	0.0	14.4	0.0	3.5	0.0	2.1
4-May-01	0.0	2.5	0.0	7.5	0.0	14.4	0.0	3.5	0.0	2.1
5-May-01	0.0	2.5	0.0	7.5	0.0	14.4	0.0	3.5	0.0	2.1
6-May-01	0.0	2.5	0.0	7.5	0.0	14.4	0.0	3.5	0.0	2.1
7-May-01	0.0	2.5	0.0	7.5	0.0	14.4	0.0	3.5	0.0	2.1
8-May-01	0.0	2.5	0.0	7.5	0.0	14.4	0.0	3.5	0.0	2.1
9-May-01	0.0	2.2	0.0	6.9	0.0	14.4	0.0	3.3	0.0	2.0
10-May-01	0.0	2.2	0.0	6.9	0.0	14.4	0.0	3.3	0.0	2.0
11-May-01	0.0	2.2	0.0	6.9	0.0	14.4	0.0	3.3	0.0	2.0
12-May-01	0.0	2.2	0.0	6.9	0.0	14.4	0.0	3.3	0.0	2.0
13-May-01	0.0	2.2	0.0	6.9	0.0	14.4	0.0	3.3	0.0	2.0
14-May-01	0.0	2.2	0.0	6.9	0.0	14.4	0.0	3.3	0.0	2.0
15-May-01	0.0	2.3	0.0	6.3	0.0	14.4	0.0	3.2	0.0	2.0
16-May-01	0.0	2.3	0.0	6.3	0.0	14.4	0.0	3.2	0.0	2.0
17-May-01	0.0	2.3	0.0	6.3	0.0	14.4	0.0	3.2	0.0	2.0
18-May-01	0.0	2.3	0.0	6.3	0.0	14.4	0.0	3.2	0.0	2.0
19-May-01	0.0	2.3	0.0	6.3	0.0	14.4	0.0	3.2	0.0	2.0
20-May-01	0.0	2.3	0.0	6.3	0.0	14.4	0.0	3.2	0.0	2.0
21-May-01	0.0	2.3	0.0	6.3	0.0	14.4	0.0	3.2	0.0	2.0
22-May-01	0.0	2.3	0.0	6.3	0.0	14.4	0.0	3.2	0.0	2.0
23-May-01	0.0	2.3	0.0	6.3	0.0	14.4	0.0	3.2	0.0	2.0
24-May-01	0.0	2.1	0.0	5.8	0.0	13.7	0.0	2.9	0.0	0.8
25-May-01	0.0	2.6	0.0	6.9	5.5	3.6	0.0	3.2	0.0	0.0
26-May-01	0.0	2.6	0.0	6.9	5.5	3.6	0.0	3.2	0.0	0.0
27-May-01	0.0	2.6	0.0	6.9	5.5	3.6	0.0	3.2	0.0	0.0

Well ID	RW-3	RW-4	RW-5	RW-6	RW-7	RW-8	RW-9	RW-1A	RW-1B	RW-2
TOC Elevation	299.40	305.22	307.25	304.67	297.53	293.06	290.76			
Total Depth (ft)	78.50	85.50	92.50	87.50	80.00	81.00	73.50			
Location	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field
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)
28-May-01	00	26	29	69	55	38	145	00	00	00
29-May-01	00	26	29	69	55	38	145	00	00	00
30-May-01	00	26	29	69	55	38	145	00	00	00
31-May-01	00	26	29	69	55	38	145	00	00	00
1-Jun-01	00	20	29	68	51	144	143	00	00	00
2-Jun-01	00	20	29	68	51	144	143	00	00	00
3-Jun-01	00	20	29	68	51	144	143	00	00	00
4-Jun-01	00	20	29	68	51	144	143	00	00	00
5-Jun-01	00	20	29	68	51	144	143	00	00	00
6-Jun-01	00	20	29	68	51	144	143	00	00	00
7-Jun-01	00	20	29	68	51	144	143	00	00	00
8-Jun-01	00	20	29	68	51	144	143	00	00	00
9-Jun-01	15	23	31	75	48	149	143	05	07	11
10-Jun-01	3.2	23	31	75	48	149	143	10	37	16
11-Jun-01	3.2	23	31	75	48	149	143	10	37	16
12-Jun-01	3.2	23	31	75	48	149	143	10	37	16
13-Jun-01	3.2	23	31	75	48	149	143	10	37	16
14-Jun-01	3.2	23	31	75	48	149	143	10	37	16
15-Jun-01	3.00	150	310	670	350	1480	1420	050	350	200
16-Jun-01	3.00	150	310	670	350	1480	1420	050	350	200
17-Jun-01	3.00	150	310	670	350	1480	1420	050	350	200
18-Jun-01	3.00	150	310	670	350	1480	1420	050	350	200
19-Jun-01	3.00	150	310	670	350	1480	1420	050	350	200
20-Jun-01	3.00	150	310	670	350	1480	1420	050	350	200
21-Jun-01	3.00	150	310	670	350	1480	1420	050	350	200
22-Jun-01	3.00	150	310	670	350	1480	1420	050	350	200
23-Jun-01	3.00	150	310	670	350	1480	1420	050	350	200
24-Jun-01	3.00	150	310	670	350	1480	1420	050	350	200
25-Jun-01	3.00	150	310	670	350	1480	1420	050	350	200
26-Jun-01	3.00	150	310	670	350	1480	1420	050	350	200
27-Jun-01	3.00	150	310	670	350	1480	1420	050	350	200
28-Jun-01	3.00	150	310	670	350	1480	1420	050	350	200
29-Jun-01	1.4	31	31	74	34	149	141	05	58	21
30-Jun-01	2.1	14	31	74	34	149	141	05	58	21
1-Jul-01	2.1	14	31	74	34	149	141	03	58	21
2-Jul-01	2.1	14	31	74	34	149	141	03	58	21
3-Jul-01	2.1	14	31	74	34	149	141	03	58	21
4-Jul-01	2.1	14	31	74	34	149	141	03	58	21
5-Jul-01	2.1	14	31	74	34	149	141	03	58	21
6-Jul-01	2.1	14	31	74	34	149	141	03	58	21
7-Jul-01	2.1	14	31	74	34	149	141	03	58	21
8-Jul-01	2.1	14	31	74	34	149	141	03	58	21
9-Jul-01	2.1	14	31	74	34	149	141	03	58	21
10-Jul-01	2.1	14	31	74	34	149	141	03	58	21
11-Jul-01	2.1	14	31	74	34	149	141	03	58	21
12-Jul-01	2.1	14	31	74	34	149	141	03	58	21
13-Jul-01	2.1	14	31	74	34	149	141	03	58	21
14-Jul-01	2.1	14	31	74	34	149	141	03	58	21
15-Jul-01	2.1	14	31	74	34	149	141	03	58	21
16-Jul-01	2.1	14	31	74	34	149	141	03	58	21
17-Jul-01	2.1	14	31	74	34	149	141	03	58	21
18-Jul-01	1.8	15	31	72	32	149	138	03	58	21
19-Jul-01	1.8	15	31	72	32	149	138	03	58	21
20-Jul-01	1.8	15	31	72	32	149	138	03	58	21
21-Jul-01	1.8	15	31	72	32	149	138	03	58	21
22-Jul-01	1.8	15	31	72	32	149	138	03	58	21
23-Jul-01	1.8	15	31	72	32	149	138	03	58	21
24-Jul-01	1.8	15	31	72	32	149	138	03	58	21
25-Jul-01	1.8	15	31	72	32	149	138	03	58	21
26-Jul-01	1.8	15	31	72	32	149	138	03	58	21
27-Jul-01	1.8	15	31	72	32	149	138	03	58	21
28-Jul-01	1.8	15	31	72	32	149	138	03	58	21
29-Jul-01	1.8	15	31	72	32	149	138	03	58	21
30-Jul-01	1.8	15	31	72	32	149	138	03	58	21
31-Jul-01	1.5	08	31	74	29	148	144	05	26	13
1-Aug-01	1.5	08	31	74	29	148	144	05	26	13
2-Aug-01	1.5	08	31	74	29	148	144	05	26	13
3-Aug-01	1.5	08	31	74	29	148	144	05	26	13
4-Aug-01	1.5	08	31	74	29	148	144	05	26	13
5-Aug-01	1.5	08	31	74	29	148	144	05	26	13
6-Aug-01	1.5	08	31	74	29	148	144	05	26	13
7-Aug-01	1.5	08	31	74	29	148	144	05	26	13
8-Aug-01	1.5	08	31	74	29	148	144	05	26	13
9-Aug-01	1.5	08	31	74	29	148	144	05	26	13

Well ID	RW-3		RW-4		RW-5		RW-6		RW-7		RW-8		RW-9		RW-1A		RW-1B		RW-2	
	TOC Elevation Total Depth (ft)	Dunn Field	Flow Rate (gpm)	Dunn Field	Flow Rate (gpm)	Dunn Field	Flow Rate (gpm)	Dunn Field	Flow Rate (gpm)	Dunn Field	Flow Rate (gpm)	Dunn Field	Flow Rate (gpm)	Dunn Field	Flow Rate (gpm)	Dunn Field	Flow Rate (gpm)	Dunn Field	Flow Rate (gpm)	Dunn Field
Location	76.50	305.22 65.50	0.1	3.1	6.4	2.6	14.9	14.0	0.5	2.6	14.9	14.0	0.5	2.6	14.9	14.0	0.5	2.6	14.9	14.0
DATE																				
23-Oct-01			0.8	0.1	3.1	2.6	14.9	14.0	0.5	2.6	14.9	14.0	0.5	2.6	14.9	14.0	0.5	2.6	14.9	14.0
24-Oct-01			0.8	0.1	3.1	2.6	14.9	14.0	0.5	2.6	14.9	14.0	0.5	2.6	14.9	14.0	0.5	2.6	14.9	14.0
25-Oct-01			0.8	0.1	3.1	2.6	14.9	14.0	0.5	2.6	14.9	14.0	0.5	2.6	14.9	14.0	0.5	2.6	14.9	14.0
26-Oct-01			0.8	0.1	3.1	2.6	14.9	14.0	0.5	2.6	14.9	14.0	0.5	2.6	14.9	14.0	0.5	2.6	14.9	14.0
27-Oct-01			0.8	0.1	3.1	2.6	14.9	14.0	0.5	2.6	14.9	14.0	0.5	2.6	14.9	14.0	0.5	2.6	14.9	14.0
28-Oct-01			0.8	0.1	3.1	2.6	14.9	14.0	0.5	2.6	14.9	14.0	0.5	2.6	14.9	14.0	0.5	2.6	14.9	14.0
29-Oct-01			0.8	0.1	3.1	2.6	14.9	14.0	0.5	2.6	14.9	14.0	0.5	2.6	14.9	14.0	0.5	2.6	14.9	14.0
30-Oct-01			0.8	0.1	3.1	2.6	14.9	14.0	0.5	2.6	14.9	14.0	0.5	2.6	14.9	14.0	0.5	2.6	14.9	14.0
31-Oct-01			0.8	0.1	3.1	2.6	14.9	14.0	0.5	2.6	14.9	14.0	0.5	2.6	14.9	14.0	0.5	2.6	14.9	14.0
1-Nov-01			0.8	0.1	3.1	2.6	14.9	14.0	0.5	2.6	14.9	14.0	0.5	2.6	14.9	14.0	0.5	2.6	14.9	14.0
2-Nov-01			0.8	0.2	3.1	2.6	14.9	14.0	0.3	2.6	14.9	14.0	0.3	2.6	14.9	14.0	0.3	2.6	14.9	14.0
3-Nov-01			0.8	0.2	3.1	2.6	14.9	14.0	0.3	2.6	14.9	14.0	0.3	2.6	14.9	14.0	0.3	2.6	14.9	14.0
4-Nov-01			0.8	0.2	3.1	2.6	14.9	14.0	0.3	2.6	14.9	14.0	0.3	2.6	14.9	14.0	0.3	2.6	14.9	14.0
5-Nov-01			0.8	0.2	3.1	2.6	14.9	14.0	0.3	2.6	14.9	14.0	0.3	2.6	14.9	14.0	0.3	2.6	14.9	14.0
6-Nov-01			0.8	0.2	3.1	2.6	14.9	14.0	0.3	2.6	14.9	14.0	0.3	2.6	14.9	14.0	0.3	2.6	14.9	14.0
7-Nov-01			0.8	0.2	3.1	2.6	14.9	14.0	0.3	2.6	14.9	14.0	0.3	2.6	14.9	14.0	0.3	2.6	14.9	14.0
8-Nov-01			0.8	0.2	3.1	2.6	14.9	14.0	0.3	2.6	14.9	14.0	0.3	2.6	14.9	14.0	0.3	2.6	14.9	14.0
9-Nov-01			0.8	0.2	3.1	2.6	14.9	14.0	0.3	2.6	14.9	14.0	0.3	2.6	14.9	14.0	0.3	2.6	14.9	14.0
10-Nov-01			0.8	0.2	3.1	2.6	14.9	14.0	0.3	2.6	14.9	14.0	0.3	2.6	14.9	14.0	0.3	2.6	14.9	14.0
11-Nov-01			0.8	0.2	3.1	2.6	14.9	14.0	0.3	2.6	14.9	14.0	0.3	2.6	14.9	14.0	0.3	2.6	14.9	14.0
12-Nov-01			0.8	0.2	3.1	2.6	14.9	14.0	0.3	2.6	14.9	14.0	0.3	2.6	14.9	14.0	0.3	2.6	14.9	14.0
13-Nov-01			0.8	0.4	3.1	2.6	14.9	14.0	0.3	2.6	14.9	14.0	0.3	2.6	14.9	14.0	0.3	2.6	14.9	14.0
14-Nov-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
15-Nov-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
16-Nov-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
17-Nov-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
18-Nov-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
19-Nov-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
20-Nov-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
21-Nov-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
22-Nov-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
23-Nov-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
24-Nov-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
25-Nov-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
26-Nov-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
27-Nov-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
28-Nov-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
29-Nov-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
30-Nov-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
1-Dec-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
2-Dec-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
3-Dec-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
4-Dec-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
5-Dec-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
6-Dec-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
7-Dec-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
8-Dec-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
9-Dec-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
10-Dec-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
11-Dec-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
12-Dec-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
13-Dec-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
14-Dec-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
15-Dec-01			0.8	0.4	3.1	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3	0.3	2.6	14.9	14.3
16-Dec-01			1.3	0.5	3.1	3.4	14.9	14.5	1.2	2.5	14.9	14.5	1.2	2.5	14.9	14.5	1.2	2.5	14.9	14.5
17-Dec-01			1.3	0.5	3.1	3.4	14.9	14.5	1.2	2.5	14.9	14.5	1.2	2.5	14.9	14.5	1.2	2.5	14.9	14.5
18-Dec-01			1.3	0.5	3.1	3.4	14.9	14.5	1.2	2.5	14.9	14.5	1.2	2.5	14.9	14.5	1.2	2.5	14.9	14.5
19-Dec-01			1.3	0.5	3.1	3.4	14.9	14.5	1.2	2.5	14.9	14.5	1.2	2.5	14.9	14.5	1.2	2.5	14.9	14.5
20-Dec-01			1.3	0.5	3.1	3.4	14.9	14.5	1.2	2.5	14.9	14.5	1.2	2.5	14.9	14.5	1.2	2.5	14.9	14.5
21-Dec-01			1.3	0.5	3.1	3.4	14.9	14.5	1.2	2.5	14.9	14.5	1.2	2.5	14.9	14.5	1.2	2.5	14.9	14.5
22-Dec-01			1.3	0.5	3.1	3.4	14.9	14.5	1.2	2.5	14.9	14.5	1.2	2.5	14.9	14.5	1.2	2.5	14.9	14.5
23-Dec-01			1.3	0.5	3.1	3.4	14.9	14.5	1.2	2.5	14.9	14.5	1.2	2.5	14.9	14.5	1.2	2.5	14.9	14.5
24-Dec-01			1.3	0.5	3.1	3.4	14.9	14.5	1.2	2.5	14.9	14.5	1.2	2.5	14.9	14.5	1.2	2.5	14.9	14.5
25-Dec-01			1.3	0.5	3.1	3.4	14.9	14.5	1.2	2.5	14.9	14.5	1.2	2.5	14.9	14.5	1.2	2.5	14.9	14.5
26-Dec-01			1.3	0.5	3.1	3.4	14.9	14.5	1.2	2.5	14.9	14.5	1.2	2.5	14.9	14.5	1.2	2.5	14.9	14.5
27-Dec-01			1.3	0.5	3.1	3.4	14.9	14.5	1.2	2.5	14.9	14.5	1.2	2.5	14.9	14.5	1.2	2.5	14.9	14.5
28-Dec-01			1.3	0.5	3.1	3.4	14.9	14.5	1.2	2.5	14.9	14.5	1.2	2.5	14.9	14.5	1.2	2.5	14.9	14.5
29-Dec-01			1.3	0.5	3.1	3.4	14.9	14.5												

Well ID TOC Elevation Total Depth (ft) Location	Average System Effluent				Rainfall 24-hr Period (inches)
	Flow Rate (gpm)	Totalized Flow* (gall)	Adjusted Totalized Flow (gallons)	Time	
DATE					
1-Jan-01	0.0	30325733.82	83 877 244	12:00	TR
2-Jan-01	0.0	30,325,733	83 877 244	12:00	0.00
3-Jan-01	0.0	30,325,733	83 877 244	12:00	0.00
4-Jan-01	0.0	30,325,733	83 877 244	12:00	0.00
5-Jan-01	0.6	30,326,573	83 876 084	12:00	0.00
6-Jan-01	9.3	30,340,013	83 891 524	12:00	0.00
7-Jan-01	28.0	30,340,333	83 893 844	12:00	0.00
8-Jan-01	29.0	30,422,133	83 937 845	12:00	0.00
9-Jan-01	31.1	30,466,875	84 018 387	12:00	0.00
10-Jan-01	30.2	30,510,408	84 061 917	12:00	0.00
11-Jan-01	30.8	30,553,542	84 104 853	12:00	0.00
12-Jan-01	30.2	30,596,841	84 148 954	12:00	0.39
13-Jan-01	30.6	30,639,732	84 191 243	12:00	TR
14-Jan-01	32.8	30,686,148	84 237 659	12:00	0.14
15-Jan-01	30.2	30,728,908	84 281 108	12:00	0.15
16-Jan-01	29.7	30,772,426	84 323 938	12:00	0.00
17-Jan-01	31.1	30,817,159	84 368 871	12:00	TR
18-Jan-01	29.8	30,860,000	84 411 572	12:00	0.48
19-Jan-01	30.6	30,904,136	84 455 845	12:00	0.92
20-Jan-01	30.6	30,948,202	84 499 714	12:00	0.22
21-Jan-01	29.7	31,093,151	84 542 513	12:00	TR
22-Jan-01	30.2	31,078,182	84 587 227	12:00	0.00
23-Jan-01	29.7	31,127,112	84,630,694	12:00	0.00
24-Jan-01	30.1	31,165,001	84,673,523	12:00	0.00
25-Jan-01	28.6	31,206,000	84 718 913	12:00	0.00
26-Jan-01	30.6	31,250,124	84 759 592	12:00	0.98
27-Jan-01	30.6	31,294,707	84 802 255	12:00	0.00
28-Jan-01	30.1	31,338,120	84 846 315	12:00	0.00
29-Jan-01	30.1	31,382,025	84 890 245	12:00	0.00
30-Jan-01	32.4	31,425,320	84 933 537	12:00	0.99
31-Jan-01	34.9	31,471,863	85 027 832	12:00	0.00
1-Feb-01	34.9	31,522,119	85 073 474	12:00	0.00
2-Feb-01	34.9	31,572,715	85 123 750	12:00	0.00
3-Feb-01	34.9	31,622,731	85 174 242	12:00	0.00
4-Feb-01	34.9	31,672,393	85 224 486	12:00	TR
5-Feb-01	34.9	31,723,243	85 274 754	12:00	0.00
6-Feb-01	34.9	31,773,499	85 323 010	12:00	0.00
7-Feb-01	34.9	31,823,735	85 373 286	12:00	0.00
8-Feb-01	34.9	31,874,011	85 423 522	12:00	0.00
9-Feb-01	34.9	31,924,297	85 473 776	12:00	0.44
10-Feb-01	34.9	31,974,523	85 528 034	12:00	0.00
11-Feb-01	34.9	32,024,779	85 578 280	12:00	0.13
12-Feb-01	34.9	32,075,035	85 628 546	12:00	0.47
13-Feb-01	34.9	32,125,291	85 678 802	12:00	1.44
14-Feb-01	34.9	32,175,547	85 729 058	12:00	1.06
15-Feb-01	34.9	32,225,803	85 777 314	12:00	0.23
16-Feb-01	34.9	32,276,059	85 827 570	12:00	1.60
17-Feb-01	34.9	32,326,315	85 877 828	12:00	0.00
18-Feb-01	34.9	32,376,571	85 928 082	12:00	0.00
19-Feb-01	34.9	32,426,827	85 978 338	12:00	0.00
20-Feb-01	34.9	32,477,083	86 028 594	12:00	TR
21-Feb-01	34.9	32,527,339	86 078 850	12:00	0.08
22-Feb-01	34.9	32,577,595	86 129 106	12:00	TR
23-Feb-01	34.9	32,627,851	86 179 362	12:00	TR
24-Feb-01	34.9	32,678,107	86 229 618	12:00	1.25
25-Feb-01	34.9	32,728,363	86 279 874	12:00	0.00
26-Feb-01	34.9	32,828,875	86 330 130	12:00	0.16
27-Feb-01	34.9	32,878,131	86 430 842	12:00	TR
28-Feb-01	34.9	32,956,603	86 508 114	12:00	0.00
1-Mar-01	53.8	33,034,075	86 585 586	12:00	0.68
2-Mar-01	53.8	33,111,547	86 663 058	12:00	0.80
3-Mar-01	53.8	33,169,019	86 740 530	12:00	0.18
4-Mar-01	53.8	33,266,491	86 818 002	12:00	0.00
5-Mar-01	53.8	33,343,963	86 895 474	12:00	0.00
6-Mar-01	53.8	33,421,435	86 972 946	12:00	0.00
7-Mar-01	53.8	33,498,907	87 050 418	12:00	0.00
8-Mar-01	53.8	33,576,379	87 127 890	12:00	0.00
9-Mar-01	53.8	33,653,851	87 205 362	12:00	0.00
10-Mar-01	53.8	33,731,323	87 282 834	12:00	TR
11-Mar-01	53.8	33,808,795	87 360 306	12:00	0.77
12-Mar-01	53.8	33,886,267	87 437 778	12:00	TR
14-Mar-01	51.1	33,958,779	87 511 290	12:00	0.68

Well ID TOC Elevation Total Depth (ft) Location	Average System Effluent				Rainfall 24-hr Period (inches)
	Flow Rate (gpm)	Totalized Flow* (gal)	Adjusted Totalized Flow (gallons)	Time	
DATE					
15-Mar-01	46.7	34,026,991	87,578,502	12:00	0.68
16-Mar-01	46.7	34,094,203	87,645,714	12:00	0.00
17-Mar-01	46.7	34,161,415	87,712,926	12:00	0.00
18-Mar-01	46.7	34,228,627	87,780,138	12:00	0.00
19-Mar-01	46.7	34,295,839	87,847,350	12:00	TR
20-Mar-01	46.7	34,363,051	87,914,562	12:00	TR
21-Mar-01	46.7	34,430,263	87,981,774	12:00	0.00
22-Mar-01	46.7	34,497,475	88,048,986	12:00	0.00
23-Mar-01	46.7	34,564,687	88,116,198	12:00	0.00
24-Mar-01	46.7	34,631,898	88,183,410	12:00	TR
25-Mar-01	46.7	34,699,111	88,250,622	12:00	0.00
26-Mar-01	46.7	34,766,323	88,317,834	12:00	0.00
27-Mar-01	46.7	34,833,535	88,385,046	12:00	0.00
28-Mar-01	46.7	34,900,747	88,452,258	12:00	0.16
29-Mar-01	46.7	34,967,959	88,519,470	12:00	0.30
30-Mar-01	45.6	35,035,191	88,586,682	12:00	0.33
31-Mar-01	45.6	35,099,224	88,653,894	12:00	0.24
1-Apr-01	44.2	35,162,872	88,721,106	12:00	0.00
2-Apr-01	44.2	35,226,520	88,788,318	12:00	TR
3-Apr-01	44.2	35,290,168	88,855,530	12:00	0.03
4-Apr-01	44.2	35,353,816	88,922,742	12:00	TR
5-Apr-01	44.2	35,417,464	88,990,000	12:00	0.01
6-Apr-01	44.2	35,481,112	89,057,258	12:00	0.00
7-Apr-01	44.2	35,544,760	89,124,516	12:00	0.00
8-Apr-01	44.2	35,608,408	89,191,774	12:00	0.00
9-Apr-01	44.2	35,672,056	89,259,032	12:00	0.00
10-Apr-01	44.2	35,735,704	89,326,290	12:00	0.00
11-Apr-01	44.2	35,799,352	89,393,548	12:00	0.12
12-Apr-01	44.2	35,863,000	89,460,806	12:00	1.18
13-Apr-01	44.2	35,926,648	89,528,064	12:00	0.13
14-Apr-01	44.2	35,990,296	89,595,322	12:00	0.15
15-Apr-01	44.2	36,053,944	89,662,580	12:00	0.27
16-Apr-01	44.2	36,117,592	89,729,838	12:00	0.00
17-Apr-01	44.2	36,181,240	89,797,096	12:00	0.00
18-Apr-01	44.6	36,244,888	89,864,354	12:00	0.00
19-Apr-01	44.6	36,308,536	89,931,612	12:00	0.00
20-Apr-01	44.6	36,372,184	89,998,870	12:00	0.00
21-Apr-01	44.6	36,435,832	90,066,128	12:00	0.00
22-Apr-01	44.6	36,500,000	90,133,386	12:00	0.00
23-Apr-01	44.6	36,563,648	90,200,644	12:00	0.85
24-Apr-01	44.6	36,627,296	90,267,902	12:00	0.00
25-Apr-01	44.6	36,690,944	90,335,160	12:00	0.00
26-Apr-01	44.6	36,754,592	90,402,418	12:00	0.00
27-Apr-01	44.6	36,818,240	90,469,676	12:00	0.00
28-Apr-01	44.6	36,881,888	90,536,934	12:00	0.00
29-Apr-01	44.6	36,945,536	90,604,192	12:00	0.00
30-Apr-01	43.0	37,009,184	90,671,450	12:00	TR
1-May-01	44.4	37,072,832	90,738,708	12:00	0.00
2-May-01	44.4	37,136,480	90,805,966	12:00	0.00
3-May-01	44.4	37,200,128	90,873,224	12:00	0.00
4-May-01	44.4	37,263,776	90,940,482	12:00	0.00
5-May-01	44.4	37,327,424	91,007,740	12:00	0.00
6-May-01	44.4	37,391,072	91,074,998	12:00	0.01
7-May-01	44.4	37,454,720	91,142,256	12:00	0.61
8-May-01	44.4	37,518,368	91,209,514	12:00	0.00
9-May-01	43.2	37,582,016	91,276,772	12:00	0.00
10-May-01	43.2	37,645,664	91,344,030	12:00	0.00
11-May-01	43.2	37,709,312	91,411,288	12:00	0.25
12-May-01	43.2	37,772,960	91,478,546	12:00	TR
13-May-01	43.2	37,836,608	91,545,804	12:00	0.00
14-May-01	43.2	37,899,256	91,613,062	12:00	0.00
15-May-01	43.2	37,962,904	91,680,320	12:00	0.00
16-May-01	42.6	38,026,552	91,747,578	12:00	0.00
17-May-01	42.6	38,090,200	91,814,836	12:00	TR
18-May-01	42.6	38,153,848	91,882,094	12:00	0.00
19-May-01	42.6	38,217,496	91,949,352	12:00	0.00
20-May-01	42.6	38,281,144	92,016,610	12:00	2.01
21-May-01	42.6	38,344,792	92,083,868	12:00	0.00
22-May-01	42.6	38,408,440	92,151,126	12:00	TR
23-May-01	38.1	38,472,088	92,218,384	12:00	0.02
24-May-01	39.4	38,535,736	92,285,642	12:00	0.00
25-May-01	39.4	38,599,384	92,352,900	12:00	0.00
26-May-01	39.4	38,663,032	92,420,158	12:00	0.00
27-May-01	39.4	38,726,680	92,487,416	12:00	0.27

Well ID TOD Elevation Total Depth (ft) Location	Average System Effluent				Rainfall 24-hr Period (inches)
	Flow Rate (gpm)	Totalized Flow* (gal)	Adjusted Totalized Flow (gallons)	Time	
DATE					
5-Jan-02	50.0	54,850,594	108,402,106	12.00	0.43
6-Jan-02	50.0	54,922,594	108,474,106	12.00	0.41
7-Jan-02	50.0	54,994,594	108,546,106	12.00	0.02
8-Jan-02	50.0	55,066,594	108,618,106	12.00	0.00
9-Jan-02	50.0	55,138,594	108,690,106	12.00	0.00
10-Jan-02	50.0	55,210,594	108,762,106	12.00	0.03
11-Jan-02	50.0	55,282,594	108,834,106	12.00	0.00
12-Jan-02	50.0	55,354,594	108,906,106	12.00	0.00
13-Jan-02	50.0	55,426,594	108,978,106	12.00	0.00
14-Jan-02	50.0	55,498,594	109,050,106	12.00	0.00
15-Jan-02	50.0	55,570,594	109,122,106	12.00	0.00
16-Jan-02	53.6	55,642,778	109,199,290	12.00	0.00
17-Jan-02	53.6	55,724,962	109,276,474	12.00	0.19
18-Jan-02	53.6	55,807,146	109,353,658	12.00	0.38
19-Jan-02	53.6	55,879,330	109,430,842	12.00	0.22
20-Jan-02	53.6	55,951,514	109,508,026	12.00	TR
21-Jan-02	53.6	56,033,698	109,585,210	12.00	0.00
22-Jan-02	53.6	56,115,882	109,662,394	12.00	0.18
23-Jan-02	53.6	56,188,066	109,739,578	12.00	0.08
24-Jan-02	53.6	56,265,250	109,816,762	12.00	1.21
25-Jan-02	53.6	56,342,434	109,893,946	12.00	0.00
26-Jan-02	53.6	56,419,618	109,971,130	12.00	0.00
27-Jan-02	53.6	56,496,802	110,048,314	12.00	0.00
28-Jan-02	53.6	56,573,986	110,125,498	12.00	TR
29-Jan-02	53.6	56,651,170	110,202,682	12.00	0.02
30-Jan-02	53.6	56,728,354	110,279,866	12.00	TR
31-Jan-02	53.6	56,805,538	110,357,050	12.00	0.86
1-Feb-02	53.6	56,882,722	110,434,234	12.00	0.00
2-Feb-02	53.6	56,959,906	110,511,418	12.00	0.00
3-Feb-02	50.0	57,037,090	110,588,602	12.00	0.02
4-Feb-02	50.0	57,109,274	110,660,786	12.00	0.06
5-Feb-02	46.8	57,181,458	110,727,952	12.00	0.09
6-Feb-02	46.8	57,253,642	110,795,344	12.00	0.37
7-Feb-02	46.8	57,325,826	110,862,736	12.00	0.02
8-Feb-02	46.8	57,398,010	110,930,128	12.00	0.00
9-Feb-02	46.8	57,470,194	110,997,520	12.00	0.02
10-Feb-02	46.8	57,542,378	111,064,912	12.00	0.00
11-Feb-02	46.8	57,614,562	111,132,304	12.00	0.00
12-Feb-02	46.8	57,686,746	111,199,696	12.00	0.00
13-Feb-02	46.8	57,758,930	111,267,088	12.00	0.00
14-Feb-02	46.8	57,831,114	111,334,480	12.00	0.11
15-Feb-02	46.8	57,903,298	111,401,872	12.00	0.00
16-Feb-02	46.8	57,975,482	111,469,264	12.00	0.00
17-Feb-02	46.8	58,047,666	111,536,656	12.00	0.00
18-Feb-02	46.8	58,119,850	111,604,048	12.00	0.00
19-Feb-02	46.8	58,192,034	111,671,440	12.00	1.08
20-Feb-02	46.8	58,264,218	111,738,832	12.00	0.00
21-Feb-02	50.1	58,336,402	111,806,976	12.00	TR
22-Feb-02	50.1	58,408,586	111,874,192	12.00	0.00
23-Feb-02	50.1	58,480,770	111,941,328	12.00	0.00
24-Feb-02	50.1	58,552,954	112,008,464	12.00	0.00
25-Feb-02	50.1	58,625,138	112,075,552	12.00	0.02
26-Feb-02	50.1	58,697,322	112,142,688	12.00	TR
27-Feb-02	50.1	58,769,506	112,209,824	12.00	0.00
28-Feb-02	50.1	58,841,690	112,276,960	12.00	0.00
1-Mar-02	50.1	58,913,874	112,344,144	12.00	0.08
2-Mar-02	50.1	58,986,058	112,411,280	12.00	0.00
3-Mar-02	50.1	59,058,242	112,478,416	12.00	0.00
4-Mar-02	50.1	59,130,426	112,545,552	12.00	0.00
5-Mar-02	50.1	59,202,610	112,612,688	12.00	0.00
6-Mar-02	50.1	59,274,794	112,679,824	12.00	0.00
7-Mar-02	50.1	59,346,978	112,746,960	12.00	TR
8-Mar-02	50.1	59,419,162	112,814,096	12.00	0.03
9-Mar-02	50.1	59,491,346	112,881,232	12.00	0.01
10-Mar-02	50.1	59,563,530	112,948,368	12.00	0.48
11-Mar-02	50.1	59,635,714	113,015,504	12.00	0.00
12-Mar-02	50.1	59,707,898	113,082,640	12.00	0.00
13-Mar-02	50.1	59,780,082	113,149,776	12.00	2.02
14-Mar-02	50.1	59,852,266	113,216,912	12.00	0.84
15-Mar-02	50.1	59,924,450	113,284,048	12.00	0.00
16-Mar-02	50.1	59,996,634	113,351,184	12.00	0.00
17-Mar-02	50.1	60,068,818	113,418,320	12.00	0.43
18-Mar-02	50.1	60,141,002	113,485,456	12.00	0.47
19-Mar-02	50.7	60,213,186	113,552,592	12.00	0.37
			113,619,728	12.00	0.12
			113,686,864	12.00	0.27

Well ID TOC Elevation Total Depth (ft) Location	Average System Effluent				Rainfall 24-hr Period (inches)
	Flow Rate (gpm)	Totalized Flow* (gal)	Adjusted Totalized Flow (gallons)	Time	
DATE					
20-Mar-02	50.7	60,209,080	113,780,582	12:00	0.84
21-Mar-02	50.7	60,282,088	113,833,600	12:00	0.00
22-Mar-02	50.7	60,355,096	113,908,608	12:00	0.00
23-Mar-02	50.7	60,428,104	113,979,616	12:00	0.00
24-Mar-02	50.7	60,501,112	114,052,624	12:00	0.00
25-Mar-02	50.7	60,574,120	114,125,632	12:00	0.10
26-Mar-02	50.3	60,646,552	114,198,064	12:00	0.27
27-Mar-02	50.3	60,718,984	114,270,496	12:00	0.00
28-Mar-02	50.3	60,791,416	114,342,928	12:00	0.00
29-Mar-02	50.3	60,863,848	114,415,360	12:00	0.04
30-Mar-02	50.3	60,936,280	114,487,792	12:00	1.13
31-Mar-02	50.3	61,008,712	114,560,224	12:00	0.73
1-Apr-02	50.3	61,081,144	114,632,656	12:00	0.00
2-Apr-02	50.3	61,153,576	114,705,088	12:00	0.00
3-Apr-02	50.3	61,226,008	114,777,520	12:00	TR
4-Apr-02	50.1	61,298,440	114,849,952	12:00	0.00
5-Apr-02	50.1	61,370,872	114,921,384	12:00	0.00
6-Apr-02	50.1	61,442,304	114,993,816	12:00	0.00
7-Apr-02	50.1	61,514,736	115,066,248	12:00	0.00
8-Apr-02	50.1	61,587,168	115,138,680	12:00	0.31
9-Apr-02	50.1	61,659,600	115,211,112	12:00	0.00
10-Apr-02	50.1	61,732,032	115,283,544	12:00	0.00
11-Apr-02	53.8	61,804,464	115,355,976	12:00	0.00
12-Apr-02	56.9	61,876,896	115,428,408	12:00	TR
13-Apr-02	56.9	61,949,328	115,500,840	12:00	0.00
14-Apr-02	56.9	62,021,760	115,573,272	12:00	0.00
15-Apr-02	56.9	62,094,192	115,645,704	12:00	0.00
16-Apr-02	56.9	62,166,624	115,718,136	12:00	0.00
17-Apr-02	56.1	62,239,056	115,790,568	12:00	0.00
18-Apr-02	56.1	62,311,488	115,863,000	12:00	TR
19-Apr-02	56.1	62,383,920	115,935,432	12:00	0.00
20-Apr-02	56.1	62,456,352	116,007,864	12:00	0.00
21-Apr-02	56.1	62,528,784	116,080,296	12:00	0.00
22-Apr-02	56.1	62,601,216	116,152,728	12:00	0.22
23-Apr-02	56.1	62,673,648	116,225,160	12:00	0.00
24-Apr-02	56.1	62,746,080	116,297,592	12:00	0.00
25-Apr-02	56.1	62,818,512	116,370,024	12:00	TR
26-Apr-02	56.1	62,890,944	116,442,456	12:00	0.45
27-Apr-02	56.1	62,963,376	116,514,888	12:00	0.00
28-Apr-02	56.1	63,035,808	116,587,320	12:00	0.05
29-Apr-02	56.1	63,108,240	116,659,752	12:00	0.01
30-Apr-02	56.1	63,180,672	116,732,184	12:00	TR
1-May-02	59.0	63,253,104	116,804,616	12:00	1.31
2-May-02	59.0	63,325,536	116,877,048	12:00	0.00
3-May-02	59.0	63,397,968	116,949,480	12:00	0.00
4-May-02	59.0	63,470,400	117,021,912	12:00	0.00
5-May-02	59.0	63,542,832	117,094,344	12:00	1.32
6-May-02	59.0	63,615,264	117,166,776	12:00	0.00
7-May-02	59.0	63,687,696	117,239,208	12:00	0.00
8-May-02	59.0	63,760,128	117,311,640	12:00	TR
9-May-02	59.0	63,832,560	117,384,072	12:00	0.00
10-May-02	59.0	63,904,992	117,456,504	12:00	0.00
11-May-02	59.0	63,977,424	117,528,936	12:00	0.43
12-May-02	59.0	64,049,856	117,601,368	12:00	0.00
13-May-02	59.0	64,122,288	117,673,800	12:00	0.00
14-May-02	59.0	64,194,720	117,746,232	12:00	0.00
15-May-02	59.0	64,267,152	117,818,664	12:00	0.00
16-May-02	59.0	64,339,584	117,891,096	12:00	0.52
17-May-02	59.0	64,412,016	117,963,528	12:00	0.00
18-May-02	59.0	64,484,448	118,035,960	12:00	0.00
19-May-02	59.0	64,556,880	118,108,392	12:00	0.00
20-May-02	59.0	64,629,312	118,180,824	12:00	0.00
21-May-02	59.0	64,701,744	118,253,256	12:00	0.00
22-May-02	59.0	64,774,176	118,325,688	12:00	0.00
23-May-02	59.0	64,846,608	118,398,120	12:00	0.00
24-May-02	59.0	64,919,040	118,470,552	12:00	0.00
25-May-02	59.0	64,991,472	118,542,984	12:00	0.00
26-May-02	59.0	65,063,904	118,615,416	12:00	0.00
27-May-02	59.0	65,136,336	118,687,848	12:00	0.00
28-May-02	59.0	65,208,768	118,760,280	12:00	0.00
29-May-02	59.0	65,281,200	118,832,712	12:00	0.00
30-May-02	59.0	65,353,632	118,905,144	12:00	0.00
31-May-02	59.0	65,426,064	118,977,576	12:00	0.00
	59.0	65,498,496	119,050,008	12:00	0.00
	59.0	65,570,928	119,122,440	12:00	0.00
	59.0	65,643,360	119,194,872	12:00	0.00
	59.0	65,715,792	119,267,304	12:00	0.00
	59.0	65,788,224	119,339,736	12:00	0.00
	59.0	65,860,656	119,412,168	12:00	0.00
	59.0	65,933,088	119,484,600	12:00	0.00
	59.0	66,005,520	119,557,032	12:00	0.00
	59.0	66,077,952	119,629,464	12:00	0.00
	59.0	66,150,384	119,701,896	12:00	0.00
	59.0	66,222,816	119,774,328	12:00	0.00
	59.0	66,295,248	119,846,760	12:00	0.00
	59.0	66,367,680	119,919,192	12:00	0.00
	59.0	66,440,112	119,991,624	12:00	0.00
	59.0	66,512,544	120,064,056	12:00	0.00
	59.0	66,584,976	120,136,488	12:00	0.00
	59.0	66,657,408	120,208,920	12:00	0.00
	59.0	66,729,840	120,281,352	12:00	0.00
	59.0	66,802,272	120,353,784	12:00	0.00
	59.0	66,874,704	120,426,216	12:00	0.00
	59.0	66,947,136	120,498,648	12:00	0.00
	59.0	67,019,568	120,571,080	12:00	0.00
	59.0	67,092,000	120,643,512	12:00	0.00
	59.0	67,164,432	120,715,944	12:00	0.00
	59.0	67,236,864	120,788,376	12:00	0.00
	59.0	67,309,296	120,860,808	12:00	0.00
	59.0	67,381,728	120,933,240	12:00	0.00
	59.0	67,454,160	121,005,672	12:00	0.00
	59.0	67,526,592	121,078,104	12:00	0.00
	59.0	67,599,024	121,150,536	12:00	0.00
	59.0	67,671,456	121,222,968	12:00	0.00
	59.0	67,743,888	121,295,400	12:00	0.00
	59.0	67,816,320	121,367,832	12:00	0.00
	59.0	67,888,752	121,440,264	12:00	0.00
	59.0	67,961,184	121,512,696	12:00	0.00
	59.0	68,033,616	121,585,128	12:00	0.00
	59.0	68,106,048	121,657,560	12:00	0.00
	59.0	68,178,480	121,730,000	12:00	0.00
	59.0	68,250,912	121,802,432	12:00	0.00
	59.0	68,323,344	121,874,864	12:00	0.00
	59.0	68,395,776	121,947,296	12:00	0.00
	59.0	68,468,208	122,019,728	12:00	0.00
	59.0	68,540,640	122,092,160	12:00	0.00
	59.0	68,613,072	122,164,592	12:00	0.00
	59.0	68,685,504	122,237,024	12:00	0.00
	59.0	68,757,936	122,309,456	12:00	0.00
	59.0	68,830,368	122,381,888	12:00	0.00
	59.0	68,902,800	122,454,320	12:00	0.00
	59.0	68,975,232	122,526,752	12:00	0.00
	59.0	69,047,664	122,599,184	12:00	0.00
	59.0	69,120,096	122,671,616	12:00	0.00
	59.0	69,192,528	122,744,048	12:00	0.00
	59.0	69,264,960	122,816,480	12:00	0.00
	59.0	69,337,392	122,888,912	12:00	0.00
	59.0	69,409,824	122,961,344	12:00	0.00
	59.0	69,482,256	123,033,776	12:00	0.00
	59.0	69,554,688	123,106,208	12:00	0.00
	59.0	69,627,120	123,178,640	12:00	0.00
	59.0	69,699,552	123,251,072	12:00	0.00
	59.0	69,771,984	123,323,504	12:00	0.00
	59.0	69,844,416	123,395,936	12:00	0.00
	59.0	69,916,848	123,468,368	12:00	0.00
	59.0	69,989,280	123,540,800	12:00	0.00
	59.0	70,061,712	123,613,232	12:00	0.00
	59.0	70,134,144	123,685,664	12:00	0.00
	59.0	70,206,576	123,758,096	12:00	0.00
	59.0	70,279,008	123,830,528	12:00	0.00
	59.0	70,351,440	123,902,960	12:00	0.00
	59.0	70,423,872	123,975,392	12:00	0.00
	59.0	70,496,304	124,047,824	12:00	0.00
	59.0	70,568,736	124,120,256	12:00	0.00
	59.0	70,641,168	124,192,688	12:00	0.00
	59.0	70,713,600	124,265,120	12:00	0.00
	59.0	70,786,032	124,337,552	12:00	0.00
	59.0	70,858,464	124,410,000	12:00	0.00
	59.0	70,930,896	124,482,432	12:00	0.00
	59.0	71,003,328	124,554,864	12:00	0.00
	59.0	71,075,760	124,627,296	12:00	0.00
	59.0	71,148,192	124,699,728	12:00	0.00
	59.0	71,220,624	124,772,160	12:00	0.00
	59.0	71,293,056	124,844,592	12:00	0.00
	59.0	71,365,488	124,917,024	12:00	0.00
	59.0	71,437,920	124,989,456	12:00	0.00
	59.0	71,510,352	125,061,888	12:00	0.00
	59.0	71,582,784	125,134,320	12:00	0.00
	59.0	71,655,216	125,206,752	12:00	0.00
	59.0	71,727,648	125,279,184	12:00	0.00
	59.0	71,800,080	125,351,616	12:00	0.00
	59.0	71,872,512	125,424,048	12:00	0.00
	59.0	71,944,944	125,496,480	12:00	0.00
	59.0	72,017,376	125,568,912	12:00	0.00
	59.0	72,089,808	125,641,344	12:00	0.00
	59.0	72,162,240	125,713,776	12:00	0.00
	59.0	72,234,672	125,786,208	12:00	0.00
	59.0	72,307,104	125,858,640	12:00	0.00
	59.0	72,379,536	125,931		

Well ID TOC Elevation Total Depth (ft) Location	Average System Effluent				Rainfall 24-hr Period (Inches)
	Flow Rate (gpm)	Totalized Flow* (gal)	Adjusted Totalized Flow (gallons)	Time	
DATE					
28-May-01	39.4	38,733.544	92,285,056	12.00	TR
29-May-01	38.4	38,790.208	92,341,720	12.00	0.71
30-May-01	39.4	38,846.872	92,398,384	12.00	0.90
31-May-01	39.4	38,903.536	92,455,048	12.00	0.00
1-Jun-01	48.8	38,973.808	92,525,320	12.00	TR
2-Jun-01	48.8	39,044.080	92,585,592	12.00	0.04
3-Jun-01	48.8	39,114.352	92,645,864	12.00	0.09
4-Jun-01	48.8	39,184.624	92,706,136	12.00	0.45
5-Jun-01	48.8	39,254.896	92,766,408	12.00	0.00
6-Jun-01	48.8	39,325.168	92,826,680	12.00	0.95
7-Jun-01	48.8	39,395.440	92,886,952	12.00	0.00
8-Jun-01	54.4	39,473.794	93,025,308	12.00	0.00
9-Jun-01	55.8	39,558.466	93,109,978	12.00	0.00
10-Jun-01	55.8	39,643.138	93,194,650	12.00	0.00
11-Jun-01	55.8	39,727.810	93,279,322	12.00	0.00
12-Jun-01	55.8	39,812.482	93,363,994	12.00	0.00
13-Jun-01	55.8	39,897.154	93,448,666	12.00	0.00
14-Jun-01	55.8	39,981.826	93,533,338	12.00	0.00
15-Jun-01	54.3	40,060.018	93,611,530	12.00	0.19
16-Jun-01	54.3	40,138.210	93,689,722	12.00	0.00
17-Jun-01	54.3	40,216.402	93,767,914	12.00	0.00
18-Jun-01	54.3	40,294.594	93,846,106	12.00	0.00
19-Jun-01	54.3	40,372.786	93,924,298	12.00	0.00
20-Jun-01	54.3	40,450.978	94,002,490	12.00	0.00
21-Jun-01	54.3	40,529.170	94,080,682	12.00	0.19
22-Jun-01	54.3	40,607.362	94,158,874	12.00	0.01
23-Jun-01	54.3	40,685.554	94,237,066	12.00	0.00
24-Jun-01	54.3	40,763.746	94,315,258	12.00	0.00
25-Jun-01	54.3	40,841.938	94,393,450	12.00	0.00
26-Jun-01	54.3	40,920.130	94,471,642	12.00	0.00
27-Jun-01	54.3	40,998.322	94,549,834	12.00	0.11
28-Jun-01	54.3	41,076.514	94,628,026	12.00	0.03
29-Jun-01	56.3	41,157.588	94,706,098	12.00	TR
30-Jun-01	56.3	41,238.658	94,784,170	12.00	0.00
1-Jul-01	56.1	41,319.370	94,862,882	12.00	0.00
2-Jul-01	56.1	41,400.082	94,951,594	12.00	TR
3-Jul-01	56.1	41,480.794	95,032,308	12.00	0.00
4-Jul-01	56.1	41,561.506	95,113,018	12.00	0.82
5-Jul-01	56.1	41,642.218	95,193,730	12.00	0.80
6-Jul-01	56.1	41,722.930	95,274,442	12.00	0.00
7-Jul-01	56.1	41,803.642	95,355,154	12.00	0.00
8-Jul-01	56.1	41,884.354	95,435,868	12.00	0.00
9-Jul-01	56.1	41,965.068	95,516,578	12.00	0.00
10-Jul-01	56.1	42,045.778	95,597,290	12.00	0.34
11-Jul-01	56.1	42,126.490	95,677,002	12.00	0.00
12-Jul-01	56.1	42,207.202	95,758,714	12.00	0.33
13-Jul-01	56.1	42,287.914	95,839,426	12.00	TR
14-Jul-01	56.1	42,368.626	95,920,138	12.00	0.00
15-Jul-01	56.1	42,449.338	96,000,850	12.00	0.00
16-Jul-01	56.1	42,530.050	96,081,562	12.00	0.00
17-Jul-01	56.1	42,610.762	96,162,274	12.00	1.48
18-Jul-01	52.4	42,691.474	96,237,730	12.00	0.12
19-Jul-01	50.1	42,772.186	96,308,922	12.00	1.10
20-Jul-01	50.1	42,852.898	96,382,114	12.00	0.00
21-Jul-01	50.1	42,902.764	96,454,308	12.00	0.19
22-Jul-01	50.1	42,974,886	96,526,498	12.00	0.00
23-Jul-01	50.1	43,047,178	96,598,690	12.00	0.00
24-Jul-01	50.1	43,119,370	96,670,882	12.00	0.00
25-Jul-01	50.1	43,191,562	96,743,074	12.00	0.00
26-Jul-01	50.1	43,263,754	96,815,266	12.00	0.22
27-Jul-01	50.1	43,335,946	96,887,458	12.00	0.00
28-Jul-01	50.1	43,408,138	96,959,650	12.00	0.00
29-Jul-01	50.1	43,480,330	97,031,842	12.00	TR
30-Jul-01	50.1	43,552,522	97,104,034	12.00	0.62
31-Jul-01	50.8	43,625,850	97,177,162	12.00	0.00
1-Aug-01	51.4	43,699,594	97,251,106	12.00	0.00
2-Aug-01	51.4	43,773,538	97,325,050	12.00	0.00
3-Aug-01	51.4	43,847,482	97,398,994	12.00	TR
4-Aug-01	51.4	43,921,426	97,472,938	12.00	0.10
5-Aug-01	51.4	43,995,370	97,546,882	12.00	0.00
6-Aug-01	51.4	44,069,314	97,620,826	12.00	0.09
7-Aug-01	51.4	44,143,258	97,694,770	12.00	0.41
8-Aug-01	51.4	44,217,202	97,768,714	12.00	TR
9-Aug-01	51.4	44,291,146	97,842,658	12.00	0.00

Well ID TOC Elevation Total Depth (ft) Location	Average System Effluent				Rainfall 24-hr Period (inches)
	Flow Rate (gpm)	Totalized Flow* (gal)	Adjusted Totalized Flow (gallons)	Time	
DATE					
10-Aug-01	51.4	44,365,090	97,916,602	12:00	1.08
11-Aug-01	51.4	44,439,034	97,990,546	12:00	0.00
12-Aug-01	51.4	44,512,978	98,064,490	12:00	0.00
13-Aug-01	51.4	44,586,922	98,138,434	12:00	0.02
14-Aug-01	51.4	44,660,866	98,212,378	12:00	0.00
15-Aug-01	51.7	44,735,811	98,286,322	12:00	0.00
16-Aug-01	51.7	44,809,755	98,361,274	12:00	0.00
17-Aug-01	51.7	44,884,210	98,435,722	12:00	0.00
18-Aug-01	51.7	44,958,658	98,510,170	12:00	0.07
19-Aug-01	51.7	45,033,106	98,584,618	12:00	0.00
20-Aug-01	51.7	45,107,554	98,659,066	12:00	0.00
21-Aug-01	51.7	45,182,002	98,733,514	12:00	0.00
22-Aug-01	51.7	45,256,450	98,807,962	12:00	0.00
23-Aug-01	50.0	45,328,450	98,879,962	12:00	0.00
24-Aug-01	50.0	45,400,450	98,951,962	12:00	0.00
25-Aug-01	50.0	45,472,450	99,023,962	12:00	0.00
26-Aug-01	50.0	45,544,450	99,095,962	12:00	0.00
27-Aug-01	50.0	45,616,450	99,167,962	12:00	0.01
28-Aug-01	50.0	45,688,450	99,239,962	12:00	0.00
29-Aug-01	50.0	45,760,450	99,311,962	12:00	0.00
30-Aug-01	50.0	45,832,450	99,383,962	12:00	0.00
31-Aug-01	50.1	45,904,594	99,455,106	12:00	0.37
1-Sep-01	50.1	45,976,738	99,526,250	12:00	0.63
2-Sep-01	50.1	46,048,882	99,600,394	12:00	0.00
3-Sep-01	50.1	46,121,026	99,672,538	12:00	0.00
4-Sep-01	50.1	46,193,170	99,744,682	12:00	0.00
5-Sep-01	50.1	46,265,314	99,816,826	12:00	0.00
6-Sep-01	50.1	46,337,458	99,888,970	12:00	0.26
7-Sep-01	48.6	46,407,442	99,958,954	12:00	0.00
8-Sep-01	48.6	46,477,426	100,028,938	12:00	0.56
9-Sep-01	48.6	46,547,410	100,098,922	12:00	0.00
10-Sep-01	48.6	46,617,394	100,168,906	12:00	0.00
11-Sep-01	48.6	46,687,378	100,238,890	12:00	0.00
12-Sep-01	48.6	46,757,362	100,308,874	12:00	0.00
13-Sep-01	48.6	46,827,346	100,378,858	12:00	0.05
14-Sep-01	48.6	46,897,330	100,448,842	12:00	0.00
15-Sep-01	48.6	46,967,314	100,518,826	12:00	0.00
16-Sep-01	48.6	47,037,298	100,588,810	12:00	0.00
17-Sep-01	48.6	47,107,282	100,658,794	12:00	0.13
18-Sep-01	48.6	47,177,266	100,728,778	12:00	1.67
19-Sep-01	48.6	47,247,250	100,798,762	12:00	0.00
20-Sep-01	48.6	47,317,234	100,868,746	12:00	0.00
21-Sep-01	48.6	47,387,218	100,938,730	12:00	0.00
22-Sep-01	48.6	47,457,202	101,008,714	12:00	0.00
23-Sep-01	48.6	47,527,186	101,078,698	12:00	0.04
24-Sep-01	48.6	47,597,170	101,148,682	12:00	TR
25-Sep-01	48.6	47,667,154	101,218,666	12:00	0.00
26-Sep-01	48.6	47,737,138	101,288,650	12:00	0.00
27-Sep-01	48.6	47,807,122	101,358,634	12:00	0.00
28-Sep-01	48.6	47,877,106	101,428,618	12:00	0.00
29-Sep-01	48.6	47,947,090	101,498,602	12:00	0.00
30-Sep-01	48.6	48,017,074	101,568,586	12:00	0.00
1-Oct-01	48.6	48,087,058	101,638,570	12:00	0.00
2-Oct-01	48.6	48,157,042	101,708,554	12:00	0.00
3-Oct-01	48.6	48,227,026	101,778,538	12:00	0.00
4-Oct-01	48.6	48,297,010	101,848,522	12:00	0.81
5-Oct-01	48.6	48,366,994	101,918,506	12:00	0.00
6-Oct-01	48.6	48,436,978	101,988,490	12:00	0.00
7-Oct-01	48.6	48,506,962	102,058,474	12:00	0.00
8-Oct-01	48.6	48,576,946	102,128,458	12:00	0.00
9-Oct-01	48.6	48,646,930	102,198,442	12:00	0.63
10-Oct-01	48.6	48,716,914	102,268,426	12:00	3.15
11-Oct-01	48.6	48,786,898	102,338,410	12:00	0.02
12-Oct-01	48.6	48,856,882	102,408,394	12:00	0.00
13-Oct-01	48.6	48,926,866	102,478,378	12:00	1.57
14-Oct-01	48.6	48,996,850	102,548,362	12:00	0.28
15-Oct-01	48.6	49,066,834	102,618,346	12:00	TR
16-Oct-01	48.2	49,136,818	102,687,754	12:00	0.00
17-Oct-01	48.2	49,206,802	102,757,162	12:00	0.00
18-Oct-01	48.2	49,276,786	102,826,570	12:00	0.00
19-Oct-01	48.2	49,346,770	102,895,978	12:00	0.00
20-Oct-01	48.2	49,416,754	102,965,386	12:00	0.00
21-Oct-01	48.2	49,486,738	103,034,794	12:00	0.00
22-Oct-01	48.2	49,556,722	103,104,202	12:00	0.00

Well ID TOC Elevation Total Depth (ft) Location	Average System Effluent			Rainfall 24-hr Period [inches]
	Flow Rate (gpm)	Totalized Flow (gall)	Adjusted Totalized Flow (gallons)	Time
DATE				
23-Oct-01	48.2	49,822.098	103,173.810	12.00
24-Oct-01	48.2	49,691.506	103,243.018	12.00
25-Oct-01	48.2	49,760.914	103,312.426	12.00
26-Oct-01	48.2	49,830.322	103,381.834	12.00
27-Oct-01	48.2	49,899.730	103,451.242	12.00
28-Oct-01	48.2	49,969.138	103,520.650	12.00
29-Oct-01	48.2	50,038.546	103,590.058	12.00
30-Oct-01	48.2	50,107.954	103,659.466	12.00
31-Oct-01	48.2	50,177.362	103,728.874	12.00
1-Nov-01	48.2	50,246.770	103,798.282	12.00
2-Nov-01	48.1	50,316.034	103,867.546	12.00
3-Nov-01	48.1	50,385.298	103,936.810	12.00
4-Nov-01	48.1	50,454.562	104,006.074	12.00
5-Nov-01	48.1	50,523.826	104,075.338	12.00
6-Nov-01	48.1	50,593.090	104,144.602	12.00
7-Nov-01	48.1	50,662.354	104,213.866	12.00
8-Nov-01	48.1	50,731.618	104,283.130	12.00
9-Nov-01	48.1	50,800.882	104,352.394	12.00
10-Nov-01	48.1	50,870.146	104,421.658	12.00
11-Nov-01	48.1	50,939.410	104,490.922	12.00
12-Nov-01	48.1	51,008.674	104,560.186	12.00
13-Nov-01	48.1	51,077.938	104,629.450	12.00
14-Nov-01	48.1	51,147.202	104,698.714	12.00
15-Nov-01	48.1	51,216.466	104,767.978	12.00
16-Nov-01	48.5	51,286.306	104,837.818	12.00
17-Nov-01	48.5	51,356.146	104,907.658	12.00
18-Nov-01	48.5	51,425.986	104,977.498	12.00
19-Nov-01	48.5	51,495.826	105,047.338	12.00
20-Nov-01	48.5	51,565.666	105,117.178	12.00
21-Nov-01	48.5	51,635.506	105,187.018	12.00
22-Nov-01	48.5	51,705.346	105,256.858	12.00
23-Nov-01	48.5	51,775.186	105,326.698	12.00
24-Nov-01	48.5	51,845.026	105,396.538	12.00
25-Nov-01	48.5	51,914.866	105,466.378	12.00
26-Nov-01	48.5	51,984.706	105,536.218	12.00
27-Nov-01	48.5	52,054.546	105,606.058	12.00
28-Nov-01	48.5	52,124.386	105,675.898	12.00
29-Nov-01	48.5	52,194.226	105,745.738	12.00
30-Nov-01	48.5	52,264.066	105,815.578	12.00
1-Dec-01	48.5	52,333.906	105,885.418	12.00
2-Dec-01	48.5	52,403.746	105,955.258	12.00
3-Dec-01	48.5	52,473.586	106,025.098	12.00
4-Dec-01	48.5	52,543.426	106,094.938	12.00
5-Dec-01	48.5	52,613.266	106,164.778	12.00
6-Dec-01	48.5	52,683.106	106,234.618	12.00
7-Dec-01	48.5	52,752.946	106,304.458	12.00
8-Dec-01	48.5	52,822.786	106,374.298	12.00
9-Dec-01	48.5	52,892.626	106,444.138	12.00
10-Dec-01	48.5	52,962.466	106,513.978	12.00
11-Dec-01	48.5	53,032.306	106,583.818	12.00
12-Dec-01	48.5	53,102.146	106,653.658	12.00
13-Dec-01	48.5	53,171.986	106,723.498	12.00
14-Dec-01	48.5	53,241.826	106,793.338	12.00
15-Dec-01	48.5	53,311.666	106,863.178	12.00
16-Dec-01	51.1	53,381.506	106,933.018	12.00
17-Dec-01	51.1	53,451.346	107,002.858	12.00
18-Dec-01	51.1	53,521.186	107,072.698	12.00
19-Dec-01	51.1	53,591.026	107,142.538	12.00
20-Dec-01	51.1	53,660.866	107,212.378	12.00
21-Dec-01	51.1	53,730.706	107,282.218	12.00
22-Dec-01	51.1	53,800.546	107,352.058	12.00
23-Dec-01	51.1	53,870.386	107,421.898	12.00
24-Dec-01	51.1	53,940.226	107,491.738	12.00
25-Dec-01	51.1	54,010.066	107,561.578	12.00
26-Dec-01	51.1	54,079.906	107,631.418	12.00
27-Dec-01	51.1	54,149.746	107,701.258	12.00
28-Dec-01	51.1	54,219.586	107,771.098	12.00
29-Dec-01	51.1	54,289.426	107,840.938	12.00
30-Dec-01	51.1	54,359.266	107,910.778	12.00
31-Dec-01	51.1	54,429.106	107,980.618	12.00
1-Jan-02	51.1	54,498.946	108,050.458	12.00
2-Jan-02	50.0	54,568.786	108,120.298	12.00
3-Jan-02	50.0	54,638.626	108,190.138	12.00
4-Jan-02	50.0	54,708.466	108,260.000	12.00

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

April 24, 2002

Mr. Kraig Smith
Jacobs
600 William Northern Blvd.
Tullahoma, TN 37388

Ref: Analytical Testing
ETC Order # 0204273
Project Description Memphis Depot

Project Number C5X51111

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

JACOBS_DDMT

Certifications

Tennessee #TN02027
Arkansas #40730
Kentucky #90047

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

ANALYTICAL SUMMARY/CROSS REFERENCE TABLE

695 132

Client Name **Jacobs**
Site ID **Memphis Depot**

ETC Order #**0204273**
C5X51111

<u>ETC Sample ID</u>	<u>Field ID</u>	<u>Matrix</u>	<u>Method</u>	<u>Method Description</u>
020427301	MW-30-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427302	MW-30-2	AQUEOUS	8260B	GC/MS Volatile Organics
020427303	MW-31-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427304	MW-31-2	AQUEOUS	8260B	GC/MS Volatile Organics
020427305	MW-32-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427306	MW-33-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427307	MW-34-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427308	MW-34-2	AQUEOUS	8260B	GC/MS Volatile Organics
020427309	MW-34-3	AQUEOUS	8260B	GC/MS Volatile Organics
020427310	MW-37-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427311	MW-37-100	AQUEOUS	8260B	GC/MS Volatile Organics
020427312	MW-37-2	AQUEOUS	8260B	GC/MS Volatile Organics
020427313	MW-37-3	AQUEOUS	8260B	GC/MS Volatile Organics
020427314	MW-40-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427315	MW-42-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427316	MW-43-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427317	MW-43-2	AQUEOUS	8260B	GC/MS Volatile Organics
020427318	MW-44-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427319	MW-44-2	AQUEOUS	8260B	GC/MS Volatile Organics
020427320	MW-44-3	AQUEOUS	8260B	GC/MS Volatile Organics
020427321	MW-51-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427322	MW-51-100	AQUEOUS	8260B	GC/MS Volatile Organics
020427323	EQB-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427324	MW-51-2	AQUEOUS	8260B	GC/MS Volatile Organics

Environmental Testing & Consulting, Inc.

Login
Chain-of-Custody



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 : 0204273

000004

Company Name		Phone # : 931.393.6448		Fax Results		Analysis Requested														
Project/Site		Fax # :		RUSH		(Note special detection limits or methods)														
Project #		FID #		Ice																
Project Manager/Contact		PO # :																		
Matrix		1 Wastewater		4 Sludge																
2 Aqueous		5 Oil/Solvent		6 Other																
3 Soil/Sediment																				
# of cont	Sample ID/ Number	Depth	Sample Date	Sample Time	Matrix	Type	Grab/Comp	Comments												
3	MW-30-1		4/10/02	1015	Water	GRAB		X												
3	MW-30-2			1018				X												
3	MW-31-1			1020				X												
3	MW-31-2			1022				X												
3	MW-32-1			1130				X												
3	MW-33-1			1147				X												
3	MW-34-1			0940				X												
3	MW-34-2			0943				X												
3	MW-34-3			0945				X												
3	MW-37-1			1135				X												
3	MW-37-100			1135				X												
Sampled By		Method of Shipment		Blank/Cooler Temp		Remarks														
K. Smith		Hand Delivery		24°C																
RELINQUISHED BY (sign)		DATE		TIME		RECEIVED BY (sign)		DATE		TIME		RECEIVED BY (sign)		DATE		TIME		Sample Delivery Group ID		
K. Smith		4/10/02		0945		K. Smith		4/10/02		1005		K. Smith		4/10/02		1005				
RELINQUISHED BY (sign)		DATE		TIME		RECEIVED BY (sign)		DATE		TIME		RECEIVED BY (sign)		DATE		TIME				
RELINQUISHED BY (sign)		DATE		TIME		RECEIVED BY (sign)		DATE		TIME		RECEIVED BY (sign)		DATE		TIME				
RELINQUISHED BY (sign)		DATE		TIME		RECEIVED BY (sign)		DATE		TIME		RECEIVED BY (sign)		DATE		TIME				

Distribution : Original and Yellow accompany samples to the laboratory. Pink copy for ETC. Yellow copy for ETC. Inc. files

695 135



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 :

0004273

000005

Company Name JACOBS ENG		Phone # : 931 373 6448		Fax Results		Analysis Requested (Note special detection limits or methods)						
Project/Site MEMPHIS DEPOT		Fax # : _____		RUSH								
Project # CSX5111		FID # : _____		Ice								
Project Manager/Contact KRAG 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	Comments					
2	MW-37-2		4/10/02	1137	Water	6848	X					
3	MW-37-3			1140			X					
3	MW-40-1			1310			X					
2	MW-42-1			1342			X					
3	MW-43-1			1345			X					
3	MW-43-2			1347			X					
3	MW-44-1			1335			X					
3	MW-44-2			1337			X					
3	MW-44-3			1340			X					
3	MW-51-1			1300			X					
3	MW-51-100			1300			X					
Sampled By Krag Smith		Method of Shipment Hand Delivered		Blank/Cooler Temp 44.0		Remarks						
RELINQUISHED BY (sign) Krag Smith		DATE 4/10/02		TIME 1625		RECEIVED BY (sign)		DATE 4/10/02		TIME 1625		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.

ETC Work Order : 0204273

000006

Environmental Testing & Consulting, Inc.
Cooler Receipt Form

Date Received 4/10/02
Date/Time Checked In 4/10/02-16:25
Carrier/Bill# Hand-Delivered

LIMS# 0204-273
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) <4°C	OK
5. Ice & Packing- ice, bags, boxes	Yes
6. Chain of Custody filled out properly?	Yes
7. All containers in separate bags?	No
8. Sample containers intact?	No
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

695 139

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204273**

ETC Lab ID **0204273-01**
 Field ID : **MW-30-1**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/11/02	LS	8260B 5030B
QC Batch	V204111					
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	84	84	115
S2 - Toluene-d8	94	69	133
S3 - 4-Bromofluorobenzene	94	80	120
S4 - 1,2-Dichloroethane-d4	81	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000009

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

695 140
CLIENT SAMPLE NO.

020427301

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Sample ID: 020427301

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

Lab File ID: 1001012

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/11/02

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
=====	=====	=====	=====	=====
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. _____	_____	_____	_____	_____

695 141

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204273**

ETC Lab ID **0204273-02**
 Field ID : **MW-30-2**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/11/02	LS	8260B 5030B
QC Batch	V204111					
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	84	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	94	80 120
S4 - 1,2-Dichloroethane-d4	82	58 131


 Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000011

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

695 142
CLIENT SAMPLE NO.

020427302

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Sample ID: 020427302

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

Lab File ID: 1101013

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/11/02

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
=====	=====	=====	=====	=====
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. _____	_____	_____	_____	_____

695 143

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tulahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204273**

ETC Lab ID **0204273-03**
 Field ID : **MW-31-1**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/11/02	LS	8260B 5030B
QC Batch	V204111					
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	20.6	ug/L	1.00			
trans-1,2-Dichloroethene	5.34	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	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	33.1	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	6.78	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	86	84	115
S2 - Toluene-d8	96	69	133
S3 - 4-Bromofluorobenzene	95	80	120
S4 - 1,2-Dichloroethane-d4	83	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000013

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

695 144
CLIENT SAMPLE NO.

020427303

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Sample ID: 020427303

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

Lab File ID: 1201014

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/11/02

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
=====	=====	=====	=====	=====
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
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21.				
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25.				
26.				
27.				
28.				
29.				
30.				

695 145

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204273**

ETC Lab ID **0204273-04**
 Field ID : **MW-31-2**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/11/02	LS	8260B 5030B
QC Batch	V204111					
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	1.36	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	0.65J	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	39.5	ug/L	1.00			
trans-1,2-Dichloroethene	2.51	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	1.24	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	0.50J	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	21.5	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	2.66	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	86	84	115
S2 - Toluene-d8	95	69	133
S3 - 4-Bromofluorobenzene	94	80	120
S4 - 1,2-Dichloroethane-d4	84	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000015

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

695 146
CLIENT SAMPLE NO.

020427304

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Sample ID: 020427304

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

Lab File ID: 1301015

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/11/02

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
=====	=====	=====	=====	=====
1.				
2.				
3.				
4.				
5.				
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26.				
27.				
28.				
29.				
30.				

695 147 ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204273**

ETC Lab ID **0204273-05**
Field ID : **MW-32-1**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/11/02	LS	8260B 5030B
QC Batch	V204111					
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	12.1	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	102	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	1.26	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	24.0	ug/L	1.00			
Tetrachloroethene	0.82J	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	0.59J	ug/L	1.00			
Trichloroethene	37.9	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	4.21	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	88	84	115
S2 - Toluene-d8	95	69	133
S3 - 4-Bromofluorobenzene	95	80	120
S4 - 1,2-Dichloroethane-d4	83	58	131


Data Validator ND - Not Detected

Q - Recovery Outside QC Limits

000017

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

695 148
CLIENT SAMPLE NO.

020427305

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Sample ID: 020427305

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

Lab File ID: 1401016

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/11/02

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

000018

695 149

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204273**

ETC Lab ID **0204273-06**
 Field ID : **MW-33-1**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/11/02	LS	8260B 5030B
QC Batch	V204111					
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	87	84 115
S2 - Toluene-d8	96	69 133
S3 - 4-Bromofluorobenzene	94	80 120
S4 - 1,2-Dichloroethane-d4	85	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000019

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

695 150
CLIENT SAMPLE NO.

020427306

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Sample ID: 020427306

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

Lab File ID: 1501017

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/11/02

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
1.				
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695 151

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204273**

ETC Lab ID **0204273-07**
 Field ID : **MW-34-1**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/11/02	LS	8260B 5030B
QC Batch	V204111					
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	10.5	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	1.16	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	89	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	94	80 120
S4 - 1,2-Dichloroethane-d4	85	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000021

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

695 152
CLIENT SAMPLE NO.

020427307

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Sample ID: 020427307

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

Lab File ID: 1601018

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/11/02

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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695 153

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204273**

ETC Lab ID **0204273-08**
 Field ID : **MW-34-2**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/11/02	LS	8260B 5030B
QC Batch	V204111					
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	7.78	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	0.971	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	88	84 115
S2 - Toluene-d8	96	69 133
S3 - 4-Bromofluorobenzene	95	80 120
S4 - 1,2-Dichloroethane-d4	82	58 131


 Data Validator ND - Not Detected

Q - Recovery Outside QC Limits

000023

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

695 154

CLIENT SAMPLE NO.

020427308

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Sample ID: 020427308

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

Lab File ID: 1701019

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/11/02

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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695 155

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tulahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204273**

ETC Lab ID **0204273-09**
 Field ID : **MW-34-3**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/12/02	LS	8260B 5030B
QC Batch	V204112					
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	0.90J	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	88	84 115
S2 - Toluene-d8	98	69 133
S3 - 4-Bromofluorobenzene	97	80 120
S4 - 1,2-Dichloroethane-d4	84	58 131

Data Validator 

ND - Not Detected

Q - Recovery Outside QC Limits

000005

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

695 156

CLIENT SAMPLE NO.

020427309

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Sample ID: 020427309

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

Lab File ID: 2301031

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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
=====	=====	=====	=====	=====
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. _____	_____	_____	_____	_____

695 157

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204273**

ETC Lab ID **0204273-10**
 Field ID : **MW-37-1**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/12/02	LS	8260B 5030B
QC Batch	V204112					
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	89		84	115		
S2 - Toluene-d8	97		69	133		
S3 - 4-Bromofluorobenzene	97		80	120		
S4 - 1,2-Dichloroethane-d4	84		58	131		

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000027

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

695 158

CLIENT SAMPLE NO.

020427310

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Sample ID: 020427310

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

Lab File ID: 2401032

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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

000028

695 159

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204273**

ETC Lab ID **0204273-11**
 Field ID : **MW-37-100**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/12/02	LS	8260B 5030B
QC Batch	V204112					
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	88	84 115
S2 - Toluene-d8	98	69 133
S3 - 4-Bromofluorobenzene	96	80 120
S4 - 1,2-Dichloroethane-d4	84	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000029

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

695 160

CLIENT SAMPLE NO.

020427311

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Sample ID: 020427311

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

Lab File ID: 2501033

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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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695 161

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204273**

ETC Lab ID **0204273-12**
 Field ID : **MW-37-2**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/12/02	LS	8260B 5030B
QC Batch	V204112					
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	89	84	115
S2 - Toluene-d8	98	69	133
S3 - 4-Bromofluorobenzene	96	80	120
S4 - 1,2-Dichloroethane-d4	83	58	131


 Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000031

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

695 162

CLIENT SAMPLE NO.

020427312

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Sample ID: 020427312

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

Lab File ID: 2601034

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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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695 163

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204273**

ETC Lab ID **0204273-13**
 Field ID : **MW-37-3**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/12/02	LS	8260B 5030B
QC Batch	V204112					
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	88	84	115
S2 - Toluene-d8	98	69	133
S3 - 4-Bromofluorobenzene	97	80	120
S4 - 1,2-Dichloroethane-d4	83	58	131


 Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000033

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

695 164

CLIENT SAMPLE NO.

020427313

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Sample ID: 020427313

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

Lab File ID: 2701035

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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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695 165

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tulahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204273**

ETC Lab ID **0204273-14**
 Field ID : **MW-40-1**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/12/02	LS	8260B 5030B
QC Batch	V204112					
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	87	84 115
S2 - Toluene-d8	97	69 133
S3 - 4-Bromofluorobenzene	96	80 120
S4 - 1,2-Dichloroethane-d4	83	58 131

Data Validator 

ND - Not Detected

Q - Recovery Outside QC Limits

000035

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

695 166

CLIENT SAMPLE NO.

020427314

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Sample ID: 020427314

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

Lab File ID: 2801036

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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
1.				
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FORM I VOA-GCMS-TIC

000036

695 167

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204273**

ETC Lab ID **0204273-15**
 Field ID : **MW-42-1**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/12/02	LS	8260B 5030B
QC Batch	V204112					
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			

<u>Surrogate Standard</u>	<u>% Recovery</u>	<u>QC Limits</u>	
S1 - Dibromofluoromethane	88	84	115
S2 - Toluene-d8	97	69	133
S3 - 4-Bromofluorobenzene	92	80	120
S4 - 1,2-Dichloroethane-d4	83	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000037

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

695 168

CLIENT SAMPLE NO.

020427315

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Sample ID: 020427315

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

Lab File ID: 2901037

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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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695 169

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204273**

ETC Lab ID **0204273-16**
 Field ID : **MW-43-1**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/12/02	LS	8260B 5030B
QC Batch	V204112					
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	87	84 115
S2 - Toluene-d8	97	69 133
S3 - 4-Bromofluorobenzene	96	80 120
S4 - 1,2-Dichloroethane-d4	82	58 131

 CB
 Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000039

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

695 170

CLIENT SAMPLE NO.

020427316

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Sample ID: 020427316

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

Lab File ID: 3001038

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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

000040

695 171

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204273**

ETC Lab ID **0204273-17**
 Field ID : **MW-43-2**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/12/02	LS	8260B 5030B
QC Batch	V204112					
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	0.56J	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	88	84	115
S2 - Toluene-d8	98	69	133
S3 - 4-Bromofluorobenzene	95	80	120
S4 - 1,2-Dichloroethane-d4	83	58	131


 Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000041

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

695 172

CLIENT SAMPLE NO.

020427317

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Sample ID: 020427317

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

Lab File ID: 3101039

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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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695 173

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204273**

ETC Lab ID **0204273-18**
 Field ID : **MW-44-1**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/12/02	LS	8260B 5030B
QC Batch	V204112					
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	1.06	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	89	84 115
S2 - Toluene-d8	96	69 133
S3 - 4-Bromofluorobenzene	96	80 120
S4 - 1,2-Dichloroethane-d4	84	58 131


 Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000043

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

695 174

CLIENT SAMPLE NO.

020427318

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Sample ID: 020427318

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

Lab File ID: 3201040

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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

000044

695 175

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204273**

ETC Lab ID **0204273-19**
 Field ID : **MW-44-2**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/12/02	LS	8260B 5030B
QC Batch	V204112					
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	4.36	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	2.81	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	2.05	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	1.10	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	89	84	115
S2 - Toluene-d8	96	69	133
S3 - 4-Bromofluorobenzene	96	80	120
S4 - 1,2-Dichloroethane-d4	86	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000045

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

695 176

CLIENT SAMPLE NO.

020427319

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Sample ID: 020427319

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

Lab File ID: 3301041

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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

300046

695 177

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204273**

ETC Lab ID **0204273-20**
 Field ID : **MW-44-3**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/12/02	LS	8260B 5030B
QC Batch	V204112					
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	2.10	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	1.29	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	0.85J	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	85	84 115
S2 - Toluene-d8	97	69 133
S3 - 4-Bromofluorobenzene	96	80 120
S4 - 1,2-Dichloroethane-d4	80	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000047

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

695 178

CLIENT SAMPLE NO.

020427320

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Sample ID: 020427320

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

Lab File ID: 3401042

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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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695 179

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204273**

ETC Lab ID **0204273-21**
 Field ID : **MW-51-1**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/12/02	LS	8260B 5030B
QC Batch	V204112					
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	26.4	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	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	1.90	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	88	84	115
S2 - Toluene-d8	98	69	133
S3 - 4-Bromofluorobenzene	95	80	120
S4 - 1,2-Dichloroethane-d4	83	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000049

695 180

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020427321

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Sample ID: 020427321

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

Lab File ID: 3501043

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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

000050

695 181

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tulahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204273**

ETC Lab ID **0204273-22**
 Field ID **MW-51-100**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/12/02	LS	8260B 5030B
QC Batch	V204112					
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	27.2	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	2.03	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	88	84	115
S2 - Toluene-d8	97	69	133
S3 - 4-Bromofluorobenzene	96	80	120
S4 - 1,2-Dichloroethane-d4	83	58	131


 Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000051

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

695 182

CLIENT SAMPLE NO.

020427322

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Sample ID: 020427322

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

Lab File ID: 3601044

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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
1.				
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695 183

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204273**

ETC Lab ID **0204273-23**
 Field ID : **EQB-1**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/12/02	LS	8260B 5030B
QC Batch	V204121					
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	85		84	115		
S2 - Toluene-d8	96		69	133		
S3 - 4-Bromofluorobenzene	94		80	120		
S4 - 1,2-Dichloroethane-d4	80		58	131		

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000053

695 184

FORM 1

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

020427323

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Sample ID: 020427323

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

Lab File ID: 0601008

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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

000054

695 185

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204273**

ETC Lab ID **0204273-24**
 Field ID : **MW-51-2**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/12/02	LS	8260B 5030B
QC Batch	V204121					
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	18.2	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	1.72	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	85	84	115
S2 - Toluene-d8	97	69	133
S3 - 4-Bromofluorobenzene	96	80	120
S4 - 1,2-Dichloroethane-d4	80	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000055

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

695 186

CLIENT SAMPLE NO.

020427324

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Sample ID: 020427324

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

Lab File ID: 0701009

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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
1.				
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695 187

Environmental Testing & Consulting, Inc.

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

000057

CASE NARRATIVE

GC/MS VOLATILE COMPOUNDS – AQUEOUS

Client Name Jacobs
Project Name Memphis Depot
ETC Order# 0204-273

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
V204111	V2041111LB/V2041112LB
V204112	V2041121LB
V204121	V2041211LB

System Monitoring Compounds FORM 2

Surrogate recoveries within QC limits *

*Surrogate Dibromofluoromethane was flagged for low recovery in method blanks V2041111LB and V2041112LB.

Method Blank FORM 4

V2041111LB/V2041112LB

V2041121LB

V2041211LB

Target analytes were not detected in the method blank, except as listed below:

Methylene Chloride was identified in method blanks for the above referenced batches. This analyte was not reported in any of the associated project samples. The data was not affected.

Laboratory Control Sample FORM 3

V2041111LCS

V2041121LCS

V2041211LCS

All target analyte acceptance criteria met.

Matrix Spike / Matrix Spike Dup FORM 3

Batch V2041111

0204-273-08

RPD

All analytes within QC limits.

MW-34-2

Spike Recovery

All analytes within QC limits *

*Chlorobenzene was flagged for high recovery in the MS. MSD recovery was within QC limits. Refer to Laboratory Control Sample(s) for system verification.

Batch V204112

0204-273-16

RPD

All analytes within QC limits.

MW-43-1

Spike Recovery

All analytes within QC limits *

*Chlorobenzene was flagged for high recovery in the MS/MSD. Toluene was flagged for high recovery in the MSD. MS recovery was within QC limits. Refer to Laboratory Control Sample(s) for system verification.

695 189

ENVIRONMENTAL TESTING AND CONSULTING, INC.

CASE NARRATIVE

GC/MS VOLATILE COMPOUNDS – AQUEOUS

Client Name Jacobs
Project Name Memphis Depot
ETC Order# 0204-273

Matrix Spike / Matrix Spike Dup FORM 3

Batch V204121

0204-227-01

RPD

Spike Recovery

All analytes within QC limits.

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.

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.

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 not performed

CB

Project Manager

000059

FORM 2
WATER VOA-GCMS SYSTEM MONITORING COMPOUND RECOVERY

695 190

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

	CLIENT SAMPLE NO.	SMC1 (DFM) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER (DCE) #	TOT OUT
	=====	=====	=====	=====	=====	=====
01	V2041111LCS	87	93	94	86	0
02	V2041111LB	82*	91	94	78	1
03	V2041112LB	82*	92	93	81	1
04	020427301	84	94	94	81	0
05	020427302	84	95	94	82	0
06	020427303	86	96	95	83	0
07	020427304	86	95	94	84	0
08	020427305	88	95	95	83	0
09	020427306	87	96	94	85	0
10	020427307	89	95	94	85	0
11	020427308	88	96	95	82	0
12	020427308MS	91	97	98	86	0
13	020427308MSD	90	98	96	86	0
14	V2041121LCS	89	97	92	83	0
15	V2041121LB	88	97	96	84	0
16	020427309	88	98	97	84	0
17	020427310	89	97	97	84	0
18	020427311	88	98	96	84	0
19	020427312	89	98	96	83	0
20	020427313	88	98	97	83	0
21	020427314	87	97	96	83	0
22	020427315	88	97	92	83	0
23	020427316	87	97	96	82	0
24	020427317	88	98	95	83	0
25	020427318	89	96	96	84	0
26	020427319	89	96	96	86	0
27	020427320	85	97	96	80	0
28	020427321	88	98	95	83	0
29	020427322	88	97	96	83	0
30	020427316MS	89	98	96	85	0

QC LIMITS

SMC1 (DFM) = Dibromofluoromethane (84-115)
 SMC2 (TOL) = Toluene-d8 (69-133)
 SMC3 (BFB) = Bromofluorobenzene (80-120)
 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.: 0204273

	CLIENT SAMPLE NO.	SMC1 (DFM) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER (DCE) #	TOT OUT
01	020427316MSD	87	97	99	83	0
02	V2041211LCS	88	96	93	86	0
03	V2041211LB	86	95	96	82	0
04	020427323	85	96	94	80	0
05	020427324	85	97	96	80	0
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QC LIMITS

SMC1 (DFM) = Dibromofluoromethane (84-115)
 SMC2 (TOL) = Toluene-d8 (69-133)
 SMC3 (BFB) = Bromofluorobenzene (80-120)
 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

695 192

CLIENT SAMPLE NO.

V2041111LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Lab File ID: 0402005

Lab Prep Batch: V204111

Date Analyzed: 04/11/02

Time Analyzed: 1412

GC Column: ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC2

Lab Sample ID: 11LB

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	V2041111LCS	11LCS	0201002LCS	1127
02	020427301	020427301	1001012	1800
03	020427302	020427302	1101013	1833
04	020427303	020427303	1201014	1905
05	020427304	020427304	1301015	1938
06	020427305	020427305	1401016	2011
07	020427306	020427306	1501017	2043
08	020427307	020427307	1601018	2115
09	020427308	020427308	1701019	2147
10	020427308MS	MS	1801020	2219
11	020427308MSD	MSD	1901021	2250
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COMMENTS:

695 193

FORM 1

VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2041111LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Prep Batch: V204111

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

Lab File ID: 0402005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/11/02

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

FORM I VOA-GCMS

000063

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

695 194

CLIENT SAMPLE NO.

V2041111LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Prep Batch: V204111

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

Lab File ID: 0402005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/11/02

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	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	0.884	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

000064

695 195

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2041111LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Prep Batch: V204111

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

Lab File ID: 0402005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/11/02

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

FORM I VOA-GCMS

000065

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

695 196

CLIENT SAMPLE NO.

V2041111LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Sample ID: 11LB

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

Lab File ID: 0402005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/11/02

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
=====	=====	=====	=====	=====
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. _____	_____	_____	_____	_____

695 197

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V204111

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix Spike - Sample No.: V2041111LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acetone	100.0		101.8	102	59-151
Acetonitrile	1000		866.3	87	57-143
Acrolein	100.0		118.6	119	59-134
Acrylonitrile	100.0		100.6	101	60-146
Allyl chloride	100.0		86.11	86	74-120
Benzene	100.0		93.91	94	72-124
Bromobenzene	100.0		98.31	98	77-120
Bromochloromethane	100.0		95.88	96	74-120
Bromodichloromethane	100.0		89.49	89	68-119
Bromoform	100.0		98.84	99	66-136
2-Butanone	100.0		109.5	110	55-151
Bromomethane	100.0		85.20	85	40-134
n-Butylbenzene	100.0		106.6	107	69-129
sec-Butylbenzene	100.0		98.77	99	72-127
tert-Butylbenzene	100.0		96.72	97	73-126
Carbon Disulfide	100.0		83.12	83	60-133
Carbon Tetrachloride	100.0		96.12	96	64-123
Chlorobenzene	100.0		96.62	97	77-112
Chlorodibromomethane	100.0		100.7	101	72-118
Chloroethane	100.0		82.70	83	64-142
2-Chloroethyl vinyl eth	100.0		91.94	92	22-165
Chloroform	100.0		87.58	88	70-115
Chloromethane	100.0		68.37	68	58-139
Chloroprene	100.0		94.62	95	73-118
2-Chlorotoluene	100.0		97.20	97	65-132
4-Chlorotoluene	100.0		92.49	92	67-127
1,2-Dibromo-3-chloropro	100.0		110.6	111	56-134
1,2-Dibromoethane	100.0		99.82	100	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

695 198

Lab Name: ETC, INC.

Lab Prep Batch: V204111

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix Spike - Sample No.: V2041111LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dibromomethane	100.0		96.50	96	75-114
1,2-Dichlorobenzene	100.0		104.0	104	80-113
1,3-Dichlorobenzene	100.0		104.9	105	77-119
1,4-Dichlorobenzene	100.0		105.1	105	78-116
cis-1,4-Dichloro-2-bute	100.0		113.3	113	70-130
trans-1,4-Dichloro-2-bu	100.0		112.2	112	62-138
Dichlorodifluoromethane	100.0		76.62	77	48-145
1,1-Dichloroethane	100.0		91.83	92	76-118
1,2-Dichloroethane	100.0		95.18	95	62-124
1,1-Dichloroethene	100.0		82.88	83	69-121
cis-1,2-Dichloroethene	100.0		93.15	93	76-114
trans-1,2-Dichloroethen	100.0		85.33	85	72-121
1,2-Dichloropropane	100.0		90.86	91	64-133
1,3-Dichloropropane	100.0		100.0	100	68-128
2,2-Dichloropropane	100.0		96.94	97	67-132
1,1-Dichloropropene	100.0		96.75	97	76-117
cis-1,3-Dichloropropene	100.0		98.74	99	77-120
trans-1,3-Dichloroprope	100.0		102.3	102	73-124
Di isopropyl ether	100.0		95.42	95	62-160
1,4-Dioxane	2000		2196	110	56-131
Ethyl Acetate	100.0		108.1	108	52-151
Ethylbenzene	100.0		97.03	97	77-111
Ethyl methacrylate	200.0		218.8	109	57-140
Furan	100.0		128.2	128*	52-124
Hexachlorobutadiene	100.0		107.1	107	69-137
Hexane	100.0		106.7	107	70-130
2-Hexanone	100.0		113.8	114	53-144
Iodomethane	100.0		86.08	86	51-153

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

* Values outside of QC limits

COMMENTS:

695 199

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V204111

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix Spike - Sample No.: V2041111LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	2000		2447	122	60-134
Isopropylbenzene	100.0		97.92	98	74-125
4-Isopropyltoluene	100.0		99.03	99	72-127
Methacrylonitrile	1000		1057	106	70-125
Methylene Chloride	100.0		86.14	86	76-115
Methyl methacrylate	200.0		218.9	109	57-147
4-Methyl-2-Pentanone	100.0		111.1	111	42-144
Methyl-tertbutyl-Ether	100.0		102.6	103	62-122
Naphthalene	100.0		103.4	103	53-124
Propionitrile	1000		1100	110	58-139
n-Propyl Acetate	100.0		166.8	167	88-170
n-Propylbenzene	100.0		98.86	99	75-125
Styrene	100.0		100.2	100	77-117
1,1,1,2-Tetrachloroetha	100.0		95.91	96	79-113
1,1,2,2-Tetrachloroetha	100.0		109.4	109	67-126
Tetrachloroethene	100.0		97.26	97	77-115
Tetrahydrofuran	100.0		99.69	100	76-181
1,2,3-Trichlorobenzene	100.0		105.5	106	62-132
Toluene	100.0		96.42	96	77-115
1,1,1-Trichloroethane	100.0		95.11	95	63-122
1,1,2-Trichloroethane	100.0		97.69	98	69-117
1,1,2-trichloro-1,2,2-t	100.0		84.96	85	70-130
Trichloroethene	100.0		94.61	95	75-113
Trichlorofluoromethane	100.0		82.90	83	55-130
1,2,3-Trichloropropane	100.0		108.4	108	62-130
1,2,4-Trimethylbenzene	100.0		82.80	83	69-126
1,2,4-Trichlorobenzene	100.0		109.6	110	68-132
1,3,5-Trimethylbenzene	100.0		97.18	97	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

695 200

Lab Name: ETC, INC.

Lab Prep Batch: V204111

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix Spike - Sample No.: V2041111LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Vinyl Acetate	100.0		105.3	105	28-146
Vinyl Chloride	100.0		77.31	77	65-134
Xylene-mp	200.0		194.9	97	77-115
Xylene-o	100.0		96.72	97	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:

WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC, INC.

Lab Prep Batch: V204111

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix Spike - Sample No.: 020427308

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Benzene	100.0	0.000	115.0	115	72-124
Chlorobenzene	100.0	0.000	114.4	114*	77-112
1,1-Dichloroethene	100.0	0.000	109.4	109	69-121
Toluene	100.0	0.000	113.0	113	77-115
Trichloroethene	100.0	0.968	108.8	108	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
Benzene	100.0	112.3	112	3	20	72-124
Chlorobenzene	100.0	110.3	110	4	20	77-112
1,1-Dichloroethene	100.0	106.2	106	3	20	69-121
Toluene	100.0	112.4	112	1	20	77-115
Trichloroethene	100.0	107.8	107	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 4
VOA-GCMS METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

V2041121LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Lab File ID: 2203030

Lab Prep Batch: V204112

Date Analyzed: 04/12/02

Time Analyzed: 0334

GC Column: ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC2

Lab Sample ID: 21LB

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	V2041121LCS	21LCS	2102026LCS	0128
02	020427309	020427309	2301031	0406
03	020427310	020427310	2401032	0438
04	020427311	020427311	2501033	0509
05	020427312	020427312	2601034	0541
06	020427313	020427313	2701035	0612
07	020427314	020427314	2801036	0644
08	020427315	020427315	2901037	0716
09	020427316	020427316	3001038	0747
10	020427317	020427317	3101039	0819
11	020427318	020427318	3201040	0851
12	020427319	020427319	3301041	0922
13	020427320	020427320	3401042	0954
14	020427321	020427321	3501043	1025
15	020427322	020427322	3601044	1057
16	020427316MS	MS	3701045	1129
17	020427316MSD	MSD	3801046	1159
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

695 203

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2041121LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Prep Batch: V204112

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

Lab File ID: 2203030

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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

FORM I VOA-GCMS

000073

695 204
FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2041121LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Prep Batch: V204112

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

Lab File ID: 2203030

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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	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	0.916	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

000074

695 205

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET

V2041121LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Prep Batch: V204112

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

Lab File ID: 2203030

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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

FORM I VOA-GCMS

000075

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

695 206

CLIENT SAMPLE NO.

V2041121LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Sample ID: 21LB

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

Lab File ID: 2203030

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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
=====	=====	=====	=====	=====
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. _____	_____	_____	_____	_____

695 207

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V204112

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix Spike - Sample No.: V2041121LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acetone	100.0		96.57	96	59-151
Acetonitrile	1000		934.8	93	57-143
Acrolein	100.0		81.39	81	59-134
Acrylonitrile	100.0		87.51	88	60-146
Allyl chloride	100.0		92.84	93	74-120
Benzene	100.0		95.24	95	72-124
Bromobenzene	100.0		88.76	89	77-120
Bromochloromethane	100.0		92.76	93	74-120
Bromodichloromethane	100.0		87.61	88	68-119
Bromoform	100.0		82.57	82	66-136
2-Butanone	100.0		89.02	89	55-151
Bromomethane	100.0		81.10	81	40-134
n-Butylbenzene	100.0		99.46	99	69-129
sec-Butylbenzene	100.0		91.55	92	72-127
tert-Butylbenzene	100.0		90.96	91	73-126
Carbon Disulfide	100.0		88.81	89	60-133
Carbon Tetrachloride	100.0		91.52	92	64-123
Chlorobenzene	100.0		91.98	92	77-112
Chlorodibromomethane	100.0		90.07	90	72-118
Chloroethane	100.0		87.34	87	64-142
2-Chloroethyl vinyl eth	100.0		90.96	91	22-165
Chloroform	100.0		90.01	90	70-115
Chloromethane	100.0		76.31	76	58-139
Chloroprene	100.0		95.12	95	73-118
2-Chlorotoluene	100.0		93.18	93	65-132
4-Chlorotoluene	100.0		86.85	87	67-127
1,2-Dibromo-3-chloropro	100.0		88.83	89	56-134
1,2-Dibromoethane	100.0		88.19	88	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

695 208

Lab Name: ETC, INC.

Lab Prep Batch: V204112

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix Spike - Sample No.: V2041121LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dibromomethane	100.0		89.86	90	75-114
1,2-Dichlorobenzene	100.0		99.30	99	80-113
1,3-Dichlorobenzene	100.0		96.76	97	77-119
1,4-Dichlorobenzene	100.0		100.8	101	78-116
cis-1,4-Dichloro-2-bute	100.0		83.95	84	70-130
trans-1,4-Dichloro-2-bu	100.0		82.29	82	62-138
Dichlorodifluoromethane	100.0		70.47	70	48-145
1,1-Dichloroethane	100.0		95.60	96	76-118
1,2-Dichloroethane	100.0		91.41	91	62-124
1,1-Dichloroethene	100.0		88.71	89	69-121
cis-1,2-Dichloroethene	100.0		95.44	95	76-114
trans-1,2-Dichloroethen	100.0		91.47	91	72-121
1,2-Dichloropropane	100.0		90.54	90	64-133
1,3-Dichloropropane	100.0		91.15	91	68-128
2,2-Dichloropropane	100.0		82.52	82	67-132
1,1-Dichloropropene	100.0		94.64	95	76-117
cis-1,3-Dichloropropene	100.0		89.50	90	77-120
trans-1,3-Dichloroprope	100.0		89.20	89	73-124
Di isopropyl ether	100.0		98.18	98	62-160
1,4-Dioxane	2000		1624	81	56-131
Ethyl Acetate	100.0		88.95	89	52-151
Ethylbenzene	100.0		92.06	92	77-111
Ethyl methacrylate	200.0		184.8	92	57-140
Furan	100.0		142.0	142*	52-124
Hexachlorobutadiene	100.0		94.49	94	69-137
Hexane	100.0		106.7	107	70-130
2-Hexanone	100.0		87.74	88	53-144
Iodomethane	100.0		83.79	84	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: V204112

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix Spike - Sample No.: V2041121LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Isobutyl Alcohol	2000		1815	91	60-134
Isopropylbenzene	100.0		91.71	92	74-125
4-Isopropyltoluene	100.0		88.85	89	72-127
Methacrylonitrile	1000		925.8	92	70-125
Methylene Chloride	100.0		90.61	91	76-115
Methyl methacrylate	200.0		178.5	89	57-147
4-Methyl-2-Pentanone	100.0		86.21	86	42-144
Methyl-tertbutyl-Ether	100.0		92.45	92	62-122
Naphthalene	100.0		92.03	92	53-124
Propionitrile	1000		918.1	92	58-139
n-Propyl Acetate	100.0		133.6	134	88-170
n-Propylbenzene	100.0		90.52	90	75-125
Styrene	100.0		93.59	94	77-117
1,1,1,2-Tetrachloroetha	100.0		89.70	90	79-113
1,1,2,2-Tetrachloroetha	100.0		98.66	99	67-126
Tetrachloroethene	100.0		90.41	90	77-115
Tetrahydrofuran	100.0		84.83	85	76-181
1,2,3-Trichlorobenzene	100.0		95.63	96	62-132
Toluene	100.0		94.38	94	77-115
1,1,1-Trichloroethane	100.0		94.06	94	63-122
1,1,2-Trichloroethane	100.0		90.44	90	69-117
1,1,2-trichloro-1,2,2-t	100.0		88.64	89	70-130
Trichloroethene	100.0		90.50	90	75-113
Trichlorofluoromethane	100.0		85.49	85	55-130
1,2,3-Trichloropropane	100.0		87.42	87	62-130
1,2,4-Trimethylbenzene	100.0		89.44	89	69-126
1,2,4-Trichlorobenzene	100.0		94.66	95	68-132
1,3,5-Trimethylbenzene	100.0		90.25	90	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: V204112

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix Spike - Sample No.: V2041121LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Vinyl Acetate	100.0		85.89	86	28-146
Vinyl Chloride	100.0		81.63	82	65-134
Xylene-mp	200.0		183.2	92	77-115
Xylene-o	100.0		93.32	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: 1 out of 88 outside limits

COMMENTS:

695 211

FORM 3

WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC, INC.

Lab Prep Batch: V204112

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix Spike - Sample No.: 020427316

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Benzene	100.0	0.000	111.4	111	72-124
Chlorobenzene	100.0	0.000	114.3	114*	77-112
1,1-Dichloroethene	100.0	0.000	96.04	96	69-121
Toluene	100.0	0.000	114.3	114	77-115
Trichloroethene	100.0	0.000	108.6	109	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD REC.
=====	=====	=====	=====	=====	=====
Benzene	100.0	113.5	114	3	20 72-124
Chlorobenzene	100.0	119.8	120*	5	20 77-112
1,1-Dichloroethene	100.0	98.12	98	2	20 69-121
Toluene	100.0	116.5	116*	2	20 77-115
Trichloroethene	100.0	109.4	109	0	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: 3 out of 10 outside limits

COMMENTS:

FORM III VOA-GCMS

000081

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

695 212
CLIENT SAMPLE NO.

V2041211LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Lab File ID: 0302005

Lab Prep Batch: V204121

Date Analyzed: 04/12/02

Time Analyzed: 1515

GC Column: ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC2

Lab Sample ID: 11LB

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	V2041211LCS	11LCS	0201003LCS	1319
02	020422701	020422701	0401006	1547
03	020427323	020427323	0601008	1652
04	020427324	020427324	0701009	1724
05	020422701MS	MS	1901021	2348
06	020422701MSD	MSD	2001022	0020
07				
08				
09				
10				
11				
12				
13				
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29				
30				

COMMENTS:

695 213

FORM 1

VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2041211LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Prep Batch: V204121

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

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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

FORM I VOA-GCMS

000083

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

695 214 CLIENT SAMPLE NO.

V2041211LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Prep Batch: V204121

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

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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_	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_	0.866	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

000084

695 215

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2041211LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Prep Batch: V204121

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

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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

FORM I VOA-GCMS

000085

695 216

FORM 1

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

V2041211LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix: (soil/water) WATER

Lab Sample ID: 11LB

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

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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
=====	=====	=====	=====	=====
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

000086

695 217

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V204121

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix Spike - Sample No.: V2041211LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Acetone	100.0		157.4	157*	59-151
Acetonitrile	1000		1069	107	57-143
Acrolein	100.0		107.8	108	59-134
Acrylonitrile	100.0		117.2	117	60-146
Allyl chloride	100.0		105.9	106	74-120
Benzene	100.0		108.3	108	72-124
Bromobenzene	100.0		101.7	102	77-120
Bromochloromethane	100.0		109.0	109	74-120
Bromodichloromethane	100.0		100.9	101	68-119
Bromoform	100.0		104.4	104	66-136
2-Butanone	100.0		138.3	138	55-151
Bromomethane	100.0		71.51	72	40-134
n-Butylbenzene	100.0		117.2	117	69-129
sec-Butylbenzene	100.0		102.9	103	72-127
tert-Butylbenzene	100.0		100.1	100	73-126
Carbon Disulfide	100.0		104.9	105	60-133
Carbon Tetrachloride	100.0		105.0	105	64-123
Chlorobenzene	100.0		102.3	102	77-112
Chlorodibromomethane	100.0		108.8	109	72-118
Chloroethane	100.0		94.89	95	64-142
2-Chloroethyl vinyl eth	100.0		121.2	121	22-165
Chloroform	100.0		101.9	102	70-115
Chloromethane	100.0		83.71	84	58-139
Chloroprene	100.0		109.6	110	73-118
2-Chlorotoluene	100.0		101.4	101	65-132
4-Chlorotoluene	100.0		95.92	96	67-127
1,2-Dibromo-3-chloropro	100.0		122.0	122	56-134
1,2-Dibromoethane	100.0		112.7	113	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

695 218

Lab Name: ETC, INC.

Lab Prep Batch: V204121

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix Spike - Sample No.: V2041211LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Dibromomethane	100.0		110.1	110	75-114
1,2-Dichlorobenzene	100.0		110.6	111	80-113
1,3-Dichlorobenzene	100.0		110.9	111	77-119
1,4-Dichlorobenzene	100.0		112.7	113	78-116
cis-1,4-Dichloro-2-bute	100.0		123.1	123	70-130
trans-1,4-Dichloro-2-bu	100.0		120.0	120	62-138
Dichlorodifluoromethane	100.0		94.09	94	48-145
1,1-Dichloroethane	100.0		107.2	107	76-118
1,2-Dichloroethane	100.0		108.3	108	62-124
1,1-Dichloroethene	100.0		102.2	102	69-121
cis-1,2-Dichloroethene	100.0		108.9	109	76-114
trans-1,2-Dichloroethen	100.0		102.4	102	72-121
1,2-Dichloropropane	100.0		102.9	103	64-133
1,3-Dichloropropane	100.0		112.4	112	68-128
2,2-Dichloropropane	100.0		109.6	110	67-132
1,1-Dichloropropene	100.0		109.3	109	76-117
cis-1,3-Dichloropropene	100.0		109.6	110	77-120
trans-1,3-Dichloroprope	100.0		112.6	113	73-124
Di isopropyl ether	100.0		111.6	112	62-160
1,4-Dioxane	2000		2436	122	56-131
Ethyl Acetate	100.0		127.5	128	52-151
Ethylbenzene	100.0		102.3	102	77-111
Ethyl methacrylate	200.0		247.3	124	57-140
Furan	100.0		158.5	158*	52-124
Hexachlorobutadiene	100.0		111.2	111	69-137
Hexane	100.0		126.4	126	70-130
2-Hexanone	100.0		137.8	138	53-144
Iodomethane	100.0		66.65	67	51-153

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

* Values outside of QC limits

COMMENTS:

695 219

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V204121

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix Spike - Sample No.: V2041211LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	2000		2772	139*	60-134
Isopropylbenzene	100.0		102.8	103	74-125
4-Isopropyltoluene	100.0		103.2	103	72-127
Methacrylonitrile	1000		1256	126*	70-125
Methylene Chloride	100.0		101.2	101	76-115
Methyl methacrylate	200.0		244.2	122	57-147
4-Methyl-2-Pentanone	100.0		126.7	127	42-144
Methyl-tertbutyl-Ether	100.0		100.8	101	62-122
Naphthalene	100.0		112.0	112	53-124
Propionitrile	1000		1266	127	58-139
n-Propyl Acetate	100.0		193.4	193*	88-170
n-Propylbenzene	100.0		103.9	104	75-125
Styrene	100.0		104.0	104	77-117
1,1,1,2-Tetrachloroetha	100.0		99.64	100	79-113
1,1,2,2-Tetrachloroetha	100.0		125.6	126	67-126
Tetrachloroethene	100.0		109.2	109	77-115
Tetrahydrofuran	100.0		117.1	117	76-181
1,2,3-Trichlorobenzene	100.0		116.6	117	62-132
Toluene	100.0		106.8	107	77-115
1,1,1-Trichloroethane	100.0		107.4	107	63-122
1,1,2-Trichloroethane	100.0		111.6	112	69-117
1,1,2-trichloro-1,2,2-t	100.0		104.1	104	70-130
Trichloroethene	100.0		103.5	104	75-113
Trichlorofluoromethane	100.0		98.86	99	55-130
1,2,3-Trichloropropane	100.0		116.9	117	62-130
1,2,4-Trimethylbenzene	100.0		101.4	101	69-126
1,2,4-Trichlorobenzene	100.0		120.2	120	68-132
1,3,5-Trimethylbenzene	100.0		100.9	101	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

695 220

Lab Name: ETC, INC.

Lab Prep Batch: V204121

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix Spike - Sample No.: V2041211LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Vinyl Acetate	100.0		124.6	125	28-146
Vinyl Chloride	100.0		92.56	92	65-134
Xylene-mp	200.0		202.8	101	77-115
Xylene-o	100.0		102.0	102	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: 5 out of 88 outside limits

COMMENTS:

695 221

FORM 3

WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC, INC.

Lab Prep Batch: V204121

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Matrix Spike - Sample No.: 020422701

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Benzene	100.0	0.000	108.9	109	72-124
Chlorobenzene	100.0	0.000	100.8	101	77-112
1,1-Dichloroethene	100.0	0.000	103.7	104	69-121
Toluene	100.0	0.000	106.0	106	77-115
Trichloroethene	100.0	0.000	99.81	100	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS	
=====	=====	=====	=====	=====	=====	=====
Benzene	100.0	105.7	106	3	20	72-124
Chlorobenzene	100.0	99.09	99	2	20	77-112
1,1-Dichloroethene	100.0	99.84	100	4	20	69-121
Toluene	100.0	102.0	102	4	20	77-115
Trichloroethene	100.0	96.94	97	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: 0 out of 10 outside limits

COMMENTS:

FORM III VOA-GCMS

000091

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: V204111 Matrix: H₂O HBN: _____

Date: 9-12-02

Analyst SS

Super SS

Applicable ETC Order Nos. for this sequence:

0204-227-1-5

0204-273-1-8

Validated ✓

1. BFB Daily 12-Hour Tune Meets Criteria. No analyses begins until criteria are met. (SOP)

2. Initial Calibration Verification Criteria - Method : V204051.8260M

- 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 - $\leq 30\%$

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"

MICN @ 0.88 ppb

MICN @ 0.88 ppb

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 :

0204-273-8ms, msd
out of 10 recoveries exceed limits

6. Laboratory Control Samples included in this sequence :

Must contain all Target Analytes.

1/88

7. Surrogate Recoveries within QC Limits

8. All positive compounds within calibration range

Narrative/Notes :

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

695 224

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Lab File ID: 0101001

BFB Injection Date: 04/11/02

Instrument ID: VOC2

BFB Injection Time: 1108

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	17.5
75	30.0 - 60.0% of mass 95	40.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	81.9
175	5.0 - 9.0% of mass 174	6.4 (7.8)1
176	95.0 - 101.0% of mass 174	80.5 (98.3)1
177	5.0 - 9.0% of mass 176	5.2 (6.4)2

1-Value is % mass 174

2-Value is % mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	V2041111LCS	11LCS	0201002LCS	04/11/02	1127
02	DCS100PPB		0201002	04/11/02	1127
03	DCS100PPB		0202003	04/11/02	1206
04	V2041111LB	11LB	0402005	04/11/02	1412
05	V2041112LB	12LB	0403006	04/11/02	1444
06	020427301	020427301	1001012	04/11/02	1800
07	020427302	020427302	1101013	04/11/02	1833
08	020427303	020427303	1201014	04/11/02	1905
09	020427304	020427304	1301015	04/11/02	1938
10	020427305	020427305	1401016	04/11/02	2011
11	020427306	020427306	1501017	04/11/02	2043
12	020427307	020427307	1601018	04/11/02	2115
13	020427308	020427308	1701019	04/11/02	2147
14	020427308MS	MS	1801020	04/11/02	2219
15	020427308MSD	MSD	1901021	04/11/02	2250
16					
17					
18					
19					
20					
21					
22					

695 225

FORM 7

VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Instrument ID: VOC2

Calibration Date: 04/11/02 Time: 1127

Lab File ID: 0201002

Init. Calib. Date(s): 04/05/02 04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639 2155

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
Acetone	101.8	100.0	AVRG	1.8	30.0
Acetonitrile	866.3	1000	AVRG	13.4	30.0
Acrolein	118.6	100.0	AVRG	18.6	30.0
Acrylonitrile	100.6	100.0	AVRG	0.6	30.0
Allyl chloride	86.11	100.0	AVRG	13.9	30.0
Benzene	93.91	100.0	AVRG	6.1	30.0
Bromobenzene	98.31	100.0	AVRG	1.7	30.0
Bromochloromethane	95.88	100.0	AVRG	4.1	30.0
Bromodichloromethane	89.49	100.0	AVRG	10.5	30.0
Bromoform	98.84	100.0	LINR	1.2	30.0
2-Butanone	109.5	100.0	AVRG	9.5	30.0
Bromomethane	85.20	100.0	AVRG	14.8	30.0
n-Butylbenzene	106.6	100.0	AVRG	6.6	30.0
sec-Butylbenzene	98.77	100.0	AVRG	1.2	30.0
tert-Butylbenzene	96.72	100.0	AVRG	3.3	30.0
Carbon Disulfide	83.12	100.0	AVRG	16.9	30.0
Carbon Tetrachloride	96.12	100.0	AVRG	3.9	30.0
Chlorobenzene	96.62	100.0	AVRG	3.4	30.0
Chlorodibromomethane	100.7	100.0	AVRG	0.7	30.0
Chloroethane	82.70	100.0	AVRG	17.3	30.0
2-Chloroethyl vinyl ether	91.94	100.0	LINR	8.1	30.0
Chloroform	87.58	100.0	AVRG	12.4	20.0
Chloromethane	68.37	100.0	AVRG	31.6	30.0
Chloroprene	94.62	100.0	AVRG	5.4	30.0
2-Chlorotoluene	97.20	100.0	AVRG	2.8	30.0
4-Chlorotoluene	92.49	100.0	AVRG	7.5	30.0
1,2-Dibromo-3-chloropropane	110.6	100.0	LINR	10.6	30.0
1,2-Dibromoethane	99.82	100.0	AVRG	0.2	30.0
Dibromomethane	96.50	100.0	AVRG	3.5	30.0
1,2-Dichlorobenzene	104.0	100.0	AVRG	4.0	30.0
1,3-Dichlorobenzene	104.9	100.0	AVRG	4.9	30.0
1,4-Dichlorobenzene	105.1	100.0	AVRG	5.1	30.0
cis-1,4-Dichloro-2-butene	113.3	100.0	AVRG	13.3	30.0
trans-1,4-Dichloro-2-butene	112.2	100.0	AVRG	12.2	30.0
Dichlorodifluoromethane	76.62	100.0	AVRG	23.4	30.0
1,1-Dichloroethane	91.83	100.0	AVRG	8.2	30.0
1,2-Dichloroethane	95.18	100.0	AVRG	4.8	30.0

<-

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

695 226

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Instrument ID: VOC2

Calibration Date: 04/11/02 Time: 1127

Lab File ID: 0201002

Init. Calib. Date(s): 04/05/02 04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639 2155

GC Column: ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
1,1-Dichloroethene	82.88	100.0	AVRG	17.1	20.0
cis-1,2-Dichloroethene	93.15	100.0	AVRG	6.8	30.0
trans-1,2-Dichloroethene	85.33	100.0	AVRG	14.7	30.0
1,2-Dichloropropane	90.86	100.0	AVRG	9.1	20.0
1,3-Dichloropropane	100.0	100.0	AVRG	0.0	30.0
2,2-Dichloropropane	96.94	100.0	AVRG	3.1	30.0
1,1-Dichloropropene	96.75	100.0	AVRG	3.2	30.0
cis-1,3-Dichloropropene	98.74	100.0	AVRG	1.3	30.0
trans-1,3-Dichloropropene	102.3	100.0	AVRG	2.3	30.0
Di isopropyl ether	95.42	100.0	AVRG	4.6	30.0
1,4-Dioxane	2196	2000	AVRG	9.8	30.0
Ethyl Acetate	108.1	100.0	AVRG	8.1	30.0
Ethylbenzene	97.03	100.0	AVRG	3.0	20.0
Ethyl methacrylate	218.8	200.0	AVRG	9.4	30.0
Furan	128.2	153.0	AVRG	16.2	30.0
Hexachlorobutadiene	107.1	100.0	AVRG	7.1	30.0
Hexane	106.7	117.0	AVRG	8.8	30.0
2-Hexanone	113.8	100.0	AVRG	13.8	30.0
Iodomethane	86.08	100.0	LINR	13.9	30.0
Isobutyl Alcohol	2447	2000	AVRG	22.4	30.0
Isopropylbenzene	97.92	100.0	AVRG	2.1	30.0
4-Isopropyltoluene	99.03	100.0	AVRG	1.0	30.0
Methacrylonitrile	1057	1000	AVRG	5.7	30.0
Methylene Chloride	86.14	100.0	LINR	13.9	30.0
Methyl methacrylate	218.9	200.0	AVRG	9.4	30.0
4-Methyl-2-Pentanone	111.1	100.0	AVRG	11.1	30.0
Methyl-tertbutyl-Ether	102.6	100.0	AVRG	2.6	30.0
Naphthalene	103.4	100.0	AVRG	3.4	30.0
Propionitrile	1100	1000	AVRG	10.0	30.0
n-Propyl Acetate	166.8	151.0	AVRG	10.5	30.0
n-Propylbenzene	98.86	100.0	AVRG	1.1	30.0
Styrene	100.2	100.0	AVRG	0.2	30.0
1,1,1,2-Tetrachloroethane	95.91	100.0	AVRG	4.1	30.0
1,1,2,2-Tetrachloroethane	109.4	100.0	AVRG	9.4	30.0
Tetrachloroethene	97.26	100.0	AVRG	2.7	30.0
Tetrahydrofuran	99.69	91.50	AVRG	9.0	30.0
1,2,3-Trichlorobenzene	105.5	100.0	AVRG	5.5	30.0

695 227

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Instrument ID: VOC2

Calibration Date: 04/11/02 Time: 1127

Lab File ID: 0201002

Init. Calib. Date(s): 04/05/02 04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639 2155

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
Toluene	96.42	100.0	AVRG	3.6	20.0
1,1,1-Trichloroethane	95.11	100.0	AVRG	4.9	30.0
1,1,2-Trichloroethane	97.69	100.0	AVRG	2.3	30.0
1,1,2-trichloro-1,2,2-triflu	84.96	100.0	AVRG	15.0	30.0
Trichloroethene	94.61	100.0	AVRG	5.4	30.0
Trichlorofluoromethane	82.90	100.0	AVRG	17.1	30.0
1,2,3-Trichloropropane	108.4	100.0	AVRG	8.4	30.0
1,2,4-Trimethylbenzene	98.17	100.0	AVRG	1.8	30.0
1,2,4-Trichlorobenzene	109.6	100.0	AVRG	9.6	30.0
1,3,5-Trimethylbenzene	97.18	100.0	AVRG	2.8	30.0
Vinyl Acetate	105.3	100.0	AVRG	5.3	30.0
Vinyl Chloride	77.31	100.0	AVRG	22.7	20.0
Xylene-mp	194.9	200.0	AVRG	2.6	30.0
Xylene-o	96.72	100.0	AVRG	3.3	30.0
Dibromofluoromethane	43.57	50.00	AVRG	12.9	30.0
Toluene-d8	46.52	50.00	AVRG	7.0	30.0
Bromofluorobenzene	47.14	50.00	AVRG	5.7	30.0
1,2-Dichloroethane-d4	42.86	50.00	AVRG	14.3	30.0

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FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

695 228

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Instrument ID: VOC2

Calibration Date: 04/11/02 Time: 1206

Lab File ID: 0202003

Init. Calib. Date(s): 04/05/02 04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639 2155

GC Column:

ID: 2.00 (mm)

COMPOUND	RRF	RRF100	MIN RRF	%D	MAX %D
Chloromethane	0.554	0.498	0.1	10.1	30.0
Vinyl Chloride	0.551	0.536		2.7	20.0
Dibromofluoromethane	0.582	0.498		14.4	30.0
Toluene-d8	1.112	1.041		6.4	30.0
Bromofluorobenzene	0.434	0.404		6.9	30.0
1,2-Dichloroethane-d4	0.504	0.415		17.6	30.0

FORM VII VOA-GCMS

000098

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Lab File ID (Standard): 0202003

Date Analyzed: 04/11/02

Instrument ID: VOC2

Time Analyzed: 1206

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	805160	9.67	1395436	10.70	1360190	14.55
UPPER LIMIT	1610320	10.17	2790872	11.20	2720380	15.05
LOWER LIMIT	402580	9.17	697718	10.20	680095	14.05
=====	=====	=====	=====	=====	=====	=====
CLIENT SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V2041111LB	733059	9.68	1256686	10.71	1131158	14.56
02 V2041112LB	772043	9.69	1325891	10.72	1232039	14.56
03 020427301	755599	9.69	1311295	10.73	1191067	14.57
04 020427302	722176	9.69	1280020	10.73	1155286	14.57
05 020427303	727945	9.70	1296899	10.73	1175394	14.58
06 020427304	709091	9.70	1265417	10.73	1133834	14.58
07 020427305	707561	9.70	1266172	10.73	1126141	14.58
08 020427306	674934	9.70	1221609	10.73	1088318	14.57
09 020427307	697341	9.71	1272264	10.73	1136126	14.57
10 020427308	657904	9.70	1202309	10.73	1055494	14.57
11 020427308MS	673218	9.71	1215826	10.74	1139680	14.58
12 020427308MSD	685050	9.71	1219714	10.74	1171146	14.58
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

695 230

Lab Name: ETC, INC. Contract: .
Lab Code: Case No.: SAS No.: SDG No.: 0204273
Lab File ID (Standard): 0202003 Date Analyzed: 04/11/02
Instrument ID: VOC2 Time Analyzed: 1206
GC Column: ID: 2.00 (mm) Heated Purge: (Y/N) Y

	IS4 (DCB)					
	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	527290	17.47				
UPPER LIMIT	1054580	17.97				
LOWER LIMIT	263645	16.97				
=====	=====	=====	=====	=====	=====	=====
CLIENT						
SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V2041111LB	449820	17.48				
02 V2041112LB	492101	17.49				
03 020427301	455440	17.50				
04 020427302	453286	17.50				
05 020427303	460994	17.50				
06 020427304	436346	17.50				
07 020427305	437235	17.50				
08 020427306	414300	17.51				
09 020427307	428713	17.50				
10 020427308	395175	17.51				
11 020427308MS	444375	17.51				
12 020427308MSD	451361	17.52				
13						
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 & CONSULTING, INC
GC/MS VOC Method 8260B Sequence Check List (SW-846)Sequence ID: V204112 Matrix: H₂O HBN: _____Date: 4-12-02

Applicable ETC Order Nos. for this sequence:

0204-273-9-22

Analyst

Super

Validated

1. BFB Daily 12-Hour Tune Meets Criteria. No analyses begin until criteria are met. (SOP)

2. Initial Calibration Verification Criteria - Method: V204051.8260M

- 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 - $\leq 30\%$

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 "Not Detected in Blank"

M₁C₁₂ @ .916ppb

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:

* 0204-273-16 MS, MSD
3 out of 10 recoveries exceed limits.

6. Laboratory Control Samples included in this sequence:

Must contain all Target Analytes.

1/88

7. Surrogate Recoveries within QC Limits

8. All positive compounds within calibration range

Narrative/Notes:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

695 232

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Lab File ID: 2002024

BFB Injection Date: 04/12/02

Instrument ID: VOC2

BFB Injection Time: 0026

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	16.3
75	30.0 - 60.0% of mass 95	38.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	8.1
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	82.0
175	5.0 - 9.0% of mass 174	5.5 (6.8)1
176	95.0 - 101.0% of mass 174	79.3 (96.7)1
177	5.0 - 9.0% of mass 176	4.5 (5.7)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	V2041121LCS	21LCS	2102026LCS	04/12/02	0128
02	DCS100PPB		2102026	04/12/02	0128
03	V2041121LB	21LB	2203030	04/12/02	0334
04	020427309	020427309	2301031	04/12/02	0406
05	020427310	020427310	2401032	04/12/02	0438
06	020427311	020427311	2501033	04/12/02	0509
07	020427312	020427312	2601034	04/12/02	0541
08	020427313	020427313	2701035	04/12/02	0612
09	020427314	020427314	2801036	04/12/02	0644
10	020427315	020427315	2901037	04/12/02	0716
11	020427316	020427316	3001038	04/12/02	0747
12	020427317	020427317	3101039	04/12/02	0819
13	020427318	020427318	3201040	04/12/02	0851
14	020427319	020427319	3301041	04/12/02	0922
15	020427320	020427320	3401042	04/12/02	0954
16	020427321	020427321	3501043	04/12/02	1025
17	020427322	020427322	3601044	04/12/02	1057
18	020427316MS	MS	3701045	04/12/02	1129
19	020427316MSD	MSD	3801046	04/12/02	1159
20					
21					
22					

695 233

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Instrument ID: VOC2

Calibration Date: 04/12/02 Time: 0128

Lab File ID: 2102026

Init. Calib. Date(s): 04/05/02 04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639 2155

GC Column: ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Acetone	96.57	100.0	AVRG	3.4	30.0
Acetonitrile	934.8	1000	AVRG	6.5	30.0
Acrolein	81.39	100.0	AVRG	18.6	30.0
Acrylonitrile	87.51	100.0	AVRG	12.5	30.0
Allyl chloride	92.84	100.0	AVRG	7.2	30.0
Benzene	95.24	100.0	AVRG	4.8	30.0
Bromobenzene	88.76	100.0	AVRG	11.2	30.0
Bromochloromethane	92.76	100.0	AVRG	7.2	30.0
Bromodichloromethane	87.61	100.0	AVRG	12.4	30.0
Bromoform	82.57	100.0	LINR	17.4	30.0
2-Butanone	89.02	100.0	AVRG	11.0	30.0
Bromomethane	81.10	100.0	AVRG	18.9	30.0
n-Butylbenzene	99.46	100.0	AVRG	0.5	30.0
sec-Butylbenzene	91.55	100.0	AVRG	8.4	30.0
tert-Butylbenzene	90.96	100.0	AVRG	9.0	30.0
Carbon Disulfide	88.81	100.0	AVRG	11.2	30.0
Carbon Tetrachloride	91.52	100.0	AVRG	8.5	30.0
Chlorobenzene	91.98	100.0	AVRG	8.0	30.0
Chlorodibromomethane	90.07	100.0	AVRG	9.9	30.0
Chloroethane	87.34	100.0	AVRG	12.7	30.0
2-Chloroethyl vinyl ether	90.96	100.0	LINR	9.0	30.0
Chloroform	90.01	100.0	AVRG	10.0	20.0
Chloromethane	76.31	100.0	AVRG	23.7	30.0
Chloroprene	95.12	100.0	AVRG	4.9	30.0
2-Chlorotoluene	93.18	100.0	AVRG	6.8	30.0
4-Chlorotoluene	86.85	100.0	AVRG	13.2	30.0
1,2-Dibromo-3-chloropropane	88.83	100.0	LINR	11.2	30.0
1,2-Dibromoethane	88.19	100.0	AVRG	11.8	30.0
Dibromomethane	89.86	100.0	AVRG	10.1	30.0
1,2-Dichlorobenzene	99.30	100.0	AVRG	0.7	30.0
1,3-Dichlorobenzene	96.76	100.0	AVRG	3.2	30.0
1,4-Dichlorobenzene	100.8	100.0	AVRG	0.8	30.0
cis-1,4-Dichloro-2-butene	83.95	100.0	AVRG	16.0	30.0
trans-1,4-Dichloro-2-butene	82.29	100.0	AVRG	17.7	30.0
Dichlorodifluoromethane	70.47	100.0	AVRG	29.5	30.0
1,1-Dichloroethane	95.60	100.0	AVRG	4.4	30.0
1,2-Dichloroethane	91.41	100.0	AVRG	8.6	30.0

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

695 234

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Instrument ID: VOC2

Calibration Date: 04/12/02 Time: 0128

Lab File ID: 2102026

Init. Calib. Date(s): 04/05/02 04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639 2155

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
1,1-Dichloroethene	88.71	100.0	AVRG	11.3	20.0
cis-1,2-Dichloroethene	95.44	100.0	AVRG	4.6	30.0
trans-1,2-Dichloroethene	91.47	100.0	AVRG	8.5	30.0
1,2-Dichloropropane	90.54	100.0	AVRG	9.5	20.0
1,3-Dichloropropane	91.15	100.0	AVRG	8.8	30.0
2,2-Dichloropropane	82.52	100.0	AVRG	17.5	30.0
1,1-Dichloropropene	94.64	100.0	AVRG	5.4	30.0
cis-1,3-Dichloropropene	89.50	100.0	AVRG	10.5	30.0
trans-1,3-Dichloropropene	89.20	100.0	AVRG	10.8	30.0
Di isopropyl ether	98.18	100.0	AVRG	1.8	30.0
1,4-Dioxane	1624	2000	AVRG	18.8	30.0
Ethyl Acetate	88.95	100.0	AVRG	11.0	30.0
Ethylbenzene	92.06	100.0	AVRG	7.9	20.0
Ethyl methacrylate	184.8	200.0	AVRG	7.6	30.0
Furan	142.0	153.0	AVRG	7.2	30.0
Hexachlorobutadiene	94.49	100.0	AVRG	5.5	30.0
Hexane	106.7	117.0	AVRG	8.8	30.0
2-Hexanone	87.74	100.0	AVRG	12.3	30.0
Iodomethane	83.79	100.0	LINR	16.2	30.0
Isobutyl Alcohol	1815	2000	AVRG	9.2	30.0
Isopropylbenzene	91.71	100.0	AVRG	8.3	30.0
4-Isopropyltoluene	88.85	100.0	AVRG	11.2	30.0
Methacrylonitrile	925.8	1000	AVRG	7.4	30.0
Methylene Chloride	90.61	100.0	LINR	9.4	30.0
Methyl methacrylate	178.5	200.0	AVRG	10.8	30.0
4-Methyl-2-Pentanone	86.21	100.0	AVRG	13.8	30.0
Methyl-tertbutyl-Ether	92.45	100.0	AVRG	7.6	30.0
Naphthalene	92.03	100.0	AVRG	8.0	30.0
Propionitrile	918.1	1000	AVRG	8.2	30.0
n-Propyl Acetate	133.6	151.0	AVRG	11.5	30.0
n-Propylbenzene	90.52	100.0	AVRG	9.5	30.0
Styrene	93.59	100.0	AVRG	6.4	30.0
1,1,1,2-Tetrachloroethane	89.70	100.0	AVRG	10.3	30.0
1,1,2,2-Tetrachloroethane	98.66	100.0	AVRG	1.3	30.0
Tetrachloroethene	90.41	100.0	AVRG	9.6	30.0
Tetrahydrofuran	84.83	91.50	AVRG	7.3	30.0
1,2,3-Trichlorobenzene	95.63	100.0	AVRG	4.4	30.0

695 235

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Instrument ID: VOC2

Calibration Date: 04/12/02

Time: 0128

Lab File ID: 2102026

Init. Calib. Date(s): 04/05/02

04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639

2155

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Toluene	94.38	100.0	AVRG	5.6	20.0
1,1,1-Trichloroethane	94.06	100.0	AVRG	5.9	30.0
1,1,2-Trichloroethane	90.44	100.0	AVRG	9.6	30.0
1,1,2-trichloro-1,2,2-triflu	88.64	100.0	AVRG	11.4	30.0
Trichloroethene	90.50	100.0	AVRG	9.5	30.0
Trichlorofluoromethane	85.49	100.0	AVRG	14.5	30.0
1,2,3-Trichloropropane	87.42	100.0	AVRG	12.6	30.0
1,2,4-Trimethylbenzene	89.44	100.0	AVRG	10.6	30.0
1,2,4-Trichlorobenzene	94.66	100.0	AVRG	5.3	30.0
1,3,5-Trimethylbenzene	90.25	100.0	AVRG	9.8	30.0
Vinyl Acetate	85.89	100.0	AVRG	14.1	30.0
Vinyl Chloride	81.63	100.0	AVRG	18.4	20.0
Xylene-mp	183.2	200.0	AVRG	8.4	30.0
Xylene-o	93.32	100.0	AVRG	6.7	30.0
=====	=====	=====	=====	=====	=====
Dibromofluoromethane	44.71	50.00	AVRG	10.6	30.0
Toluene-d8	48.49	50.00	AVRG	3.0	30.0
Bromofluorobenzene	45.97	50.00	AVRG	8.1	30.0
1,2-Dichloroethane-d4	41.50	50.00	AVRG	17.0	30.0

FORM 8
VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

695 236

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Lab File ID (Standard): 2102026

Date Analyzed: 04/12/02

Instrument ID: VOC2

Time Analyzed: 0128

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	807342	9.71	1465816	10.74	1402196	14.58
UPPER LIMIT	1614684	10.21	2931632	11.24	2804392	15.08
LOWER LIMIT	403671	9.21	732908	10.24	701098	14.08
=====	=====	=====	=====	=====	=====	=====
CLIENT SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V2041121LB	667508	9.71	1210528	10.74	1083465	14.58
02 020427309	677065	9.71	1225123	10.73	1095410	14.58
03 020427310	648497	9.71	1173750	10.73	1049408	14.58
04 020427311	669281	9.71	1207164	10.73	1082749	14.58
05 020427312	656185	9.71	1200209	10.73	1078385	14.57
06 020427313	668619	9.71	1216841	10.73	1090994	14.58
07 020427314	666938	9.71	1203143	10.73	1081920	14.57
08 020427315	647014	9.71	1184299	10.73	1056353	14.58
09 020427316	648209	9.70	1166863	10.73	1033845	14.57
10 020427317	650094	9.70	1185229	10.73	1066595	14.57
11 020427318	641298	9.70	1183421	10.74	1052400	14.58
12 020427319	683265	9.70	1252942	10.73	1124482	14.58
13 020427320	665461	9.70	1191268	10.73	1068019	14.57
14 020427321	692241	9.70	1242838	10.73	1139848	14.57
15 020427322	660563	9.70	1192616	10.73	1073160	14.57
16 020427316MS	682378	9.70	1218113	10.73	1182941	14.57
17 020427316MSD	728476	9.70	1286598	10.73	1197294	14.57
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.

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Lab File ID (Standard): 2102026

Date Analyzed: 04/12/02

Instrument ID: VOC2

Time Analyzed: 0128

GC Column:

ID: 2.00 (mm)

Heated Purge: (Y/N) Y

	IS4 (DCB)					
	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	508044	17.52				
UPPER LIMIT	1016088	18.02				
LOWER LIMIT	254022	17.02				
=====	=====	=====	=====	=====	=====	=====
CLIENT						
SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V2041121LB	412560	17.51				
02 020427309	426182	17.51				
03 020427310	409137	17.51				
04 020427311	417935	17.51				
05 020427312	415008	17.51				
06 020427313	422425	17.51				
07 020427314	417826	17.51				
08 020427315	384528	17.51				
09 020427316	401877	17.51				
10 020427317	408678	17.50				
11 020427318	409661	17.51				
12 020427319	432510	17.50				
13 020427320	414322	17.50				
14 020427321	437634	17.50				
15 020427322	419927	17.50				
16 020427316MS	468647	17.50				
17 020427316MSD	463454	17.50				
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 & CONSULTING, INC
GC/MS VOC Method 8260B Sequence Check List (SW-846)

Sequence ID: V204121 Matrix: H2O HBN: _____
 Date: 9-13-02 Analyst: SS
 Applicable ETC Order Nos. for this sequence:
0204-227-1, 4 0204-273-23, 24
0204-274-1-10 Super 4M

Validated

1. BFB Daily 12-Hour Tune Meets Criteria. No analyses begins until criteria are met. (SOP) ✓

2. Initial Calibration Verification Criteria - Method : V204051, 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 - $\leq 30\%$ ✓

- 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 if Detected in Blank?

MgCl₂ & Bz 0.87ppb
SS 4-13-02

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 :

0204-277-01ms, MSD

6. Laboratory Control Samples included in this sequence :

Must contain all Target Analytes.

5/85

7. Surrogate Recoveries within QC Limits

8. All positive compounds within calibration range

Narrative/Notes :

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Lab File ID: 0102002

BFB Injection Date: 04/12/02

Instrument ID: VOC2

BFB Injection Time: 1300

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	39.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	81.2
175	5.0 - 9.0% of mass 174	5.9 (7.3)1
176	95.0 - 101.0% of mass 174	79.5 (97.9)1
177	5.0 - 9.0% of mass 176	5.0 (6.3)2
1-Value is % mass 174		2-Value is % mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	V2041211LCS	11LCS	0201003LCS	04/12/02	1319
02	DCS100PPB		0201003	04/12/02	1319
03	DCS100PPB		0202004	04/12/02	1354
04	V2041211LB	11LB	0302005	04/12/02	1515
05	020422701	020422701	0401006	04/12/02	1547
06	020427323	020427323	0601008	04/12/02	1652
07	020427324	020427324	0701009	04/12/02	1724
08	020422701MS	MS	1901021	04/12/02	2348
09	020422701MSD	MSD	2001022	04/13/02	0020
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

695 240

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Instrument ID: VOC2

Calibration Date: 04/12/02 Time: 1319

Lab File ID: 0201003

Init. Calib. Date(s): 04/05/02 04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639 2155

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Acetone	157.4	100.0	AVRG	57.4	30.0
Acetonitrile	1069	1000	AVRG	6.9	30.0
Acrolein	107.8	100.0	AVRG	7.8	30.0
Acrylonitrile	117.2	100.0	AVRG	17.2	30.0
Allyl chloride	105.9	100.0	AVRG	5.9	30.0
Benzene	108.3	100.0	AVRG	8.3	30.0
Bromobenzene	101.7	100.0	AVRG	1.7	30.0
Bromochloromethane	109.0	100.0	AVRG	9.0	30.0
Bromodichloromethane	100.9	100.0	AVRG	0.9	30.0
Bromoform	104.4	100.0	LINR	4.4	30.0
2-Butanone	138.3	100.0	AVRG	38.3	30.0
Bromomethane	71.51	100.0	AVRG	28.5	30.0
n-Butylbenzene	117.2	100.0	AVRG	17.2	30.0
sec-Butylbenzene	102.9	100.0	AVRG	2.9	30.0
tert-Butylbenzene	100.1	100.0	AVRG	0.1	30.0
Carbon Disulfide	104.9	100.0	AVRG	4.9	30.0
Carbon Tetrachloride	105.0	100.0	AVRG	5.0	30.0
Chlorobenzene	102.3	100.0	AVRG	2.3	30.0
Chlorodibromomethane	108.8	100.0	AVRG	8.8	30.0
Chloroethane	94.89	100.0	AVRG	5.1	30.0
2-Chloroethyl vinyl ether	121.2	100.0	LINR	21.2	30.0
Chloroform	101.9	100.0	AVRG	1.9	20.0
Chloromethane	83.71	100.0	AVRG	16.3	30.0
Chloroprene	109.6	100.0	AVRG	9.6	30.0
2-Chlorotoluene	101.4	100.0	AVRG	1.4	30.0
4-Chlorotoluene	95.92	100.0	AVRG	4.1	30.0
1,2-Dibromo-3-chloropropane	122.0	100.0	LINR	22.0	30.0
1,2-Dibromoethane	112.7	100.0	AVRG	12.7	30.0
Dibromomethane	110.1	100.0	AVRG	10.1	30.0
1,2-Dichlorobenzene	110.6	100.0	AVRG	10.6	30.0
1,3-Dichlorobenzene	110.9	100.0	AVRG	10.9	30.0
1,4-Dichlorobenzene	112.7	100.0	AVRG	12.7	30.0
cis-1,4-Dichloro-2-butene	123.1	100.0	AVRG	23.1	30.0
trans-1,4-Dichloro-2-butene	120.0	100.0	AVRG	20.0	30.0
Dichlorodifluoromethane	94.09	100.0	AVRG	5.9	30.0
1,1-Dichloroethane	107.2	100.0	AVRG	7.2	30.0
1,2-Dichloroethane	108.3	100.0	AVRG	8.3	30.0

695 241

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Instrument ID: VOC2

Calibration Date: 04/12/02

Time: 1319

Lab File ID: 0201003

Init. Calib. Date(s): 04/05/02

04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639

2155

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
1,1-Dichloroethene	102.2	100.0	AVRG	2.2	20.0
cis-1,2-Dichloroethene	108.9	100.0	AVRG	8.9	30.0
trans-1,2-Dichloroethene	102.4	100.0	AVRG	2.4	30.0
1,2-Dichloropropane	102.9	100.0	AVRG	2.9	20.0
1,3-Dichloropropane	112.4	100.0	AVRG	12.4	30.0
2,2-Dichloropropane	109.6	100.0	AVRG	9.6	30.0
1,1-Dichloropropene	109.3	100.0	AVRG	9.3	30.0
cis-1,3-Dichloropropene	109.6	100.0	AVRG	9.6	30.0
trans-1,3-Dichloropropene	112.6	100.0	AVRG	12.6	30.0
Di isopropyl ether	111.6	100.0	AVRG	11.6	30.0
1,4-Dioxane	2436	2000	AVRG	21.8	30.0
Ethyl Acetate	127.5	100.0	AVRG	27.5	30.0
Ethylbenzene	102.3	100.0	AVRG	2.3	20.0
Ethyl methacrylate	247.3	200.0	AVRG	23.6	30.0
Furan	158.5	153.0	AVRG	3.6	30.0
Hexachlorobutadiene	111.2	100.0	AVRG	11.2	30.0
Hexane	126.4	117.0	AVRG	8.0	30.0
2-Hexanone	137.8	100.0	AVRG	37.8	30.0
Iodomethane	66.65	100.0	LINR	33.4	30.0
Isobutyl Alcohol	2772	2000	AVRG	38.6	30.0
Isopropylbenzene	102.8	100.0	AVRG	2.8	30.0
4-Isopropyltoluene	103.2	100.0	AVRG	3.2	30.0
Methacrylonitrile	1256	1000	AVRG	25.6	30.0
Methylene Chloride	101.2	100.0	LINR	1.2	30.0
Methyl methacrylate	244.2	200.0	AVRG	22.1	30.0
4-Methyl-2-Pentanone	126.7	100.0	AVRG	26.7	30.0
Methyl-tertbutyl-Ether	100.8	100.0	AVRG	0.8	30.0
Naphthalene	112.0	100.0	AVRG	12.0	30.0
Propionitrile	1266	1000	AVRG	26.6	30.0
n-Propyl Acetate	193.4	151.0	AVRG	28.1	30.0
n-Propylbenzene	103.9	100.0	AVRG	3.9	30.0
Styrene	104.0	100.0	AVRG	4.0	30.0
1,1,1,2-Tetrachloroethane	99.64	100.0	AVRG	0.4	30.0
1,1,2,2-Tetrachloroethane	125.6	100.0	AVRG	25.6	30.0
Tetrachloroethene	109.2	100.0	AVRG	9.2	30.0
Tetrahydrofuran	117.1	91.50	AVRG	28.0	30.0
1,2,3-Trichlorobenzene	116.6	100.0	AVRG	16.6	30.0

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FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

695 242

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Instrument ID: VOC2

Calibration Date: 04/12/02 Time: 1319

Lab File ID: 0201003

Init. Calib. Date(s): 04/05/02 04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639 2155

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Toluene	106.8	100.0	AVRG	6.8	20.0
1,1,1-Trichloroethane	107.4	100.0	AVRG	7.4	30.0
1,1,2-Trichloroethane	111.6	100.0	AVRG	11.6	30.0
1,1,2-trichloro-1,2,2-triflu	104.1	100.0	AVRG	4.1	30.0
Trichloroethene	103.5	100.0	AVRG	3.5	30.0
Trichlorofluoromethane	98.86	100.0	AVRG	1.1	30.0
1,2,3-Trichloropropane	116.9	100.0	AVRG	16.9	30.0
1,2,4-Trimethylbenzene	101.4	100.0	AVRG	1.4	30.0
1,2,4-Trichlorobenzene	120.2	100.0	AVRG	20.2	30.0
1,3,5-Trimethylbenzene	100.9	100.0	AVRG	0.9	30.0
Vinyl Acetate	124.6	100.0	AVRG	24.6	30.0
Vinyl Chloride	92.56	100.0	AVRG	7.4	20.0
Xylene-mp	202.8	200.0	AVRG	1.4	30.0
Xylene-o	102.0	100.0	AVRG	2.0	30.0
=====	=====	=====	=====	=====	=====
Dibromofluoromethane	43.98	50.00	AVRG	12.0	30.0
Toluene-d8	48.02	50.00	AVRG	4.0	30.0
Bromofluorobenzene	46.48	50.00	AVRG	7.0	30.0
1,2-Dichloroethane-d4	43.01	50.00	AVRG	14.0	30.0

695 243

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Instrument ID: VOC2

Calibration Date: 04/12/02

Time: 1354

Lab File ID: 0202004

Init. Calib. Date(s): 04/05/02

04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639

2155

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Acetone	108.7	100.0	AVRG	8.7	30.0
2-Butanone	122.6	100.0	AVRG	22.6	30.0
2-Hexanone	129.9	100.0	AVRG	29.9	30.0
Iodomethane	88.83	100.0	LINR	11.2	30.0
Isobutyl Alcohol	2708	2000	AVRG	35.4	30.0
=====	=====	=====	=====	=====	=====
Dibromofluoromethane	43.28	50.00	AVRG	13.4	30.0
Toluene-d8	48.98	50.00	AVRG	2.0	30.0
Bromofluorobenzene	47.63	50.00	AVRG	4.7	30.0
1,2-Dichloroethane-d4	40.85	50.00	AVRG	18.3	30.0
=====	=====	=====	=====	=====	=====

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FORM VII VOA-GCMS

000113

FORM 8
VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

695 244

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Lab File ID (Standard): 0202004

Date Analyzed: 04/12/02

Instrument ID: VOC2

Time Analyzed: 1354

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	781495	9.69	1350203	10.72	1337159	14.57
UPPER LIMIT	1562990	10.19	2700406	11.22	2674318	15.07
LOWER LIMIT	390748	9.19	675102	10.22	668580	14.07
=====	=====	=====	=====	=====	=====	=====
CLIENT SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V2041211LB	787388	9.70	1390940	10.73	1269026	14.56
02 020422701	782541	9.70	1372159	10.73	1266962	14.57
03 020427323	773910	9.70	1354504	10.73	1253470	14.57
04 020427324	746130	9.70	1311940	10.73	1202641	14.57
05 020422701MS	690983	9.71	1257477	10.74	1253245	14.58
06 020422701MSD	738008	9.71	1345018	10.74	1291373	14.58
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.

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204273

Lab File ID (Standard): 0202004

Date Analyzed: 04/12/02

Instrument ID: VOC2

Time Analyzed: 1354

GC Column:

ID: 2.00 (mm)

Heated Purge: (Y/N) Y

	IS4 (DCB)					
	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	520892	17.49				
UPPER LIMIT	1041784	17.99				
LOWER LIMIT	260446	16.99				
=====	=====	=====	=====	=====	=====	=====
CLIENT						
SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V2041211LB	503918	17.50				
02 020422701	502603	17.50				
03 020427323	485820	17.50				
04 020427324	479516	17.51				
05 020422701MS	479056	17.51				
06 020422701MSD	493461	17.52				
07						
08						
09						
10						
11						
12						
13						
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 : 05-APR-2002 16:39
 End Cal Date : 05-APR-2002 21:55
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc2.i\204061.B\204051.8260.m
 Cal Date : 07-Apr-2002 11:24 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	++++ 0.52358	0.67422 0.59597	0.62057 0.53226	0.47147 0.51277	0.54426	0.51341	AVRG		0.55428		11.46297
3 Vinyl Chloride	0.59049 0.53323	0.62162 0.59353	0.57736 0.53059	0.46471 0.51729	0.55090	0.53374	AVRG		0.55135		8.25883
4 Bromomethane	++++ 0.33152	0.42318 0.35568	0.30731 0.32557	0.25754 0.31543	0.29200	0.30671	AVRG		0.32388		14.22927
5 Chloroethane	0.28710 0.32281	0.32742 0.34496	0.32678 0.31428	0.27943 0.31167	0.32221	0.30903	AVRG		0.31457		6.17221
6 Acrolein	++++ 0.04114	++++ 0.03791	0.03901 0.04104	0.03464 0.03905	0.03662	0.03836	AVRG		0.03847		5.62234

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-APR-2002 16:39
 End Cal Date : 05-APR-2002 21:55
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDDC\DD\chem\voc2.i\204061.B\204051.8260.m
 Cal Date : 07-Apr-2002 11:24 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							
7 Trichlorofluoromethane	0.60097	0.53367	0.55662	0.51142	0.53518	0.52363	AVRG				
	0.52765	0.58535	0.53444	0.53197					0.54709		5.26370
8 Acetone	++++	++++	++++	0.14803	0.14368	0.13960	AVRG				
	0.15141	0.14186	0.15015	0.13203					0.14382		4.71680
9 Furan	++++	1.14909	1.06044	1.03490	1.07190	1.06736	AVRG				
	1.16477	1.21800	1.13214	1.12979					1.11427		5.33566
10 1,1-Dichloroethene	0.49980	0.53813	0.41987	0.41566	0.42362	0.41486	AVRG				
	0.42996	0.45662	0.42862	0.42782					0.44650		9.37487
11 Acrylonitrile	++++	++++	++++	0.14664	0.15265	0.15548	AVRG				
	0.17009	0.16106	0.16870	0.15509					0.15853		5.40438

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-APR-2002 16:39
 End Cal Date : 05-APR-2002 21:55
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc2.i\V204061.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 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								
12 Iodomethane	++++	5621	35122	150871	453941	903784	LINR	0.03186	0.57099			0.99572
	1208169	1546567	1626204	1892196								
13 Methylene Chloride	12739	15998	46818	161754	396810	769694	LINR	-0.00485	0.49459			0.99746
	1059047	1336946	1482070	1641225								
14 1,1,2-trichloro-1,2,2-trifluoroethane	0.49912	0.41643	0.40972	0.38988	0.40666	0.39958	AVRG		0.42385			7.44681
	0.41526	0.45406	0.42061	0.42716								
15 Acetonitrile	++++	0.11372	0.09647	0.09851	0.09898	0.09803	AVRG		0.10311			5.84786
	0.10434	0.11136	0.10280	0.10375								
16 Allyl chloride	++++	1.07955	0.96342	0.97950	0.97578	0.97840	AVRG		1.02268			5.15228
	1.04826	1.11510	1.02625	1.03791								

Environmental Testing and Consulting, Inc.

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 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc2.i\V204061.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 lisa

Compound	0 500000	1 1000	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					
17 Carbon Disulfide	1.58428	1.58392	1.56622	1.41653	1.56098	1.52400	AVRG		1.57172		5.04776
	1.55593	1.74023	1.57981	1.60527							
18 trans-1,2-Dichloroethene	0.56064	0.55991	0.51111	0.50023	0.50109	0.56054	AVRG		0.53273		4.72097
	0.53164	0.55802	0.52004	0.52407							
19 Methyl-tertbutyl-Ether	1.48722	1.39464	1.35926	1.26913	1.18797	1.40942	AVRG		1.34325		6.11785
	1.33309	1.32051	1.30072	1.37050							
20 Propionitrile	0.05782	0.06610	0.06906	0.06612	0.06961	0.07112	AVRG		0.06950		7.91258
	0.07705	0.07169	0.07642	0.06996							
21 1,1-Dichloroethane	1.03936	1.15869	1.08606	1.13771	1.10699	1.12922	AVRG		1.14609		5.32087
	1.21382	1.24737	1.15742	1.18429							

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 Cal Date : 07-Apr-2002 11:24 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	++++ 1 08498	++++ 1.07734	0 97709 1.08335	0 94466 1.04693	0.99986	1 02888	AVRG		1 03039		5 10740
23 Chloroprene	0 86893 1.00647	0.91375 1.06406	0 90862 1 00671	0.96553 1.01528	0.94659	0 97511	AVRG		0 96711		6 09123
24 Hexane	++++ 0.88974	0 91888 1.05755	1.09568 0.98345	1.07825 0 98520	1.00351	0 97982	AVRG		0.99912		6 91910
25 2-Butanone	++++ 0 07284	++++ 0.06986	0 05810 0.07270	0.06205 0 06538	0 06556	0 06871	AVRG		0.06690		7 70483
26 Di isopropyl ether	2 42826 2 75842	2.46638 2.78621	2 41619 2.65302	2 49133 2 65075	2 44788	2 50530	AVRG		2 56037		5.43854

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 Method file : \\ETCDBC\DD\chem\voc2.i\V204061.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 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
27 Methacrylonitrile	++++ 0 41866	0 34695 0 39550	0 36853 0 41504	0 34869 0 38336	0 37239	0 38462	AVRG		0.38153		6.70605
28 cis-1,2-Dichloroethene	0 68095 0 73320	0 64704 0 74444	0 65687 0 70533	0 68172 0 71102	0 65611	0 68157	AVRG		0.68982		4 78866
29 Ethyl Acetate	++++ 0 56466	++++ 0 53677	0 48657 0 57721	0 45441 0 52320	0 49616	0 52129	AVRG		0.52003		7.81094
30 Bromochloromethane	0 28072 0 31951	0 28738 0 32072	0 28603 0 30531	0 29398 0 30176	0 28936	0 29485	AVRG		0.29796		4 61468
31 Chloroform	++++ 1 04486	1 29202 1 06486	1 01246 1 01466	0 97587 1 02605	0 93490	0 96601	AVRG		1.03685		10 01685

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 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCBDC\DD\chem\voc2.i\V204061.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 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							
32 Isobutyl Alcohol	++++	0.02630	0.02723	0.02528	0.02791	0.03000					
	0.03225	0.03043	0.03379	0.02916			AVRG		0.02915		9.53349
33 2,2-Dichloropropane	0.82894	0.81401	0.71695	0.75615	0.74037	0.77047					
	0.80199	0.83759	0.78590	0.79824			AVRG		0.78506		4.96408
35 Tetrahydrofuran	++++	0.20230	0.25008	0.27453	0.28424						
	0.29971	0.30081	0.31287	0.28786			AVRG		0.27655		12.85671
38 1,2-Dichloroethane	0.55494	0.64539	0.60480	0.61672	0.62157	0.63848					
	0.70739	0.69526	0.68197	0.66619			AVRG		0.64327		7.20315
39 1,1,1-Trichloroethane	0.77801	0.73275	0.77013	0.80523	0.78347	0.81207					
	0.85047	0.89124	0.84095	0.85977			AVRG		0.81241		5.93527

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 Integrator : HP RTE
 Method file : \\ETCDDC\DD\chem\voc2.i\V204061.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 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
40 1,1-Dichloropropene	0.77870 0.85046	0.80121 0.90017	0.78163 0.85116	0.81918 0.86515	0.79614	0.82496	AVRG		0.82688		4 77303
41 Carbon Tetrachloride	0.61726 0.71781	0.67598 0.76460	0.65934 0.71998	0.69033 0.73655	0.66823	0.70480	AVRG		0.69549		6.10450
42 Benzene	2.55950 2.64200	2.52644 2.75482	2.42713 2.61229	2.52519 2.63953	2.43363	2.52806	AVRG		2.56486		3 90936
44 Dibromomethane	0.17367 0.20588	0.18004 0.20199	0.17622 0.19393	0.18324 0.19003	0.18015	0.18271	AVRG		0.18679		5 80980
45 1,2-Dichloropropane	0.41449 0.44108	0.49010 0.44953	0.39800 0.41615	0.40057 0.42412	0.38602	0.40144	AVRG		0.42215		7 32520

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 End Cal Date : 05-APR-2002 21:55
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 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc2.i\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 lisa

Compound	Coefficients										b	ml		m2	RSD or R ²
	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								
46 Trichloroethene	120.0000 Level 7	150.0000 Level 8	170 0000 Level 9	200.0000 Level 10											
	0.40930	0.40096	0.38674	0.39819	0.37367	0.38978	AVRG			0.40060				3.85869	
	0.41056	0.42909	0.39672	0.41100											
47 Bromodichloromethane	++++ 0.45209	0.52560 0.45880	0.40552 0.42782	0.39687 0.43606	0.38937	0.40499	AVRG			0.43301				9.79459	
	++++ 0.88459	0.67146 0.85422	0.72959 0.88461	0.71573 0.82028	0.76094	0.80773	AVRG			0.79213				9.70444	
48 n-Propyl Acetate															
	0.19149 0.24382	0.18621 0.23771	0.20482 0.24140	0.20629 0.22860	0.21189	0.22373	AVRG			0.21760				9.45271	
49 Methyl methacrylate															
	++++ 0.00296	++++ 0.00279	0.00253 0.00283	0.00245 0.00259	0.00261	0.00266	AVRG			0.00268				6.36407	

695 255

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 Cal Date : 07-Apr-2002 11:24 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
51 2-Chloroethyl vinyl ether	++++ 498508	2631 595633	15349 750923	56560 755159	167157	354300	LINR	0.07614	0.13646		0.99384
52 cis-1,3-Dichloropropene	0.50008 0.63376	0.52573 0.63351	0.51730 0.60092	0.56302 0.59932	0.54698	0.57056	AVRG		0.56912		8.30594
53 4-Methyl-2-Pentanone	++++ 0.38322	++++ 0.36532	0.31945 0.38590	0.30821 0.35218	0.33189	0.35478	AVRG		0.35012		8.12309
54 trans-1,3-Dichloropropene	0.38095 0.48108	0.39467 0.47963	0.39113 0.45786	0.42372 0.45253	0.41860	0.44047	AVRG		0.43206		8.36559
55 1,1,2-Trichloroethane	0.20215 0.24923	0.23037 0.24483	0.21959 0.23623	0.22039 0.22976	0.21925	0.22668	AVRG		0.22785		6.00602

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Compound	0.5000000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients	m1	m2	RSR	or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6							
57 Ethyl methacrylate	0.18090	0.18838	0.19818	0.20468	0.21459	0.22849	AVRG			0.21848		11	31247
	0.25143	0.24231	0.24307	0.23275									
58 Toluene	++++	0.87788	0.81733	0.86744	0.80782	0.85278	AVRG			0.86273			4.04551
	0.88880	0.92116	0.85551	0.87585									
59 1,3-Dichloropropane	0.46857	0.46378	0.45879	0.48996	0.48571	0.50580	AVRG			0.50358		7.07690	
	0.55464	0.54761	0.53803	0.52287									
60 2-Hexanone	++++	++++	0.22816	0.21524	0.23326	0.25296	AVRG			0.24977		9.24529	
	0.27685	0.26107	0.28025	0.25034									
61 Chlorodibromomethane	0.28253	0.28401	0.29323	0.31821	0.31573	0.33359	AVRG			0.32511		9.60621	
	0.36376	0.36349	0.35083	0.34572									

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Compound	0.500000		1.0000		5.0000		20.0000		50.0000		100.0000		Coefficients		m2	b	Curve		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	m2					
62 1,2-Dibromoethane	120 0000	150.0000	170.0000	200 0000															
	Level 7	Level 8	Level 9	Level 10															
63 Tetrachloroethene	0 28398	0 27594	0 27516	0 27815	0 28094	0 28838													
	0 31618	0 30968	0 30384	0 29224									0.29045						5 06337
64 1,1,1,2-Tetrachloroethane	0 26464	0 31077	0 27349	0 28805	0 26393	0 27804													
	0 28762	0 30145	0 27605	0 28146									0.28255						5 30537
65 Chlorobenzene	0 35301	0 36036	0 33188	0 34315	0 33823	0 35297													
	0 38276	0 38214	0 35230	0 38667									0.35835						5.42297
66 Ethylbenzene	1.10649	1 07448	1 00085	1 03025	1 00730	1 04667													
	1.12658	1 13989	1 04301	1 14321									1.07187						5 04591
67 Ethylbenzene	1 75991	1.65415	1 51941	1 58657	1.55562	1 63396													
	1.73502	1.78245	1 62662	1.81939									1 66731						6.10840

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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	0.68206 0.68599	0.67180 0.70123	0.60730 0.63991	0.63474 0.71442	0.61799	0.64956	AVRG		0.66050		5.44789
69 Bromoform	++++ 822958	5301 980715	26885 1173848	109496 1240179	292751	607365	LIIR	0.05106	0.23433		0.99799
70 trans-1,4-Dichloro-2-butene	++++ 0.15773	0.12884 0.15017	0.12996 0.15053	0.12420 0.15358	0.13512	0.14305	AVRG		0.14147		8.66356
71 Styrene	0.99504 1.15963	0.99378 1.17573	0.92996 1.08732	1.00449 1.20776	1.01733	1.06952	AVRG		1.06406		8.64982
72 Xylene-o	0.61409 0.67569	0.63232 0.68700	0.58354 0.62774	0.61318 0.70188	0.60209	0.63240	AVRG		0.63699		6.08110

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Compound	0 500000	1.0000	Level 2	5 0000	Level 3	20.0000	Level 4	50.0000	Level 5	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					
73 1,1,2,2-Tetrachloroethane	++++ 0 94396	0.82947 0.94765	0.81380 0.93900	0.82880 0.91264	0.84306	0.87735	AVRG		0 88175						6 22672
74 cis-1,4-Dichloro-2-butene	++++ 0 12522	0.09740 0.11972	0.09587 0.12059	0.09929 0.12218	0.10872	0.11724	AVRG		0.11180						10 41554
75 1,2,3-Trichloropropane	0.08335 0.11845	0.09769 0.11169	0.11035 0.11086	0.09560 0.11337	0.10417	0.10821	AVRG		0 10538						9 89606
76 Isopropylbenzene	1 62707 1.77016	1 66270 1 82170	1.52317 1.67910	1.61615 1.87460	1.58174	1.68518	AVRG		1 68416						6 48512
78 Bromobenzene	++++ 0.42377	0.43638 0 42102	0.36270 0.39025	0 37254 0.42639	0.37836	0 39093	AVRG		0 40026						6 73692

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Compound	0 500000	1.0000	Level 1	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
79 n-Propylbenzene	1.95421	1.96983	1.76444	1.90722	1.85731	1.98755	1.98755	1.98755	1.98755	1.98755	1.98755	1.98755	AVRG	1.98622	1.98622	1.98622	1.98622	6.69045	6.69045
80 2-Chlorotoluene	1.15937	1.14331	1.02245	1.07243	1.06893	1.10621	1.10621	1.10621	1.10621	1.10621	1.10621	1.10621	AVRG	1.13050	1.13050	1.13050	1.13050	6.29198	6.29198
81 4-Chlorotoluene	1.26872	1.24534	1.16102	1.26142	1.09788	1.15496	1.15496	1.15496	1.15496	1.15496	1.15496	1.15496	AVRG	1.17974	1.17974	1.17974	1.17974	8.00475	8.00475
83 tert-Butylbenzene	1.33912	1.28129	1.15066	1.21628	1.18806	1.26646	1.26646	1.26646	1.26646	1.26646	1.26646	1.26646	AVRG	1.27384	1.27384	1.27384	1.27384	6.00806	6.00806
84 1,3,5-Trimethylbenzene	1.40569	1.36070	1.20469	1.27331	1.25005	1.33034	1.33034	1.33034	1.33034	1.33034	1.33034	1.33034	AVRG	1.33431	1.33431	1.33431	1.33431	6.44469	6.44469

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Compound	0 500000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients	m2	or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6			m1		
85 1,2,4-Trimethylbenzene	++++ 1 43349	1 41294 1.43424	1 23442 1.32677	1 28923 1.47634	1 28367 1.35654	1 35654	AVRG		1 36085		6.09093
86 sec-Butylbenzene	1 84514 2 00142	1 86145 2.03955	1 70278 1.86810	1 81967 2 10858	1 77254 1.91042	1 91042	AVRG		1 89296		6.58836
87 1,3-Dichlorobenzene	++++ 1 90452	1 81236 1.97195	1 63356 1.84389	1 82494 1.92736	1 72565 1.74732	1 74732	AVRG		1 82684		5.29269
88 4-Isopropyltoluene	++++ 1 62974	1 60365 1.64656	1 42932 1.50720	1 50508 1 68300	1 46969 1 56593	1 56593	AVRG		1 56002		5.57273
90 1,4-Dichlorobenzene	++++ 2.00618	1 82358 1.95090	1 63708 1.83246	1 85913 1 99998	1 70095 1.77033	1 77033	AVRG		1 84229		6 95981

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Compound	0 5000000	1.0000	Level 2	5 0000	Level 3	20.0000	Level 4	50.0000	Level 5	100.0000	Curve	b	Coefficients ml	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					
91 1,2-Dichlorobenzene	++++ 1 65729	1.63321 1 69369	1.46192 1.59448	1 61232 1.65562	1 50459	1 56517	AVRG						1.59759		4 73444
92 n-Butylbenzene	++++ 3.43518	3.06720 3.57901	2 89054 3 29664	3.33678 3 45995	3.12506	3 31563	AVRG						3 28622		6.67879
93 1,2-Dibromo-3-chloropropane	++++ 182674	2162 209027	7263 266157	23596 263958	69631	139116	LNIR	0 01763	0 12533						0.99655
94 1,2,4-Trichlorobenzene	++++ 1 07407	1.12131 1.07226	0 96025 1.00592	1 05828 1.02823	0.99684	1 02498	AVRG						1.03802		4.67752
95 Naphthalene	++++ 2 49124	2 59139 2.41043	2 12130 2.45849	2 14931 2.37657	2.24726	2 31286	AVRG						2.35099		6 70610

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-APR-2002 16:39
 End Cal Date : 05-APR-2002 21:55
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDDC\DD\chem\voc2.i\V204061.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 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
96 Hexachlorobutadiene	++++ 0.70629	0 61675 0.72030	0 63604 0.66403	0 72313 0.69146	0 65055	0 67931	AVRG		0.67643		5.54350
97 1,2,3-Trichlorobenzene	++++ 0.96413	1.01326 0 95938	0 85339 0.93125	0 91907 0.93315	0 88337	0 90573	AVRG		0.92919		5.06482
\$ 34 Dibromofluoromethane	++++ 0.57321	++++ 0 58269	++++ 0.57404	0 59599 0.57820	0 58373	0 59763	AVRG		0.58364		1.68394
\$ 37 1,2-Dichloroethane-d4	++++ 0.49433	++++ 0.49184	0 53404 0.50361	0 50249 0 49146	0 50311	0 51654	AVRG		0.50468		2.85948
\$ 56 Toluene-d8	++++ 1 09039	++++ 1.11378	1 18831 1.05248	1.13433 1.09258	1 08698	1 13857	AVRG		1.11218		3.72961

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-APR-2002 16:39
 End Cal Date : 05-APR-2002 21:55
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETC\BDC\DD\chem\voc2.i\V204061.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 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
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
\$ 77 Bromofluorobenzene	+++++ 0.43213	+++++ 0.42492	0.47321 0.40334	0.41647 0.44928	0.42661	0.44712	AVRG		0.43414		5.02402

Curve	Formula	Units
Averaged	Ant = Resp/ml	Response
Linear	Ant = b + Resp/ml	Response



ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Founded 1972

April 24, 2002

Mr. Kraig Smith
Jacobs
600 William Northern Blvd.
Tullahoma, TN 37388

Ref: Analytical Testing
ETC Order # 0204274
Project Description Memphis Depot

Project Number C5X51111

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

JACOBS_DDMT

Certifications

Tennessee #TN02027
Arkansas #40730
Kentucky #90047

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)

695 268

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ANALYTICAL SUMMARY/CROSS REFERENCE TABLE

Client Name **Jacobs**
Site ID **Memphis Depot**

ETC Order #**0204274**
C5X51111

<u>ETC Sample ID</u>	<u>Field ID</u>	<u>Matrix</u>	<u>Method</u>	<u>Method Description</u>
020427401	MW-54-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427402	MW-54-2	AQUEOUS	8260B	GC/MS Volatile Organics
020427403	MW-54-3	AQUEOUS	8260B	GC/MS Volatile Organics
020427404	MW-56-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427405	MW-57-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427406	MW-57-2	AQUEOUS	8260B	GC/MS Volatile Organics
020427407	MW-58-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427408	MW-65-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427409	MW-65-2	AQUEOUS	8260B	GC/MS Volatile Organics
020427410	MW-65-200	AQUEOUS	8260B	GC/MS Volatile Organics
020427411	MW-67-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427412	MW-67-2	AQUEOUS	8260B	GC/MS Volatile Organics
020427413	MW-67-3	AQUEOUS	8260B	GC/MS Volatile Organics
020427414	MW-68-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427415	MW-68-2	AQUEOUS	8260B	GC/MS Volatile Organics
020427416	MW-69-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427417	MW-69-2	AQUEOUS	8260B	GC/MS Volatile Organics
020427418	MW-70-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427419	MW-70-2	AQUEOUS	8260B	GC/MS Volatile Organics
020427420	MW-71-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427421	MW-71-200	AQUEOUS	8260B	GC/MS Volatile Organics
020427422	EQB-2	AQUEOUS	8260B	GC/MS Volatile Organics
020427423	MW-71-2	AQUEOUS	8260B	GC/MS Volatile Organics
020427424	MW-76-1	AQUEOUS	8260B	GC/MS Volatile Organics

④ 4/16/02

Environmental Testing & Consulting, Inc.

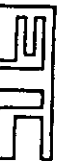
Login
Chain-of-Custody



ETC Work Order : 0204274

CHAIN OF CUSTODY RECORD

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.
2924 Walnut Grove Rd.
Memphis, TN 38111
(901)327-2750 FAX (901)327-6334

CHAIN OF CUSTODY RECORD

ETC Work Order :

0204274

000005

Company Name		Phone # : 931 393 6448		Fax Results		Analysis Requested				
Project/Site		Fax #		RUSH		(Note special detection limits or methods)				
Project #		FID #		Ice						
Project Manager/Contact		PO #								
Matrix		1 Wastewater		4 Sludge						
3 Aqueous		5 Oil/Solvent								
3 Soil/Sediment		6 Other								
# of cont.	Sample ID/ Number	Depth	Sample Date	Sample Time	Matrix	Type	Grab/Comp	Comments		
3	MW-67-2		4/10/02	1357	Water	GEAS				
3	MW-67-3			1400						
3	MW-68-1			1055						
3	MW-68-2			1058						
3	MW-69-1			1100						
3	MW-69-2			1105						
3	MW-70-1			1120						
3	MW-70-2			1125						
2	MW-71-1			1142						
3	MW-71-200			1145						
3	EQB-2			1510						
Sampled By Kraig Smith		Method of Shipment Hand Delivered		Blank/Cooler Temp C 40.0		Remarks C 40.0				
RELINQUISHED BY (sign)		DATE		TIME		RECEIVED BY (sign)		DATE	TIME	Sample Delivery Group ID
RELINQUISHED BY (sign)		DATE		TIME		RECEIVED BY (sign)		DATE	TIME	
RELINQUISHED BY (sign)		DATE		TIME		RECEIVED BY (sign)		DATE	TIME	
RELINQUISHED BY (sign)		DATE		TIME		RECEIVED BY (sign)		DATE	TIME	

Environmental Testing & Consulting, Inc.
Cooler Receipt Form

Date Received 4/10/02 LIMS# 0204-274
 Date/Time Checked In 4/10/02-16:25 Project Memphis Depot
 Carrier/Bill# Hand-Delivered 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) <4°C	OK
5. Ice & Packing- ice, bags, boxes	Yes
6. Chain of Custody filled out properly?	Yes
7. All containers in separate bags?	No
8. Sample containers intact?	No
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

4/10/02-One vial from sample MW-57-1 received broken.

*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

695 275

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204274**

ETC Lab ID **0204274-01**
Field ID : **MW-54-1**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/12/02	LS	8260B 5030B
QC Batch	V204121					
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	2.96	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	5.54	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	5.11	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	9.06	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	127	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	24.2	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	86	84 115
S2 - Toluene-d8	96	69 133
S3 - 4-Bromofluorobenzene	96	80 120
- 1,2-Dichloroethane-d4	79	58 131

UB
Data Validator ND - Not Detected

Q - Recovery Outside QC Limits

000009

695 276

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020427401

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 020427401

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

Lab File ID: 0901011

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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
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

000010

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 277

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204274**

ETC Lab ID **0204274-02**
Field ID : **MW-54-2**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/12/02	LS	8260B 5030B
QC Batch	V204121					
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	14.2	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	8.84	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	9.95	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	18.1	ug/L	1.00			
Tetrachloroethene	1.62	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	1.19	ug/L	1.00			
Trichloroethene	404E	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	43.7	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	88	84 115
S2 - Toluene-d8	98	69 133
S3 - 4-Bromofluorobenzene	96	80 120
- 1,2-Dichloroethane-d4	83	58 131

CB
Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000011

695 278

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

CLIENT SAMPLE NO.

020427402

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 020427402

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

Lab File ID: 1001012

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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
1.				
2.				
3.				
4.				
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29.				
30.				

FORM I VOA-GCMS-TIC

000012

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 279

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID # .

Date Arrived **04/10/02**
ETC Order Number **0204274**

ETC Lab ID **0204274-02**
Field ID : **MW-54-2-DIL**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/13/02	LS	8260B 5030B
QC Batch	V204131					
Dilution Factor	10					
Trichloroethene	618	ug/L	10.0			
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>			
S1 - Dibromofluoromethane	87		84	115		
S2 - Toluene-d8	94		69	133		
S3 - 4-Bromofluorobenzene	94		80	120		
S4 - 1,2-Dichloroethane-d4	79		58	131		

Data Validator *CB*

ND - Not Detected

Q - Recovery Outside QC Limits

000013

695 280

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name

Jacobs

Site ID Memphis Depot

Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

FID #

Date Arrived

04/10/02

ETC Order Number

0204274

ETC Lab ID

0204274-03

Field ID

MW-54-3

Matrix : AQUEOUS

Sample Date : 04/10/02

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/12/02	LS	8260B 5030B
QC Batch	V204121					
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	14.4	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	8.15	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	9.17	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	17.5	ug/L	1.00			
Tetrachloroethene	2.06	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	1.10	ug/L	1.00			
Trichloroethene	394E	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	41.7	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	87	84 115
S2 - Toluene-d8	98	69 133
S3 - 4-Bromofluorobenzene	98	80 120
S4 - 1,2-Dichloroethane-d4	83	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

00001A

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

695 281
CLIENT SAMPLE NO.

020427403

Lab Name: ETC, INC.

Contract: .

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 020427403

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

Lab File ID: 1101013

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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
=====	=====	=====	=====	=====
1.				
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FORM I VOA-GCMS-TIC

000015

695 282

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204274**

ETC Lab ID **0204274-03**
Field ID : **MW-54-3-DIL**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/13/02	LS	8260B 5030B
QC Batch	V204131					
Dilution Factor	10					
Trichloroethene	723	ug/L	10.0			
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>			
S1 - Dibromofluoromethane	87		84	115		
S2 - Toluene-d8	97		69	133		
S3 - 4-Bromofluorobenzene	95		80	120		
S4 - 1,2-Dichloroethane-d4	83		58	131		

Data Validator *CB*

ND - Not Detected

Q - Recovery Outside QC Limits

000016

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 283

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204274**

ETC Lab ID **0204274-04**
Field ID : **MW-56-1**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/13/02	LS	8260B 5030B
QC Batch	V204131					
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	31.6	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	1.27	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	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	85	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	95	80 120
- 1,2-Dichloroethane-d4	82	58 131

Data Validator *CB*

ND - Not Detected

Q - Recovery Outside QC Limits

000017

695 284

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020427404

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 020427404

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

Lab File ID: 0401006

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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
=====	=====	=====	=====	=====
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

000018

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 285

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204274**

ETC Lab ID **0204274-05**
Field ID : **MW-57-1**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/12/02	LS	8260B 5030B
QC Batch	V204121					
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	38.5	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	13.4	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	1.63	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	6.08	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	58.8	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	0.51J	ug/L	1.00			
Surrogate Standard			% Recovery	QC Limits		
S1 - Dibromofluoromethane	90			84	115	
S2 - Toluene-d8	97			69	133	
S3 - 4-Bromofluorobenzene	96			80	120	
- 1,2-Dichloroethane-d4	85			58	131	

CB

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000019

.695 286

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020427405

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 020427405

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

Lab File ID: 1301015

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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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ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 287

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tulahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**ETC Order Number **0204274**ETC Lab ID **0204274-06**Field ID : **MW-57-2**Matrix : **AQUEOUS**Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/12/02	LS	8260B 5030B
QC Batch	V204121					
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	42.8	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	15.1	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	1.88	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	5.02	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	66.4	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	0.55J	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	88	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	96	80 120
1,2-Dichloroethane-d4	81	58 131

CB

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000021

695 288

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

CLIENT SAMPLE NO.

020427406

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 020427406

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

Lab File ID: 1401016

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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

000022

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 289

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204274**

ETC Lab ID **0204274-07**
Field ID : **MW-58-1**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/12/02	LS	8260B 5030B
QC Batch	V204121					
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	2.75	ug/L	1.00			
Dibromomethane	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	2.46	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	96	69 133
S3 - 4-Bromofluorobenzene	96	80 120
- 1,2-Dichloroethane-d4	87	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000023

695 290

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020427407

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 020427407

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

Lab File ID: 1501017

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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

000024

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 291

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tulahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**ETC Order Number **0204274**ETC Lab ID **0204274-08**Field ID : **MW-65-1**Matrix : **AQUEOUS**Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/12/02	LS	8260B 5030B
QC Batch	V204121					
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			
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	88	84	115
S2 - Toluene-d8	97	69	133
S3 - 4-Bromofluorobenzene	96	80	120
- 1,2-Dichloroethane-d4	82	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000005

020427408

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 020427408

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

Lab File ID: 1601018

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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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ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 293

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204274**

ETC Lab ID **0204274-09**
Field ID : **MW-65-2**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/12/02	LS	8260B 5030B
QC Batch	V204121					
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	88	84	115			
S2 - Toluene-d8	98	69	133			
S3 - 4-Bromofluorobenzene	97	80	120			
- 1,2-Dichloroethane-d4	83	58	131			

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000027

695 294

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020427409

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 020427409

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

Lab File ID: 1701019

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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
=====	=====	=====	=====	=====
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

000028

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 295

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tulahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204274**

ETC Lab ID **0204274-10**
Field ID : **MW-65-200**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/12/02	LS	8260B 5030B
QC Batch	V204121					
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	90	84 115
S2 - Toluene-d8	97	69 133
S3 - 4-Bromofluorobenzene	97	80 120
- 1,2-Dichloroethane-d4	84	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000029

695 296

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020427410

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 020427410

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

Lab File ID: 1801020

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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
1.				
2.				
3.				
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FORM I VOA-GCMS-TIC

000030

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 297

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tulahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204274**

ETC Lab ID **0204274-11**
Field ID : **MW-67-1**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/13/02	LS	8260B 5030B
QC Batch	V204122					
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			
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	88	84 115
S2 - Toluene-d8	97	69 133
S3 - 4-Bromofluorobenzene	97	80 120
- 1,2-Dichloroethane-d4	82	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000031

695 298

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020427411

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 020427411

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

Lab File ID: 2301032

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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

000032

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 299

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204274**

ETC Lab ID **0204274-12**
Field ID : **MW-67-2**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/13/02	LS	8260B 5030B
QC Batch	V204122					
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	88	84 115
S2 - Toluene-d8	97	69 133
S3 - 4-Bromofluorobenzene	97	80 120
- 1,2-Dichloroethane-d4	81	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000033

695 300

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020427412

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 020427412

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

Lab File ID: 2401033

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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
1.				
2.				
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FORM I VOA-GCMS-TIC

000034

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 301

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tulahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204274**

ETC Lab ID **0204274-13**
Field ID : **MW-67-3**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/13/02	LS	8260B 5030B
QC Batch	V204122					
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			
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	88	84 115
S2 - Toluene-d8	97	69 133
S3 - 4-Bromofluorobenzene	96	80 120
- 1,2-Dichloroethane-d4	82	58 131

695 302

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

CLIENT SAMPLE NO.

020427413

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 020427413

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

Lab File ID: 2501034

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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
=====	=====	=====	=====	=====
1.				
2.				
3.				
4.				
5.				
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FORM I VOA-GCMS-TIC

000036

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 303

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204274**

ETC Lab ID **0204274-14**
Field ID : **MW-68-1**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/13/02	LS	8260B 5030B
QC Batch	V204122					
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	1.01	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	88	84 115
S2 - Toluene-d8	98	69 133
S3 - 4-Bromofluorobenzene	97	80 120
- 1,2-Dichloroethane-d4	82	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000037

695 304

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

CLIENT SAMPLE NO.

020427414

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 020427414

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

Lab File ID: 2601035

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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

000038

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 305

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tulahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**ETC Order Number **0204274**ETC Lab ID **0204274-15**Field ID : **MW-68-2**Matrix : **AQUEOUS**Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/13/02	LS	8260B 5030B
QC Batch	V204122					
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	89		84	115		
S2 - Toluene-d8	98		69	133		
S3 - 4-Bromofluorobenzene	96		80	120		
1,2-Dichloroethane-d4	80		58	131		

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000039

695 306

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020427415

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 020427415

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

Lab File ID: 2701036

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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

000040

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 307

Client Name

Jacobs

Site ID

Memphis Depot

Memphis Defense Depot

600 William Northern Blvd.

FID #

Tullahoma, TN 37388

Date Arrived 04/10/02

ETC Order Number 0204274

ETC Lab ID 0204274-16

Field ID : MW-69-1

Matrix AQUEOUS

Sample Date 04/10/02

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/13/02	LS	8260B 5030B
QC Batch	V204122					
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	1.52	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	4.14	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	1.84	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	128	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	7.92	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	89	84 115
S2 - Toluene-d8	99	69 133
S3 - 4-Bromofluorobenzene	95	80 120
- 1,2-Dichloroethane-d4	83	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000041

695 308

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020427416

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 020427416

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

Lab File ID: 2801037

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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

000042

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 309

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204274**

ETC Lab ID **0204274-17**
Field ID : **MW-69-2**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/13/02	LS	8260B 5030B
QC Batch	V204122					
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	87	84 115
S2 - Toluene-d8	99	69 133
S3 - 4-Bromofluorobenzene	97	80 120
S4 - 1,2-Dichloroethane-d4	81	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000043

695 310

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

CLIENT SAMPLE NO.

020427417

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 020427417

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

Lab File ID: 2901038

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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
=====	=====	=====	=====	=====
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

000044

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 311

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204274**

ETC Lab ID **0204274-18**
Field ID : **MW-70-1**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/13/02	LS	8260B 5030B
QC Batch	V204122					
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	3.99	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	27.3	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	2,200E	ug/L	1.00			
Tetrachloroethene	13.5	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	7.35	ug/L	1.00			
Trichloroethene	1,660E	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	114	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	90	84 115
S2 - Toluene-d8	98	69 133
S3 - 4-Bromofluorobenzene	98	80 120
S4 - 1,2-Dichloroethane-d4	82	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000045

695 312

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020427418

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 020427418

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

Lab File ID: 3001039

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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
1.				
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FORM I VOA-GCMS-TIC

000046

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 313

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204274**

ETC Lab ID **0204274-18**
Field ID : **MW-70-1-DIL**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/13/02	LS	8260B 5030B
QC Batch	V204131					
Dilution Factor	100					
1,1,2,2-Tetrachloroethane	2,540	ug/L	100			
Trichloroethene	2,940	ug/L	100			
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>			
S1 - Dibromofluoromethane	89		84	115		
S2 - Toluene-d8	95		69	133		
S3 - 4-Bromofluorobenzene	95		80	120		
S4 - 1,2-Dichloroethane-d4	82		58	131		

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000047

695 314

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204274**

ETC Lab ID **0204274-19**
 Field ID : **MW-70-2**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/13/02	LS	8260B 5030B
QC Batch	V204122					
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	2.65	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	0.98J	ug/L	1.00			
trans-1,2-Dichloroethene	10.8	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	1,400E	ug/L	1.00			
Tetrachloroethene	3.27	ug/L	1.00			
Toluene	1.17	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	5.20	ug/L	1.00			
Trichloroethene	1,290E	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	17.0	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	69.2	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	88	84 115
S2 - Toluene-d8	99	69 133
S3 - 4-Bromofluorobenzene	99	80 120
S4 - 1,2-Dichloroethane-d4	83	58 131


 Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000048

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

695 315
CLIENT SAMPLE NO.

020427419

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 020427419

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

Lab File ID: 3101040

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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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695 316

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**ETC Order Number **0204274**ETC Lab ID **0204274-19**Field ID : **MW-70-2-DIL**Matrix : **AQUEOUS**Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/13/02	LS	8260B 5030B
QC Batch	V204131					
Dilution Factor	100					
1,1,2,2-Tetrachloroethane	1,580	ug/L	100			
Trichloroethene	1,490	ug/L	100			
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>			
S1 - Dibromofluoromethane	90		84	115		
S2 - Toluene-d8	95		69	133		
S3 - 4-Bromofluorobenzene	96		80	120		
S4 - 1,2-Dichloroethane-d4	84		58	131		

CB
Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000050

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 317

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204274**

ETC Lab ID **0204274-20**
Field ID : **MW-71-1**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/13/02	LS	8260B 5030B
QC Batch	V204122					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	1.02	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	20.3	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	828E	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	3.36	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	325E	ug/L	1.00			
Tetrachloroethene	1.96	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	6.00	ug/L	1.00			
Trichloroethene	184	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	9.64	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	90	84 115
S2 - Toluene-d8	96	69 133
S3 - 4-Bromofluorobenzene	96	80 120
- 1,2-Dichloroethane-d4	85	58 131

695 318

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

CLIENT SAMPLE NO.

020427420

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 020427420

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

Lab File ID: 3201041

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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

000052

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 319

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204274**

ETC Lab ID **0204274-20**
Field ID : **MW-71-1-DIL**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/13/02	LS	8260B 5030B
QC Batch	V204131					
Dilution Factor	20					
Chloroform	788	ug/L	20.0			
1,1,2,2-Tetrachloroethane	332	ug/L	20.0			
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>			
S1 - Dibromofluoromethane	89		84	115		
S2 - Toluene-d8	96		69	133		
S3 - 4-Bromofluorobenzene	95		80	120		
S4 - 1,2-Dichloroethane-d4	84		58	131		

CB
Data Validator ND - Not Detected

Q - Recovery Outside QC Limits

000052

695 320

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name

Jacobs
 Memphis Defense Depot
 600 William Northern Blvd.
 Tullahoma, TN 37388

Site ID Memphis Depot

FID #

Date Arrived

04/10/02

ETC Order Number

0204274

ETC Lab ID

0204274-21

Field ID

MW-71-200

Matrix : AQUEOUS

Sample Date : 04/10/02

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/13/02	LS	8260B 5030B
QC Batch	V204131					
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	444E	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	2.48	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	150	ug/L	1.00			
Tetrachloroethene	1.61	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	2.89	ug/L	1.00			
Trichloroethene	126	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	5.54	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	90	84 115
S2 - Toluene-d8	97	69 133
S3 - 4-Bromofluorobenzene	97	80 120
S4 - 1,2-Dichloroethane-d4	85	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000054

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

695 321
CLIENT SAMPLE NO.

020427421

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 020427421

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

Lab File ID: 1001012

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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
1.				
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695 322

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**ETC Order Number **0204274**ETC Lab ID **0204274-21**Field ID : **MW-71-200-DIL**Matrix : **AQUEOUS**Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/13/02	LS	8260B 5030B
QC Batch	V204131					
Dilution Factor	100					
Chloroform	552	ug/L	100			
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>			
S1 - Dibromofluoromethane	89		84	115		
S2 - Toluene-d8	96		69	133		
S3 - 4-Bromofluorobenzene	95		80	120		
S4 - 1,2-Dichloroethane-d4	85		58	131		

Data Validator 

ND - Not Detected

Q - Recovery Outside QC Limits

000055

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 323

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204274**

ETC Lab ID **0204274-22**
Field ID : **EQB-2**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/13/02	LS	8260B 5030B
QC Batch	V204131					
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			
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	90	84 115
S2 - Toluene-d8	97	69 133
S3 - 4-Bromofluorobenzene	96	80 120
- 1,2-Dichloroethane-d4	87	58 131

CB

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000057

695 324

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020427422

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 020427422

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

Lab File ID: 1201014

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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. 1823-52-5	2-OXETANONE, 4,4-DIMETHYL-	4.96	6.70	NJ
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FORM I VOA-GCMS-TIC

000058

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 325

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204274**

ETC Lab ID **0204274-23**
Field ID : **MW-71-2**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/13/02	LS	8260B 5030B
QC Batch	V204131					
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	17.0	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	234E	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	68.1	ug/L	1.00			
Tetrachloroethene	1.32	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	1.36	ug/L	1.00			
Trichloroethene	70.9	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	3.30	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	92	84 115
S2 - Toluene-d8	95	69 133
S3 - 4-Bromofluorobenzene	95	80 120
- 1,2-Dichloroethane-d4	84	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000059

695 326

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020427423

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 020427423

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

Lab File ID: 1301015

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
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30.				

FORM I VOA-GCMS-TIC

000060

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 327

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204274**

ETC Lab ID **0204274-23**
Field ID : **MW-71-2-DIL**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/14/02	LS	8260B 5030B
QC Batch	V204141					
Dilution Factor	10					
Chloroform	233	ug/L	10.0			
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>			
S1 - Dibromofluoromethane	85		84	115		
S2 - Toluene-d8	97		69	133		
S3 - 4-Bromofluorobenzene	97		80	120		
S4 - 1,2-Dichloroethane-d4	79		58	131		

Data Validator *CB*

ND - Not Detected

Q - Recovery Outside QC Limits

000061

695 328

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204274**

ETC Lab ID **0204274-24**
 Field ID : **MW-76-1**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/13/02	LS	8260B 5030B
QC Batch	V204131					
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	5.29	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	117	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	1.23	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	90.7	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	10.6	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	90	84 115
S2 - Toluene-d8	98	69 133
S3 - 4-Bromofluorobenzene	96	80 120
S4 - 1,2-Dichloroethane-d4	85	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000062

695 329

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

CLIENT SAMPLE NO.

020427424

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 020427424

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

Lab File ID: 1401016

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
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FORM I VOA-GCMS-TIC

000063

695 330

Environmental Testing & Consulting, Inc.

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

000064

CASE NARRATIVE
GC/MS VOLATILE COMPOUNDS – AQUEOUS

Client Name Jacobs
Project Name Memphis Depot
ETC Order# 0204-274

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>
V204121	V2041211LB
V204122	V2041221LB
V204131	V2041311LB
V204141	V2041411LB

System Monitoring Compounds FORM 2

Surrogate recoveries within QC limits.

Method Blank FORM 4

V2041211LB
V2041221LB
V2041311LB
V2041411LB

Target analytes were not detected in the method blank, except as listed below:

Methylene Chloride was identified in method blanks for the above referenced batches. This analyte was not reported in any of the associated project samples. The data was not affected.

Laboratory Control Sample FORM 3

V2041211LCS
V2041221LCS
V2041311LCS/V2041312LCS
V2041411LCS

All target analyte acceptance criteria met, except as listed below:

Acetone was flagged for high recovery in V2041211LCS. This analyte was not reported in any associated project samples. The data was not affected.

Multiple analytes were flagged for high recovery in V2041311LCS. This LCS was re-analyzed for verification with all recoveries within QC limits.

Matrix Spike / Matrix Spike Dup FORM 3

Batch V204121

0204-227-01

RPD

Spike Recovery

All analytes within QC limits.

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.

695 332

ENVIRONMENTAL TESTING AND CONSULTING, INC.

CASE NARRATIVE

GC/MS VOLATILE COMPOUNDS - AQUEOUS

Client Name Jacobs
Project Name Memphis Depot
ETC Order# 0204-274

Matrix Spike / Matrix Spike Dup FORM 3

Batch V204122

0204-274-12 RPD All analytes within QC limits

MW-67-2 Spike Recovery All analytes within QC limits.

Refer to Laboratory Control Sample(s) for system verification

Batch V204131

0204-274-21 RPD All analytes within QC limits.

MW-71-200 Spike Recovery All analytes within QC limits.

Refer to Laboratory Control Sample(s) for system verification

Batch V204141

0204-275-10 RPD All analytes within QC limits.

MW-79-4 Spike Recovery All analytes 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 All criteria met. FORM 7 Responses >30% do 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 to bring Target Analyte(s) within calibration range as shown on the Sample Report Forms

LB

Project Manager

000066

FORM 2
WATER VOA-GCMS SYSTEM MONITORING COMPOUND RECOVERY

695 333

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

	CLIENT SAMPLE NO.	SMC1 (DFM) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER (DCE) #	TOT OUT
	=====	=====	=====	=====	=====	=====
01	V2041211LCS	88	96	93	86	0
02	V2041211LB	86	95	96	82	0
03	020427401	86	96	96	79	0
04	020427402	88	98	96	83	0
05	020427403	87	98	98	83	0
06	020427405	90	97	96	85	0
07	020427406	88	95	96	81	0
08	020427407	91	96	96	87	0
09	020427408	88	97	96	82	0
10	020427409	88	98	97	83	0
11	020427410	90	97	97	84	0
12	V2041221LCS	92	98	98	87	0
13	V2041221LB	88	98	97	83	0
14	020427411	88	97	97	82	0
15	020427412	88	97	97	81	0
16	020427413	88	97	96	82	0
17	020427414	88	98	97	82	0
18	020427415	89	98	96	80	0
19	020427416	89	99	95	83	0
20	020427417	87	99	97	81	0
21	020427418	90	98	98	82	0
22	020427419	88	99	99	83	0
23	020427420	90	96	96	85	0
24	020427412MS	90	98	98	84	0
25	020427412MSD	89	98	92	84	0
26	V2041311LCS	88	98	97	83	0
27	V2041312LCS	91	96	93	89	0
28	V2041311LB	86	96	97	81	0
29	020427404	85	95	95	82	0
30	020427402	87	94	94	79	0

QC LIMITS

SMC1 (DFM) = Dibromofluoromethane (84-115)
 SMC2 (TOL) = Toluene-d8 (69-133)
 SMC3 (BFB) = Bromofluorobenzene (80-120)
 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

695 334

FORM 2

WATER VOA-GCMS SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

	CLIENT SAMPLE NO.	SMC1 (DFM) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER (DCE) #	TOT OUT
01	020427403	87	97	95	83	0
02	020427418	89	95	95	82	0
03	020427419	90	95	96	84	0
04	020427420	89	96	95	84	0
05	020427421	90	97	97	85	0
06	020427421	89	96	95	85	0
07	020427422	90	97	96	87	0
08	020427423	92	95	95	84	0
09	020427424	90	98	96	85	0
10	020427421MS	90	99	98	87	0
11	020427421MSD	89	99	96	82	0
12	V2041411LCS	88	98	95	85	0
13	V2041411LB	87	96	97	82	0
14	020427423	85	97	97	79	0
15						
16						
17						
18						
19						
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25						
26						
27						
28						
29						
30						

QC LIMITS

SMC1 (DFM) = Dibromofluoromethane (84-115)
 SMC2 (TOL) = Toluene-d8 (69-133)
 SMC3 (BFB) = Bromofluorobenzene (80-120)
 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

695 335

CLIENT SAMPLE NO.

V2041211LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Lab File ID: 0302005

Lab Prep Batch: V204121

Date Analyzed: 04/12/02

Time Analyzed: 1515

GC Column: ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC2

Lab Sample ID: 11LB

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	V2041211LCS	11LCS	0201003LCS	1319
02	020422701	020422701	0401006	1547
03	020427401	020427401	0901011	1828
04	020427402	020427402	1001012	1900
05	020427403	020427403	1101013	1933
06	020427405	020427405	1301015	2038
07	020427406	020427406	1401016	2110
08	020427407	020427407	1501017	2142
09	020427408	020427408	1601018	2213
10	020427409	020427409	1701019	2245
11	020427410	020427410	1801020	2317
12	020422701MS	MS	1901021	2348
13	020422701MSD	MSD	2001022	0020
14				
15				
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COMMENTS:

695 336

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET

V2041211LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Prep Batch: V204121

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

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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

FORM I VOA-GCMS

000070

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

695 337

CLIENT SAMPLE NO.

V2041211LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Prep Batch: V204121

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

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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	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	0.866	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

000071

695 338

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET

V2041211LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Prep Batch: V204121

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

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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

FORM I VOA-GCMS

000072

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

695 339
CLIENT SAMPLE NO.

V2041211LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 11LB

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

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/12/02

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
=====	=====	=====	=====	=====
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. _____	_____	_____	_____	_____

695 340

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V204121

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix Spike - Sample No.: V2041211LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Acetone	100.0		157.4	157*	59-151
Acetonitrile	1000		1069	107	57-143
Acrolein	100.0		107.8	108	59-134
Acrylonitrile	100.0		117.2	117	60-146
Allyl chloride	100.0		105.9	106	74-120
Benzene	100.0		108.3	108	72-124
Bromobenzene	100.0		101.7	102	77-120
Bromochloromethane	100.0		109.0	109	74-120
Bromodichloromethane	100.0		100.9	101	68-119
Bromoform	100.0		104.4	104	66-136
2-Butanone	100.0		138.3	138	55-151
Bromomethane	100.0		71.51	72	40-134
n-Butylbenzene	100.0		117.2	117	69-129
sec-Butylbenzene	100.0		102.9	103	72-127
tert-Butylbenzene	100.0		100.1	100	73-126
Carbon Disulfide	100.0		104.9	105	60-133
Carbon Tetrachloride	100.0		105.0	105	64-123
Chlorobenzene	100.0		102.3	102	77-112
Chlorodibromomethane	100.0		108.8	109	72-118
Chloroethane	100.0		94.89	95	64-142
2-Chloroethyl vinyl eth	100.0		121.2	121	22-165
Chloroform	100.0		101.9	102	70-115
Chloromethane	100.0		83.71	84	58-139
Chloroprene	100.0		109.6	110	73-118
2-Chlorotoluene	100.0		101.4	101	65-132
4-Chlorotoluene	100.0		95.92	96	67-127
1,2-Dibromo-3-chloropro	100.0		122.0	122	56-134
1,2-Dibromoethane	100.0		112.7	113	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

695 341

Lab Name: ETC, INC.

Lab Prep Batch: V204121

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix Spike - Sample No.: V2041211LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Dibromomethane	100.0		110.1	110	75-114
1,2-Dichlorobenzene	100.0		110.6	111	80-113
1,3-Dichlorobenzene	100.0		110.9	111	77-119
1,4-Dichlorobenzene	100.0		112.7	113	78-116
cis-1,4-Dichloro-2-bute	100.0		123.1	123	70-130
trans-1,4-Dichloro-2-bu	100.0		120.0	120	62-138
Dichlorodifluoromethane	100.0		94.09	94	48-145
1,1-Dichloroethane	100.0		107.2	107	76-118
1,2-Dichloroethane	100.0		108.3	108	62-124
1,1-Dichloroethene	100.0		102.2	102	69-121
cis-1,2-Dichloroethene	100.0		108.9	109	76-114
trans-1,2-Dichloroethen	100.0		102.4	102	72-121
1,2-Dichloropropane	100.0		102.9	103	64-133
1,3-Dichloropropane	100.0		112.4	112	68-128
2,2-Dichloropropane	100.0		109.6	110	67-132
1,1-Dichloropropene	100.0		109.3	109	76-117
cis-1,3-Dichloropropene	100.0		109.6	110	77-120
trans-1,3-Dichloroprope	100.0		112.6	113	73-124
Di isopropyl ether	100.0		111.6	112	62-160
1,4-Dioxane	2000		2436	122	56-131
Ethyl Acetate	100.0		127.5	128	52-151
Ethylbenzene	100.0		102.3	102	77-111
Ethyl methacrylate	200.0		247.3	124	57-140
Furan	100.0		158.5	158*	52-124
Hexachlorobutadiene	100.0		111.2	111	69-137
Hexane	100.0		126.4	126	70-130
2-Hexanone	100.0		137.8	138	53-144
Iodomethane	100.0		66.65	67	51-153

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

* Values outside of QC limits

COMMENTS:

695 342

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V204121

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix Spike - Sample No.: V2041211LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Isobutyl Alcohol	2000		2772	139*	60-134
Isopropylbenzene	100.0		102.8	103	74-125
4-Isopropyltoluene	100.0		103.2	103	72-127
Methacrylonitrile	1000		1256	126*	70-125
Methylene Chloride	100.0		101.2	101	76-115
Methyl methacrylate	200.0		244.2	122	57-147
4-Methyl-2-Pentanone	100.0		126.7	127	42-144
Methyl-tertbutyl-Ether	100.0		100.8	101	62-122
Naphthalene	100.0		112.0	112	53-124
Propionitrile	1000		1266	127	58-139
n-Propyl Acetate	100.0		193.4	193*	88-170
n-Propylbenzene	100.0		103.9	104	75-125
Styrene	100.0		104.0	104	77-117
1,1,1,2-Tetrachloroetha	100.0		99.64	100	79-113
1,1,2,2-Tetrachloroetha	100.0		125.6	126	67-126
Tetrachloroethene	100.0		109.2	109	77-115
Tetrahydrofuran	100.0		117.1	117	76-181
1,2,3-Trichlorobenzene	100.0		116.6	117	62-132
Toluene	100.0		106.8	107	77-115
1,1,1-Trichloroethane	100.0		107.4	107	63-122
1,1,2-Trichloroethane	100.0		111.6	112	69-117
1,1,2-trichloro-1,2,2-t	100.0		104.1	104	70-130
Trichloroethene	100.0		103.5	104	75-113
Trichlorofluoromethane	100.0		98.86	99	55-130
1,2,3-Trichloropropane	100.0		116.9	117	62-130
1,2,4-Trimethylbenzene	100.0		101.4	101	69-126
1,2,4-Trichlorobenzene	100.0		120.2	120	68-132
1,3,5-Trimethylbenzene	100.0		100.9	101	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

095 343

Lab Name: ETC, INC.

Lab Prep Batch: V204121

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix Spike - Sample No.: V2041211LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Vinyl Acetate	100.0		124.6	125	28-146
Vinyl Chloride	100.0		92.56	92	65-134
Xylene-mp	200.0		202.8	101	77-115
Xylene-o	100.0		102.0	102	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: 5 out of 88 outside limits

COMMENTS:

WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC, INC.

Lab Prep Batch: V204121

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix Spike - Sample No.: 020422701

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Benzene	100.0	0.000	108.9	109	72-124
Chlorobenzene	100.0	0.000	100.8	101	77-112
1,1-Dichloroethene	100.0	0.000	103.7	104	69-121
Toluene	100.0	0.000	106.0	106	77-115
Trichloroethene	100.0	0.000	99.81	100	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
Benzene	100.0	105.7	106	3	20	72-124
Chlorobenzene	100.0	99.09	99	2	20	77-112
1,1-Dichloroethene	100.0	99.84	100	4	20	69-121
Toluene	100.0	102.0	102	4	20	77-115
Trichloroethene	100.0	96.94	97	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: 0 out of 10 outside limits

COMMENTS:

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

695 345

CLIENT SAMPLE NO.

V2041221LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Lab File ID: 2203031

Lab Prep Batch: V204122

Date Analyzed: 04/13/02

Time Analyzed: 0503

GC Column: ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC2

Lab Sample ID: 21LB

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	V2041221LCS	21LCS	2102027LCS	0257
02	020427411	020427411	2301032	0534
03	020427412	020427412	2401033	0606
04	020427413	020427413	2501034	0637
05	020427414	020427414	2601035	0709
06	020427415	020427415	2701036	0740
07	020427416	020427416	2801037	0812
08	020427417	020427417	2901038	0843
09	020427418	020427418	3001039	0915
10	020427419	020427419	3101040	0946
11	020427420	020427420	3201041	1018
12	020427412MS	MS	3301042	1050
13	020427412MSD	MSD	3401043	1122
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

695 346

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2041221LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Prep Batch: V204122

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

Lab File ID: 2203031

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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

000080

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

695 347

CLIENT SAMPLE NO.

V2041221LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Prep Batch: V204122

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

Lab File ID: 2203031

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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	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	2.42	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

000081

695 348

 FORM 1
 VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2041221LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Prep Batch: V204122

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

Lab File ID: 2203031

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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

FORM I VOA-GCMS

000082

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

695 349

CLIENT SAMPLE NO.

V2041221LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 21LB

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

Lab File ID: 2203031

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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
1.				
2.				
3.				
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28.				
29.				
30.				

695 350

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V204122

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix Spike - Sample No.: V2041221LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acetone	100.0		80.38	80	59-151
Acetonitrile	1000		872.1	87	57-143
Acrolein	100.0		83.36	83	59-134
Acrylonitrile	100.0		87.32	87	60-146
Allyl chloride	100.0		88.25	88	74-120
Benzene	100.0		86.44	86	72-124
Bromobenzene	100.0		82.24	82	77-120
Bromochloromethane	100.0		86.53	86	74-120
Bromodichloromethane	100.0		80.20	80	68-119
Bromoform	100.0		79.39	79	66-136
2-Butanone	100.0		82.90	83	55-151
Bromomethane	100.0		74.32	74	40-134
n-Butylbenzene	100.0		84.11	84	69-129
sec-Butylbenzene	100.0		86.06	86	72-127
tert-Butylbenzene	100.0		84.84	85	73-126
Carbon Disulfide	100.0		82.13	82	60-133
Carbon Tetrachloride	100.0		81.98	82	64-123
Chlorobenzene	100.0		84.44	84	77-112
Chlorodibromomethane	100.0		82.19	82	72-118
Chloroethane	100.0		82.02	82	64-142
2-Chloroethyl vinyl eth	100.0		87.09	87	22-165
Chloroform	100.0		83.47	83	70-115
Chloromethane	100.0		66.13	66	58-139
Chloroprene	100.0		86.76	87	73-118
2-Chlorotoluene	100.0		82.75	83	65-132
4-Chlorotoluene	100.0		81.87	82	67-127
1,2-Dibromo-3-chloropro	100.0		84.28	84	56-134
1,2-Dibromoethane	100.0		82.15	82	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

695 351

Lab Name: ETC, INC.

Lab Prep Batch: V204122

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix Spike - Sample No.: V2041221LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Dibromomethane	100.0		83.68	84	75-114
1,2-Dichlorobenzene	100.0		84.00	84	80-113
1,3-Dichlorobenzene	100.0		83.56	84	77-119
1,4-Dichlorobenzene	100.0		86.05	86	78-116
cis-1,4-Dichloro-2-bute	100.0		82.44	82	70-130
trans-1,4-Dichloro-2-bu	100.0		80.10	80	62-138
Dichlorodifluoromethane	100.0		72.30	72	48-145
1,1-Dichloroethane	100.0		88.08	88	76-118
1,2-Dichloroethane	100.0		85.53	86	62-124
1,1-Dichloroethene	100.0		80.74	81	69-121
cis-1,2-Dichloroethene	100.0		87.31	87	76-114
trans-1,2-Dichloroethen	100.0		98.87	99	72-121
1,2-Dichloropropane	100.0		83.02	83	64-133
1,3-Dichloropropane	100.0		84.85	85	68-128
2,2-Dichloropropane	100.0		74.45	74	67-132
1,1-Dichloropropene	100.0		85.42	85	76-117
cis-1,3-Dichloropropene	100.0		82.39	82	77-120
trans-1,3-Dichloroprope	100.0		81.76	82	73-124
Di isopropyl ether	100.0		92.18	92	62-160
1,4-Dioxane	2000		1580	79	56-131
Ethyl Acetate	100.0		86.49	86	52-151
Ethylbenzene	100.0		84.07	84	77-111
Ethyl methacrylate	200.0		174.9	87	57-140
Furan	100.0		133.3	133*	52-124
Hexachlorobutadiene	100.0		82.79	83	69-137
Hexane	100.0		97.62	98	70-130
2-Hexanone	100.0		82.58	82	53-144
Iodomethane	100.0		81.20	81	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: V204122

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix Spike - Sample No.: V2041221LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	2000		1774	89	60-134
Isopropylbenzene	100.0		85.18	85	74-125
4-Isopropyltoluene	100.0		83.07	83	72-127
Methacrylonitrile	1000		908.9	91	70-125
Methylene Chloride	100.0		87.02	87	76-115
Methyl methacrylate	200.0		170.0	85	57-147
4-Methyl-2-Pentanone	100.0		82.80	83	42-144
Methyl-tertbutyl-Ether	100.0		87.85	88	62-122
Naphthalene	100.0		81.67	82	53-124
Propionitrile	1000		898.5	90	58-139
n-Propyl Acetate	100.0		128.7	129	88-170
n-Propylbenzene	100.0		83.91	84	75-125
Styrene	100.0		86.40	86	77-117
1,1,1,2-Tetrachloroetha	100.0		83.17	83	79-113
1,1,2,2-Tetrachloroetha	100.0		87.97	88	67-126
Tetrachloroethene	100.0		79.10	79	77-115
Tetrahydrofuran	100.0		82.16	82	76-181
1,2,3-Trichlorobenzene	100.0		83.44	83	62-132
Toluene	100.0		83.01	83	77-115
1,1,1-Trichloroethane	100.0		85.16	85	63-122
1,1,2-Trichloroethane	100.0		85.56	86	69-117
1,1,2-trichloro-1,2,2-t	100.0		82.48	82	70-130
Trichloroethene	100.0		80.10	80	75-113
Trichlorofluoromethane	100.0		78.53	78	55-130
1,2,3-Trichloropropane	100.0		86.56	86	62-130
1,2,4-Trimethylbenzene	100.0		83.82	84	69-126
1,2,4-Trichlorobenzene	100.0		81.37	81	68-132
1,3,5-Trimethylbenzene	100.0		84.19	84	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

695 353

Lab Name: ETC, INC.

Lab Prep Batch: V204122

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix Spike - Sample No.: V2041221LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Vinyl Acetate	100.0		80.17	80	28-146
Vinyl Chloride	100.0		77.33	77	65-134
Xylene-mp	200.0		169.9	85	77-115
Xylene-o	100.0		86.80	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:

WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC, INC.

Lab Prep Batch: V204122

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix Spike - Sample No.: 020427412

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Benzene	100.0	0.000	108.2	108	72-124
Chlorobenzene	100.0	0.000	110.5	110	77-112
1,1-Dichloroethene	100.0	0.000	79.43	79	69-121
Toluene	100.0	0.000	110.3	110	77-115
Trichloroethene	100.0	0.000	102.3	102	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS	
=====	=====	=====	=====	=====	=====	=====
Benzene	100.0	104.2	104	4	20	72-124
Chlorobenzene	100.0	100.6	101	8	20	77-112
1,1-Dichloroethene	100.0	75.33	75	5	20	69-121
Toluene	100.0	104.6	105	5	20	77-115
Trichloroethene	100.0	98.60	99	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: 0 out of 10 outside limits

COMMENTS: _____

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

V2041311LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Lab File ID: 0302005

Lab Prep Batch: V204131

Date Analyzed: 04/13/02

Time Analyzed: 1523

GC Column: ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC2

Lab Sample ID: 11LB

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	V2041311LCS	11LCS	0201002LCS	1233
02	V2041312LCS	12LCS	0203004LCS	1351
03	020427404	020427404	0401006	1556
04	020427402	020427402	0501007	1628
05	020427403	020427403	0601008	1701
06	020427418	020427418	0701009	1733
07	020427419	020427419	0801010	1805
08	020427420	020427420	0901011	1837
09	020427421	020427421	1001012	1909
10	020427421	020427421	1101013	1941
11	020427422	020427422	1201014	2012
12	020427423	020427423	1301015	2044
13	020427424	020427424	1401016	2116
14	020427421MS	MS	1901021	2354
15	020427421MSD	MSD	2001022	0026
16				
17				
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COMMENTS:

695 356

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET

V2041311LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Prep Batch: V204131

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

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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

FORM I VOA-GCMS

000090

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

695 357

CLIENT SAMPLE NO.

V2041311LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Prep Batch: V204131

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

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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	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	0.363	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

000091

095 358

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2041311LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Prep Batch: V204131

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

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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

FORM I VOA-GCMS

000092

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

095 359

CLIENT SAMPLE NO.

V2041311LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 11LB

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

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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
1.				
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695 360

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V204131

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix Spike - Sample No.: V2041311LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acetone	100.0		113.5	114	59-151
Acetonitrile	1000		1189	119	57-143
Acrolein	100.0		118.0	118	59-134
Acrylonitrile	100.0		116.2	116	60-146
Allyl chloride	100.0		118.4	118	74-120
Benzene	100.0		115.7	116	72-124
Bromobenzene	100.0		111.0	111	77-120
Bromochloromethane	100.0		111.7	112	74-120
Bromodichloromethane	100.0		105.6	106	68-119
Bromoform	100.0		103.8	104	66-136
2-Butanone	100.0		117.2	117	55-151
Bromomethane	100.0		89.33	89	40-134
n-Butylbenzene	100.0		128.5	128	69-129
sec-Butylbenzene	100.0		83.40	83	72-127
tert-Butylbenzene	100.0		112.8	113	73-126
Carbon Disulfide	100.0		116.7	117	60-133
Carbon Tetrachloride	100.0		111.5	112	64-123
Chlorobenzene	100.0		113.0	113*	77-112
Chlorodibromomethane	100.0		111.5	112	72-118
Chloroethane	100.0		113.1	113	64-142
2-Chloroethyl vinyl eth	100.0		113.4	113	22-165
Chloroform	100.0		107.0	107	70-115
Chloromethane	100.0		99.34	99	58-139
Chloroprene	100.0		117.7	118	73-118
2-Chlorotoluene	100.0		117.4	117	65-132
4-Chlorotoluene	100.0		112.8	113	67-127
1,2-Dibromo-3-chloropro	100.0		115.0	115	56-134
1,2-Dibromoethane	100.0		112.9	113	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

695 361

Lab Name: ETC, INC.

Lab Prep Batch: V204131

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix Spike - Sample No.: V2041311LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Dibromomethane	100.0		111.0	111	75-114
1,2-Dichlorobenzene	100.0		117.2	117*	80-113
1,3-Dichlorobenzene	100.0		119.4	119	77-119
1,4-Dichlorobenzene	100.0		119.3	119*	78-116
cis-1,4-Dichloro-2-bute	100.0		121.4	121	70-130
trans-1,4-Dichloro-2-bu	100.0		118.7	119	62-138
Dichlorodifluoromethane	100.0		95.32	95	48-145
1,1-Dichloroethane	100.0		115.5	116	76-118
1,2-Dichloroethane	100.0		109.9	110	62-124
1,1-Dichloroethene	100.0		111.9	112	69-121
cis-1,2-Dichloroethene	100.0		114.6	115*	76-114
trans-1,2-Dichloroethen	100.0		131.7	132*	72-121
1,2-Dichloropropane	100.0		109.6	110	64-133
1,3-Dichloropropane	100.0		113.5	114	68-128
2,2-Dichloropropane	100.0		117.0	117	67-132
1,1-Dichloropropene	100.0		118.1	118*	76-117
cis-1,3-Dichloropropene	100.0		115.2	115	77-120
trans-1,3-Dichloroprope	100.0		115.7	116	73-124
Di isopropyl ether	100.0		117.6	118	62-160
1,4-Dioxane	2000		2167	108	56-131
Ethyl Acetate	100.0		119.6	120	52-151
Ethylbenzene	100.0		114.5	114*	77-111
Ethyl methacrylate	200.0		243.2	122	57-140
Furan	100.0		176.0	176*	52-124
Hexachlorobutadiene	100.0		119.2	119	69-137
Hexane	100.0		137.9	138*	70-130
2-Hexanone	100.0		120.3	120	53-144
Iodomethane	100.0		112.3	112	51-153

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

* Values outside of QC limits

COMMENTS:

.695 362

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V204131

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix Spike - Sample No.: V2041311LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	2000		2499	125	60-134
Isopropylbenzene	100.0		114.9	115	74-125
4-Isopropyltoluene	100.0		117.0	117	72-127
Methacrylonitrile	1000		1209	121	70-125
Methylene Chloride	100.0		110.8	111	76-115
Methyl methacrylate	200.0		237.6	119	57-147
4-Methyl-2-Pentanone	100.0		118.6	119	42-144
Methyl-tertbutyl-Ether	100.0		117.8	118	62-122
Naphthalene	100.0		115.9	116	53-124
Propionitrile	1000		1196	120	58-139
n-Propyl Acetate	100.0		182.6	183*	88-170
n-Propylbenzene	100.0		118.0	118	75-125
Styrene	100.0		116.7	117	77-117
1,1,1,2-Tetrachloroetha	100.0		107.5	108	79-113
1,1,2,2-Tetrachloroetha	100.0		119.4	119	67-126
Tetrachloroethene	100.0		115.9	116*	77-115
Tetrahydrofuran	100.0		112.8	113	76-181
1,2,3-Trichlorobenzene	100.0		124.8	125	62-132
Toluene	100.0		115.9	116*	77-115
1,1,1-Trichloroethane	100.0		114.3	114	63-122
1,1,2-Trichloroethane	100.0		111.8	112	69-117
1,1,2-trichloro-1,2,2-t	100.0		114.6	115	70-130
Trichloroethene	100.0		110.5	110	75-113
Trichlorofluoromethane	100.0		110.8	111	55-130
1,2,3-Trichloropropane	100.0		114.7	115	62-130
1,2,4-Trimethylbenzene	100.0		116.1	116	69-126
1,2,4-Trichlorobenzene	100.0		129.4	129	68-132
1,3,5-Trimethylbenzene	100.0		115.2	115	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

695 363

Lab Name: ETC, INC.

Lab Prep Batch: V204131

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix Spike - Sample No.: V2041311LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Vinyl Acetate	100.0		123.9	124	28-146
Vinyl Chloride	100.0		107.8	108	65-134
Xylene-mp	200.0		228.6	114	77-115
Xylene-o	100.0		114.7	115	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: 12 out of 88 outside limits

COMMENTS:

695 364

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V204131

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix Spike - Sample No.: V2041312LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Chlorobenzene	100.0		77.14	77	77-112
1,2-Dichlorobenzene	100.0		85.59	86	80-113
1,3-Dichlorobenzene	100.0		87.52	88	77-119
1,4-Dichlorobenzene	100.0		89.09	89	78-116
cis-1,2-Dichloroethene	100.0		80.23	80	76-114
trans-1,2-Dichloroethen	100.0		88.22	88	72-121
1,1-Dichloropropene	100.0		80.51	80	76-117
Ethylbenzene	100.0		78.08	78	77-111
Hexane	100.0		83.92	84	70-130
n-Propyl Acetate	100.0		151.3	151	88-170
Tetrachloroethene	100.0		83.02	83	77-115
Toluene	100.0		81.34	81	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 12 outside limits

COMMENTS:

FORM III VOA-GCMS

000098

Lab Name: ETC, INC.

Lab Prep Batch: V204131

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix Spike - Sample No.: 020427421

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Benzene	100.0	0.000	104.3	104	72-124
Chlorobenzene	100.0	0.000	105.8	106	77-112
1,1-Dichloroethene	100.0	0.000	75.05	75	69-121
Toluene	100.0	0.000	105.8	106	77-115
Trichloroethene	100.0	126.4	208.8	82	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
Benzene	100.0	108.7	109	5	20	72-124
Chlorobenzene	100.0	110.8	111	5	20	77-112
1,1-Dichloroethene	100.0	79.72	80	6	20	69-121
Toluene	100.0	110.4	110	4	20	77-115
Trichloroethene	100.0	216.9	90	9	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:

695 366

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

V2041411LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Lab File ID: 0302004

Lab Prep Batch: V204141

Date Analyzed: 04/14/02

Time Analyzed: 1356

GC Column: ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC2

Lab Sample ID: 11LB

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	V2041411LCS	11LCS	0202003LCS	1231
02	020427423	020427423	0401005	1428
03	020427510	020427510	1301014	1916
04	020427510MS	MS	1801019	2156
05	020427510MSD	MSD	1901020	2228
06				
07				
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COMMENTS:

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

695 367

CLIENT SAMPLE NO.

V2041411LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Prep Batch: V204141

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

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/14/02

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

FORM I VOA-GCMS

000101

695 368

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2041411LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Prep Batch: V204141

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

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/14/02

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	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	0.381	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

000102

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

695 369 CLIENT SAMPLE NO.

V2041411LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Prep Batch: V204141

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

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/14/02

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-mmp	1.00	U
95-47-6-----Xylene-o	1.00	U

FORM I VOA-GCMS

000103

695 370

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

V2041411LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix: (soil/water) WATER

Lab Sample ID: 11LB

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

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/14/02

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
=====	=====	=====	=====	=====
1.				
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FORM I VOA-GCMS-TIC

000104

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

695 371

Lab Name: ETC, INC.

Lab Prep Batch: V204141

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix Spike - Sample No.: V2041411LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acetone	100.0		113.2	113	59-151
Acetonitrile	1000		1095	110	57-143
Acrolein	100.0		127.0	127	59-134
Acrylonitrile	100.0		118.2	118	60-146
Allyl chloride	100.0		110.6	111	74-120
Benzene	100.0		109.6	110	72-124
Bromobenzene	100.0		106.0	106	77-120
Bromochloromethane	100.0		110.2	110	74-120
Bromodichloromethane	100.0		103.7	104	68-119
Bromoform	100.0		102.6	103	66-136
2-Butanone	100.0		123.0	123	55-151
Bromomethane	100.0		87.68	88	40-134
n-Butylbenzene	100.0		118.9	119	69-129
sec-Butylbenzene	100.0		108.9	109	72-127
tert-Butylbenzene	100.0		106.0	106	73-126
Carbon Disulfide	100.0		102.4	102	60-133
Carbon Tetrachloride	100.0		107.3	107	64-123
Chlorobenzene	100.0		107.4	107	77-112
Chlorodibromomethane	100.0		112.4	112	72-118
Chloroethane	100.0		100.1	100	64-142
2-Chloroethyl vinyl eth	100.0		107.8	108	22-165
Chloroform	100.0		103.8	104	70-115
Chloromethane	100.0		85.82	86	58-139
Chloroprene	100.0		110.5	110	73-118
2-Chlorotoluene	100.0		108.8	109	65-132
4-Chlorotoluene	100.0		106.5	106	67-127
1,2-Dibromo-3-chloropro	100.0		117.0	117	56-134
1,2-Dibromoethane	100.0		112.7	113	74-118

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

* Values outside of QC limits

COMMENTS:

695 372

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V204141

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix Spike - Sample No.: V2041411LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Dibromomethane	100.0		110.6	111	75-114
1,2-Dichlorobenzene	100.0		113.4	113	80-113
1,3-Dichlorobenzene	100.0		115.6	116	77-119
1,4-Dichlorobenzene	100.0		114.1	114	78-116
cis-1,4-Dichloro-2-bute	100.0		120.3	120	70-130
trans-1,4-Dichloro-2-bu	100.0		117.4	117	62-138
Dichlorodifluoromethane	100.0		89.73	90	48-145
1,1-Dichloroethane	100.0		108.3	108	76-118
1,2-Dichloroethane	100.0		106.7	107	62-124
1,1-Dichloroethene	100.0		101.9	102	69-121
cis-1,2-Dichloroethene	100.0		109.2	109	76-114
trans-1,2-Dichloroethen	100.0		104.7	105	72-121
1,2-Dichloropropane	100.0		104.6	105	64-133
1,3-Dichloropropane	100.0		112.4	112	68-128
2,2-Dichloropropane	100.0		110.9	111	67-132
1,1-Dichloropropene	100.0		110.2	110	76-117
cis-1,3-Dichloropropene	100.0		111.1	111	77-120
trans-1,3-Dichloroprope	100.0		114.9	115	73-124
Di isopropyl ether	100.0		112.1	112	62-160
1,4-Dioxane	2000		2414	121	56-131
Ethyl Acetate	100.0		119.6	120	52-151
Ethylbenzene	100.0		107.2	107	77-111
Ethyl methacrylate	200.0		245.7	123	57-140
Furan	100.0		160.2	160*	52-124
Hexachlorobutadiene	100.0		111.2	111	69-137
Hexane	100.0		123.7	124	70-130
2-Hexanone	100.0		125.2	125	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

695 373

Lab Name: ETC, INC.

Lab Prep Batch: V204141

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix Spike - Sample No.: V2041411LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Isobutyl Alcohol	2000		2650	132	60-134
Isopropylbenzene	100.0		108.3	108	74-125
4-Isopropyltoluene	100.0		109.1	109	72-127
Methacrylonitrile	1000		1225	122	70-125
Methylene Chloride	100.0		105.6	106	76-115
Methyl methacrylate	200.0		241.0	120	57-147
4-Methyl-2-Pentanone	100.0		121.9	122	42-144
Methyl-tertbutyl-Ether	100.0		113.6	114	62-122
Naphthalene	100.0		110.7	111	53-124
Propionitrile	1000		1255	126	58-139
n-Propyl Acetate	100.0		184.2	184*	88-170
n-Propylbenzene	100.0		109.9	110	75-125
Styrene	100.0		110.2	110	77-117
1,1,1,2-Tetrachloroetha	100.0		103.3	103	79-113
1,1,2,2-Tetrachloroetha	100.0		120.4	120	67-126
Tetrachloroethene	100.0		112.6	113	77-115
Tetrahydrofuran	100.0		114.2	114	76-181
1,2,3-Trichlorobenzene	100.0		115.4	115	62-132
Toluene	100.0		112.1	112	77-115
1,1,1-Trichloroethane	100.0		110.4	110	63-122
1,1,2-Trichloroethane	100.0		112.0	112	69-117
1,1,2-trichloro-1,2,2-t	100.0		103.7	104	70-130
Trichloroethene	100.0		106.7	107	75-113
Trichlorofluoromethane	100.0		99.70	100	55-130
1,2,3-Trichloropropane	100.0		114.8	115	62-130
1,2,4-Trimethylbenzene	100.0		107.7	108	69-126
1,2,4-Trichlorobenzene	100.0		119.8	120	68-132
1,3,5-Trimethylbenzene	100.0		106.5	106	69-128

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

* Values outside of QC limits

COMMENTS:

695 374

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V204141

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix Spike - Sample No.: V2041411LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Vinyl Acetate	100.0		121.7	122	28-146
Vinyl Chloride	100.0		92.77	93	65-134
Xylene-mp	200.0		215.5	108	77-115
Xylene-o	100.0		108.0	108	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:

FORM 3
WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

695 375

Lab Name: ETC, INC.

Lab Prep Batch: V204141

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Matrix Spike - Sample No.: 020427510

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Benzene	100.0	0.000	112.4	112	72-124
Chlorobenzene	100.0	0.000	106.1	106	77-112
1,1-Dichloroethene	100.0	18.49	116.7	98	69-121
Toluene	100.0	0.000	110.1	110	77-115
Trichloroethene	100.0	5.79	108.9	103	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD REC.
=====	=====	=====	=====	=====	=====
Benzene	100.0	110.6	111	1	20 72-124
Chlorobenzene	100.0	107.3	107	1	20 77-112
1,1-Dichloroethene	100.0	115.4	97	1	20 69-121
Toluene	100.0	111.6	112	2	20 77-115
Trichloroethene	100.0	108.3	102	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: 0 out of 10 outside limits

COMMENTS:

695.376

Environmental Testing & Consulting, Inc.

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

000110

ENVIRONMENTAL TESTING & CONSULTING, INC
GC/MS VOC Method 8260B Sequence Check List (SW-846)

Sequence ID: V204121 Matrix: H2O HBN: _____

Date: 9-13-02

Analyst SS

Applicable ETC Order Nos. for this sequence:

Super 4/11

0204-227-1, 4 0204-273-23, 24
0204-274-1-10

Validated

1. BFB Daily 12-Hour Tune Meets Criteria. No analyses begins until criteria are met. (SOP) ✓

2. Initial Calibration Verification Criteria - Method : V204051.8260M

- 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 - $\leq 30\%$ ✓

- 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 if B Detected in Blank? MACh & BDE 0.87 ppb

SS 4-13-02

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 : _____

0204-277-01ms, MSD

6. Laboratory Control Samples included in this sequence :

Must contain all Target Analytes. 5/85

7. Surrogate Recoveries within QC Limits ✓

8. All positive compounds within calibration range ✓

Narrative/Notes : _____

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Lab File ID: 0102002

BFB Injection Date: 04/12/02

Instrument ID: VOC2

BFB Injection Time: 1300

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	39.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	81.2
175	5.0 - 9.0% of mass 174	5.9 (7.3)1
176	95.0 - 101.0% of mass 174	79.5 (97.9)1
177	5.0 - 9.0% of mass 176	5.0 (6.3)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	V2041211LCS	11LCS	0201003LCS	04/12/02	1319
02	DCS100PPB		0201003	04/12/02	1319
03	DCS100PPB		0202004	04/12/02	1354
04	V2041211LB	11LB	0302005	04/12/02	1515
05	020422701	020422701	0401006	04/12/02	1547
06	020427401	020427401	0901011	04/12/02	1828
07	020427402	020427402	1001012	04/12/02	1900
08	020427403	020427403	1101013	04/12/02	1933
09	020427405	020427405	1301015	04/12/02	2038
10	020427406	020427406	1401016	04/12/02	2110
11	020427407	020427407	1501017	04/12/02	2142
12	020427408	020427408	1601018	04/12/02	2213
13	020427409	020427409	1701019	04/12/02	2245
14	020427410	020427410	1801020	04/12/02	2317
15	020422701MS	MS	1901021	04/12/02	2348
16	020422701MSD	MSD	2001022	04/13/02	0020
17					
18					
19					
20					
21					
22					

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

695 379

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Instrument ID: VOC2

Calibration Date: 04/12/02 Time: 1319

Lab File ID: 0201003

Init. Calib. Date(s): 04/05/02 04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639 2155

GC Column: ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d	
Acetone	157.4	100.0	AVRG	57.4	30.0	<-
Acetonitrile	1069	1000	AVRG	6.9	30.0	
Acrolein	107.8	100.0	AVRG	7.8	30.0	
Acrylonitrile	117.2	100.0	AVRG	17.2	30.0	
Allyl chloride	105.9	100.0	AVRG	5.9	30.0	
Benzene	108.3	100.0	AVRG	8.3	30.0	
Bromobenzene	101.7	100.0	AVRG	1.7	30.0	
Bromochloromethane	109.0	100.0	AVRG	9.0	30.0	
Bromodichloromethane	100.9	100.0	AVRG	0.9	30.0	
Bromoform	104.4	100.0	LINR	4.4	30.0	
2-Butanone	138.3	100.0	AVRG	38.3	30.0	<-
Bromomethane	71.51	100.0	AVRG	28.5	30.0	
n-Butylbenzene	117.2	100.0	AVRG	17.2	30.0	
sec-Butylbenzene	102.9	100.0	AVRG	2.9	30.0	
tert-Butylbenzene	100.1	100.0	AVRG	0.1	30.0	
Carbon Disulfide	104.9	100.0	AVRG	4.9	30.0	
Carbon Tetrachloride	105.0	100.0	AVRG	5.0	30.0	
Chlorobenzene	102.3	100.0	AVRG	2.3	30.0	
Chlorodibromomethane	108.8	100.0	AVRG	8.8	30.0	
Chloroethane	94.89	100.0	AVRG	5.1	30.0	
2-Chloroethyl vinyl ether	121.2	100.0	LINR	21.2	30.0	
Chloroform	101.9	100.0	AVRG	1.9	20.0	
Chloromethane	83.71	100.0	AVRG	16.3	30.0	
Chloroprene	109.6	100.0	AVRG	9.6	30.0	
2-Chlorotoluene	101.4	100.0	AVRG	1.4	30.0	
4-Chlorotoluene	95.92	100.0	AVRG	4.1	30.0	
1,2-Dibromo-3-chloropropane	122.0	100.0	LINR	22.0	30.0	
1,2-Dibromoethane	112.7	100.0	AVRG	12.7	30.0	
Dibromomethane	110.1	100.0	AVRG	10.1	30.0	
1,2-Dichlorobenzene	110.6	100.0	AVRG	10.6	30.0	
1,3-Dichlorobenzene	110.9	100.0	AVRG	10.9	30.0	
1,4-Dichlorobenzene	112.7	100.0	AVRG	12.7	30.0	
cis-1,4-Dichloro-2-butene	123.1	100.0	AVRG	23.1	30.0	
trans-1,4-Dichloro-2-butene	120.0	100.0	AVRG	20.0	30.0	
Dichlorodifluoromethane	94.09	100.0	AVRG	5.9	30.0	
1,1-Dichloroethane	107.2	100.0	AVRG	7.2	30.0	
1,2-Dichloroethane	108.3	100.0	AVRG	8.3	30.0	

695 380

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Instrument ID: VOC2

Calibration Date: 04/12/02 Time: 1319

Lab File ID: 0201003

Init. Calib. Date(s): 04/05/02 04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639 2155

GC Column: ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
1,1-Dichloroethene	102.2	100.0	AVRG	2.2	20.0
cis-1,2-Dichloroethene	108.9	100.0	AVRG	8.9	30.0
trans-1,2-Dichloroethene	102.4	100.0	AVRG	2.4	30.0
1,2-Dichloropropane	102.9	100.0	AVRG	2.9	20.0
1,3-Dichloropropane	112.4	100.0	AVRG	12.4	30.0
2,2-Dichloropropane	109.6	100.0	AVRG	9.6	30.0
1,1-Dichloropropene	109.3	100.0	AVRG	9.3	30.0
cis-1,3-Dichloropropene	109.6	100.0	AVRG	9.6	30.0
trans-1,3-Dichloropropene	112.6	100.0	AVRG	12.6	30.0
Di isopropyl ether	111.6	100.0	AVRG	11.6	30.0
1,4-Dioxane	2436	2000	AVRG	21.8	30.0
Ethyl Acetate	127.5	100.0	AVRG	27.5	30.0
Ethylbenzene	102.3	100.0	AVRG	2.3	20.0
Ethyl methacrylate	247.3	200.0	AVRG	23.6	30.0
Furan	158.5	153.0	AVRG	3.6	30.0
Hexachlorobutadiene	111.2	100.0	AVRG	11.2	30.0
Hexane	126.4	117.0	AVRG	8.0	30.0
2-Hexanone	137.8	100.0	AVRG	37.8	30.0
Iodomethane	66.65	100.0	LINR	33.4	30.0
Isobutyl Alcohol	2772	2000	AVRG	38.6	30.0
Isopropylbenzene	102.8	100.0	AVRG	2.8	30.0
4-Isopropyltoluene	103.2	100.0	AVRG	3.2	30.0
Methacrylonitrile	1256	1000	AVRG	25.6	30.0
Methylene Chloride	101.2	100.0	LINR	1.2	30.0
Methyl methacrylate	244.2	200.0	AVRG	22.1	30.0
4-Methyl-2-Pentanone	126.7	100.0	AVRG	26.7	30.0
Methyl-tertbutyl-Ether	100.8	100.0	AVRG	0.8	30.0
Naphthalene	112.0	100.0	AVRG	12.0	30.0
Propionitrile	1266	1000	AVRG	26.6	30.0
n-Propyl Acetate	193.4	151.0	AVRG	28.1	30.0
n-Propylbenzene	103.9	100.0	AVRG	3.9	30.0
Styrene	104.0	100.0	AVRG	4.0	30.0
1,1,1,2-Tetrachloroethane	99.64	100.0	AVRG	0.4	30.0
1,1,2,2-Tetrachloroethane	125.6	100.0	AVRG	25.6	30.0
Tetrachloroethene	109.2	100.0	AVRG	9.2	30.0
Tetrahydrofuran	117.1	91.50	AVRG	28.0	30.0
1,2,3-Trichlorobenzene	116.6	100.0	AVRG	16.6	30.0

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FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

695 381

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Instrument ID: VOC2

Calibration Date: 04/12/02 Time: 1319

Lab File ID: 0201003

Init. Calib. Date(s): 04/05/02 04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639 2155

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Toluene	106.8	100.0	AVRG	6.8	20.0
1,1,1-Trichloroethane	107.4	100.0	AVRG	7.4	30.0
1,1,2-Trichloroethane	111.6	100.0	AVRG	11.6	30.0
1,1,2-trichloro-1,2,2-triflu	104.1	100.0	AVRG	4.1	30.0
Trichloroethene	103.5	100.0	AVRG	3.5	30.0
Trichlorofluoromethane	98.86	100.0	AVRG	1.1	30.0
1,2,3-Trichloropropane	116.9	100.0	AVRG	16.9	30.0
1,2,4-Trimethylbenzene	101.4	100.0	AVRG	1.4	30.0
1,2,4-Trichlorobenzene	120.2	100.0	AVRG	20.2	30.0
1,3,5-Trimethylbenzene	100.9	100.0	AVRG	0.9	30.0
Vinyl Acetate	124.6	100.0	AVRG	24.6	30.0
Vinyl Chloride	92.56	100.0	AVRG	7.4	20.0
Xylene-mp	202.8	200.0	AVRG	1.4	30.0
Xylene-o	102.0	100.0	AVRG	2.0	30.0
=====	=====	=====	=====	=====	=====
Dibromofluoromethane	43.98	50.00	AVRG	12.0	30.0
Toluene-d8	48.02	50.00	AVRG	4.0	30.0
Bromofluorobenzene	46.48	50.00	AVRG	7.0	30.0
1,2-Dichloroethane-d4	43.01	50.00	AVRG	14.0	30.0

695 382

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Instrument ID: VOC2

Calibration Date: 04/12/02 Time: 1354

Lab File ID: 0202004

Init. Calib. Date(s): 04/05/02 04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639 2155

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Acetone	108.7	100.0	AVRG	8.7	30.0
2-Butanone	122.6	100.0	AVRG	22.6	30.0
2-Hexanone	129.9	100.0	AVRG	29.9	30.0
Iodomethane	88.83	100.0	LINR	11.2	30.0
Isobutyl Alcohol	2708	2000	AVRG	35.4	30.0
=====	=====	=====	=====	=====	=====
Dibromofluoromethane	43.28	50.00	AVRG	13.4	30.0
Toluene-d8	48.98	50.00	AVRG	2.0	30.0
Bromofluorobenzene	47.63	50.00	AVRG	4.7	30.0
1,2-Dichloroethane-d4	40.85	50.00	AVRG	18.3	30.0

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FORM VII VOA-GCMS

000116

FORM 8
VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

095 383

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Lab File ID (Standard): 0202004

Date Analyzed: 04/12/02

Instrument ID: VOC2

Time Analyzed: 1354

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	781495	9.69	1350203	10.72	1337159	14.57
UPPER LIMIT	1562990	10.19	2700406	11.22	2674318	15.07
LOWER LIMIT	390748	9.19	675102	10.22	668580	14.07
=====	=====	=====	=====	=====	=====	=====
CLIENT SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V2041211LB	787388	9.70	1390940	10.73	1269026	14.56
02 020422701	782541	9.70	1372159	10.73	1266962	14.57
03 020427401	726445	9.70	1301172	10.73	1172551	14.58
04 020427402	734654	9.71	1316060	10.74	1209931	14.58
05 020427403	778112	9.71	1401071	10.74	1292842	14.58
06 020427405	741694	9.71	1360755	10.74	1228847	14.58
07 020427406	668646	9.71	1212850	10.74	1086264	14.58
08 020427407	683095	9.71	1253391	10.74	1119437	14.58
09 020427408	656835	9.71	1194300	10.74	1072140	14.58
10 020427409	664568	9.71	1211430	10.74	1101856	14.58
11 020427410	642572	9.71	1175667	10.74	1055249	14.58
12 020422701MS	690983	9.71	1257477	10.74	1253245	14.58
13 020422701MSD	738008	9.71	1345018	10.74	1291373	14.58
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.

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Lab File ID (Standard): 0202004

Date Analyzed: 04/12/02

Instrument ID: VOC2

Time Analyzed: 1354

GC Column:

ID: 2.00 (mm)

Heated Purge: (Y/N) Y

	IS4 (DCB)					
	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	520892	17.49				
UPPER LIMIT	1041784	17.99				
LOWER LIMIT	260446	16.99				
=====	=====	=====	=====	=====	=====	=====
CLIENT						
SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V2041211LB	503918	17.50				
02 020422701	502603	17.50				
03 020427401	467993	17.51				
04 020427402	482022	17.51				
05 020427403	515577	17.52				
06 020427405	492792	17.51				
07 020427406	424710	17.52				
08 020427407	433517	17.52				
09 020427408	419704	17.52				
10 020427409	432908	17.51				
11 020427410	423161	17.52				
12 020422701MS	479056	17.51				
13 020422701MSD	493461	17.52				
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 & CONSULTING, INC
GC/MS VOC Method 8260B Sequence Check List (SW-846)

Sequence ID: V204122 Matrix: H2O HBN: _____

Date: 4-13-02

Analyst ES

Super ML

Applicable ETC Order Nos. for this sequence:

0204-274-11-20

Validated

1. BFB Daily 12-Hour Tune Meets Criteria. No analyses begins until criteria are met. (SOP) ✓

2. Initial Calibration Verification Criteria - Method : V204051.8260m

- 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 - $\leq 30\%$ ✓

- 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"

MA9C12 2.42 ppb

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 :

0204-274-12ms, msd

6. Laboratory Control Samples included in this sequence :

Must contain all Target Analytes. 1/88

7. Surrogate Recoveries within QC Limits ✓

8. All positive compounds within calibration range ✓

Narrative/Notes :

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Lab File ID: 2004025

BFB Injection Date: 04/13/02

Instrument ID: VOC2

BFB Injection Time: 0155

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	18.3
75	30.0 - 60.0% of mass 95	40.5
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.2 (0.2)1
174	Greater than 50.0% of mass 95	80.4
175	5.0 - 9.0% of mass 174	6.3 (7.8)1
176	95.0 - 101.0% of mass 174	80.2 (99.8)1
177	5.0 - 9.0% of mass 176	5.2 (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	DCS100PPB		2101026	04/13/02	0225
02	V2041221LCS	21LCS	2102027LCS	04/13/02	0257
03	V2041221LB	21LB	2203031	04/13/02	0503
04	020427411	020427411	2301032	04/13/02	0534
05	020427412	020427412	2401033	04/13/02	0606
06	020427413	020427413	2501034	04/13/02	0637
07	020427414	020427414	2601035	04/13/02	0709
08	020427415	020427415	2701036	04/13/02	0740
09	020427416	020427416	2801037	04/13/02	0812
10	020427417	020427417	2901038	04/13/02	0843
11	020427418	020427418	3001039	04/13/02	0915
12	020427419	020427419	3101040	04/13/02	0946
13	020427420	020427420	3201041	04/13/02	1018
14	020427412MS	MS	3301042	04/13/02	1050
15	020427412MSD	MSD	3401043	04/13/02	1122
16					
17					
18					
19					
20					
21					
22					

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

695 387

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Instrument ID: VOC2

Calibration Date: 04/13/02 Time: 0225

Lab File ID: 2101026

Init. Calib. Date(s): 04/05/02 04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639 2155

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Acetone	105.8	100.0	AVRG	5.8	30.0
Acetonitrile	1245	1000	AVRG	24.5	30.0
Acrolein	109.2	100.0	AVRG	9.2	30.0
Acrylonitrile	117.6	100.0	AVRG	17.6	30.0
Allyl chloride	124.5	100.0	AVRG	24.5	30.0
Benzene	120.5	100.0	AVRG	20.5	30.0
Bromobenzene	106.7	100.0	AVRG	6.7	30.0
Bromochloromethane	115.5	100.0	AVRG	15.5	30.0
Bromodichloromethane	110.6	100.0	AVRG	10.6	30.0
Bromoform	99.29	100.0	LINR	0.7	30.0
2-Butanone	108.1	100.0	AVRG	8.1	30.0
Bromomethane	99.75	100.0	AVRG	0.2	30.0
n-Butylbenzene	113.8	100.0	AVRG	13.8	30.0
sec-Butylbenzene	110.0	100.0	AVRG	10.0	30.0
tert-Butylbenzene	107.8	100.0	AVRG	7.8	30.0
Carbon Disulfide	117.1	100.0	AVRG	17.1	30.0
Carbon Tetrachloride	113.9	100.0	AVRG	13.9	30.0
Chlorobenzene	111.2	100.0	AVRG	11.2	30.0
Chlorodibromomethane	111.1	100.0	AVRG	11.1	30.0
Chloroethane	116.6	100.0	AVRG	16.6	30.0
2-Chloroethyl vinyl ether	113.2	100.0	LINR	13.2	30.0
Chloroform	114.0	100.0	AVRG	14.0	20.0
Chloromethane	97.77	100.0	AVRG	2.2	30.0
Chloroprene	122.1	100.0	AVRG	22.1	30.0
2-Chlorotoluene	113.5	100.0	AVRG	13.5	30.0
4-Chlorotoluene	100.4	100.0	AVRG	0.4	30.0
1,2-Dibromo-3-chloropropane	109.4	100.0	LINR	9.4	30.0
1,2-Dibromoethane	111.4	100.0	AVRG	11.4	30.0
Dibromomethane	113.4	100.0	AVRG	13.4	30.0
1,2-Dichlorobenzene	114.6	100.0	AVRG	14.6	30.0
1,3-Dichlorobenzene	112.0	100.0	AVRG	12.0	30.0
1,4-Dichlorobenzene	108.4	100.0	AVRG	8.4	30.0
cis-1,4-Dichloro-2-butene	105.6	100.0	AVRG	5.6	30.0
trans-1,4-Dichloro-2-butene	102.4	100.0	AVRG	2.4	30.0
Dichlorodifluoromethane	107.0	100.0	AVRG	7.0	30.0
1,1-Dichloroethane	120.8	100.0	AVRG	20.8	30.0
1,2-Dichloroethane	116.5	100.0	AVRG	16.5	30.0

695 388

FORM 7

VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Instrument ID: VOC2

Calibration Date: 04/13/02

Time: 0225

Lab File ID: 2101026

Init. Calib. Date(s): 04/05/02

04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639

2155

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
1,1-Dichloroethene	114.5	100.0	AVRG	14.5	20.0
cis-1,2-Dichloroethene	120.6	100.0	AVRG	20.6	30.0
trans-1,2-Dichloroethene	117.0	100.0	AVRG	17.0	30.0
1,2-Dichloropropane	114.8	100.0	AVRG	14.8	20.0
1,3-Dichloropropane	115.2	100.0	AVRG	15.2	30.0
2,2-Dichloropropane	105.3	100.0	AVRG	5.3	30.0
1,1-Dichloropropene	119.6	100.0	AVRG	19.6	30.0
cis-1,3-Dichloropropene	112.9	100.0	AVRG	12.9	30.0
trans-1,3-Dichloropropene	111.4	100.0	AVRG	11.4	30.0
Di isopropyl ether	127.7	100.0	AVRG	27.7	30.0
1,4-Dioxane	1993	2000	AVRG	0.4	30.0
Ethyl Acetate	118.0	100.0	AVRG	18.0	30.0
Ethylbenzene	110.9	100.0	AVRG	10.9	20.0
Ethyl methacrylate	236.8	200.0	AVRG	18.4	30.0
Furan	187.9	153.0	AVRG	22.8	30.0
Hexachlorobutadiene	103.0	100.0	AVRG	3.0	30.0
Hexane	138.1	117.0	AVRG	18.0	30.0
2-Hexanone	110.2	100.0	AVRG	10.2	30.0
Iodomethane	108.1	100.0	LINR	8.1	30.0
Isobutyl Alcohol	2275	2000	AVRG	13.8	30.0
Isopropylbenzene	111.4	100.0	AVRG	11.4	30.0
4-Isopropyltoluene	105.8	100.0	AVRG	5.8	30.0
Methacrylonitrile	1224	1000	AVRG	22.4	30.0
Methylene Chloride	120.8	100.0	LINR	20.8	30.0
Methyl methacrylate	226.2	200.0	AVRG	13.1	30.0
4-Methyl-2-Pentanone	112.1	100.0	AVRG	12.1	30.0
Methyl-tertbutyl-Ether	104.0	100.0	AVRG	4.0	30.0
Naphthalene	103.9	100.0	AVRG	3.9	30.0
Propionitrile	1178	1000	AVRG	17.8	30.0
n-Propyl Acetate	173.9	151.0	AVRG	15.2	30.0
n-Propylbenzene	108.8	100.0	AVRG	8.8	30.0
Styrene	113.0	100.0	AVRG	13.0	30.0
1,1,1,2-Tetrachloroethane	107.8	100.0	AVRG	7.8	30.0
1,1,2,2-Tetrachloroethane	120.5	100.0	AVRG	20.5	30.0
Tetrachloroethene	109.2	100.0	AVRG	9.2	30.0
Tetrahydrofuran	110.1	91.50	AVRG	20.3	30.0
1,2,3-Trichlorobenzene	106.8	100.0	AVRG	6.8	30.0

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

695 389

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Instrument ID: VOC2

Calibration Date: 04/13/02 Time: 0225

Lab File ID: 2101026

Init. Calib. Date(s): 04/05/02 04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639 2155

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Toluene	116.1	100.0	AVRG	16.1	20.0
1,1,1-Trichloroethane	118.9	100.0	AVRG	18.9	30.0
1,1,2-Trichloroethane	114.6	100.0	AVRG	14.6	30.0
1,1,2-trichloro-1,2,2-triflu	116.3	100.0	AVRG	16.3	30.0
Trichloroethene	110.4	100.0	AVRG	10.4	30.0
Trichlorofluoromethane	110.7	100.0	AVRG	10.7	30.0
1,2,3-Trichloropropane	108.0	100.0	AVRG	8.0	30.0
1,2,4-Trimethylbenzene	107.4	100.0	AVRG	7.4	30.0
1,2,4-Trichlorobenzene	105.5	100.0	AVRG	5.5	30.0
1,3,5-Trimethylbenzene	107.9	100.0	AVRG	7.9	30.0
Vinyl Acetate	113.7	100.0	AVRG	13.7	30.0
Vinyl Chloride	109.5	100.0	AVRG	9.5	20.0
Xylene-mp	220.7	200.0	AVRG	10.4	30.0
Xylene-o	113.0	100.0	AVRG	13.0	30.0
=====	=====	=====	=====	=====	=====
Dibromofluoromethane	45.50	50.00	AVRG	9.0	30.0
Toluene-d8	49.11	50.00	AVRG	1.8	30.0
Bromofluorobenzene	46.50	50.00	AVRG	7.0	30.0
1,2-Dichloroethane-d4	42.57	50.00	AVRG	14.9	30.0

695 330

FORM 8
VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Lab File ID (Standard): 2101026

Date Analyzed: 04/13/02

Instrument ID: VOC2

Time Analyzed: 0225

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	688080	9.71	1254923	10.75	1224620	14.59
UPPER LIMIT	1376160	10.21	2509846	11.25	2449240	15.09
LOWER LIMIT	344040	9.21	627462	10.25	612310	14.09
=====	=====	=====	=====	=====	=====	=====
CLIENT SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V2041221LB	679006	9.71	1236097	10.75	1118229	14.59
02 020427411	662642	9.71	1212374	10.74	1081714	14.59
03 020427412	691823	9.71	1267895	10.74	1121103	14.59
04 020427413	663099	9.71	1214301	10.74	1085738	14.59
05 020427414	670060	9.71	1231730	10.74	1108692	14.58
06 020427415	648769	9.71	1173764	10.74	1055405	14.58
07 020427416	674764	9.71	1226519	10.74	1118678	14.58
08 020427417	675624	9.71	1222258	10.74	1109475	14.59
09 020427418	639115	9.72	1172707	10.75	1067289	14.60
10 020427419	658288	9.71	1222192	10.74	1099682	14.58
11 020427420	670567	9.71	1237699	10.74	1097710	14.58
12 020427412MS	693368	9.71	1255584	10.74	1184255	14.58
13 020427412MSD	738002	9.71	1321477	10.74	1302176	14.58
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

695 391

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Lab File ID (Standard): 2101026

Date Analyzed: 04/13/02

Instrument ID: VOC2

Time Analyzed: 0225

GC Column:

ID: 2.00 (mm)

Heated Purge: (Y/N) Y

	IS4 (DCB)					
	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	455701	17.52				
UPPER LIMIT	911402	18.02				
LOWER LIMIT	227851	17.02				
=====	=====	=====	=====	=====	=====	=====
CLIENT						
SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V2041221LB	452040	17.52				
02 020427411	433221	17.52				
03 020427412	442343	17.52				
04 020427413	426815	17.52				
05 020427414	439633	17.52				
06 020427415	415247	17.52				
07 020427416	439996	17.52				
08 020427417	441949	17.52				
09 020427418	411387	17.54				
10 020427419	439963	17.52				
11 020427420	434283	17.52				
12 020427412MS	471581	17.51				
13 020427412MSD	482268	17.51				
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.

695 392

ENVIRONMENTAL TESTING & CONSULTING, INC
GC/MS VOC Method 8260B Sequence Check List (SW-846)Sequence ID: V204131 Matrix: H₂O HBN: _____Date: 4-14-02

Applicable ETC Order Nos. for this sequence:

0204-274-2, 3, 4, 18-24
0204-275-1-4Analyst SSSuper SS

Validated

1. BFB Daily 12-Hour Tune Meets Criteria. No analyses begins until criteria are met. (SOP) ✓2. Initial Calibration Verification Criteria - Method : V204051, 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 - $\leq 30\%$ ✓

- 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"

MnCl₂ @ 0.363ppb

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 :

0204-274-21 ms, msd

6. Laboratory Control Samples included in this sequence :

Must contain all Target Analytes. 1/887. Surrogate Recoveries within QC Limits ✓

8. All positive compounds within calibration range

Narrative/Notes : * MSD outside 12hr tune criteria.

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

695 393

Lab Name: ETC, INC.

Contract: .

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Lab File ID: 0101001

BFB Injection Date: 04/13/02

Instrument ID: VOC2

BFB Injection Time: 1215

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	18.7
75	30.0 - 60.0% of mass 95	41.8
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.3
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	81.8
175	5.0 - 9.0% of mass 174	5.7 (6.9)1
176	95.0 - 101.0% of mass 174	79.8 (97.5)1
177	5.0 - 9.0% of mass 176	5.4 (6.8)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	V2041311LCS	11LCS	0201002LCS	04/13/02	1233
02	DCS100PPB		0201002	04/13/02	1233
03	V2041312LCS	12LCS	0203004LCS	04/13/02	1351
04	DCS100PPB		0203004	04/13/02	1351
05	V2041311LB	11LB	0302005	04/13/02	1523
06	020427404	020427404	0401006	04/13/02	1556
07	020427402	020427402	0501007	04/13/02	1628
08	020427403	020427403	0601008	04/13/02	1701
09	020427418	020427418	0701009	04/13/02	1733
10	020427419	020427419	0801010	04/13/02	1805
11	020427420	020427420	0901011	04/13/02	1837
12	020427421	020427421	1001012	04/13/02	1909
13	020427421	020427421	1101013	04/13/02	1941
14	020427422	020427422	1201014	04/13/02	2012
15	020427423	020427423	1301015	04/13/02	2044
16	020427424	020427424	1401016	04/13/02	2116
17	020427421MS	MS	1901021	04/13/02	2354
18	020427421MSD	MSD	2001022	04/14/02	0026
19					
20					
21					
22					

695 394

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Instrument ID: VOC2

Calibration Date: 04/13/02 Time: 1233

Lab File ID: 0201002

Init. Calib. Date(s): 04/05/02 04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639

2155

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Acetone	113.6	100.0	AVRG	13.6	30.0
Acetonitrile	119.1	100.0	AVRG	19.1	30.0
Acrolein	118.2	100.0	AVRG	18.2	30.0
Acrylonitrile	116.2	100.0	AVRG	16.2	30.0
Allyl chloride	118.5	100.0	AVRG	18.5	30.0
Benzene	115.7	100.0	AVRG	15.7	30.0
Bromobenzene	111.1	100.0	AVRG	11.1	30.0
Bromochloromethane	111.8	100.0	AVRG	11.8	30.0
Bromodichloromethane	106.1	100.0	AVRG	6.1	30.0
Bromoform	103.8	100.0	LINR	3.8	30.0
2-Butanone	117.4	100.0	AVRG	17.4	30.0
Bromomethane	89.43	100.0	AVRG	10.6	30.0
n-Butylbenzene	128.5	100.0	AVRG	28.5	30.0
sec-Butylbenzene	83.40	100.0	AVRG	16.6	30.0
tert-Butylbenzene	113.0	100.0	AVRG	13.0	30.0
Carbon Disulfide	116.8	100.0	AVRG	16.8	30.0
Carbon Tetrachloride	111.9	100.0	AVRG	11.9	30.0
Chlorobenzene	112.8	100.0	AVRG	12.8	30.0
Chlorodibromomethane	111.8	100.0	AVRG	11.8	30.0
Chloroethane	113.2	100.0	AVRG	13.2	30.0
2-Chloroethyl vinyl ether	113.7	100.0	LINR	13.7	30.0
Chloroform	107.1	100.0	AVRG	7.1	20.0
Chloromethane	99.45	100.0	AVRG	0.6	30.0
Chloroprene	118.0	100.0	AVRG	18.0	30.0
2-Chlorotoluene	113.6	100.0	AVRG	13.6	30.0
4-Chlorotoluene	112.8	100.0	AVRG	12.8	30.0
1,2-Dibromo-3-chloropropane	115.0	100.0	LINR	15.0	30.0
1,2-Dibromoethane	113.3	100.0	AVRG	13.3	30.0
Dibromomethane	111.4	100.0	AVRG	11.4	30.0
1,2-Dichlorobenzene	117.2	100.0	AVRG	17.2	30.0
1,3-Dichlorobenzene	119.4	100.0	AVRG	19.4	30.0
1,4-Dichlorobenzene	126.6	100.0	AVRG	26.6	30.0
cis-1,4-Dichloro-2-butene	121.2	100.0	AVRG	21.2	30.0
trans-1,4-Dichloro-2-butene	118.7	100.0	AVRG	18.7	30.0
Dichlorodifluoromethane	95.44	100.0	AVRG	4.6	30.0
1,1-Dichloroethane	115.7	100.0	AVRG	15.7	30.0
1,2-Dichloroethane	109.6	100.0	AVRG	9.6	30.0

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

695 395

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Instrument ID: VOC2

Calibration Date: 04/13/02 Time: 1233

Lab File ID: 0201002

Init. Calib. Date(s): 04/05/02 04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639 2155

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
1,1-Dichloroethene	111.8	100.0	AVRG	11.8	20.0
cis-1,2-Dichloroethene	114.7	100.0	AVRG	14.7	30.0
trans-1,2-Dichloroethene	131.9	100.0	AVRG	31.9	30.0
1,2-Dichloropropane	110.1	100.0	AVRG	10.1	20.0
1,3-Dichloropropane	113.9	100.0	AVRG	13.9	30.0
2,2-Dichloropropane	117.7	100.0	AVRG	17.7	30.0
1,1-Dichloropropene	118.2	100.0	AVRG	18.2	30.0
cis-1,3-Dichloropropene	115.6	100.0	AVRG	15.6	30.0
trans-1,3-Dichloropropene	115.8	100.0	AVRG	15.8	30.0
Di isopropyl ether	117.2	100.0	AVRG	17.2	30.0
1,4-Dioxane	2224	2000	AVRG	11.2	30.0
Ethyl Acetate	119.7	100.0	AVRG	19.7	30.0
Ethylbenzene	114.0	100.0	AVRG	14.0	20.0
Ethyl methacrylate	244.0	200.0	AVRG	22.0	30.0
Furan	176.2	153.0	AVRG	15.2	30.0
Hexachlorobutadiene	119.2	100.0	AVRG	19.2	30.0
Hexane	138.2	117.0	AVRG	18.1	30.0
2-Hexanone	121.3	100.0	AVRG	21.3	30.0
Iodomethane	112.4	100.0	LINR	12.4	30.0
Isobutyl Alcohol	2506	2000	AVRG	25.3	30.0
Isopropylbenzene	115.1	100.0	AVRG	15.1	30.0
4-Isopropyltoluene	116.9	100.0	AVRG	16.9	30.0
Methacrylonitrile	1210	1000	AVRG	21.0	30.0
Methylene Chloride	111.0	100.0	LINR	11.0	30.0
Methyl methacrylate	238.5	200.0	AVRG	19.2	30.0
4-Methyl-2-Pentanone	118.8	100.0	AVRG	18.8	30.0
Methyl-tertbutyl-Ether	117.9	100.0	AVRG	17.9	30.0
Naphthalene	115.9	100.0	AVRG	15.9	30.0
Propionitrile	1193	1000	AVRG	19.3	30.0
n-Propyl Acetate	183.2	151.0	AVRG	21.3	30.0
n-Propylbenzene	118.0	100.0	AVRG	18.0	30.0
Styrene	117.1	100.0	AVRG	17.1	30.0
1,1,1,2-Tetrachloroethane	107.5	100.0	AVRG	7.5	30.0
1,1,2,2-Tetrachloroethane	119.4	100.0	AVRG	19.4	30.0
Tetrachloroethene	116.3	100.0	AVRG	16.3	30.0
Tetrahydrofuran	113.9	91.50	AVRG	24.5	30.0
1,2,3-Trichlorobenzene	124.8	100.0	AVRG	24.8	30.0

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695 396

FORM 7

VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Instrument ID: VOC2

Calibration Date: 04/13/02 Time: 1233

Lab File ID: 0201002

Init. Calib. Date(s): 04/05/02 04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639

2155

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Toluene	116.2	100.0	AVRG	16.2	20.0
1,1,1-Trichloroethane	114.5	100.0	AVRG	14.5	30.0
1,1,2-Trichloroethane	112.2	100.0	AVRG	12.2	30.0
1,1,2-trichloro-1,2,2-triflu	114.7	100.0	AVRG	14.7	30.0
Trichloroethene	110.9	100.0	AVRG	10.9	30.0
Trichlorofluoromethane	111.0	100.0	AVRG	11.0	30.0
1,2,3-Trichloropropane	114.7	100.0	AVRG	14.7	30.0
1,2,4-Trimethylbenzene	116.1	100.0	AVRG	16.1	30.0
1,2,4-Trichlorobenzene	129.3	100.0	AVRG	29.3	30.0
1,3,5-Trimethylbenzene	115.1	100.0	AVRG	15.1	30.0
Vinyl Acetate	123.7	100.0	AVRG	23.7	30.0
Vinyl Chloride	107.9	100.0	AVRG	7.9	20.0
Xylene-mp	228.6	200.0	AVRG	14.3	30.0
Xylene-o	114.8	100.0	AVRG	14.8	30.0
=====	=====	=====	=====	=====	=====
Dibromofluoromethane	43.97	50.00	AVRG	12.1	30.0
Toluene-d8	48.92	50.00	AVRG	2.2	30.0
Bromofluorobenzene	48.54	50.00	AVRG	2.9	30.0
1,2-Dichloroethane-d4	41.74	50.00	AVRG	16.5	30.0

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

695 397

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Instrument ID: VOC2

Calibration Date: 04/13/02 Time: 1351

Lab File ID: 0203004

Init. Calib. Date(s): 04/05/02 04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639 2155

GC Column:

ID: 2.00 (mm)

COMPOUND	RRF	RRF100	MIN RRF	%D	MAX %D
trans-1,2-Dichloroethene	0.533	0.470		11.8	30.0
Dibromofluoromethane	0.582	0.529		9.1	30.0
Toluene-d8	1.112	1.070		3.8	30.0
Bromofluorobenzene	0.434	0.403		7.1	30.0
1,2-Dichloroethane-d4	0.504	0.448		11.1	30.0

FORM VII VOA-GCMS

000131

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Lab File ID (Standard): 0203004

Date Analyzed: 04/13/02

Instrument ID: VOC2

Time Analyzed: 1351

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	979865	9.70	1757627	10.73	1754666	14.58
UPPER LIMIT	1959730	10.20	3515254	11.23	3509332	15.08
LOWER LIMIT	489933	9.20	878814	10.23	877333	14.08
=====	=====	=====	=====	=====	=====	=====
CLIENT SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V2041311LB	723045	9.70	1272144	10.73	1178057	14.58
02 020427404	761027	9.70	1348722	10.73	1230710	14.58
03 020427402	706743	9.71	1269328	10.73	1139093	14.58
04 020427403	731095	9.71	1307029	10.74	1192213	14.58
05 020427418	686723	9.71	1247730	10.74	1123632	14.58
06 020427419	702923	9.71	1281558	10.74	1160138	14.58
07 020427420	726485	9.71	1317345	10.74	1197350	14.58
08 020427421	682323	9.71	1236327	10.74	1128045	14.58
09 020427421	696358	9.71	1267628	10.75	1144893	14.59
10 020427422	665528	9.71	1220044	10.75	1103537	14.59
11 020427423	688536	9.71	1279540	10.75	1130405	14.59
12 020427424	661033	9.71	1210305	10.75	1111246	14.59
13 020427421MS	685384	9.72	1250797	10.75	1219272	14.59
14 020427421MSD	684267	9.72	1241246	10.75	1183966	14.59
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

695 399

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Lab File ID (Standard): 0203004

Date Analyzed: 04/13/02

Instrument ID: VOC2

Time Analyzed: 1351

GC Column:

ID: 2.00 (mm)

Heated Purge: (Y/N) Y

	IS4 (DCB)					
	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	665860	17.50				
UPPER LIMIT	1331720	18.00				
LOWER LIMIT	332930	17.00				
=====	=====	=====	=====	=====	=====	=====
CLIENT						
SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V2041311LB	481014	17.51				
02 020427404	487903	17.51				
03 020427402	452260	17.51				
04 020427403	468816	17.51				
05 020427418	451306	17.51				
06 020427419	472280	17.52				
07 020427420	477369	17.51				
08 020427421	464503	17.52				
09 020427421	453910	17.52				
10 020427422	437188	17.52				
11 020427423	441263	17.53				
12 020427424	448176	17.52				
13 020427421MS	488783	17.53				
14 020427421MSD	464297	17.52				
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.

695 400

ENVIRONMENTAL TESTING & CONSULTING, INC
GC/MS VOC Method 8260B Sequence Check List (SW-846)

Sequence ID: V204141 Matrix: H2O HBN: _____

Date: 4-15-02

Applicable ETC Order Nos. for this sequence:

0204-274-23 0204-275-274

Analyst
Super

Validated

1. BFB Daily 12-Hour Tune Meets Criteria. No analyses begins until criteria are met. (SOP)

2. Initial Calibration Verification Criteria - Method: V2.04051.8260M

- 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 - $\leq 30\%$

- 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"

Meth E 0.381 ppb

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 :

0204-275-10 ms, msd

6. Laboratory Control Samples included in this sequence :

Must contain all Target Analytes.

2/88

7. Surrogate Recoveries within QC Limits

8. All positive compounds within calibration range

Narrative/Notes :

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

695 401

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Lab File ID: 0101001

BFB Injection Date: 04/14/02

Instrument ID: VOC2

BFB Injection Time: 1124

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	18.0
75	30.0 - 60.0% of mass 95	41.4
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	80.9
175	5.0 - 9.0% of mass 174	5.6 (6.9)1
176	95.0 - 101.0% of mass 174	79.2 (97.9)1
177	5.0 - 9.0% of mass 176	5.4 (6.8)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	V2041411LCS	11LCS	0202003LCS	04/14/02	1231
02	DCS100PPB		0202003	04/14/02	1231
03	V2041411LB	11LB	0302004	04/14/02	1356
04	020427423	020427423	0401005	04/14/02	1428
05	020427510	020427510	1301014	04/14/02	1916
06	020427510MS	MS	1801019	04/14/02	2156
07	020427510MSD	MSD	1901020	04/14/02	2228
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

695 402

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Instrument ID: VOC2

Calibration Date: 04/14/02

Time: 1231

Lab File ID: 0202003

Init. Calib. Date(s): 04/05/02

04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639

2155

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
Acetone	113.2	100.0	AVRG	13.2	30.0
Acetonitrile	1095	1000	AVRG	9.5	30.0
Acrolein	127.0	100.0	AVRG	27.0	30.0
Acrylonitrile	118.2	100.0	AVRG	18.2	30.0
Allyl chloride	110.6	100.0	AVRG	10.6	30.0
Benzene	109.6	100.0	AVRG	9.6	30.0
Bromobenzene	106.0	100.0	AVRG	6.0	30.0
Bromochloromethane	110.2	100.0	AVRG	10.2	30.0
Bromodichloromethane	103.7	100.0	AVRG	3.7	30.0
Bromoform	102.6	100.0	LINR	2.6	30.0
2-Butanone	123.0	100.0	AVRG	23.0	30.0
Bromomethane	87.68	100.0	AVRG	12.3	30.0
n-Butylbenzene	118.9	100.0	AVRG	18.9	30.0
sec-Butylbenzene	108.9	100.0	AVRG	8.9	30.0
tert-Butylbenzene	106.0	100.0	AVRG	6.0	30.0
Carbon Disulfide	102.4	100.0	AVRG	2.4	30.0
Carbon Tetrachloride	107.3	100.0	AVRG	7.3	30.0
Chlorobenzene	107.4	100.0	AVRG	7.4	30.0
Chlorodibromomethane	112.4	100.0	AVRG	12.4	30.0
Chloroethane	100.1	100.0	AVRG	0.1	30.0
2-Chloroethyl vinyl ether	107.8	100.0	LINR	7.8	30.0
Chloroform	103.8	100.0	AVRG	3.8	20.0
Chloromethane	85.82	100.0	AVRG	14.2	30.0
Chloroprene	110.5	100.0	AVRG	10.5	30.0
2-Chlorotoluene	108.8	100.0	AVRG	8.8	30.0
4-Chlorotoluene	106.5	100.0	AVRG	6.5	30.0
1,2-Dibromo-3-chloropropane	117.0	100.0	LINR	17.0	30.0
1,2-Dibromoethane	112.7	100.0	AVRG	12.7	30.0
Dibromomethane	110.6	100.0	AVRG	10.6	30.0
1,2-Dichlorobenzene	113.4	100.0	AVRG	13.4	30.0
1,3-Dichlorobenzene	115.6	100.0	AVRG	15.6	30.0
1,4-Dichlorobenzene	114.1	100.0	AVRG	14.1	30.0
cis-1,4-Dichloro-2-butene	120.3	100.0	AVRG	20.3	30.0
trans-1,4-Dichloro-2-butene	117.4	100.0	AVRG	17.4	30.0
Dichlorodifluoromethane	89.73	100.0	AVRG	10.3	30.0
1,1-Dichloroethane	108.3	100.0	AVRG	8.3	30.0
1,2-Dichloroethane	106.7	100.0	AVRG	6.7	30.0

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

695 403

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Instrument ID: VOC2

Calibration Date: 04/14/02 Time: 1231

Lab File ID: 0202003

Init. Calib. Date(s): 04/05/02 04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639 2155

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
1,1-Dichloroethene	101.9	100.0	AVRG	1.9	20.0
cis-1,2-Dichloroethene	109.2	100.0	AVRG	9.2	30.0
trans-1,2-Dichloroethene	104.7	100.0	AVRG	4.7	30.0
1,2-Dichloropropane	104.6	100.0	AVRG	4.6	20.0
1,3-Dichloropropane	112.4	100.0	AVRG	12.4	30.0
2,2-Dichloropropane	110.9	100.0	AVRG	10.9	30.0
1,1-Dichloropropene	110.2	100.0	AVRG	10.2	30.0
cis-1,3-Dichloropropene	111.1	100.0	AVRG	11.1	30.0
trans-1,3-Dichloropropene	114.9	100.0	AVRG	14.9	30.0
Di isopropyl ether	112.1	100.0	AVRG	12.1	30.0
1,4-Dioxane	2414	2000	AVRG	20.7	30.0
Ethyl Acetate	119.6	100.0	AVRG	19.6	30.0
Ethylbenzene	107.2	100.0	AVRG	7.2	20.0
Ethyl methacrylate	245.7	200.0	AVRG	22.8	30.0
Furan	160.2	153.0	AVRG	4.7	30.0
Hexachlorobutadiene	111.2	100.0	AVRG	11.2	30.0
Hexane	123.7	117.0	AVRG	5.7	30.0
2-Hexanone	125.2	100.0	AVRG	25.2	30.0
Iodomethane	103.4	100.0	LINR	3.4	30.0
Isobutyl Alcohol	2650	2000	AVRG	32.5	30.0
Isopropylbenzene	108.3	100.0	AVRG	8.3	30.0
4-Isopropyltoluene	109.1	100.0	AVRG	9.1	30.0
Methacrylonitrile	1225	1000	AVRG	22.5	30.0
Methylene Chloride	105.6	100.0	LINR	5.6	30.0
Methyl methacrylate	241.0	200.0	AVRG	20.5	30.0
4-Methyl-2-Pentanone	121.9	100.0	AVRG	21.9	30.0
Methyl-tertbutyl-Ether	113.6	100.0	AVRG	13.6	30.0
Naphthalene	110.7	100.0	AVRG	10.7	30.0
Propionitrile	1255	1000	AVRG	25.5	30.0
n-Propyl Acetate	184.2	151.0	AVRG	22.0	30.0
n-Propylbenzene	109.9	100.0	AVRG	9.9	30.0
Styrene	110.2	100.0	AVRG	10.2	30.0
1,1,1,2-Tetrachloroethane	103.3	100.0	AVRG	3.3	30.0
1,1,2,2-Tetrachloroethane	120.4	100.0	AVRG	20.4	30.0
Tetrachloroethene	112.6	100.0	AVRG	12.6	30.0
Tetrahydrofuran	114.2	91.50	AVRG	24.8	30.0
1,2,3-Trichlorobenzene	115.4	100.0	AVRG	15.4	30.0

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095 404

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Instrument ID: VOC2

Calibration Date: 04/14/02

Time: 1231

Lab File ID: 0202003

Init. Calib. Date(s): 04/05/02

04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639

2155

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Toluene	112.1	100.0	AVRG	12.1	20.0
1,1,1-Trichloroethane	110.4	100.0	AVRG	10.4	30.0
1,1,2-Trichloroethane	112.0	100.0	AVRG	12.0	30.0
1,1,2-trichloro-1,2,2-triflu	103.7	100.0	AVRG	3.7	30.0
Trichloroethene	106.7	100.0	AVRG	6.7	30.0
Trichlorofluoromethane	99.70	100.0	AVRG	0.3	30.0
1,2,3-Trichloropropane	114.8	100.0	AVRG	14.8	30.0
1,2,4-Trimethylbenzene	107.7	100.0	AVRG	7.7	30.0
1,2,4-Trichlorobenzene	119.8	100.0	AVRG	19.8	30.0
1,3,5-Trimethylbenzene	106.5	100.0	AVRG	6.5	30.0
Vinyl Acetate	121.7	100.0	AVRG	21.7	30.0
Vinyl Chloride	92.77	100.0	AVRG	7.2	20.0
Xylene-mp	215.5	200.0	AVRG	7.8	30.0
Xylene-o	108.0	100.0	AVRG	8.0	30.0
=====	=====	=====	=====	=====	=====
Dibromofluoromethane	44.01	50.00	AVRG	12.0	30.0
Toluene-d8	48.81	50.00	AVRG	2.4	30.0
Bromofluorobenzene	47.71	50.00	AVRG	4.6	30.0
1,2-Dichloroethane-d4	42.55	50.00	AVRG	14.9	30.0

FORM 8
VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

695 405

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Lab File ID (Standard): 0202003

Date Analyzed: 04/14/02

Instrument ID: VOC2

Time Analyzed: 1231

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	768115	9.69	1372384	10.73	1357924	14.57
UPPER LIMIT	1536230	10.19	2744768	11.23	2715848	15.07
LOWER LIMIT	384058	9.19	686192	10.23	678962	14.07
=====	=====	=====	=====	=====	=====	=====
CLIENT SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V2041411LB	712937	9.71	1267992	10.73	1171868	14.58
02 020427423	724841	9.72	1281570	10.74	1192817	14.59
03 020427510	647817	9.72	1160507	10.75	1071061	14.59
04 020427510MS	707644	9.73	1295724	10.76	1274042	14.60
05 020427510MSD	675822	9.73	1220839	10.76	1209879	14.60
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.

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204274

Lab File ID (Standard): 0202003

Date Analyzed: 04/14/02

Instrument ID: VOC2

Time Analyzed: 1231

GC Column:

ID: 2.00 (mm)

Heated Purge: (Y/N) Y

	IS4 (DCB)					
	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	525521	17.50				
UPPER LIMIT	1051042	18.00				
LOWER LIMIT	262761	17.00				
=====	=====	=====	=====	=====	=====	=====
CLIENT						
SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V2041411LB	478798	17.51				
02 020427423	488994	17.52				
03 020427510	430381	17.53				
04 020427510MS	494680	17.53				
05 020427510MSD	464945	17.53				
06						
07						
08						
09						
10						
11						
12						
13						
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 : 05-APR-2002 16:39
 End Cal Date : 05-APR-2002 21:55
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCBDC\DD\chem\voc2.i\V204061.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 lisa

Calibration File Names:

Level 1: \\ETCBDC\DD\chem\voc2.i\V204051.B\0301005.D
 Level 2: \\ETCBDC\DD\chem\voc2.i\V204051.B\0401006.D
 Level 3: \\ETCBDC\DD\chem\voc2.i\V204051.B\0601008.D
 Level 4: \\ETCBDC\DD\chem\voc2.i\V204051.B\0701009.D
 Level 5: \\ETCBDC\DD\chem\voc2.i\V204051.B\0801010.D
 Level 6: \\ETCBDC\DD\chem\voc2.i\V204051.B\0901011.D
 Level 7: \\ETCBDC\DD\chem\voc2.i\V204051.B\1001012.D
 Level 8: \\ETCBDC\DD\chem\voc2.i\V204051.B\1101013.D
 Level 9: \\ETCBDC\DD\chem\voc2.i\V204051.B\1201014.D
 Level 10: \\ETCBDC\DD\chem\voc2.i\V204051.B\1301015.D

Compound	0 5000000		1 0000		5. 0000		20 0000		50.0000		100 0000		Coefficients		RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	b	m1	m2						
1 Dichlorodifluoromethane	0 42917	0.46398	0.49215	0 38347	0 46944	0 46947									
	0 46136	0 51612	0 48619	0.45506	AVRG			0 46264						7.83587	

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-APR-2002 16:39
 End Cal Date : 05-APR-2002 21:55
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc2.i\V204061.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 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					
120.0000	150.0000	170.0000	200.0000								
Level 7	Level 8	Level 9	Level 10								
2 Chloromethane	++++	0.67422	0.62057	0.47147	0.54426	0.51341	AVRG		0.55428		11.46237
	0.52358	0.59597	0.53226	0.51277							
3 Vinyl Chloride	0.59049	0.62162	0.57736	0.46471	0.55090	0.53374	AVRG		0.55135		8.25883
	0.53323	0.59353	0.53059	0.51729							
4 Bromomethane	++++	0.42318	0.30731	0.25754	0.29200	0.30671	AVRG		0.32388		14.22927
	0.33152	0.35568	0.32557	0.31543							
5 Chloroethane	0.28710	0.32742	0.32678	0.27943	0.32221	0.30903	AVRG		0.31457		6.17221
	0.32281	0.34496	0.31428	0.31167							
6 Acrolein	++++	++++	0.03901	0.03464	0.03662	0.03836	AVRG		0.03847		5.62234
	0.04114	0.03791	0.04104	0.03905							

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

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 End Cal Date : 05-APR-2002 21:55
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc2.i\v204061.B\v204051.8260.m
 Cal Date : 07-Apr-2002 11:24 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
7 Trichlorofluoromethane	0.60097 0.52765	0.56367 0.58535	0.55662 0.53444	0.51142 0.53197	0.53518	0.52363	AVRG		0.54709		5.26370
8 Acetone	++++ 0.15141	++++ 0.14186	++++ 0.15015	0.14803 0.13203	0.14368	0.13960	AVRG		0.14382		4.71680
9 Furan	++++ 1.16477	1.14909 1.21800	1.05044 1.13214	1.03490 1.12979	1.07190	1.06736	AVRG		1.11427		5.33566
10 1,1-Dichloroethene	0.49980 0.42996	0.53813 0.46662	0.41987 0.42862	0.41566 0.42782	0.42362	0.41486	AVRG		0.44650		9.37487
11 Acrylonitrile	++++ 0.17009	++++ 0.16106	++++ 0.16870	0.14664 0.15509	0.15265	0.15548	AVRG		0.15853		5.40438

Environmental Testing and Consulting, Inc.

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 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc2.i\V204061.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 lisa

Compound	0 500000		1.0000		5.0000		20 0000		50 0000		100.0000		Coefficients		%RSD	
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10	Level 11	Level 12	b	m1	m2	or R^2
12 Iodomethane	1208169	1546567	1626204	1892196	453941	903784	1208169	1546567	1626204	1892196	453941	903784	0 03186	0.57099		0 99572
13 Methylene Chloride	1059047	1336946	1482070	1641225	396810	769694	1059047	1336946	1482070	1641225	396810	769694	-0.00485	0 49459		0 99746
14 1,1,2-trichloro-1,2,2-trifluoroethane	0.49912	0 41843	0 40972	0 38988	0 40666	0 39958	0.49912	0 41843	0 40972	0 38988	0 40666	0 39958		0.42385		7.44681
15 Acetonitrile	0.10434	0 11372	0 09647	0 09851	0 09898	0 09803	0.10434	0 11372	0 09647	0 09851	0 09898	0 09803		0 10311		5 84786
16 Allyl chloride	1 04826	1 07955	0 96342	0 97950	0 97578	0 97840	1 04826	1 07955	0 96342	0 97950	0 97578	0 97840		1 02268		5.15228

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-APR-2002 16:39
 End Cal Date : 05-APR-2002 21:55
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETC\BDC\DD\chem\voc2.i\V204061.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 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 58428	1 58392	1 56622	1 41653	1 56098	1 52400	AVRG			1 57172		5 04776
	1 55593	1 74023	1 57981	1 60527								
18 trans-1,2-Dichloroethene	0 56064	0 55991	0 51111	0 50023	0 50109	0 56054	AVRG			0 53273		4 72097
	0 53164	0 55802	0 52004	0 52407								
19 Methyl-tertbutyl-Ether	1 48722	1 39464	1 35926	1 26913	1 18797	1 40942	AVRG			1 34325		6 11785
	1 33309	1 32051	1 30072	1 37050								
20 Propionitrile	0 05782	0 06610	0 06906	0 06612	0 06961	0 07112	AVRG			0 06950		7 91258
	0 07705	0 07169	0 07642	0 06996								
21 1,1-Dichloroethane	1 03936	1 15869	1 08606	1 13771	1 10699	1 12922	AVRG			1 14609		5 32087
	1 21382	1 24737	1 15742	1 18429								

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

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 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc2.i\V204061.B\v204051.8260.m
 Cal Date : 07-Apr-2002 11:24 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	++++ 1.08498	++++ 1 07734	0.97709 1.08335	0.94466 1.04693	0.99986	1 02888	AVRG		1 03039		5.10740
23 Chloroprene	0 86893 1 00647	0 91375 1 06406	0 90862 1 00671	0 96553 1 01528	0 94659	0 97511	AVRG		0 96711		6 09123
24 Hexane	++++ 0.88974	0 91888 1 05755	1 09568 0.98345	1.07825 0 98520	1 00351	0.97982	AVRG		0.99912		6.91910
25 2-Butanone	++++ 0 07284	++++ 0.06986	0 05810 0 07270	0 06205 0.06538	0.06556	0 06871	AVRG		0 06690		7 70483
26 Di isopropyl ether	2.42826 2.75842	2 46638 2.78621	2 41619 2.65302	2.49133 2.65075	2 44788	2 50530	AVRG		2 56037		5.43854

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-APR-2002 16:39
 End Cal Date : 05-APR-2002 21:55
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc2.i\V204061.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 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								
27 Methacrylonitrile	++++	0.34695	0.36853	0.34859	0.37239	0.38462	AVRG			0.38153		6.70605
	0.41866	0.39550	0.41504	0.38336								
28 cis-1,2-Dichloroethene	0.68095	0.64704	0.65687	0.68172	0.65611	0.68157	AVRG			0.68982		4.78866
	0.73320	0.74444	0.70533	0.71102								
29 Ethyl Acetate	++++	++++	0.48657	0.45441	0.49616	0.52129	AVRG			0.52003		7.81094
	0.56466	0.53677	0.57721	0.52320								
30 Bromochloromethane	0.28072	0.28738	0.28603	0.29398	0.28936	0.29485	AVRG			0.29796		4.61468
	0.31951	0.32072	0.30531	0.30176								
31 Chloroform	++++	1.29202	1.01246	0.97587	0.93490	0.96601	AVRG			1.03685		10.01685
	1.04486	1.06486	1.01466	1.02605								

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

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 End Cal Date : 05-APR-2002 21:55
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc2.i\V204061.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 lisa

Compound	0 5000000		1.0000		5.0000		20.0000		50.0000		100.0000		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	b	m1	m2		
32 Isobutyl Alcohol	0.03225	0.02630	0.02723	0.02528	0.02791	0.03000	0.03225	0.03043	0.03379	0.02916	0.03000	0.03000	AVRG	0.02915			9 53349
33 2,2-Dichloropropane	0.80199	0.81401	0.71695	0.75615	0.74037	0.77047	0.80199	0.83759	0.78590	0.79824	0.77047	0.77047	AVRG	0.78506			4 96408
35 Tetrahydrofuran	0.29971	0.30081	0.20230	0.25008	0.27453	0.28424	0.29971	0.30081	0.31287	0.28786	0.27453	0.28424	AVRG	0.27655			12 85671
38 1,2-Dichloroethane	0.55494	0.64539	0.60480	0.61672	0.62157	0.63848	0.55494	0.69526	0.68197	0.66619	0.62157	0.63848	AVRG	0.64327			7 20315
39 1,1,1-Trichloroethane	0.77801	0.73275	0.77013	0.80523	0.78347	0.81207	0.77801	0.89124	0.84095	0.85977	0.78347	0.81207	AVRG	0.81241			5 93527

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-APR-2002 16:39
 End Cal Date : 05-APR-2002 21:55
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc2.i\V204061.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 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
40 1,1-Dichloropropene	0.77870 0.85046	0.80121 0.90017	0.78163 0.85116	0.81918 0.86515	0.79614	0.82496	AVRG		0.82688		4.77303
41 Carbon Tetrachloride	0.61726 0.71781	0.67598 0.76460	0.65934 0.71998	0.69033 0.73655	0.66823	0.70480	AVRG		0.69549		6.10450
42 Benzene	2.55950 2.64200	2.52644 2.75482	2.42713 2.61229	2.52519 2.63953	2.43363	2.52806	AVRG		2.56486		3.90936
44 Dibromomethane	0.17367 0.20588	0.18004 0.20199	0.17622 0.19393	0.18324 0.19003	0.18015	0.18271	AVRG		0.18679		5.80980
45 1,2-Dichloropropane	0.41449 0.44108	0.49010 0.44953	0.39800 0.41615	0.40057 0.42412	0.38602	0.40144	AVRG		0.42215		7.32520

695 416

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-APR-2002 16:39
 End Cal Date : 05-APR-2002 21:55
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDDC\DD\chem\voc2.i\V204061.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 lisa

Compound	0 500000	1.0000	5.0000	20.0000	50 0000	100 0000	Curve	b	Coefficients	m2	or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
46 Trichloroethene	0 40930	0 40096	0 38674	0 39819	0 37367	0 38978	AVRG		0.40060		3.85869
	0 41056	0 42909	0 39672	0 41100							
47 Bromodichloromethane	++++	0 52560	0 40552	0 39687	0 38937	0 40499	AVRG		0.43301		9 79459
	0 45209	0 45880	0 42782	0 43606							
48 n-Propyl Acetate	++++	0 67146	0 72959	0 71573	0 76094	0 80773	AVRG		0.79213		9.70444
	0 88459	0 85422	0 88461	0 82028							
49 Methyl methacrylate	0 19149	0 18621	0 20482	0 20629	0 21189	0 22373	AVRG		0 21760		9.45271
	0 24382	0 23771	0 24140	0 22860							
50 1,4-Dioxane	++++	++++	0 00253	0 00245	0 00261	0 00266	AVRG		0 00268		6.36407
	0 00296	0 00279	0 00283	0 00259							

900150

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-APR-2002 16:39
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 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc2.i\204051.8260.m
 Cal Date : 07-Apr-2002 11:24 lisa

Compound	0.500000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	ml	m2	%RSD or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
51 2-Chloroethyl vinyl ether	0.500000	1.0000	5.0000	20.0000	50.0000	100.0000					
	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							
	++++	2631	15349	56560	167157	354300					
	498508	595633	750923	755159			LINR	0.07614	0.13646		0.99384
52 cis-1,3-Dichloropropene	0.50008	0.52573	0.51730	0.56302	0.54698	0.57056					
	0.63376	0.63351	0.60092	0.59932			AVRG		0.56912		8.30594
53 4-Methyl-2-Pentanone	++++	++++	0.31945	0.30821	0.33189	0.35478					
	0.38322	0.36532	0.38590	0.35218			AVRG		0.35012		8.12309
54 trans-1,3-Dichloropropene	0.38095	0.39467	0.39113	0.42372	0.41860	0.44047					
	0.48108	0.47963	0.45786	0.45253			AVRG		0.43206		8.36559
55 1,1,2-Trichloroethane	0.20215	0.23037	0.21959	0.22039	0.21925	0.22668					
	0.24923	0.24483	0.23623	0.22976			AVRG		0.22785		6.00602

C95 417

000151

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-APR-2002 16:39
 End Cal Date : 05-APR-2002 21:55
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETC\BDC\DD\chem\voc2.i\V204061.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 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	0.18090 0.25143	0.18838 0.24231	0.19818 0.24307	0.20468 0.23275	0.21459	0.22849	AVRG		0.21848		11.31247
58 Toluene	++++ 0.88880	0.87788 0.92116	0.81733 0.85551	0.86744 0.87585	0.80782	0.85278	AVRG		0.86273		4.04551
59 1,3-Dichloropropane	0.46857 0.55464	0.46378 0.54761	0.45879 0.53803	0.48996 0.52287	0.48571	0.50580	AVRG		0.50358		7.07690
60 2-Hexanone	++++ 0.27685	++++ 0.26107	0.22816 0.28025	0.21524 0.25034	0.23326	0.25296	AVRG		0.24977		9.24529
61 Chlorodibromomethane	0.28253 0.36376	0.28401 0.36349	0.29323 0.35083	0.31821 0.34572	0.31573	0.33359	AVRG		0.32511		9.60621

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

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 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc2.i\V204061.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 lisa

Compound	0 500000	1.0000	5 0000	20 0000	50 0000	100.0000	Curve	b	Coefficients	m2	RRSD
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6			m1		or R^2
62 1,2-Dibromoethane	0.28398	0.27594	0.27516	0.27815	0.28094	0.28838	AVRG		0.29045		5.06337
	0.31618	0.30968	0.30384	0.29224							
63 Tetrachloroethene	0.26464	0.31077	0.27349	0.28805	0.26393	0.27804	AVRG		0.28255		5.30537
	0.28762	0.30145	0.27605	0.28146							
64 1,1,1,2-Tetrachloroethane	0.35301	0.36036	0.33188	0.34315	0.33823	0.35297	AVRG		0.35835		5.42297
	0.38276	0.38214	0.35230	0.38667							
66 Chlorobenzene	1.10649	1.07448	1.00085	1.03025	1.00730	1.04667	AVRG		1.07187		5.04591
	1.12658	1.13989	1.04301	1.14321							
67 Ethylbenzene	1.75991	1.65415	1.51941	1.58657	1.55562	1.63396	AVRG		1.66731		6.10840
	1.73502	1.78245	1.62662	1.81939							

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Compound	0 500000		1.0000		5 0000		20 0000		50.0000		100.0000		Coefficients		b	Curve	m1	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							
68 Xylene-mp	120.0000	150.0000	170.0000	200.0000															
	Level 7	Level 8	Level 9	Level 10															
69 Bromoform	0 68206	0 67180	0 60730	0 63474	0 61799	0 64956													
	0 68599	0 70123	0 63991	0 71442													0 66050		5 44789
70 trans-1,4-Dichloro-2-butene	++++	5301	26885	109496	292751	607365													
	822958	980715	1173848	1240179											0 05106		0 23433		0 99799
71 Styrene	++++	0 12884	0 12996	0 12420	0 13512	0 14305													
	0 15773	0 15017	0 15053	0 15358													0 14147		8 66356
72 Xylene-o	0 99504	0 99378	0 92996	1 00449	1 01733	1 06952													
	1 15963	1 17573	1 08732	1 20776													1 06406		8 64982
	0 61409	0 63232	0 58354	0 61318	0 60209	0 63240													
	0 67569	0 68700	0 62774	0 70188													0 63699		6 08110

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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
73 1,1,2,2-Tetrachloroethane	++++ 0.94396	0.82947 0.94765	0.81380 0.93900	0.82880 0.91264	0.84306	0.87735	AVRG		0.88175		6.22672
74 cis-1,4-Dichloro-2-butene	++++ 0.12522	0.09740 0.11972	0.09587 0.12059	0.09929 0.12218	0.10872	0.11724	AVRG		0.11180		10.41554
75 1,2,3-Trichloropropane	0.08335 0.11845	0.09769 0.11169	0.11035 0.11086	0.09560 0.11337	0.10417	0.10821	AVRG		0.10538		9.89606
76 Isopropylbenzene	1.62707 1.77016	1.66270 1.82170	1.52317 1.67910	1.61615 1.87460	1.58174	1.68518	AVRG		1.68416		6.48512
78 Bromobenzene	++++ 0.42377	0.43638 0.42102	0.36270 0.39025	0.37254 0.42639	0.37836	0.39093	AVRG		0.40026		6.73692

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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					
79 n-Propylbenzene	1 95421	1 96983	1 76444	1 90722	1 85731	1 98755	AVRG		1.98622		6.69045
	2.09727	2.14814	1.97354	2.20273							
80 2-Chlorotoluene	1.15937	1.14331	1.02245	1.07243	1.06893	1.10621	AVRG		1.13050		6.29198
	1.19552	1.20564	1.08565	1.24551							
81 4-Chlorotoluene	++++	1 30585	1.04120	1 08130	1.09788	1 15496	AVRG		1.17974		8.00475
	1 26872	1.24534	1.16102	1 26142							
83 tert-Butylbenzene	1 33912	1.28129	1.15066	1.21628	1 18806	1.26646	AVRG		1.27384		6.00806
	1.32329	1 35490	1.23502	1.38328							
84 1,3,5-Trimethylbenzene	++++	1.36070	1.20469	1.27331	1.25005	1 33034	AVRG		1.33431		6.44469
	1.40569	1.41553	1.30013	1.46834							

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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					
85 1,2,4-Trimethylbenzene	++++ 1 43349	1 41294 1 43424	1 23442 1 32677	1 28923 1 47634	1 28367	1 35654	AVRG		1 36085		6 09093
86 sec-Butylbenzene	1 84514 2 00142	1 86145 2 03955	1 70278 1 86810	1 81967 2 10858	1 77254	1 91042	AVRG		1 89296		6 58836
87 1,3-Dichlorobenzene	++++ 1 90452	1 81236 1 97195	1 68356 1 84389	1 82494 1 92736	1 72565	1 74732	AVRG		1 82684		5 25269
88 4-Isopropyltoluene	++++ 1 62974	1 60365 1 64656	1 42932 1 50720	1 50508 1 68300	1 46969	1 56593	AVRG		1 56002		5 57273
90 1,4-Dichlorobenzene	++++ 2 00618	1 82358 1 95090	1 63708 1 83246	1 85913 1 99998	1 70095	1 77033	AVRG		1 84229		6 95981

695 424

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Compound	0 5000000										1.0000										5.0000										20.0000										50.0000										100.0000										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	Level 13	Level 14	Level 15	Level 16	Level 17	Level 18	Level 19	Level 20	Level 21	Level 22	Level 23	Level 24	Level 25	Level 26	Level 27	Level 28	Level 29	Level 30	Level 31	Level 32	Level 33	Level 34	Level 35	Level 36	Level 37	Level 38	Level 39	Level 40	Level 41	Level 42	Level 43	Level 44	Level 45	Level 46	Level 47	Level 48	Level 49	Level 50	Level 51	Level 52	Level 53	Level 54	Level 55	Level 56	Level 57	Level 58	Level 59	Level 60	Level 61	Level 62	Level 63			Level 64	Level 65	Level 66	Level 67	Level 68	Level 69	Level 70	Level 71	Level 72	Level 73	Level 74	Level 75	Level 76	Level 77	Level 78	Level 79	Level 80	Level 81	Level 82	Level 83	Level 84	Level 85	Level 86	Level 87	Level 88	Level 89	Level 90	Level 91	Level 92	Level 93	Level 94	Level 95	Level 96	Level 97	Level 98	Level 99	Level 100	Level 101	Level 102	Level 103	Level 104	Level 105	Level 106	Level 107	Level 108	Level 109	Level 110	Level 111	Level 112	Level 113	Level 114	Level 115	Level 116	Level 117	Level 118	Level 119	Level 120	Level 121	Level 122	Level 123	Level 124	Level 125	Level 126	Level 127	Level 128	Level 129	Level 130	Level 131	Level 132	Level 133	Level 134	Level 135	Level 136	Level 137	Level 138	Level 139	Level 140	Level 141	Level 142	Level 143	Level 144	Level 145	Level 146	Level 147	Level 148	Level 149	Level 150	Level 151	Level 152	Level 153	Level 154	Level 155	Level 156	Level 157	Level 158	Level 159	Level 160	Level 161	Level 162	Level 163	Level 164	Level 165	Level 166	Level 167	Level 168	Level 169	Level 170	Level 171	Level 172	Level 173	Level 174	Level 175	Level 176	Level 177	Level 178	Level 179	Level 180	Level 181	Level 182	Level 183	Level 184	Level 185	Level 186	Level 187	Level 188	Level 189	Level 190	Level 191	Level 192	Level 193	Level 194	Level 195	Level 196	Level 197	Level 198	Level 199	Level 200	Level 201	Level 202	Level 203	Level 204	Level 205	Level 206	Level 207	Level 208	Level 209	Level 210	Level 211	Level 212	Level 213	Level 214	Level 215	Level 216	Level 217	Level 218	Level 219	Level 220	Level 221	Level 222	Level 223	Level 224	Level 225	Level 226	Level 227	Level 228	Level 229	Level 230	Level 231	Level 232	Level 233	Level 234	Level 235	Level 236	Level 237	Level 238	Level 239	Level 240	Level 241	Level 242	Level 243	Level 244	Level 245	Level 246	Level 247	Level 248	Level 249	Level 250	Level 251	Level 252	Level 253	Level 254	Level 255	Level 256	Level 257	Level 258	Level 259	Level 260	Level 261	Level 262	Level 263	Level 264	Level 265	Level 266	Level 267	Level 268	Level 269	Level 270	Level 271	Level 272	Level 273	Level 274	Level 275	Level 276	Level 277	Level 278	Level 279	Level 280	Level 281	Level 282	Level 283	Level 284	Level 285	Level 286	Level 287	Level 288	Level 289	Level 290	Level 291	Level 292	Level 293	Level 294	Level 295	Level 296	Level 297	Level 298	Level 299	Level 300	Level 301	Level 302	Level 303	Level 304	Level 305	Level 306	Level 307	Level 308	Level 309	Level 310	Level 311	Level 312	Level 313	Level 314	Level 315	Level 316	Level 317	Level 318	Level 319	Level 320	Level 321	Level 322	Level 323	Level 324	Level 325	Level 326	Level 327	Level 328	Level 329	Level 330	Level 331	Level 332	Level 333	Level 334	Level 335	Level 336	Level 337	Level 338	Level 339	Level 340	Level 341	Level 342	Level 343	Level 344	Level 345	Level 346	Level 347	Level 348	Level 349	Level 350	Level 351	Level 352	Level 353	Level 354	Level 355	Level 356	Level 357	Level 358	Level 359	Level 360	Level 361	Level 362	Level 363	Level 364	Level 365	Level 366	Level 367	Level 368	Level 369	Level 370	Level 371	Level 372	Level 373	Level 374	Level 375	Level 376	Level 377	Level 378	Level 379	Level 380	Level 381	Level 382	Level 383	Level 384	Level 385	Level 386	Level 387	Level 388	Level 389	Level 390	Level 391	Level 392	Level 393	Level 394	Level 395	Level 396	Level 397	Level 398	Level 399	Level 400	Level 401	Level 402	Level 403	Level 404	Level 405	Level 406	Level 407	Level 408	Level 409	Level 410	Level 411	Level 412	Level 413	Level 414	Level 415	Level 416	Level 417	Level 418	Level 419	Level 420	Level 421	Level 422	Level 423	Level 424	Level 425	Level 426	Level 427	Level 428	Level 429	Level 430	Level 431	Level 432	Level 433	Level 434	Level 435	Level 436	Level 437	Level 438	Level 439	Level 440	Level 441	Level 442	Level 443	Level 444	Level 445	Level 446	Level 447	Level 448	Level 449	Level 450	Level 451	Level 452	Level 453	Level 454	Level 455	Level 456	Level 457	Level 458	Level 459	Level 460	Level 461	Level 462	Level 463	Level 464	Level 465	Level 466	Level 467	Level 468	Level 469	Level 470	Level 471	Level 472	Level 473	Level 474	Level 475	Level 476	Level 477	Level 478	Level 479	Level 480	Level 481	Level 482	Level 483	Level 484	Level 485	Level 486	Level 487	Level 488	Level 489	Level 490	Level 491	Level 492	Level 493	Level 494	Level 495	Level 496	Level 497	Level 498	Level 499	Level 500	Level 501	Level 502	Level 503	Level 504	Level 505	Level 506	Level 507	Level 508	Level 509	Level 510	Level 511	Level 512	Level 513	Level 514	Level 515	Level 516	Level 517	Level 518	Level 519	Level 520	Level 521	Level 522	Level 523	Level 524	Level 525	Level 526	Level 527	Level 528	Level 529	Level 530	Level 531	Level 532	Level 533	Level 534	Level 535	Level 536	Level 537	Level 538	Level 539	Level 540	Level 541	Level 542	Level 543	Level 544	Level 545	Level 546	Level 547	Level 548	Level 549	Level 550	Level 551	Level 552	Level 553	Level 554	Level 555	Level 556	Level 557	Level 558	Level 559	Level 560	Level 561	Level 562	Level 563	Level 564	Level 565	Level 566	Level 567	Level 568	Level 569	Level 570	Level 571	Level 572	Level 573	Level 574	Level 575	Level 576	Level 577	Level 578	Level 579	Level 580	Level 581	Level 582	Level 583	Level 584	Level 585	Level 586	Level 587	Level 588	Level 589	Level 590	Level 591	Level 592	Level 593	Level 594	Level 595	Level 596	Level 597	Level 598	Level 599	Level 600	Level 601	Level 602	Level 603	Level 604	Level 605	Level 606	Level 607	Level 608	Level 609	Level 610	Level 611	Level 612	Level 613	Level 614	Level 615	Level 616	Level 617	Level 618	Level 619	Level 620	Level 621	Level 622	Level 623	Level 624	Level 625	Level 626	Level 627	Level 628	Level 629	Level 630	Level 631	Level 632	Level 633	Level 634	Level 635	Level 636	Level 637	Level 638	Level 639	Level 640	Level 641	Level 642	Level 643	Level 644	Level 645	Level 646	Level 647	Level 648	Level 649	Level 650	Level 651	Level 652	Level 653	Level 654	Level 655	Level 656	Level 657	Level 658	Level 659	Level 660	Level 661	Level 662	Level 663	Level 664	Level 665	Level 666	Level 667	Level 668	Level 669	Level 670	Level 671	Level 672	Level 673	Level 674	Level 675	Level 676	Level 677	Level 678	Level 679	Level 680	Level 681	Level 682	Level 683	Level 684	Level 685	Level 686	Level 687	Level 688	Level 689	Level 690	Level 691	Level 692	Level 693	Level 694	Level 695	Level 696	Level 697	Level 698	Level 699	Level 700	Level 701	Level 702	Level 703	Level 704	Level 705	Level 706	Level 707	Level 708	Level 709	Level 710	Level 711	Level 712	Level 713	Level 714	Level 715	Level 716	Level 717	Level 718	Level 719	Level 720	Level 721	Level 722	Level 723	Level 724	Level 725	Level 726	Level 727	Level 728	Level 729	Level 730	Level 731	Level 732	Level 733	Level 734	Level 735	Level 736	Level 737	Level 738	Level 739	Level 740	Level 741	Level 742	Level 743	Level 744	Level 745	Level 746	Level 747	Level 748	Level 749	Level 750	Level 751	Level 752	Level 753	Level 754	Level 755	Level 756	Level 757	Level 758	Level 759	Level 760	Level 761	Level 762	Level 763	Level 764	Level 765	Level 766	Level 767	Level 768	Level 769	Level 770	Level 771	Level 772	Level 773	Level 774	Level 775	Level 776	Level 777	Level 778	Level 779	Level 780	Level 781	Level 782	Level 783	Level 784	Level 785	Level 786	Level 787	Level 788	Level 789	Level 790	Level 791	Level 792	Level 793	Level 794	Level 795	Level 796	Level 797	Level 798	Level 799	Level 800	Level 801	Level 802	Level 803	Level 804	Level 805	Level 806	Level 807	Level 808	Level 809	Level 810	Level 811	Level 812	Level 813	Level 814	Level 815	Level 816	Level 817	Level 818	Level 819	Level 820	Level 821	Level 822	Level 823	Level 824	Level 825	Level 826	Level 827	Level 828	Level 829	Level 830	Level 831	Level 832	Level 833	Level 834	Level 835	Level 836	Level 837	Level 838	Level 839	Level 840	Level 841	Level 842	Level 843	Level 844	Level 845	Level 846	Level 847	Level 848	Level 849	Level 850	Level 851	Level 852	Level 853	Level 854	Level 855	Level 856	Level 857	Level 858	Level 859	Level 860	Level 861	Level 862	Level 863	Level 864	Level 865	Level 866	Level 867	Level 868	Level 869	Level 870	Level 871	Level 872	Level 873	Level 874	Level 875	Level 876	Level 877	Level 878	Level 879	Level 880	Level 881	Level 882	Level 883	Level 884	Level 885	Level 886	Level 887	Level 888	Level 889	Level 890	Level 891	Level 892	Level 893	Level 894	Level 895	Level 896	Level 897	Level 898	Level 899	Level 900	Level 901	Level 902	Level 903	Level 904	Level 905	Level 906	Level 907	Level 908	Level 909	Level 910	Level 911	Level 912	Level 913	Level 914	Level 915	Level 916	Level 917	Level 918	Level 919	Level 920	Level 921	Level 922	Level 923	Level 924	Level 925	Level 926	Level 927	Level 928	Level 929	Level 930	Level 931	Level 932	Level 933	Level 934	Level 935	Level 936	Level 937	Level 938	Level 939	Level 940	Level 941	Level 942	Level 943	Level 944	Level 945	Level 946	Level 947	Level 948	Level 949	Level 950	Level 951	Level 952	Level 953	Level 954	Level 955	Level 956	Level 957	Level 958	Level 959	Level 960	Level 961	Level 962	Level 963	Level 964	Level 965	Level 966	Level 967	Level 968	Level 969	Level 970	Level 971	Level 972	Level 973	Level 974	Level 975	Level 976	Level 977	Level 978	Level 979	Level 980	Level 981	Level 982	Level 983	Level 984	Level 985	Level 986	Level 987	Level 988	Level 989	Level 990	Level 991	Level 992	Level 993	Level 994	Level 995	Level 996	Level 997	Level 998	Level 999	Level 1000	Level 1001	Level 1002	Level 1003	Level 1004	Level 1005	Level 1006	Level 1007	Level 1008	Level 1009	Level 1010	Level 1011	Level 1012	Level 1013	Level 1014	Level 1015	Level 1016	Level 1017	Level 1018	Level 1019	Level 1020	Level 1021	Level 1022	Level 1023	Level 1024	Level 1025	Level 1026	Level 1027	Level 1028	Level 1029	Level 1030	Level 1031	Level 1032	Level 1033	Level 1034	Level 1035	Level 1036	Level 1037	Level 1038	Level 1039	Level 1040	Level 1041	Level 1042	Level 1043	Level 1044	Level 1045	Level 1046	Level 1047	Level 1048	Level 1049	Level 1050	Level 1051	Level 1052	Level 1053	Level 1054	Level 1055	Level 1056	Level 1057	Level 1058	Level 1059	Level 1060	Level 1061	Level 1062	Level 1063	Level 1064	Level 1065	Level 1066	Level 1067	Level 1068	Level 1069	Level 1070	Level 1071	Level 1072	Level 1073	Level 1074	Level 1075	Level 1076	Level 1077	Level 1078	Level 1079	Level 1080	Level 1081	Level 1082	Level 1083	Level 1084	Level 1085	Level 1086	Level 1087	Level 1088	Level 1089	Level 1090	Level 1091	Level 1092	Level 1093	Level 1094	Level 1095	Level 1096	Level 1097	Level 1098	Level 1099	Level 1100	Level 1101	Level 1102	Level 1103	Level 1104	Level 1105	Level 1106	Level 1107	Level 1108	Level 1109	Level 1110	Level 1111	Level 1112	Level 1113	Level 1114	Level 1115	Level 1116	Level 1117	Level 1118	Level 1119	Level 1120	Level 1121	Level 1122	Level 1123	Level 1124	Level 1125	Level 1126	Level 1127	Level 1128	Level 1129	Level 1130	Level 1131	Level 1132	Level 1133	Level 1134	Level 1135	Level 1136	Level 1137	Level 1138	Level 1139	Level 1140	Level 1141	Level 1142	Level 1143	Level 1144	Level 1145	Level 1146	Level 1147	Level 1148	Level 1149	Level 1150	Level 1151	Level 1152	Level 1153	Level 1154	Level 1155	Level 1156	Level 1157	Level 1158	Level 1159	Level 1160	Level 1161	Level 1162	Level 1163	Level 1164	Level 1165	Level 1166	Level 1167	Level 1168	Level 1169	Level 1170	Level 1171	Level 1172	Level 1173	Level 1174	Level 1175	Level 1176	Level 1177	Level 1178	Level 1179	Level 1180	Level 1181	Level 1182	Level 1183	Level 1184	Level 1185	Level 1186	Level 1187	Level 1188	Level 1189	Level 1190	Level 1191	Level 1192	Level 1193	Level 1194	Level 1195	Level 1196	Level 1197	Level 1198	Level 1199	Level 1200	Level 1201	Level 1202	Level 1203	Level 1204	Level 1205	Level 1206	Level 1207	Level 1208	Level 1209	Level 1210

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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
96 Hexachlorobutadiene	++++ 0 70629	0 61675 0 72030	0 63604 0 66403	0 72313 0 69146	0 65055	0 67931	AVRG		0 67643		5.54350
97 1,2,3-Trichlorobenzene	++++ 0 96413	1.01326 0 95938	0 85339 0 93125	0 91907 0 93315	0 88337	0 90573	AVRG		0 92919		5 06482
34 Dibromofluoromethane	++++ 0 57321	++++ 0 58269	++++ 0 57404	0 59599 0 57820	0 58373	0 59763	AVRG		0 58364		1.68394
37 1,2-Dichloroethane-d4	++++ 0 49433	++++ 0 49184	0 53404 0 50361	0 50249 0 49146	0 50311	0 51654	AVRG		0 50468		2 85948
56 Toluene-d8	++++ 1 09039	++++ 1 11378	1.18831 1.05248	1.13433 1 09258	1 08698	1 13857	AVRG		1.11218		3.72961

695 426

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-APR-2002 16:39
 End Cal Date : 05-APR-2002 21:55
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc2.i\V204061.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 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 m1	m2	%RSD or R ²
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
\$ 77 Bromofluorobenzene	++++ 0.43213	++++ 0.42492	0.47321 0.40334	0.41647 0.44928	0.42661	0.44712	AVRG		0.43414		5.02402

Curve	Formula	Units
Averaged	Amt = Rsp/ml	Response
Linear	Amt = b + Rsp/ml	Response



ENVIRONMENTAL TESTING & CONSULTING, INC.

2024 Walnut Grove Road • Memphis, TN 38111 • (901) 327-2750 • FAX (901) 327-6334

Founded 1972

April 24, 2002

Mr. Kraig Smith
Jacobs
600 William Northern Blvd.
Tullahoma, TN 37388

Ref: Analytical Testing
ETC Order # 0204275
Project Description Memphis Depot
Project Number C5X51111

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

JACOBS_DDMT

Certifications

Tennessee #TN02027
Arkansas #40730
Kentucky #90047

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

ANALYTICAL SUMMARY/CROSS REFERENCE TABLE

695 429

Client Name **Jacobs**
Site ID **Memphis Depot**

ETC Order #**0204275**
C5X51111

<u>ETC Sample ID</u>	<u>Field ID</u>	<u>Matrix</u>	<u>Method</u>	<u>Method Description</u>
020427501	MW-76-2	AQUEOUS	8260B	GC/MS Volatile Organics
020427502	MW-77-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427503	MW-78-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427504	MW-78-2	AQUEOUS	8260B	GC/MS Volatile Organics
020427505	MW-78-3	AQUEOUS	8260B	GC/MS Volatile Organics
020427506	MW-79-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427507	MW-79-2	AQUEOUS	8260B	GC/MS Volatile Organics
020427508	MW-79-200	AQUEOUS	8260B	GC/MS Volatile Organics
020427509	MW-79-3	AQUEOUS	8260B	GC/MS Volatile Organics
020427510	MW-79-4	AQUEOUS	8260B	GC/MS Volatile Organics
020427511	MW-80-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427512	MW-80-2	AQUEOUS	8260B	GC/MS Volatile Organics
020427513	MW-80-3	AQUEOUS	8260B	GC/MS Volatile Organics
020427514	MW-95-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427515	MW-95-2	AQUEOUS	8260B	GC/MS Volatile Organics
020427516	MW-95-3	AQUEOUS	8260B	GC/MS Volatile Organics
020427517	MW-95-4	AQUEOUS	8260B	GC/MS Volatile Organics
020427518	P7-02-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427519	P7-02-100	AQUEOUS	8260B	GC/MS Volatile Organics
020427520	EQB-3	AQUEOUS	8260B	GC/MS Volatile Organics
020427521	RW-1	AQUEOUS	8260B	GC/MS Volatile Organics
020427522	RW-2	AQUEOUS	8260B	GC/MS Volatile Organics
020427523	RW-3	AQUEOUS	8260B	GC/MS Volatile Organics
020427524	RW-4	AQUEOUS	8260B	GC/MS Volatile Organics

695 430

Environmental Testing & Consulting, Inc.

Login
Chain-of-Custody

000003



ETC Work Order :

695 431

Company Name		Project/Site		Project #		Project Manager/Contact		Phone #		Fax #		Analysis Requested	
JACOBS ENG		MEMPHIS DEPOT		CSXS1111		Kraig Smith		731 393 6448		6448		(Note special detection limits or methods)	
Project/Site		Project #		Matrix		1 Wastewater		4 Sludge		5 Oil/Solvent			
MEMPHIS DEPOT		CSXS1111		2 Aqueous		3 Soil/Sediment		6 Other					
# of cont.	Sample ID/Number	Depth	Sample Date	Sample Time	Matrix	Type Grab/Comp							
3	MW-76-2		4/10/02	1112	Water	GAAS							
3	MW-77-1			1115									
2	MW-78-1			1045									
3	MW-78-2			1047									
3	MW-78-3			1050									
3	MW-79-1			1250									
3	MW-79-2			1252									
3	MW-79-3			1252									
3	MW-79-4			1255									
3	MW-79-5			1258									
3	MW-80-1			1325									
Sampled By		Method of Shipment		Blank/Cooler Temp		Remarks							
Kraig Smith		Hand Delivered		240									
RELINQUISHED BY (sign)		DATE		TIME		RECEIVED BY (sign)		DATE		TIME		Sample Delivery Group ID	
Kraig Smith		4/10/02		1625				4/10/02		1625			
RELINQUISHED BY (sign)		DATE		TIME		RECEIVED BY (sign)		DATE		TIME			
Kraig Smith													
RELINQUISHED BY (sign)		DATE		TIME		RECEIVED BY LAB (print/sign)		DATE		TIME			
Kraig Smith						Kraig Smith		4/10/02		1625			

Original and Yellow accompany samples to the laboratory Pink copy
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

695 432

ETC Work Order :

0204275

Company Name

JACOBS ENG

Phone # :

931 393 4488

Fax Results

RUSH

Project/Site

MEMPHIS DEPOT

FID # :

Ice

Project #

CS257111

PO # :

Matrix

Project Manager/Contact

KRALG SMITH

Matrix

1 Wastewater

2 Aqueous

3 Soil/Sediment

4 Sludge

5 Oil/Solvent

6 Other

Analysis Requested

(Note special detection limits or methods)

Blank/Cooler Temp

Remarks

Method of Shipment

Sampled By

Kralg Smith

Hand Delivered

Blank/Cooler Temp

Remarks

Method of Shipment

Sampled By

Kralg Smith

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Remarks

Method of Shipment

Sampled By

Kralg Smith

Hand Delivered

Blank/Cooler Temp

Remarks

Method of Shipment



ETC Work Order :

020475

[illegible]

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 4/10/02
Date/Time Checked In 4/10/02-16:25
Carrier/Bill# Hand-Delivered

LIMS# 0204-275
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) < 4°C	OK
5. Ice & Packing- ice, bags, boxes	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

695 436

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204275**

ETC Lab ID **0204275-01**
 Field ID : **MW-76-2**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/13/02	LS	8260B 5030B
QC Batch	V204131					
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	1.22	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	7.71	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	15.5	ug/L	1.00			
Tetrachloroethene	1.81	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	142	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	13.5	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	90	84	115
S2 - Toluene-d8	97	69	133
S3 - 4-Bromofluorobenzene	96	80	120
S4 - 1,2-Dichloroethane-d4	83	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000009

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

695 437

CLIENT SAMPLE NO.

020427501

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Sample ID: 020427501

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

Lab File ID: 1501017

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
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24.				
25.				
26.				
27.				
28.				
29.				
30.				

695 438

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204275**

ETC Lab ID **0204275-02**
 Field ID : **MW-77-1**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/13/02	LS	8260B 5030B
QC Batch	V204131					
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	5.39	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	42.2	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	2,010E	ug/L	1.00			
Tetrachloroethene	7.18	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	9.46	ug/L	1.00			
Trichloroethene	1,700E	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	176	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	91	84 115
S2 - Toluene-d8	99	69 133
S3 - 4-Bromofluorobenzene	100	80 120
S4 - 1,2-Dichloroethane-d4	84	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000011

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

695 439 CLIENT SAMPLE NO.

020427502

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Sample ID: 020427502

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

Lab File ID: 1601018

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
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29.				
30.				

695 440

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204275**

ETC Lab ID **0204275-02**
Field ID : **MW-77-1-DIL**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/14/02	LS	8260B 5030B
QC Batch	V204141					
Dilution Factor	100					
1,1,2,2-Tetrachloroethane	4,330	ug/L	100			
Trichloroethene	3,170	ug/L	100			
Surrogate Standard	% Recovery		QC Limits			
S1 - Dibromofluoromethane	86		84	115		
S2 - Toluene-d8	96		69	133		
S3 - 4-Bromofluorobenzene	97		80	120		
S4 - 1,2-Dichloroethane-d4	82		58	131		

CB
Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000013

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 441

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tulahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204275**

ETC Lab ID **0204275-03**
Field ID : **MW-78-1**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/14/02	LS	8260B 5030B
QC Batch	V204141					
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	85	84	115			
S2 - Toluene-d8	95	69	133			
S3 - 4-Bromofluorobenzene	95	80	120			
1,2-Dichloroethane-d4	79	58	131			

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000014

695 442

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

CLIENT SAMPLE NO.

020427503

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Sample ID: 020427503

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

Lab File ID: 0501006

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/14/02

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

000015

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 443

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204275**

ETC Lab ID **0204275-04**
Field ID : **MW-78-2**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/14/02	LS	8260B 5030B
QC Batch	V204141					
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	86	84 115
S2 - Toluene-d8	97	69 133
S3 - 4-Bromofluorobenzene	97	80 120
- 1,2-Dichloroethane-d4	79	58 131

CB
Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000016

695 444

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020427504

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Sample ID: 020427504

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

Lab File ID: 1801020

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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
=====	=====	=====	=====	=====
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

000017

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 445

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tulahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204275**

ETC Lab ID **0204275-05**
Field ID : **MW-78-3**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/14/02	LS	8260B 5030B
QC Batch	V204141					
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			
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	87	84	115			
S2 - Toluene-d8	97	69	133			
S3 - 4-Bromofluorobenzene	96	80	120			
1,2-Dichloroethane-d4	82	58	131			

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000018

695 446

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020427505

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Sample ID: 020427505

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

Lab File ID: 0801009

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/14/02

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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ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 447

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204275**

ETC Lab ID **0204275-06**
Field ID : **MW-79-1**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/14/02	LS	8260B 5030B
QC Batch	V204141					
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			
Bromoform	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	17.4	ug/L	1.00			
trans-1,2-Dichloroethene	1.09	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	ND	ug/L	1.00			
Tetrachloroethene	3.39	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	9.00	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	0.68J	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	88	84	115
S2 - Toluene-d8	96	69	133
S3 - 4-Bromofluorobenzene	96	80	120
1,2-Dichloroethane-d4	82	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000020

095 448

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020427506

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Sample ID: 020427506

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

Lab File ID: 0901010

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/14/02

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

000021

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 449

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tulahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204275**

ETC Lab ID **0204275-07**
Field ID : **MW-79-2**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/14/02	LS	8260B 5030B
QC Batch	V204141					
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	16.4	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	3.56	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	6.05	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	88		84	115		
S2 - Toluene-d8	97		69	133		
S3 - 4-Bromofluorobenzene	94		80	120		
1,2-Dichloroethane-d4	81		58	131		

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000022

695 450

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

CLIENT SAMPLE NO.

020427507

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Sample ID: 020427507

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

Lab File ID: 1001011

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/14/02

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

000023

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 451

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**ETC Order Number **0204275**ETC Lab ID **0204275-08**Field ID : **MW-79-200**Matrix : **AQUEOUS**Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/14/02	LS	8260B 5030B
QC Batch	V204141					
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			
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	16.6	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	3.48	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	6.37	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	87	84 115
S2 - Toluene-d8	98	69 133
S3 - 4-Bromofluorobenzene	97	80 120
1,2-Dichloroethane-d4	79	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000024

693 452

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020427508

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Sample ID: 020427508

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

Lab File ID: 1101012

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/14/02

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
=====	=====	=====	=====	=====
1.				
2.				
3.				
4.				
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6.				
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FORM I VOA-GCMS-TIC

000025

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 453

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204275**

ETC Lab ID **0204275-09**
Field ID **MW-79-3**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/14/02	LS	8260B 5030B
QC Batch	V204141					
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			
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	18.8	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	6.96	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	6.87	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	89		84	115		
S2 - Toluene-d8	98		69	133		
S3 - 4-Bromofluorobenzene	95		80	120		
1,2-Dichloroethane-d4	84		58	131		

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000026

695 454

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020427509

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Sample ID: 020427509

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

Lab File ID: 1201013

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/14/02

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
=====	=====	=====	=====	=====
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

000027

ENVIRONMENTAL TESTING & CONSULTING, INC.

695 455

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tulahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204275**

ETC Lab ID **0204275-10**
Field ID : **MW-79-4**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/14/02	LS	8260B 5030B
QC Batch	V204141					
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			
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	18.5	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	6.64	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	5.79	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	87			84	115	
S2 - Toluene-d8	98			69	133	
S3 - 4-Bromofluorobenzene	95			80	120	
1,2-Dichloroethane-d4	79			58	131	

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000028

695 456

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

CLIENT SAMPLE NO.

020427510

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Sample ID: 020427510

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

Lab File ID: 1301014

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/14/02

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
1.				
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FORM I VOA-GCMS-TIC

000029

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 457

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204275**

ETC Lab ID **0204275-11**
Field ID : **MW-80-1**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/14/02	LS	8260B 5030B
QC Batch	V204141					
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			
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	91	84 115
S2 - Toluene-d8	98	69 133
S3 - 4-Bromofluorobenzene	96	80 120
1,2-Dichloroethane-d4	86	58 131

CB
Data Validator ND - Not Detected

Q - Recovery Outside QC Limits

000030

695 458

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020427511

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Sample ID: 020427511

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

Lab File ID: 1401015

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/14/02

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
=====	=====	=====	=====	=====
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

000031

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 459

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204275**

ETC Lab ID **0204275-12**
Field ID : **MW-80-2**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/14/02	LS	8260B 5030B
QC Batch	V204141					
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			
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	89		84	115		
S2 - Toluene-d8	97		69	133		
S3 - 4-Bromofluorobenzene	95		80	120		
1,2-Dichloroethane-d4	82		58	131		

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000032

695 460

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020427512

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Sample ID: 020427512

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

Lab File ID: 1501016

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/14/02

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
=====	=====	=====	=====	=====
1.				
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FORM I VOA-GCMS-TIC

000033

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 461

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tulahoma, TN 37388

Site ID : **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204275**

ETC Lab ID **0204275-13**
Field ID : **MW-80-3**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/14/02	LS	8260B 5030B
QC Batch	V204141					
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			
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	89			84	115	
S2 - Toluene-d8	98			69	133	
S3 - 4-Bromofluorobenzene	96			80	120	
1,2-Dichloroethane-d4	84			58	131	

695 462

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020427513

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Sample ID: 020427513

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

Lab File ID: 1601017

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/14/02

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

000035

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 463

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204275**

ETC Lab ID **0204275-14**
Field ID : **MW-95-1**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/14/02	LS	8260B 5030B
QC Batch	V204141					
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	90	84	115
S2 - Toluene-d8	98	69	133
S3 - 4-Bromofluorobenzene	95	80	120
1,2-Dichloroethane-d4	83	58	131

695 464

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020427514

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Sample ID: 020427514

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

Lab File ID: 1701018

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/14/02

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

000037

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 465

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204275**

ETC Lab ID **0204275-15**
Field ID : **MW-95-2**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/15/02	LS	8260B 5030B
QC Batch	V204142					
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	90		84 115			
S2 - Toluene-d8	98		69 133			
S3 - 4-Bromofluorobenzene	98		80 120			
1,2-Dichloroethane-d4	83		58 131			

CB
Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000038

695 466

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

CLIENT SAMPLE NO.

020427515

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Sample ID: 020427515

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

Lab File ID: 2301030

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/15/02

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

000039

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

6.95 467

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204275**

ETC Lab ID **0204275-16**
Field ID : **MW-95-3**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/15/02	LS	8260B 5030B
QC Batch	V204142					
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	92	84 115
S2 - Toluene-d8	99	69 133
S3 - 4-Bromofluorobenzene	98	80 120
- 1,2-Dichloroethane-d4	87	58 131

695 468

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020427516

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Sample ID: 020427516

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

Lab File ID: 2401031

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/15/02

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

000041

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 469

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204275**

ETC Lab ID **0204275-17**
Field ID : **MW-95-4**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/15/02	LS	8260B 5030B
QC Batch	V204142					
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	92	84	115
S2 - Toluene-d8	99	69	133
S3 - 4-Bromofluorobenzene	98	80	120
1,2-Dichloroethane-d4	84	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000042

695 470

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020427517

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Sample ID: 020427517

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

Lab File ID: 2501032

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/15/02

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

000043

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 471

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204275**

ETC Lab ID **0204275-18**
Field ID : **P7-02-1**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/15/02	LS	8260B 5030B
QC Batch	V204142					
Dilution Factor	1					
Acetone	27.9	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	2.74	ug/L	1.00			
1,2-Dichloroethane	1.00	ug/L	1.00			
1,1-Dichloroethene	112	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	1.27	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	24.4	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	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	89	84 115
S2 - Toluene-d8	99	69 133
S3 - 4-Bromofluorobenzene	98	80 120
1,2-Dichloroethane-d4	84	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000044

695 472

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020427518

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Sample ID: 020427518

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

Lab File ID: 2601033

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/15/02

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

000045

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 473

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tulahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204275**

ETC Lab ID **0204275-19**
Field ID : **P7-02-100**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/15/02	LS	8260B 5030B
QC Batch	V204142					
Dilution Factor	1					
Acetone	255E	ug/L	20.0			
Benzene	0.66J	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	2.47	ug/L	1.00			
1,2-Dichloroethane	0.86J	ug/L	1.00			
1,1-Dichloroethene	103	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	1.24	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	20.9	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	90		84	115		
S2 - Toluene-d8	98		69	133		
S3 - 4-Bromofluorobenzene	96		80	120		
1,2-Dichloroethane-d4	83		58	131		

695 474

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020427519

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Sample ID: 020427519

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

Lab File ID: 2701034

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/15/02

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

000047

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

695 475

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204275**

ETC Lab ID **0204275-19**
Field ID : **P7-02-100-DIL**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/15/02	LS	8260B 5030B
QC Batch	V204142					
Dilution Factor	5					
Acetone	504	ug/L	100			
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>			
S1 - Dibromofluoromethane	91		84	115		
S2 - Toluene-d8	99		69	133		
S3 - 4-Bromofluorobenzene	97		80	120		
S4 - 1,2-Dichloroethane-d4	86		58	131		

695 476

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204275**

ETC Lab ID **0204275-20**
 Field ID : **EQB-3**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/15/02	LS	8260B 5030B
QC Batch	V204142					
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	89	84 115
S2 - Toluene-d8	99	69 133
S3 - 4-Bromofluorobenzene	98	80 120
S4 - 1,2-Dichloroethane-d4	84	58 131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000041

695 477

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: ETC, INC.

Contract:

020427520

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Sample ID: 020427520

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

Lab File ID: 2801035

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/15/02

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

000050

695 478

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tulahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204275**

ETC Lab ID **0204275-21**
 Field ID : **RW-1**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/15/02	LS	8260B 5030B
QC Batch	V204142					
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	24.1	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	68.2	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	ND	ug/L	1.00			
trans-1,2-Dichloroethene	1.55	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	4.36	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	58.2	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	1.16	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	90	84 115
S2 - Toluene-d8	99	69 133
S3 - 4-Bromofluorobenzene	97	80 120
S4 - 1,2-Dichloroethane-d4	83	58 131

CB
 Data Validator ND - Not Detected

Q - Recovery Outside QC Limits

000051

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

695 479

CLIENT SAMPLE NO.

020427521

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Sample ID: 020427521

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

Lab File ID: 2901036

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/15/02

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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695 480

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204275**

ETC Lab ID **0204275-22**
 Field ID : **RW-2**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/15/02	LS	8260B 5030B
QC Batch	V204142					
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	13.0	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	34.4	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	5.22	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	77.1	ug/L	1.00			
Tetrachloroethene	1.48	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	2.74	ug/L	1.00			
Trichloroethene	63.9	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	65.9	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	91	84	115
S2 - Toluene-d8	98	69	133
S3 - 4-Bromofluorobenzene	98	80	120
S4 - 1,2-Dichloroethane-d4	86	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000053

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

695 481 CLIENT SAMPLE NO.

020427522

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Sample ID: 020427522

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

Lab File ID: 3001037

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/15/02

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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695 482

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204275**

ETC Lab ID **0204275-23**
 Field ID : **RW-3**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/15/02	LS	8260B 5030B
QC Batch	V204142					
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	9.75	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	2.43	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	2.47	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	4.35	ug/L	1.00			
Tetrachloroethene	1.30	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	87.2	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	15.4	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	90	84	115
S2 - Toluene-d8	99	69	133
S3 - 4-Bromofluorobenzene	97	80	120
S4 - 1,2-Dichloroethane-d4	83	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000055

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

695 483

CLIENT SAMPLE NO.

020427523

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Sample ID: 020427523

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

Lab File ID: 3101038

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/15/02

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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695 484

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
 ETC Order Number **0204275**

ETC Lab ID **0204275-24**
 Field ID : **RW-4**

Matrix : **AQUEOUS**
 Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/15/02	LS	8260B 5030B
QC Batch	V204142					
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	1.70	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	2.23	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	7.01	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	37.5	ug/L	1.00			
Tetrachloroethene	6.21	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	3.33	ug/L	1.00			
Trichloroethene	634E	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	26.8	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	89	84 115
S2 - Toluene-d8	100	69 133
S3 - 4-Bromofluorobenzene	97	80 120
S4 - 1,2-Dichloroethane-d4	85	58 131


 Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000057

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

695 485 CLIENT SAMPLE NO.

020427524

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Sample ID: 020427524

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

Lab File ID: 3201039

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/15/02

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
=====	=====	=====	=====	=====
1.				
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695 486

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **04/10/02**
ETC Order Number **0204275**

ETC Lab ID **0204275-24**
Field ID : **RW-4-DIL**

Matrix : **AQUEOUS**
Sample Date : **04/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				04/15/02	LS	8260B 5030B
QC Batch	V204142					
Dilution Factor	20					
Trichloroethene	665	ug/L	20 0			
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>			
S1 - Dibromofluoromethane	88		84	115		
S2 - Toluene-d8	100		69	133		
S3 - 4-Bromofluorobenzene	97		80	120		
S4 - 1,2-Dichloroethane-d4	84		58	131		

Data Validator 

ND - Not Detected

Q - Recovery Outside QC Limits

000059

Environmental Testing & Consulting, Inc.

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

695 488

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

Client Name Jacobs
Project Name Memphis Depot
ETC Order# 0204-275

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
V204131	V2041311LB
V204141	V2041411LB
V204142	V2041421LB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits

Method Blank FORM 4
V2041311LB
V2041411LB
V2041421LB

Target analytes were not detected in the method blank, except as listed below
Methylene Chloride was identified in method blanks for the above referenced batches. This analyte was not reported in any of the associated project samples. The data was not affected.

Laboratory Control Sample FORM 3
V2041311LCS/V2041312LCS
V2041411LCS
V2041421LCS

All target analyte acceptance criteria met, except as listed below:
Multiple analytes were flagged for high recovery in V2041311LCS This LCS was re-analyzed for verification with all recoveries within QC limits

Matrix Spike / Matrix Spike Dup FORM 3

Batch V204131

0204-274-21	RPD	All analytes within QC limits.
MW-71-200	Spike Recovery	All analytes within QC limits
Refer to Laboratory Control Sample(s) for system verification		

Batch V204141

0204-275-10	RPD	All analytes within QC limits
MW-79-4	Spike Recovery	All analytes within QC limits.
Refer to Laboratory Control Sample(s) for system verification.		

000061

CASE NARRATIVE

GC/MS VOLATILE COMPOUNDS – AQUEOUS

Client Name Jacobs
Project Name Memphis Depot
ETC Order# 0204-275

Matrix Spike / Matrix Spike Dup. FORM 3

Batch V204142

0204-275-20

RPD

All analytes within QC limits.

EQB-3

Spike Recovery

All analytes 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 All criteria met. FORM 7

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



Project Manager

WATER VOA-GCMS SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

	CLIENT SAMPLE NO.	SMC1 (DFM) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER (DCE) #	TOT OUT
	=====	=====	=====	=====	=====	=====
01	V2041311LCS	88	98	97	83	0
02	V2041312LCS	91	96	93	89	0
03	V2041311LB	86	96	97	81	0
04	020427501	90	97	96	83	0
05	020427502	91	99	100	84	0
06	V2041411LCS	88	98	95	85	0
07	V2041411LB	87	96	97	82	0
08	020427503	85	95	95	79	0
09	020427504	86	97	97	79	0
10	020427502	86	96	97	82	0
11	020427505	87	97	96	82	0
12	020427506	88	96	96	82	0
13	020427507	88	97	94	81	0
14	020427508	87	98	97	79	0
15	020427509	89	98	95	84	0
16	020427510	87	98	95	79	0
17	020427511	91	98	96	86	0
18	020427512	89	97	95	82	0
19	020427513	89	98	96	84	0
20	020427514	90	98	95	83	0
21	020427510MS	92	98	96	86	0
22	020427510MSD	91	100	95	84	0
23	V2041421LCS	91	99	98	83	0
24	V2041421LB	91	99	98	86	0
25	020427515	90	98	98	83	0
26	020427516	92	99	98	87	0
27	020427517	92	99	98	84	0
28	020427518	89	99	98	84	0
29	020427519	90	98	96	83	0
30	020427520	89	99	98	84	0

QC LIMITS

SMC1 (DFM) = Dibromofluoromethane (84-115)
 SMC2 (TOL) = Toluene-d8 (69-133)
 SMC3 (BFB) = Bromofluorobenzene (80-120)
 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 2
WATER VOA-GCMS SYSTEM MONITORING COMPOUND RECOVERY

695 491

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

	CLIENT SAMPLE NO.	SMC1 (DFM) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER (DCE) #	TOT OUT
	=====	=====	=====	=====	=====	=====
01	020427521	90	99	97	83	0
02	020427522	91	98	98	86	0
03	020427523	90	99	97	83	0
04	020427524	89	100	97	85	0
05	020427524	88	100	97	84	0
06	020427519	91	99	97	86	0
07	020427520MS	90	98	94	83	0
08	020427520MSD	90	98	94	83	0
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QC LIMITS

SMC1 (DFM) = Dibromofluoromethane (84-115)
 SMC2 (TOL) = Toluene-d8 (69-133)
 SMC3 (BFB) = Bromofluorobenzene (80-120)
 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

695 492

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

V2041311LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Lab File ID: 0302005

Lab Prep Batch: V204131

Date Analyzed: 04/13/02

Time Analyzed: 1523

GC Column: ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC2

Lab Sample ID: 11LB

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	V2041311LCS	11LCS	0201002LCS	1233
02	V2041312LCS	12LCS	0203004LCS	1351
03	020427421	020427421	1001012	1909
04	020427501	020427501	1501017	2148
05	020427502	020427502	1601018	2219
06	020427421MS	MS	1901021	2354
07	020427421MSD	MSD	2001022	0026
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COMMENTS:

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

695 493
CLIENT SAMPLE NO.

V2041311LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Prep Batch: V204131

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

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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

695 494

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2041311LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Prep Batch: V204131

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

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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	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	0.363	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

000067

695 495

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2041311LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Prep Batch: V204131

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

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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

FORM I VOA-GCMS

000068

695 496

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

V2041311LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Sample ID: 11LB

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

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/13/02

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
=====	=====	=====	=====	=====
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

000069

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

695 497

Lab Name: ETC, INC.

Lab Prep Batch: V204131

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix Spike - Sample No.: V2041311LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Acetone	100.0		113.5	114	59-151
Acetonitrile	1000		1189	119	57-143
Acrolein	100.0		118.0	118	59-134
Acrylonitrile	100.0		116.2	116	60-146
Allyl chloride	100.0		118.4	118	74-120
Benzene	100.0		115.7	116	72-124
Bromobenzene	100.0		111.0	111	77-120
Bromochloromethane	100.0		111.7	112	74-120
Bromodichloromethane	100.0		105.6	106	68-119
Bromoform	100.0		103.8	104	66-136
2-Butanone	100.0		117.2	117	55-151
Bromomethane	100.0		89.33	89	40-134
n-Butylbenzene	100.0		128.5	128	69-129
sec-Butylbenzene	100.0		83.40	83	72-127
tert-Butylbenzene	100.0		112.8	113	73-126
Carbon Disulfide	100.0		116.7	117	60-133
Carbon Tetrachloride	100.0		111.5	112	64-123
Chlorobenzene	100.0		113.0	113*	77-112
Chlorodibromomethane	100.0		111.5	112	72-118
Chloroethane	100.0		113.1	113	64-142
2-Chloroethyl vinyl eth	100.0		113.4	113	22-165
Chloroform	100.0		107.0	107	70-115
Chloromethane	100.0		99.34	99	58-139
Chloroprene	100.0		117.7	118	73-118
2-Chlorotoluene	100.0		117.4	117	65-132
4-Chlorotoluene	100.0		112.8	113	67-127
1,2-Dibromo-3-chloropro	100.0		115.0	115	56-134
1,2-Dibromoethane	100.0		112.9	113	74-118

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

* Values outside of QC limits

COMMENTS:

695 498

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V204131

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix Spike - Sample No.: V2041311LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dibromomethane	100.0		111.0	111	75-114
1,2-Dichlorobenzene	100.0		117.2	117*	80-113
1,3-Dichlorobenzene	100.0		119.4	119	77-119
1,4-Dichlorobenzene	100.0		119.3	119*	78-116
cis-1,4-Dichloro-2-bute	100.0		121.4	121	70-130
trans-1,4-Dichloro-2-bu	100.0		118.7	119	62-138
Dichlorodifluoromethane	100.0		95.32	95	48-145
1,1-Dichloroethane	100.0		115.5	116	76-118
1,2-Dichloroethane	100.0		109.9	110	62-124
1,1-Dichloroethene	100.0		111.9	112	69-121
cis-1,2-Dichloroethene	100.0		114.6	115*	76-114
trans-1,2-Dichloroethen	100.0		131.7	132*	72-121
1,2-Dichloropropane	100.0		109.6	110	64-133
1,3-Dichloropropane	100.0		113.5	114	68-128
2,2-Dichloropropane	100.0		117.0	117	67-132
1,1-Dichloropropene	100.0		118.1	118*	76-117
cis-1,3-Dichloropropene	100.0		115.2	115	77-120
trans-1,3-Dichloroprope	100.0		115.7	116	73-124
Di isopropyl ether	100.0		117.6	118	62-160
1,4-Dioxane	2000		2167	108	56-131
Ethyl Acetate	100.0		119.6	120	52-151
Ethylbenzene	100.0		114.5	114*	77-111
Ethyl methacrylate	200.0		243.2	122	57-140
Furan	100.0		176.0	176*	52-124
Hexachlorobutadiene	100.0		119.2	119	69-137
Hexane	100.0		137.9	138*	70-130
2-Hexanone	100.0		120.3	120	53-144
Iodomethane	100.0		112.3	112	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

695 499

Lab Name: ETC, INC.

Lab Prep Batch: V204131

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix Spike - Sample No.: V2041311LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Isobutyl Alcohol	2000		2499	125	60-134
Isopropylbenzene	100.0		114.9	115	74-125
4-Isopropyltoluene	100.0		117.0	117	72-127
Methacrylonitrile	1000		1209	121	70-125
Methylene Chloride	100.0		110.8	111	76-115
Methyl methacrylate	200.0		237.6	119	57-147
4-Methyl-2-Pentanone	100.0		118.6	119	42-144
Methyl-tertbutyl-Ether	100.0		117.8	118	62-122
Naphthalene	100.0		115.9	116	53-124
Propionitrile	1000		1196	120	58-139
n-Propyl Acetate	100.0		182.6	183*	88-170
n-Propylbenzene	100.0		118.0	118	75-125
Styrene	100.0		116.7	117	77-117
1,1,1,2-Tetrachloroetha	100.0		107.5	108	79-113
1,1,2,2-Tetrachloroetha	100.0		119.4	119	67-126
Tetrachloroethene	100.0		115.9	116*	77-115
Tetrahydrofuran	100.0		112.8	113	76-181
1,2,3-Trichlorobenzene	100.0		124.8	125	62-132
Toluene	100.0		115.9	116*	77-115
1,1,1-Trichloroethane	100.0		114.3	114	63-122
1,1,2-Trichloroethane	100.0		111.8	112	69-117
1,1,2-trichloro-1,2,2-t	100.0		114.6	115	70-130
Trichloroethene	100.0		110.5	110	75-113
Trichlorofluoromethane	100.0		110.8	111	55-130
1,2,3-Trichloropropane	100.0		114.7	115	62-130
1,2,4-Trimethylbenzene	100.0		116.1	116	69-126
1,2,4-Trichlorobenzene	100.0		129.4	129	68-132
1,3,5-Trimethylbenzene	100.0		115.2	115	69-128

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

* Values outside of QC limits

COMMENTS:

695 500

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V204131

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix Spike - Sample No.: V2041311LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Vinyl Acetate	100.0		123.9	124	28-146
Vinyl Chloride	100.0		107.8	108	65-134
Xylene-mp	200.0		228.6	114	77-115
Xylene-o	100.0		114.7	115	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: 12 out of 88 outside limits

COMMENTS:

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

693 501

Lab Name: ETC, INC.

Lab Prep Batch: V204131

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix Spike - Sample No.: V2041312LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Chlorobenzene	100.0		77.14	77	77-112
1,2-Dichlorobenzene	100.0		85.59	86	80-113
1,3-Dichlorobenzene	100.0		87.52	88	77-119
1,4-Dichlorobenzene	100.0		89.09	89	78-116
cis-1,2-Dichloroethene	100.0		80.23	80	76-114
trans-1,2-Dichloroethen	100.0		88.22	88	72-121
1,1-Dichloropropene	100.0		80.51	80	76-117
Ethylbenzene	100.0		78.08	78	77-111
Hexane	100.0		83.92	84	70-130
n-Propyl Acetate	100.0		151.3	151	88-170
Tetrachloroethene	100.0		83.02	83	77-115
Toluene	100.0		81.34	81	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 12 outside limits

COMMENTS:

FORM III VOA-GCMS

000074

695 502

FORM 3

WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC, INC.

Lab Prep Batch: V204131

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix Spike - Sample No.: 020427421

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Benzene	100.0	0.000	104.3	104	72-124
Chlorobenzene	100.0	0.000	105.8	106	77-112
1,1-Dichloroethene	100.0	0.000	75.05	75	69-121
Toluene	100.0	0.000	105.8	106	77-115
Trichloroethene	100.0	126.4	208.8	82	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
Benzene	100.0	108.7	109	5	20	72-124
Chlorobenzene	100.0	110.8	111	5	20	77-112
1,1-Dichloroethene	100.0	79.72	80	6	20	69-121
Toluene	100.0	110.4	110	4	20	77-115
Trichloroethene	100.0	216.9	90	9	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:

FORM III VOA-GCMS

000075

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

695 503

CLIENT SAMPLE NO.

V2041411LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Lab File ID: 0302004

Lab Prep Batch: V204141

Date Analyzed: 04/14/02

Time Analyzed: 1356

GC Column: ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC2

Lab Sample ID: 11LB

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
	=====	=====	=====	=====
01	V2041411LCS	11LCS	0202003LCS	1231
02	020427503	020427503	0501006	1500
03	020427504	020427504	0601007	1532
04	020427502	020427502	0701008	1604
05	020427505	020427505	0801009	1636
06	020427506	020427506	0901010	1708
07	020427507	020427507	1001011	1740
08	020427508	020427508	1101012	1812
09	020427509	020427509	1201013	1844
10	020427510	020427510	1301014	1916
11	020427511	020427511	1401015	1948
12	020427512	020427512	1501016	2020
13	020427513	020427513	1601017	2051
14	020427514	020427514	1701018	2123
15	020427510MS	MS	1801019	2156
16	020427510MSD	MSD	1901020	2228
17				
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COMMENTS:

695 504

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2041411LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Prep Batch: V204141

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

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/14/02

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 Q

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

000077

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

695 505
CLIENT SAMPLE NO.

V2041411LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Prep Batch: V204141

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

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/14/02

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	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	0.381	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

900078

693 506

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2041411LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Prep Batch: V204141

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

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/14/02

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

FORM I VOA-GCMS

000079

695 507

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

V2041411LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Sample ID: 11LB

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

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/14/02

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

000080

695 508

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V204141

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix Spike - Sample No.: V2041411LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acetone	100.0		113.2	113	59-151
Acetonitrile	1000		1095	110	57-143
Acrolein	100.0		127.0	127	59-134
Acrylonitrile	100.0		118.2	118	60-146
Allyl chloride	100.0		110.6	111	74-120
Benzene	100.0		109.6	110	72-124
Bromobenzene	100.0		106.0	106	77-120
Bromochloromethane	100.0		110.2	110	74-120
Bromodichloromethane	100.0		103.7	104	68-119
Bromoform	100.0		102.6	103	66-136
2-Butanone	100.0		123.0	123	55-151
Bromomethane	100.0		87.68	88	40-134
n-Butylbenzene	100.0		118.9	119	69-129
sec-Butylbenzene	100.0		108.9	109	72-127
tert-Butylbenzene	100.0		106.0	106	73-126
Carbon Disulfide	100.0		102.4	102	60-133
Carbon Tetrachloride	100.0		107.3	107	64-123
Chlorobenzene	100.0		107.4	107	77-112
Chlorodibromomethane	100.0		112.4	112	72-118
Chloroethane	100.0		100.1	100	64-142
2-Chloroethyl vinyl eth	100.0		107.8	108	22-165
Chloroform	100.0		103.8	104	70-115
Chloromethane	100.0		85.82	86	58-139
Chloroprene	100.0		110.5	110	73-118
2-Chlorotoluene	100.0		108.8	109	65-132
4-Chlorotoluene	100.0		106.5	106	67-127
1,2-Dibromo-3-chloropro	100.0		117.0	117	56-134
1,2-Dibromoethane	100.0		112.7	113	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

695 509

Lab Name: ETC, INC.

Lab Prep Batch: V204141

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix Spike - Sample No.: V2041411LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dibromomethane	100.0		110.6	111	75-114
1,2-Dichlorobenzene	100.0		113.4	113	80-113
1,3-Dichlorobenzene	100.0		115.6	116	77-119
1,4-Dichlorobenzene	100.0		114.1	114	78-116
cis-1,4-Dichloro-2-bute	100.0		120.3	120	70-130
trans-1,4-Dichloro-2-bu	100.0		117.4	117	62-138
Dichlorodifluoromethane	100.0		89.73	90	48-145
1,1-Dichloroethane	100.0		108.3	108	76-118
1,2-Dichloroethane	100.0		106.7	107	62-124
1,1-Dichloroethene	100.0		101.9	102	69-121
cis-1,2-Dichloroethene	100.0		109.2	109	76-114
trans-1,2-Dichloroethen	100.0		104.7	105	72-121
1,2-Dichloropropane	100.0		104.6	105	64-133
1,3-Dichloropropane	100.0		112.4	112	68-128
2,2-Dichloropropane	100.0		110.9	111	67-132
1,1-Dichloropropene	100.0		110.2	110	76-117
cis-1,3-Dichloropropene	100.0		111.1	111	77-120
trans-1,3-Dichloroprope	100.0		114.9	115	73-124
Di isopropyl ether	100.0		112.1	112	62-160
1,4-Dioxane	2000		2414	121	56-131
Ethyl Acetate	100.0		119.6	120	52-151
Ethylbenzene	100.0		107.2	107	77-111
Ethyl methacrylate	200.0		245.7	123	57-140
Furan	100.0		160.2	160*	52-124
Hexachlorobutadiene	100.0		111.2	111	69-137
Hexane	100.0		123.7	124	70-130
2-Hexanone	100.0		125.2	125	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:

Lab Name: ETC, INC.

Lab Prep Batch: V204141

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix Spike - Sample No.: V2041411LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	2000		2650	132	60-134
Isopropylbenzene	100.0		108.3	108	74-125
4-Isopropyltoluene	100.0		109.1	109	72-127
Methacrylonitrile	1000		1225	122	70-125
Methylene Chloride	100.0		105.6	106	76-115
Methyl methacrylate	200.0		241.0	120	57-147
4-Methyl-2-Pentanone	100.0		121.9	122	42-144
Methyl-tertbutyl-Ether	100.0		113.6	114	62-122
Naphthalene	100.0		110.7	111	53-124
Propionitrile	1000		1255	126	58-139
n-Propyl Acetate	100.0		184.2	184*	88-170
n-Propylbenzene	100.0		109.9	110	75-125
Styrene	100.0		110.2	110	77-117
1,1,1,2-Tetrachloroetha	100.0		103.3	103	79-113
1,1,2,2-Tetrachloroetha	100.0		120.4	120	67-126
Tetrachloroethene	100.0		112.6	113	77-115
Tetrahydrofuran	100.0		114.2	114	76-181
1,2,3-Trichlorobenzene	100.0		115.4	115	62-132
Toluene	100.0		112.1	112	77-115
1,1,1-Trichloroethane	100.0		110.4	110	63-122
1,1,2-Trichloroethane	100.0		112.0	112	69-117
1,1,2-trichloro-1,2,2-t	100.0		103.7	104	70-130
Trichloroethene	100.0		106.7	107	75-113
Trichlorofluoromethane	100.0		99.70	100	55-130
1,2,3-Trichloropropane	100.0		114.8	115	62-130
1,2,4-Trimethylbenzene	100.0		107.7	108	69-126
1,2,4-Trichlorobenzene	100.0		119.8	120	68-132
1,3,5-Trimethylbenzene	100.0		106.5	106	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: V204141

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix Spike - Sample No.: V2041411LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Vinyl Acetate	100.0		121.7	122	28-146
Vinyl Chloride	100.0		92.77	93	65-134
Xylene-mp	200.0		215.5	108	77-115
Xylene-o	100.0		108.0	108	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:

693 512

FORM 3

WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC, INC.

Lab Prep Batch: V204141

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix Spike - Sample No.: 020427510

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Benzene	100.0	0.000	112.4	112	72-124
Chlorobenzene	100.0	0.000	106.1	106	77-112
1,1-Dichloroethene	100.0	18.49	116.7	98	69-121
Toluene	100.0	0.000	110.1	110	77-115
Trichloroethene	100.0	5.79	108.9	103	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS	
=====	=====	=====	=====	=====	=====	=====
Benzene	100.0	110.6	111	1	20	72-124
Chlorobenzene	100.0	107.3	107	1	20	77-112
1,1-Dichloroethene	100.0	115.4	97	1	20	69-121
Toluene	100.0	111.6	112	2	20	77-115
Trichloroethene	100.0	108.3	102	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: 0 out of 10 outside limits

COMMENTS:

FORM III VOA-GCMS

000085

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

695 513

CLIENT SAMPLE NO.

V2041421LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Lab File ID: 2203029

Lab Prep Batch: V204142

Date Analyzed: 04/15/02

Time Analyzed: 0312

GC Column: ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC2

Lab Sample ID: 21LB

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
	=====	=====	=====	=====
01	V2041421LCS	21LCS	2102025LCS	0105
02	020427515	020427515	2301030	0344
03	020427516	020427516	2401031	0415
04	020427517	020427517	2501032	0447
05	020427518	020427518	2601033	0519
06	020427519	020427519	2701034	0550
07	020427520	020427520	2801035	0622
08	020427521	020427521	2901036	0653
09	020427522	020427522	3001037	0725
10	020427523	020427523	3101038	0757
11	020427524	020427524	3201039	0829
12	020427524	020427524	3301040	0910
13	020427519	020427519	3401041	0942
14	020427520MS	MS	3501042	1014
15	020427520MSD	MSD	3601043	1046
16				
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COMMENTS:

695 514

FORM 1

CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET

V2041421LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Prep Batch: V204142

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

Lab File ID: 2203029

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/15/02

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

000087

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

695 515

CLIENT SAMPLE NO.

V2041421LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Prep Batch: V204142

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

Lab File ID: 2203029

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/15/02

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	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	0.599	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

000088

695 516

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2041421LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Prep Batch: V204142

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

Lab File ID: 2203029

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/15/02

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

FORM I VOA-GCMS

000089

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

695 517 CLIENT SAMPLE NO.

V2041421LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix: (soil/water) WATER

Lab Sample ID: 21LB

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

Lab File ID: 2203029

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/15/02

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
1.				
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695 518

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V204142

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix Spike - Sample No.: V2041421LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acetone	100.0		82.65	83	59-151
Acetonitrile	1000		921.4	92	57-143
Acrolein	100.0		100.7	101	59-134
Acrylonitrile	100.0		91.27	91	60-146
Allyl chloride	100.0		91.72	92	74-120
Benzene	100.0		91.85	92	72-124
Bromobenzene	100.0		84.22	84	77-120
Bromochloromethane	100.0		91.30	91	74-120
Bromodichloromethane	100.0		86.51	86	68-119
Bromoform	100.0		82.44	82	66-136
2-Butanone	100.0		84.59	84	55-151
Bromomethane	100.0		79.84	80	40-134
n-Butylbenzene	100.0		86.43	86	69-129
sec-Butylbenzene	100.0		86.36	86	72-127
tert-Butylbenzene	100.0		84.91	85	73-126
Carbon Disulfide	100.0		81.53	82	60-133
Carbon Tetrachloride	100.0		84.13	84	64-123
Chlorobenzene	100.0		87.42	87	77-112
Chlorodibromomethane	100.0		88.29	88	72-118
Chloroethane	100.0		85.59	86	64-142
2-Chloroethyl vinyl eth	100.0		69.27	69	22-165
Chloroform	100.0		89.12	89	70-115
Chloromethane	100.0		73.96	74	58-139
Chloroprene	100.0		89.48	89	73-118
2-Chlorotoluene	100.0		82.46	82	65-132
4-Chlorotoluene	100.0		82.69	83	67-127
1,2-Dibromo-3-chloropro	100.0		87.85	88	56-134
1,2-Dibromoethane	100.0		88.66	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

693 519

Lab Name: ETC, INC.

Lab Prep Batch: V204142

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix Spike - Sample No.: V2041421LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Dibromomethane	100.0		90.03	90	75-114
1,2-Dichlorobenzene	100.0		86.52	86	80-113
1,3-Dichlorobenzene	100.0		84.66	85	77-119
1,4-Dichlorobenzene	100.0		89.57	90	78-116
cis-1,4-Dichloro-2-bute	100.0		85.25	85	70-130
trans-1,4-Dichloro-2-bu	100.0		82.77	83	62-138
Dichlorodifluoromethane	100.0		78.64	79	48-145
1,1-Dichloroethane	100.0		93.29	93	76-118
1,2-Dichloroethane	100.0		91.42	91	62-124
1,1-Dichloroethene	100.0		84.51	84	69-121
cis-1,2-Dichloroethene	100.0		94.18	94	76-114
trans-1,2-Dichloroethen	100.0		103.7	104	72-121
1,2-Dichloropropane	100.0		89.42	89	64-133
1,3-Dichloropropane	100.0		90.99	91	68-128
2,2-Dichloropropane	100.0		79.73	80	67-132
1,1-Dichloropropene	100.0		87.55	88	76-117
cis-1,3-Dichloropropene	100.0		88.28	88	77-120
trans-1,3-Dichloroprope	100.0		87.83	88	73-124
Di isopropyl ether	100.0		99.32	99	62-160
1,4-Dioxane	2000		1710	86	56-131
Ethyl Acetate	100.0		90.13	90	52-151
Ethylbenzene	100.0		85.75	86	77-111
Ethyl methacrylate	200.0		187.7	94	57-140
Furan	100.0		140.4	140*	52-124
Hexachlorobutadiene	100.0		81.91	82	69-137
Hexane	100.0		98.39	98	70-130
2-Hexanone	100.0		87.06	87	53-144
Iodomethane	100.0		85.22	85	51-153

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

* Values outside of QC limits

COMMENTS:

693 520

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V204142

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix Spike - Sample No.: V2041421LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Isobutyl Alcohol	2000		1837	92	60-134
Isopropylbenzene	100.0		86.05	86	74-125
4-Isopropyltoluene	100.0		83.41	83	72-127
Methacrylonitrile	1000		954.8	95	70-125
Methylene Chloride	100.0		91.34	91	76-115
Methyl methacrylate	200.0		180.4	90	57-147
4-Methyl-2-Pentanone	100.0		87.81	88	42-144
Methyl-tertbutyl-Ether	100.0		92.91	93	62-122
Naphthalene	100.0		82.48	82	53-124
Propionitrile	1000		932.2	93	58-139
n-Propyl Acetate	100.0		135.8	136	88-170
n-Propylbenzene	100.0		84.32	84	75-125
Styrene	100.0		89.21	89	77-117
1,1,1,2-Tetrachloroetha	100.0		86.52	86	79-113
1,1,2,2-Tetrachloroetha	100.0		93.47	93	67-126
Tetrachloroethene	100.0		81.62	82	77-115
Tetrahydrofuran	100.0		85.07	85	76-181
1,2,3-Trichlorobenzene	100.0		85.27	85	62-132
Toluene	100.0		89.19	89	77-115
1,1,1-Trichloroethane	100.0		88.02	88	63-122
1,1,2-Trichloroethane	100.0		91.50	92	69-117
1,1,2-trichloro-1,2,2-t	100.0		83.59	84	70-130
Trichloroethene	100.0		84.51	84	75-113
Trichlorofluoromethane	100.0		80.97	81	55-130
1,2,3-Trichloropropane	100.0		90.29	90	62-130
1,2,4-Trimethylbenzene	100.0		84.37	84	69-126
1,2,4-Trichlorobenzene	100.0		82.78	83	68-132
1,3,5-Trimethylbenzene	100.0		84.42	84	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

695 521

Lab Name: ETC, INC.

Lab Prep Batch: V204142

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix Spike - Sample No.: V2041421LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Vinyl Acetate	100.0		85.86	86	28-146
Vinyl Chloride	100.0		80.36	80	65-134
Xylene-mp	200.0		172.2	86	77-115
Xylene-o	100.0		88.56	88	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:

695 522

FORM 3
WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC, INC.

Lab Prep Batch: V204142

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Matrix Spike - Sample No.: 020427520

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Benzene	100.0	0.000	117.6	118	72-124
Chlorobenzene	100.0	0.000	107.8	108	77-112
1,1-Dichloroethene	100.0	0.000	105.9	106	69-121
Toluene	100.0	0.000	114.5	114	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	111.5	112	5	20	72-124
Chlorobenzene	100.0	103.7	104	4	20	77-112
1,1-Dichloroethene	100.0	98.00	98	8	20	69-121
Toluene	100.0	109.5	110	4	20	77-115
Trichloroethene	100.0	100.9	101	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: 0 out of 10 outside limits

COMMENTS:

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: 1204131 Matrix: H₂O HBN: _____

Date: 4-14-02

Applicable ETC Order Nos. for this sequence:

0204-274-2, 3, 4, 18-24
0204-275-1-4

Analyst SS

Super SS

Validated

1. BFB Daily 12-Hour Tune Meets Criteria. No analyses begins until criteria are met. (SOP) ✓

2. Initial Calibration Verification Criteria - Method: 1204051.8260M

- 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 - $\leq 30\%$ ✓

- 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"

Meth 2 0.363ppb

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:

0204-274-21 ms, msd

6. Laboratory Control Samples included in this sequence:

Must contain all Target Analytes.

1/88

7. Surrogate Recoveries within QC Limits ✓

8. All positive compounds within calibration range

Narrative/Notes: * MSD outside 12hr tune criteria.

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

695 525

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Lab File ID: 0101001

BFB Injection Date: 04/13/02

Instrument ID: VOC2

BFB Injection Time: 1215

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	18.7
75	30.0 - 60.0% of mass 95	41.8
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.3
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	81.8
175	5.0 - 9.0% of mass 174	5.7 (6.9)1
176	95.0 - 101.0% of mass 174	79.8 (97.5)1
177	5.0 - 9.0% of mass 176	5.4 (6.8)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	V2041311LCS	11LCS	0201002LCS	04/13/02	1233
02	DCS100PPB		0201002	04/13/02	1233
03	V2041312LCS	12LCS	0203004LCS	04/13/02	1351
04	DCS100PPB		0203004	04/13/02	1351
05	V2041311LB	11LB	0302005	04/13/02	1523
06	020427421	020427421	1001012	04/13/02	1909
07	020427501	020427501	1501017	04/13/02	2148
08	020427502	020427502	1601018	04/13/02	2219
09	020427421MS	MS	1901021	04/13/02	2354
10	020427421MSD	MSD	2001022	04/14/02	0026
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

695 526

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Instrument ID: VOC2

Calibration Date: 04/13/02

Time: 1233

Lab File ID: 0201002

Init. Calib. Date(s): 04/05/02

04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639

2155

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
Acetone	113.6	100.0	AVRG	13.6	30.0
Acetonitrile	119.1	100.0	AVRG	19.1	30.0
Acrolein	118.2	100.0	AVRG	18.2	30.0
Acrylonitrile	116.2	100.0	AVRG	16.2	30.0
Allyl chloride	118.5	100.0	AVRG	18.5	30.0
Benzene	115.7	100.0	AVRG	15.7	30.0
Bromobenzene	111.1	100.0	AVRG	11.1	30.0
Bromochloromethane	111.8	100.0	AVRG	11.8	30.0
Bromodichloromethane	106.1	100.0	AVRG	6.1	30.0
Bromoform	103.8	100.0	LINR	3.8	30.0
2-Butanone	117.4	100.0	AVRG	17.4	30.0
Bromomethane	89.43	100.0	AVRG	10.6	30.0
n-Butylbenzene	128.5	100.0	AVRG	28.5	30.0
sec-Butylbenzene	83.40	100.0	AVRG	16.6	30.0
tert-Butylbenzene	113.0	100.0	AVRG	13.0	30.0
Carbon Disulfide	116.8	100.0	AVRG	16.8	30.0
Carbon Tetrachloride	111.9	100.0	AVRG	11.9	30.0
Chlorobenzene	112.8	100.0	AVRG	12.8	30.0
Chlorodibromomethane	111.8	100.0	AVRG	11.8	30.0
Chloroethane	113.2	100.0	AVRG	13.2	30.0
2-Chloroethyl vinyl ether	113.7	100.0	LINR	13.7	30.0
Chloroform	107.1	100.0	AVRG	7.1	20.0
Chloromethane	99.45	100.0	AVRG	0.6	30.0
Chloroprene	118.0	100.0	AVRG	18.0	30.0
2-Chlorotoluene	113.6	100.0	AVRG	13.6	30.0
4-Chlorotoluene	112.8	100.0	AVRG	12.8	30.0
1,2-Dibromo-3-chloropropane	115.0	100.0	LINR	15.0	30.0
1,2-Dibromoethane	113.3	100.0	AVRG	13.3	30.0
Dibromomethane	111.4	100.0	AVRG	11.4	30.0
1,2-Dichlorobenzene	117.2	100.0	AVRG	17.2	30.0
1,3-Dichlorobenzene	119.4	100.0	AVRG	19.4	30.0
1,4-Dichlorobenzene	126.6	100.0	AVRG	26.6	30.0
cis-1,4-Dichloro-2-butene	121.2	100.0	AVRG	21.2	30.0
trans-1,4-Dichloro-2-butene	118.7	100.0	AVRG	18.7	30.0
Dichlorodifluoromethane	95.44	100.0	AVRG	4.6	30.0
1,1-Dichloroethane	115.7	100.0	AVRG	15.7	30.0
1,2-Dichloroethane	109.6	100.0	AVRG	9.6	30.0

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

695 527

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Instrument ID: VOC2

Calibration Date: 04/13/02

Time: 1233

Lab File ID: 0201002

Init. Calib. Date(s): 04/05/02

04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639

2155

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
1,1-Dichloroethene	111.8	100.0	AVRG	11.8	20.0
cis-1,2-Dichloroethene	114.7	100.0	AVRG	14.7	30.0
trans-1,2-Dichloroethene	131.9	100.0	AVRG	31.9	30.0
1,2-Dichloropropane	110.1	100.0	AVRG	10.1	20.0
1,3-Dichloropropane	113.9	100.0	AVRG	13.9	30.0
2,2-Dichloropropane	117.7	100.0	AVRG	17.7	30.0
1,1-Dichloropropene	118.2	100.0	AVRG	18.2	30.0
cis-1,3-Dichloropropene	115.6	100.0	AVRG	15.6	30.0
trans-1,3-Dichloropropene	115.8	100.0	AVRG	15.8	30.0
Di isopropyl ether	117.2	100.0	AVRG	17.2	30.0
1,4-Dioxane	2224	2000	AVRG	11.2	30.0
Ethyl Acetate	119.7	100.0	AVRG	19.7	30.0
Ethylbenzene	114.0	100.0	AVRG	14.0	20.0
Ethyl methacrylate	244.0	200.0	AVRG	22.0	30.0
Furan	176.2	153.0	AVRG	15.2	30.0
Hexachlorobutadiene	119.2	100.0	AVRG	19.2	30.0
Hexane	138.2	117.0	AVRG	18.1	30.0
2-Hexanone	121.3	100.0	AVRG	21.3	30.0
Iodomethane	112.4	100.0	LINR	12.4	30.0
Isobutyl Alcohol	2506	2000	AVRG	25.3	30.0
Isopropylbenzene	115.1	100.0	AVRG	15.1	30.0
4-Isopropyltoluene	116.9	100.0	AVRG	16.9	30.0
Methacrylonitrile	1210	1000	AVRG	21.0	30.0
Methylene Chloride	111.0	100.0	LINR	11.0	30.0
Methyl methacrylate	238.5	200.0	AVRG	19.2	30.0
4-Methyl-2-Pentanone	118.8	100.0	AVRG	18.8	30.0
Methyl-tertbutyl-Ether	117.9	100.0	AVRG	17.9	30.0
Naphthalene	115.9	100.0	AVRG	15.9	30.0
Propionitrile	1193	1000	AVRG	19.3	30.0
n-Propyl Acetate	183.2	151.0	AVRG	21.3	30.0
n-Propylbenzene	118.0	100.0	AVRG	18.0	30.0
Styrene	117.1	100.0	AVRG	17.1	30.0
1,1,1,2-Tetrachloroethane	107.5	100.0	AVRG	7.5	30.0
1,1,2,2-Tetrachloroethane	119.4	100.0	AVRG	19.4	30.0
Tetrachloroethene	116.3	100.0	AVRG	16.3	30.0
Tetrahydrofuran	113.9	91.50	AVRG	24.5	30.0
1,2,3-Trichlorobenzene	124.8	100.0	AVRG	24.8	30.0

<-

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Instrument ID: VOC2

Calibration Date: 04/13/02 Time: 1233

Lab File ID: 0201002

Init. Calib. Date(s): 04/05/02 04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639 2155

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Toluene	116.2	100.0	AVRG	16.2	20.0
1,1,1-Trichloroethane	114.5	100.0	AVRG	14.5	30.0
1,1,2-Trichloroethane	112.2	100.0	AVRG	12.2	30.0
1,1,2-trichloro-1,2,2-triflu	114.7	100.0	AVRG	14.7	30.0
Trichloroethene	110.9	100.0	AVRG	10.9	30.0
Trichlorofluoromethane	111.0	100.0	AVRG	11.0	30.0
1,2,3-Trichloropropane	114.7	100.0	AVRG	14.7	30.0
1,2,4-Trimethylbenzene	116.1	100.0	AVRG	16.1	30.0
1,2,4-Trichlorobenzene	129.3	100.0	AVRG	29.3	30.0
1,3,5-Trimethylbenzene	115.1	100.0	AVRG	15.1	30.0
Vinyl Acetate	123.7	100.0	AVRG	23.7	30.0
Vinyl Chloride	107.9	100.0	AVRG	7.9	20.0
Xylene-mp	228.6	200.0	AVRG	14.3	30.0
Xylene-o	114.8	100.0	AVRG	14.8	30.0
=====	=====	=====	=====	=====	=====
Dibromofluoromethane	43.97	50.00	AVRG	12.1	30.0
Toluene-d8	48.92	50.00	AVRG	2.2	30.0
Bromofluorobenzene	48.54	50.00	AVRG	2.9	30.0
1,2-Dichloroethane-d4	41.74	50.00	AVRG	16.5	30.0

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

695 529

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Instrument ID: VOC2

Calibration Date: 04/13/02 Time: 1351

Lab File ID: 0203004

Init. Calib. Date(s): 04/05/02 04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639 2155

GC Column:

ID: 2.00 (mm)

COMPOUND	RRF	RRF100	MIN RRF	%D	MAX %D
trans-1,2-Dichloroethene	0.533	0.470		11.8	30.0
Dibromofluoromethane	0.582	0.529		9.1	30.0
Toluene-d8	1.112	1.070		3.8	30.0
Bromofluorobenzene	0.434	0.403		7.1	30.0
1,2-Dichloroethane-d4	0.504	0.448		11.1	30.0

FORM VII VOA-GCMS

000102

695 530

FORM 8
VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Lab File ID (Standard): 0203004

Date Analyzed: 04/13/02

Instrument ID: VOC2

Time Analyzed: 1351

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	979865	9.70	1757627	10.73	1754666	14.58
UPPER LIMIT	1959730	10.20	3515254	11.23	3509332	15.08
LOWER LIMIT	489933	9.20	878814	10.23	877333	14.08
=====	=====	=====	=====	=====	=====	=====
CLIENT SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V2041311LB	723045	9.70	1272144	10.73	1178057	14.58
02 020427421	682323	9.71	1236327	10.74	1128045	14.58
03 020427501	649508	9.71	1207662	10.75	1085868	14.59
04 020427502	647301	9.71	1178557	10.75	1093702	14.59
05 020427421MS	685384	9.72	1250797	10.75	1219272	14.59
06 020427421MSD	684267	9.72	1241246	10.75	1183966	14.59
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

693 531

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Lab File ID (Standard): 0203004

Date Analyzed: 04/13/02

Instrument ID: VOC2

Time Analyzed: 1351

GC Column:

ID: 2.00 (mm)

Heated Purge: (Y/N) Y

	IS4 (DCB)					
	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	665860	17.50				
UPPER LIMIT	1331720	18.00				
LOWER LIMIT	332930	17.00				
=====	=====	=====	=====	=====	=====	=====
CLIENT						
SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V2041311LB	481014	17.51				
02 020427421	464503	17.52				
03 020427501	431096	17.52				
04 020427502	446861	17.52				
05 020427421MS	488783	17.53				
06 020427421MSD	464297	17.52				
07						
08						
09						
10						
11						
12						
13						
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 & CONSULTING, INC
GC/MS VOC Method 8260B Sequence Check List (SW-846)

Sequence ID: V/204141 Matrix: H₂O HBN: _____

Date: 4-15-02

Analyst SS

Super (Signature)

Applicable ETC Order Nos. for this sequence:

0204-274-23 0204-275-274

Validated

1. BFB Daily 12-Hour Tune Meets Criteria. No analyses begins until criteria are met. (SOP) ✓

2. Initial Calibration Verification Criteria - Method: V/2.04051.8260M

- 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 - $\leq 30\%$ Isolute Alcohol High ✓

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" ✓

Meth E 0.381 ppb

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 : _____

0204-275-10 ms, msd

6. Laboratory Control Samples included in this sequence :

Must contain all Target Analytes. 2/88 ✓

7. Surrogate Recoveries within QC Limits ✓

8. All positive compounds within calibration range ✓

Narrative/Notes : _____

000105

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

695 533

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Lab File ID: 0101001

BFB Injection Date: 04/14/02

Instrument ID: VOC2

BFB Injection Time: 1124

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	18.0
75	30.0 - 60.0% of mass 95	41.4
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	80.9
175	5.0 - 9.0% of mass 174	5.6 (6.9)1
176	95.0 - 101.0% of mass 174	79.2 (97.9)1
177	5.0 - 9.0% of mass 176	5.4 (6.8)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	V2041411LCS	11LCS	0202003LCS	04/14/02	1231
02	DCS100PPB		0202003	04/14/02	1231
03	V2041411LB	11LB	0302004	04/14/02	1356
04	020427503	020427503	0501006	04/14/02	1500
05	020427504	020427504	0601007	04/14/02	1532
06	020427502	020427502	0701008	04/14/02	1604
07	020427505	020427505	0801009	04/14/02	1636
08	020427506	020427506	0901010	04/14/02	1708
09	020427507	020427507	1001011	04/14/02	1740
10	020427508	020427508	1101012	04/14/02	1812
11	020427509	020427509	1201013	04/14/02	1844
12	020427510	020427510	1301014	04/14/02	1916
13	020427511	020427511	1401015	04/14/02	1948
14	020427512	020427512	1501016	04/14/02	2020
15	020427513	020427513	1601017	04/14/02	2051
16	020427514	020427514	1701018	04/14/02	2123
17	020427510MS	MS	1801019	04/14/02	2156
18	020427510MSD	MSD	1901020	04/14/02	2228
19					
20					
21					
22					

695 534

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Instrument ID: VOC2

Calibration Date: 04/14/02 Time: 1231

Lab File ID: 0202003

Init. Calib. Date(s): 04/05/02 04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639

2155

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Acetone	113.2	100.0	AVRG	13.2	30.0
Acetonitrile	1095	1000	AVRG	9.5	30.0
Acrolein	127.0	100.0	AVRG	27.0	30.0
Acrylonitrile	118.2	100.0	AVRG	18.2	30.0
Allyl chloride	110.6	100.0	AVRG	10.6	30.0
Benzene	109.6	100.0	AVRG	9.6	30.0
Bromobenzene	106.0	100.0	AVRG	6.0	30.0
Bromochloromethane	110.2	100.0	AVRG	10.2	30.0
Bromodichloromethane	103.7	100.0	AVRG	3.7	30.0
Bromoform	102.6	100.0	LINR	2.6	30.0
2-Butanone	123.0	100.0	AVRG	23.0	30.0
Bromomethane	87.68	100.0	AVRG	12.3	30.0
n-Butylbenzene	118.9	100.0	AVRG	18.9	30.0
sec-Butylbenzene	108.9	100.0	AVRG	8.9	30.0
tert-Butylbenzene	106.0	100.0	AVRG	6.0	30.0
Carbon Disulfide	102.4	100.0	AVRG	2.4	30.0
Carbon Tetrachloride	107.3	100.0	AVRG	7.3	30.0
Chlorobenzene	107.4	100.0	AVRG	7.4	30.0
Chlorodibromomethane	112.4	100.0	AVRG	12.4	30.0
Chloroethane	100.1	100.0	AVRG	0.1	30.0
2-Chloroethyl vinyl ether	107.8	100.0	LINR	7.8	30.0
Chloroform	103.8	100.0	AVRG	3.8	20.0
Chloromethane	85.82	100.0	AVRG	14.2	30.0
Chloroprene	110.5	100.0	AVRG	10.5	30.0
2-Chlorotoluene	108.8	100.0	AVRG	8.8	30.0
4-Chlorotoluene	106.5	100.0	AVRG	6.5	30.0
1,2-Dibromo-3-chloropropane	117.0	100.0	LINR	17.0	30.0
1,2-Dibromoethane	112.7	100.0	AVRG	12.7	30.0
Dibromomethane	110.6	100.0	AVRG	10.6	30.0
1,2-Dichlorobenzene	113.4	100.0	AVRG	13.4	30.0
1,3-Dichlorobenzene	115.6	100.0	AVRG	15.6	30.0
1,4-Dichlorobenzene	114.1	100.0	AVRG	14.1	30.0
cis-1,4-Dichloro-2-butene	120.3	100.0	AVRG	20.3	30.0
trans-1,4-Dichloro-2-butene	117.4	100.0	AVRG	17.4	30.0
Dichlorodifluoromethane	89.73	100.0	AVRG	10.3	30.0
1,1-Dichloroethane	108.3	100.0	AVRG	8.3	30.0
1,2-Dichloroethane	106.7	100.0	AVRG	6.7	30.0

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

695 535

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Instrument ID: VOC2

Calibration Date: 04/14/02 Time: 1231

Lab File ID: 0202003

Init. Calib. Date(s): 04/05/02 04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639 2155

GC Column: ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
1,1-Dichloroethene	101.9	100.0	AVRG	1.9	20.0
cis-1,2-Dichloroethene	109.2	100.0	AVRG	9.2	30.0
trans-1,2-Dichloroethene	104.7	100.0	AVRG	4.7	30.0
1,2-Dichloropropane	104.6	100.0	AVRG	4.6	20.0
1,3-Dichloropropane	112.4	100.0	AVRG	12.4	30.0
2,2-Dichloropropane	110.9	100.0	AVRG	10.9	30.0
1,1-Dichloropropene	110.2	100.0	AVRG	10.2	30.0
cis-1,3-Dichloropropene	111.1	100.0	AVRG	11.1	30.0
trans-1,3-Dichloropropene	114.9	100.0	AVRG	14.9	30.0
Di isopropyl ether	112.1	100.0	AVRG	12.1	30.0
1,4-Dioxane	2414	2000	AVRG	20.7	30.0
Ethyl Acetate	119.6	100.0	AVRG	19.6	30.0
Ethylbenzene	107.2	100.0	AVRG	7.2	20.0
Ethyl methacrylate	245.7	200.0	AVRG	22.8	30.0
Furan	160.2	153.0	AVRG	4.7	30.0
Hexachlorobutadiene	111.2	100.0	AVRG	11.2	30.0
Hexane	123.7	117.0	AVRG	5.7	30.0
2-Hexanone	125.2	100.0	AVRG	25.2	30.0
Iodomethane	103.4	100.0	LINR	3.4	30.0
Isobutyl Alcohol	2650	2000	AVRG	32.5	30.0
Isopropylbenzene	108.3	100.0	AVRG	8.3	30.0
4-Isopropyltoluene	109.1	100.0	AVRG	9.1	30.0
Methacrylonitrile	1225	1000	AVRG	22.5	30.0
Methylene Chloride	105.6	100.0	LINR	5.6	30.0
Methyl methacrylate	241.0	200.0	AVRG	20.5	30.0
4-Methyl-2-Pentanone	121.9	100.0	AVRG	21.9	30.0
Methyl-tertbutyl-Ether	113.6	100.0	AVRG	13.6	30.0
Naphthalene	110.7	100.0	AVRG	10.7	30.0
Propionitrile	1255	1000	AVRG	25.5	30.0
n-Propyl Acetate	184.2	151.0	AVRG	22.0	30.0
n-Propylbenzene	109.9	100.0	AVRG	9.9	30.0
Styrene	110.2	100.0	AVRG	10.2	30.0
1,1,1,2-Tetrachloroethane	103.3	100.0	AVRG	3.3	30.0
1,1,2,2-Tetrachloroethane	120.4	100.0	AVRG	20.4	30.0
Tetrachloroethene	112.6	100.0	AVRG	12.6	30.0
Tetrahydrofuran	114.2	91.50	AVRG	24.8	30.0
1,2,3-Trichlorobenzene	115.4	100.0	AVRG	15.4	30.0

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695 536

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Instrument ID: VOC2

Calibration Date: 04/14/02 Time: 1231

Lab File ID: 0202003

Init. Calib. Date(s): 04/05/02 04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639 2155

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Toluene	112.1	100.0	AVRG	12.1	20.0
1,1,1-Trichloroethane	110.4	100.0	AVRG	10.4	30.0
1,1,2-Trichloroethane	112.0	100.0	AVRG	12.0	30.0
1,1,2-trichloro-1,2,2-triflu	103.7	100.0	AVRG	3.7	30.0
Trichloroethene	106.7	100.0	AVRG	6.7	30.0
Trichlorofluoromethane	99.70	100.0	AVRG	0.3	30.0
1,2,3-Trichloropropane	114.8	100.0	AVRG	14.8	30.0
1,2,4-Trimethylbenzene	107.7	100.0	AVRG	7.7	30.0
1,2,4-Trichlorobenzene	119.8	100.0	AVRG	19.8	30.0
1,3,5-Trimethylbenzene	106.5	100.0	AVRG	6.5	30.0
Vinyl Acetate	121.7	100.0	AVRG	21.7	30.0
Vinyl Chloride	92.77	100.0	AVRG	7.2	20.0
Xylene-mp	215.5	200.0	AVRG	7.8	30.0
Xylene-o	108.0	100.0	AVRG	8.0	30.0
=====	=====	=====	=====	=====	=====
Dibromofluoromethane	44.01	50.00	AVRG	12.0	30.0
Toluene-d8	48.81	50.00	AVRG	2.4	30.0
Bromofluorobenzene	47.71	50.00	AVRG	4.6	30.0
1,2-Dichloroethane-d4	42.55	50.00	AVRG	14.9	30.0

FORM 8
VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

693 537

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Lab File ID (Standard): 0202003

Date Analyzed: 04/14/02

Instrument ID: VOC2

Time Analyzed: 1231

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	768115	9.69	1372384	10.73	1357924	14.57
UPPER LIMIT	1536230	10.19	2744768	11.23	2715848	15.07
LOWER LIMIT	384058	9.19	686192	10.23	678962	14.07
=====	=====	=====	=====	=====	=====	=====
CLIENT SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V2041411LB	712937	9.71	1267992	10.73	1171868	14.58
02 020427503	728229	9.71	1298900	10.75	1194987	14.59
03 020427504	686509	9.71	1213330	10.75	1137468	14.59
04 020427502	722053	9.72	1300232	10.75	1197784	14.59
05 020427505	733392	9.72	1305752	10.75	1224007	14.59
06 020427506	680591	9.72	1228080	10.75	1145766	14.59
07 020427507	723894	9.72	1297514	10.75	1215824	14.60
08 020427508	710770	9.72	1263834	10.75	1172580	14.59
09 020427509	710386	9.72	1289876	10.75	1194845	14.60
10 020427510	647817	9.72	1160507	10.75	1071061	14.59
11 020427511	684346	9.72	1250847	10.75	1161643	14.60
12 020427512	647693	9.72	1181375	10.75	1082153	14.60
13 020427513	683839	9.72	1256205	10.75	1163459	14.60
14 020427514	648432	9.72	1196486	10.75	1096421	14.60
15 020427510MS	707644	9.73	1295724	10.76	1274042	14.60
16 020427510MSD	675822	9.73	1220839	10.76	1209879	14.60
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.

695 538

FORM 8
VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Lab File ID (Standard): 0202003

Date Analyzed: 04/14/02

Instrument ID: VOC2

Time Analyzed: 1231

GC Column:

ID: 2.00 (mm)

Heated Purge: (Y/N) Y

	IS4 (DCB)					
	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	525521	17.50				
UPPER LIMIT	1051042	18.00				
LOWER LIMIT	262761	17.00				
=====	=====	=====	=====	=====	=====	=====
CLIENT						
SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V2041411LB	478798	17.51				
02 020427503	488371	17.52				
03 020427504	464400	17.52				
04 020427502	482905	17.52				
05 020427505	493680	17.53				
06 020427506	464273	17.53				
07 020427507	480444	17.53				
08 020427508	470979	17.53				
09 020427509	473141	17.53				
10 020427510	430381	17.53				
11 020427511	461958	17.53				
12 020427512	421822	17.53				
13 020427513	464924	17.53				
14 020427514	428952	17.53				
15 020427510MS	494680	17.53				
16 020427510MSD	464945	17.53				
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 & CONSULTING, INC
GC/MS VOC Method 8260B Sequence Check List (SW-846)

Sequence ID: V204142 Matrix: H2O HBN: _____

Date: 4-15-02

Applicable ETC Order Nos. for this sequence:

0204-275-15-24

Analyst
Super

[Signature]

Validated

1. BFB Daily 12-Hour Tune Meets Criteria. No analyses begins until criteria are met. (SOP) ✓

2. Initial Calibration Verification Criteria - Method : V204051.8260M

- 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 - $\leq 30\%$ ✓

- 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"

MAC/12 @ 0.599 ppb

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 :

0204-275-20MS, MSD

6. Laboratory Control Samples included in this sequence :

Must contain all Target Analytes.

1/88

7. Surrogate Recoveries within QC Limits

8. All positive compounds within calibration range

Narrative/Notes :

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Lab File ID: 2002023

BFB Injection Date: 04/15/02

Instrument ID: VOC2

BFB Injection Time: 0003

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	19.1
75	30.0 - 60.0% of mass 95	42.8
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	82.6
175	5.0 - 9.0% of mass 174	5.8 (7.0)1
176	95.0 - 101.0% of mass 174	78.9 (95.4)1
177	5.0 - 9.0% of mass 176	5.8 (7.4)2

1-Value is % mass 174

2-Value is % mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	DCS100PPB		2101024	04/15/02	0034
02	V2041421LCS	21LCS	2102025LCS	04/15/02	0105
03	V2041421LB	21LB	2203029	04/15/02	0312
04	020427515	020427515	2301030	04/15/02	0344
05	020427516	020427516	2401031	04/15/02	0415
06	020427517	020427517	2501032	04/15/02	0447
07	020427518	020427518	2601033	04/15/02	0519
08	020427519	020427519	2701034	04/15/02	0550
09	020427520	020427520	2801035	04/15/02	0622
10	020427521	020427521	2901036	04/15/02	0653
11	020427522	020427522	3001037	04/15/02	0725
12	020427523	020427523	3101038	04/15/02	0757
13	020427524	020427524	3201039	04/15/02	0829
14	020427524	020427524	3301040	04/15/02	0910
15	020427519	020427519	3401041	04/15/02	0942
16	020427520MS	MS	3501042	04/15/02	1014
17	020427520MSD	MSD	3601043	04/15/02	1046
18					
19					
20					
21					
22					

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

695 541

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Instrument ID: VOC2

Calibration Date: 04/15/02

Time: 0034

Lab File ID: 2101024

Init. Calib. Date(s): 04/05/02

04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639

2155

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Acetone	107.0	100.0	AVRG	7.0	30.0
Acetonitrile	1170	1000	AVRG	17.0	30.0
Acrolein	123.4	100.0	AVRG	23.4	30.0
Acrylonitrile	117.3	100.0	AVRG	17.3	30.0
Allyl chloride	116.9	100.0	AVRG	16.9	30.0
Benzene	115.9	100.0	AVRG	15.9	30.0
Bromobenzene	103.5	100.0	AVRG	3.5	30.0
Bromochloromethane	113.7	100.0	AVRG	13.7	30.0
Bromodichloromethane	107.5	100.0	AVRG	7.5	30.0
Bromoform	98.09	100.0	LINR	1.9	30.0
2-Butanone	112.0	100.0	AVRG	12.0	30.0
Bromomethane	94.34	100.0	AVRG	5.7	30.0
n-Butylbenzene	111.0	100.0	AVRG	11.0	30.0
sec-Butylbenzene	107.6	100.0	AVRG	7.6	30.0
tert-Butylbenzene	105.1	100.0	AVRG	5.1	30.0
Carbon Disulfide	105.8	100.0	AVRG	5.8	30.0
Carbon Tetrachloride	106.8	100.0	AVRG	6.8	30.0
Chlorobenzene	107.6	100.0	AVRG	7.6	30.0
Chlorodibromomethane	110.0	100.0	AVRG	10.0	30.0
Chloroethane	105.6	100.0	AVRG	5.6	30.0
2-Chloroethyl vinyl ether	116.8	100.0	LINR	16.8	30.0
Chloroform	111.3	100.0	AVRG	11.3	20.0
Chloromethane	85.43	100.0	AVRG	14.6	30.0
Chloroprene	114.6	100.0	AVRG	14.6	30.0
2-Chlorotoluene	105.5	100.0	AVRG	5.5	30.0
4-Chlorotoluene	103.2	100.0	AVRG	3.2	30.0
1,2-Dibromo-3-chloropropane	110.0	100.0	LINR	10.0	30.0
1,2-Dibromoethane	111.9	100.0	AVRG	11.9	30.0
Dibromomethane	110.7	100.0	AVRG	10.7	30.0
1,2-Dichlorobenzene	111.0	100.0	AVRG	11.0	30.0
1,3-Dichlorobenzene	106.9	100.0	AVRG	6.9	30.0
1,4-Dichlorobenzene	111.7	100.0	AVRG	11.7	30.0
cis-1,4-Dichloro-2-butene	107.3	100.0	AVRG	7.3	30.0
trans-1,4-Dichloro-2-butene	101.3	100.0	AVRG	1.3	30.0
Dichlorodifluoromethane	82.07	100.0	AVRG	17.9	30.0
1,1-Dichloroethane	111.6	100.0	AVRG	11.6	30.0
1,2-Dichloroethane	113.6	100.0	AVRG	13.6	30.0

695 542

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Instrument ID: VOC2

Calibration Date: 04/15/02

Time: 0034

Lab File ID: 2101024

Init. Calib. Date(s): 04/05/02

04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639

2155

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
1,1-Dichloroethene	104.9	100.0	AVRG	4.9	20.0
cis-1,2-Dichloroethene	116.1	100.0	AVRG	16.1	30.0
trans-1,2-Dichloroethene	110.9	100.0	AVRG	10.9	30.0
1,2-Dichloropropane	110.4	100.0	AVRG	10.4	20.0
1,3-Dichloropropane	113.3	100.0	AVRG	13.3	30.0
2,2-Dichloropropane	102.2	100.0	AVRG	2.2	30.0
1,1-Dichloropropene	113.4	100.0	AVRG	13.4	30.0
cis-1,3-Dichloropropene	110.7	100.0	AVRG	10.7	30.0
trans-1,3-Dichloropropene	110.9	100.0	AVRG	10.9	30.0
Di isopropyl ether	124.1	100.0	AVRG	24.1	30.0
1,4-Dioxane	2195	2000	AVRG	9.8	30.0
Ethyl Acetate	117.7	100.0	AVRG	17.7	30.0
Ethylbenzene	106.2	100.0	AVRG	6.2	20.0
Ethyl methacrylate	236.0	200.0	AVRG	18.0	30.0
Furan	175.2	153.0	AVRG	14.5	30.0
Hexachlorobutadiene	102.0	100.0	AVRG	2.0	30.0
Hexane	124.9	117.0	AVRG	6.8	30.0
2-Hexanone	111.8	100.0	AVRG	11.8	30.0
Iodomethane	100.8	100.0	LINR	0.8	30.0
Isobutyl Alcohol	2431	2000	AVRG	21.6	30.0
Isopropylbenzene	107.5	100.0	AVRG	7.5	30.0
4-Isopropyltoluene	103.2	100.0	AVRG	3.2	30.0
Methacrylonitrile	1230	1000	AVRG	23.0	30.0
Methylene Chloride	113.9	100.0	LINR	13.9	30.0
Methyl methacrylate	226.6	200.0	AVRG	13.3	30.0
4-Methyl-2-Pentanone	113.2	100.0	AVRG	13.2	30.0
Methyl-tertbutyl-Ether	101.8	100.0	AVRG	1.8	30.0
Naphthalene	105.3	100.0	AVRG	5.3	30.0
Propionitrile	1171	1000	AVRG	17.1	30.0
n-Propyl Acetate	174.3	151.0	AVRG	15.4	30.0
n-Propylbenzene	106.0	100.0	AVRG	6.0	30.0
Styrene	109.7	100.0	AVRG	9.7	30.0
1,1,1,2-Tetrachloroethane	103.8	100.0	AVRG	3.8	30.0
1,1,2,2-Tetrachloroethane	116.0	100.0	AVRG	16.0	30.0
Tetrachloroethene	106.1	100.0	AVRG	6.1	30.0
Tetrahydrofuran	112.2	91.50	AVRG	22.6	30.0
1,2,3-Trichlorobenzene	109.0	100.0	AVRG	9.0	30.0

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

695 543

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Instrument ID: VOC2

Calibration Date: 04/15/02 Time: 0034

Lab File ID: 2101024

Init. Calib. Date(s): 04/05/02 04/05/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1639 2155

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
Toluene	112.6	100.0	AVRG	12.6	20.0
1,1,1-Trichloroethane	113.9	100.0	AVRG	13.9	30.0
1,1,2-Trichloroethane	113.5	100.0	AVRG	13.5	30.0
1,1,2-trichloro-1,2,2-triflu	106.8	100.0	AVRG	6.8	30.0
Trichloroethene	106.4	100.0	AVRG	6.4	30.0
Trichlorofluoromethane	97.69	100.0	AVRG	2.3	30.0
1,2,3-Trichloropropane	107.7	100.0	AVRG	7.7	30.0
1,2,4-Trimethylbenzene	104.8	100.0	AVRG	4.8	30.0
1,2,4-Trichlorobenzene	107.3	100.0	AVRG	7.3	30.0
1,3,5-Trimethylbenzene	104.5	100.0	AVRG	4.5	30.0
Vinyl Acetate	110.4	100.0	AVRG	10.4	30.0
Vinyl Chloride	94.68	100.0	AVRG	5.3	20.0
Xylene-mp	214.0	200.0	AVRG	7.0	30.0
Xylene-o	108.9	100.0	AVRG	8.9	30.0
Dibromofluoromethane	45.49	50.00	AVRG	9.0	30.0
Toluene-d8	49.42	50.00	AVRG	1.2	30.0
Bromofluorobenzene	47.78	50.00	AVRG	4.4	30.0
1,2-Dichloroethane-d4	42.38	50.00	AVRG	15.2	30.0

695 544

FORM 8

VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Lab File ID (Standard): 2101024

Date Analyzed: 04/15/02

Instrument ID: VOC2

Time Analyzed: 0034

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	691329	9.73	1274732	10.75	1268588	14.60
UPPER LIMIT	1382658	10.23	2549464	11.25	2537176	15.10
LOWER LIMIT	345665	9.23	637366	10.25	634294	14.10
=====	=====	=====	=====	=====	=====	=====
CLIENT SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V2041421LB	673088	9.72	1231875	10.75	1146035	14.60
02 020427515	646183	9.72	1191431	10.75	1081566	14.60
03 020427516	660647	9.73	1225054	10.75	1135589	14.60
04 020427517	628930	9.72	1158957	10.75	1068473	14.59
05 020427518	663772	9.72	1214561	10.75	1129220	14.60
06 020427519	630612	9.72	1166552	10.75	1071473	14.60
07 020427520	651446	9.72	1199319	10.75	1107587	14.59
08 020427521	656825	9.72	1204206	10.75	1106232	14.60
09 020427522	648534	9.72	1206749	10.75	1115353	14.59
10 020427523	624734	9.71	1146611	10.75	1067242	14.59
11 020427524	656775	9.72	1200259	10.75	1121746	14.59
12 020427524	642777	9.71	1174750	10.75	1090351	14.59
13 020427519	655419	9.71	1207261	10.75	1126851	14.59
14 020427520MS	671385	9.71	1221075	10.74	1217419	14.59
15 020427520MSD	729474	9.71	1323285	10.74	1308458	14.59
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

695 545

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0204275

Lab File ID (Standard): 2101024

Date Analyzed: 04/15/02

Instrument ID: VOC2

Time Analyzed: 0034

GC Column:

ID: 2.00 (mm)

Heated Purge: (Y/N) Y

	IS4 (DCB)					
	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	481628	17.53				
UPPER LIMIT	963256	18.03				
LOWER LIMIT	240814	17.03				
=====	=====	=====	=====	=====	=====	=====
CLIENT						
SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V2041421LB	461807	17.53				
02 020427515	436057	17.53				
03 020427516	454009	17.53				
04 020427517	434891	17.53				
05 020427518	449545	17.53				
06 020427519	427695	17.53				
07 020427520	448204	17.53				
08 020427521	436759	17.53				
09 020427522	449286	17.53				
10 020427523	426312	17.52				
11 020427524	442535	17.53				
12 020427524	431237	17.52				
13 020427519	457167	17.52				
14 020427520MS	462414	17.52				
15 020427520MSD	490782	17.52				
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.

693 546

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-APR-2002 16:39
 End Cal Date : 05-APR-2002 21:55
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCBDC\DD\chem\voc2.i\V204051.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 lisa

Calibration File Names:

Level 1: \\ETCBDC\DD\chem\voc2.i\V204051.B\0301005.D
 Level 2: \\ETCBDC\DD\chem\voc2.i\V204051.B\0401006.D
 Level 3: \\ETCBDC\DD\chem\voc2.i\V204051.B\0601008.D
 Level 4: \\ETCBDC\DD\chem\voc2.i\V204051.B\0701009.D
 Level 5: \\ETCBDC\DD\chem\voc2.i\V204051.B\0801010.D
 Level 6: \\ETCBDC\DD\chem\voc2.i\V204051.B\0901011.D
 Level 7: \\ETCBDC\DD\chem\voc2.i\V204051.B\1001012.D
 Level 8: \\ETCBDC\DD\chem\voc2.i\V204051.B\1101013.D
 Level 9: \\ETCBDC\DD\chem\voc2.i\V204051.B\1201014.D
 Level 10: \\ETCBDC\DD\chem\voc2.i\V204051.B\1301015.D

Compound	0.500000		1.0000		5.0000		20.0000		50.0000		100.0000		Coefficients		%RSD	
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10	Level 11	Level 12	b	m1	m2	or R^2
1 Dichlorodifluoromethane	0.42917	0.46398	0.49215	0.38347	0.46944	0.46947	0.42917	0.46398	0.49215	0.38347	0.46944	0.46947	AVRG	0.46264		7.83587
	0.46136	0.51612	0.48619	0.45506												

000119

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-APR-2002 16:39
 End Cal Date : 05-APR-2002 21:55
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc2.i\V204061.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 lisa

Compound	0.5000000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients	m2	or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
2 Chloromethane	++++ 0.52358	0.67422 0.59597	0.62057 0.53226	0.47147 0.51277	0.54426	0.51341	AVRG		0.55428		11.46297
3 Vinyl Chloride	0.59049 0.53323	0.62162 0.59353	0.57736 0.53059	0.46471 0.51729	0.55090	0.53374	AVRG		0.55135		8.25883
4 Bromomethane	++++ 0.33152	0.42318 0.35568	0.30731 0.32557	0.25754 0.31543	0.29200	0.30671	AVRG		0.32388		14.22927
5 Chloroethane	0.28710 0.32281	0.32742 0.34496	0.32678 0.31428	0.27943 0.31167	0.32221	0.30903	AVRG		0.31457		6.17221
6 Acrolein	++++ 0.04114	0.03901 0.03791	0.03901 0.04104	0.03464 0.03905	0.03662	0.03836	AVRG		0.03847		5.62234

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-APR-2002 16:39
 End Cal Date : 05-APR-2002 21:55
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc2.i\V204061.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 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					
7 Trichlorofluoromethane	0 60097	0 56367	0 55662	0 51142	0 53518	0 52363	AVRG		0 54709		5.26370
	0 52765	0 58535	0 53444	0 53197							
8 Acetone	++++	++++	++++	0 14803	0 14368	0 13960	AVRG		0 14382		4 71680
	0 15141	0 14186	0 15015	0 13203							
9 Furan	++++	1 14909	1 06044	1 03490	1 07190	1 06736	AVRG		1 11427		5.33566
	1 16477	1 21800	1 13214	1 12979							
10 1,1-Dichloroethene	0 49980	0 53813	0 41987	0 41566	0 42362	0 41486	AVRG		0 44650		9.37487
	0 42996	0 46662	0 42862	0 42782							
11 Acrylonitrile	++++	++++	++++	0 14664	0 15265	0 15548	AVRG		0 15853		5.40438
	0 17009	0 16106	0 16870	0 15509							

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-APR-2002 16:39
 End Cal Date : 05-APR-2002 21:55
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETC\BDC\DD\chem\voc2.i\V204061.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 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					
12 Iodomethane	1208169	1546567	1626204	1892196	453941	903784	LINR	0.03186	0.57099		0.99572
13 Methylene Chloride	12739	15998	46818	161754	386810	769694	LINR	-0.00485	0.49459		0.99746
14 1,1,2-trichloro-1,2,2-trifluoroethane	0.49912	0.41643	0.40972	0.38988	0.40666	0.39958	AVRG		0.42385		7.44681
15 Acetonitrile	0.10434	0.11136	0.10280	0.10375	0.09898	0.09803	AVRG		0.10311		5.84786
16 Allyl chloride	0.04826	0.11510	1.02625	1.03791	0.97578	0.97840	AVRG		1.02268		5.15228

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-APR-2002 16:39
 End Cal Date : 05-APR-2002 21:55
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc2.i\V204061.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 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					
17 Carbon Disulfide	1.58428	1.58392	1.56622	1.41653	1.56098	1.52400	AVRG		1.57172		5.04776
	1.55593	1.74023	1.57981	1.60527							
18 trans-1,2-Dichloroethene	0.56064	0.55991	0.51111	0.50023	0.50109	0.56054	AVRG		0.53273		4.72097
	0.53164	0.55802	0.52004	0.52407							
19 Methyl-tertbutyl-Ether	1.48722	1.39464	1.35926	1.26913	1.18797	1.40942	AVRG		1.34325		6.11785
	1.33309	1.32051	1.30072	1.37050							
20 Propionitrile	0.05782	0.06610	0.06906	0.06612	0.06961	0.07112	AVRG		0.06950		7.91258
	0.07705	0.07169	0.07642	0.06996							
21 1,1-Dichloroethane	1.03936	1.15869	1.08606	1.13771	1.10699	1.12922	AVRG		1.14609		5.32087
	1.21382	1.24737	1.15742	1.18429							

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-APR-2002 16:39
 End Cal Date : 05-APR-2002 21:55
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc2.i\V204061.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 lisa

Compound	0.500000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients	m2	RSR or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
22 Vinyl Acetate	++++ 1 08498	++++ 1.07734	0 97709 1.08335	0 94466 1 04693	0 99986	1.02888	AVRG		1 03039		5 10740
23 Chloroprene	0.86893 1 00647	0.91375 1.06406	0 90862 1 00671	0 96553 1 01528	0 94659	0 97511	AVRG		0 96711		6 09123
24 Hexane	++++ 0 88974	0 91888 1.05755	1 09568 0.98345	1 07825 0 98520	1 00351	0 97982	AVRG		0 99912		6 91910
25 2-Butanone	++++ 0.07284	++++ 0.06986	0.05810 0 07270	0.06205 0.06538	0 06556	0 06871	AVRG		0.06690		7 70483
26 Di isopropyl ether	2.42826 2 75842	2.46638 2 78621	2 41619 2 65302	2 49133 2 65075	2 44788	2 50530	AVRG		2 56037		5.43854

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695 552

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-APR-2002 16:39
 End Cal Date : 05-APR-2002 21:55
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc2.i\V204061.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 lisa

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					
27 Methacrylonitrile	++++ 0.41866	0.34695 0.39550	0.36853 0.41504	0.34869 0.38336	0.37239	0.38462	AVRG		0.39153		6.70605
28 cis-1,2-Dichloroethene	0.68095 0.73320	0.64704 0.74444	0.65687 0.70533	0.68172 0.71102	0.65611	0.68157	AVRG		0.68982		4.78866
29 Ethyl Acetate	++++ 0.56466	++++ 0.53677	0.48657 0.57721	0.45441 0.52320	0.49616	0.52129	AVRG		0.52003		7.81094
30 Bromochloromethane	0.28072 0.31951	0.28738 0.32072	0.28603 0.30531	0.29398 0.30176	0.28936	0.29485	AVRG		0.29796		4.61468
31 Chloroform	++++ 1.04486	1.29202 1.06486	1.01246 1.01466	0.97587 1.02605	0.93490	0.96601	AVRG		1.03685		10.01685

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Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

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 End Cal Date : 05-APR-2002 21:55
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc2.i\V204061.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 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			m1		
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
32 Isobutyl Alcohol	0 500000	150.0000	170.0000	200.0000							
	Level 7	Level 8	Level 9	Level 10							
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
	++++	0 02630	0 02723	0 02528	0 02791	0 03000					
	0 03225	0 03043	0 03379	0 02916			AVRG		0 02915		9 53349
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
33 2,2-Dichloropropane	0 82894	0 81401	0 71695	0 75615	0 74037	0 77047					
	0 80199	0 83759	0 78590	0 79824			AVRG		0 78506		4 96408
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
35 Tetrahydrofuran	++++	++++	0 20230	0 25008	0 27453	0 28424					
	0 29971	0 30081	0 31287	0 28786			AVRG		0 27655		12 85671
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
38 1,2-Dichloroethane	0 55494	0 64539	0 60480	0 61672	0 62157	0 63848					
	0 70739	0 69526	0 68197	0 66619			AVRG		0 64327		7 20315
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
39 1,1,1-Trichloroethane	0 77801	0 73275	0 77013	0 80523	0 78347	0 81207					
	0 85047	0 89124	0 84095	0 85977			AVRG		0 81241		5 93527

Environmental Testing and Consulting, Inc.

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 Cal Date : 07-Apr-2002 11:24 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
40 1,1-Dichloropropene	0.77870 0.85046	0.80121 0.90017	0.78163 0.85116	0.81918 0.86515	0.79614	0.82496	AVRG		0.82688	4 77303
41 Carbon Tetrachloride	0.61726 0.71781	0.67598 0.76460	0.65934 0.71998	0.69033 0.73655	0.66823	0.70480	AVRG		0.69549	6.10450
42 Benzene	2.55950 2.64200	2.52644 2.75482	2.42713 2.61229	2.52519 2.63953	2.43363	2.52806	AVRG		2.56486	3.90936
44 Dibromomethane	0.17367 0.20588	0.18004 0.20199	0.17622 0.19393	0.18324 0.19003	0.18015	0.18271	AVRG		0.18679	5 80980
45 1,2-Dichloropropane	0.41449 0.44108	0.49010 0.44953	0.39800 0.41615	0.40057 0.42412	0.38602	0.40144	AVRG		0.42215	7.32520

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 Cal Date : 07-Apr-2002 11:24 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					
	120.0000	150 0000	170 0000	200.0000							
	Level 7	Level 8	Level 9	Level 10							
46 Trichloroethene	0 40930	0.40096	0 38674	0 39819	0.37367	0 38978	AVRG		0.40060		3.85869
	0 41056	0 42909	0 39672	0 41100							
47 Bromodichloromethane	++++	0.52560	0.40552	0 39687	0.38937	0.40499	AVRG		0 43301		9 79459
	0.45209	0.45880	0.42782	0 43606							
48 n-Propyl Acetate	++++	0.67146	0 72959	0.71573	0.76094	0.80773	AVRG		0 79213		9 70444
	0 88459	0.85422	0 88461	0.82028							
49 Methyl methacrylate	0 19149	0.18621	0 20482	0 20629	0 21189	0 22373	AVRG		0.21760		9.45271
	0 24382	0 23771	0 24140	0 22860							
50 1,4-Dioxane	++++	++++	0.00253	0 00245	0.00261	0 00266	AVRG		0.00268		6.36407
	0.00296	0.00279	0.00283	0.00259							

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Compound	0.5000080 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	++++ 498508	2631 595633	15349 750923	56560 755159	167157	354300	LINR	0.07614	0.13646		0.99384
52 cis-1,3-Dichloropropene	0 50008 0.63376	0.52573 0.63351	0.51730 0.60092	0.56302 0.59932	0.54698	0.57056	AVRG		0.56912		8 30594
53 4-Methyl-2-Pentanone	++++ 0.38322	++++ 0.36532	0 31945 0.38590	0.30821 0.35218	0 33189	0 35478	AVRG		0.35012		8 12309
54 trans-1,3-Dichloropropene	0 38095 0 48108	0 39467 0 47963	0.39113 0.45786	0 42372 0 45253	0.41860	0 44047	AVRG		0.43206		8 36559
55 1,1,2-Trichloroethane	0 20215 0 24923	0.23037 0.24483	0.21959 0 23623	0 22039 0.22976	0 21925	0 22668	AVRG		0.22785		6 00602

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 Method file : \\ETCDBC\DD\chem\voc2.i\V204061.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 lisa

Compound	0 5000000	1.0000	5.0000	20 0000	50.0000	100.0000	Curve	b	Coefficients	m2	RSR 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							
57 Ethyl methacrylate	0.18090	0.18838	0.19818	0.20468	0.21459	0.22849	AVRG		0.21848		11 31247
	0.25143	0.24231	0.24307	0.23275							
58 Toluene	++++	0.87788	0.81733	0.86744	0.80782	0.85278	AVRG		0.86273		4 04551
	0.88880	0.92116	0.85551	0.87585							
59 1,3-Dichloropropane	0.46857	0.46378	0.45879	0.48996	0.48571	0.50580	AVRG		0.50358		7.07690
	0.55464	0.54761	0.53803	0.52287							
60 2-Hexanone	++++	++++	0.22816	0.21524	0.23326	0.25296	AVRG				
	0.27685	0.26107	0.28025	0.25034					0.24977		9 24529
61 Chlorodibromomethane	0.28253	0.28401	0.29323	0.31821	0.31573	0.33359	AVRG				
	0.36376	0.36349	0.35083	0.34572					0.32511		9.60621

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 Cal Date : 07-Apr-2002 11:24 lisa

Compound	0 500000	1 0000	5 0000	20 0000	50 0000	100 0000	Coefficients	or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	m1	m2
62 1,2-Dibromoethane	0.28398	0.27594	0.27516	0.27815	0.28094	0.28838	0.29045	5.06337
	0.31618	0.30968	0.30384	0.29224				
63 Tetrachloroethene	0.28464	0.31077	0.27349	0.28805	0.26393	0.27804	0.28255	5.30537
	0.28762	0.30145	0.27605	0.28146				
64 1,1,1,2-Tetrachloroethane	0.35301	0.36036	0.33188	0.34315	0.33823	0.35297	0.35835	5.42297
	0.38276	0.38214	0.35230	0.38667				
66 Chlorobenzene	1 10649	1 07448	1.00085	1.03025	1 00730	1.04667	1 07187	5 04591
	1 12658	1 13989	1.04301	1.14321				
67 Ethylbenzene	1 75991	1.65415	1.51942	1.58657	1 55562	1 63396	1.66731	6.10840
	1 73502	1 78245	1.62662	1.81939				

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 Method file : \\ETC\BDC\DD\chem\voc2.i\V204061.B\V204051.8260.m
 Cal Date : 07-Apr-2002 11:24 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	WSD or R ²
68 Xylene-mp	0.68206 0.68599	0.67180 0.70123	0.60730 0.63991	0.63474 0.71442	0.61799	0.64956	AVRG		0.66050		5.44789
69 Bromoform	++++ 822958	5301 980715	26885 1173848	109496 1240179	292751	607365	LINR	0.05106	0.23433		0.99799
70 trans-1,4-Dichloro-2-butene	++++ 0.15773	0.12884 0.15017	0.12996 0.15053	0.12420 0.15358	0.13512	0.14305	AVRG		0.14147		8.66356
71 Styrene	0.99504 1.15963	0.99378 1.17573	0.92996 1.08732	1.00449 1.20776	1.01733	1.06952	AVRG		1.06406		8.64982
72 Xylene-o	0.61409 0.67569	0.63232 0.68700	0.58354 0.62774	0.61318 0.70188	0.60209	0.63240	AVRG		0.63699		6.08110

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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
73 1,1,2,2-Tetrachloroethane	++++ 0.94396	0.82947 0.94765	0.81380 0.93900	0.82880 0.91264	0.84306	0.87735	AVRG		0.88175		6.22672
74 cis-1,4-Dichloro-2-butene	++++ 0.12522	0.09740 0.11972	0.09587 0.12059	0.09929 0.12218	0.10872	0.11724	AVRG		0.11180		10.41554
75 1,2,3-Trichloropropane	0.08335 0.11845	0.09769 0.11169	0.11035 0.11086	0.09560 0.11337	0.10417	0.10821	AVRG		0.10538		9.89606
76 Isopropylbenzene	1.62707 1.77016	1.66270 1.82170	1.52317 1.67910	1.61615 1.87460	1.58174	1.68518	AVRG		1.68416		6.48512
78 Bromobenzene	++++ 0.42377	0.43638 0.42102	0.36270 0.39025	0.37254 0.42639	0.37836	0.39093	AVRG		0.40026		6.73692

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 Cal Date : 07-Apr-2002 11:24 lisa

Compound	0 500000	1 0000	Level 1	Level 2	5 0000	Level 3	20 0000	Level 4	50 0000	Level 5	100 0000	Curve	b	Coefficients	m1	m2	or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10							
79 n-Propylbenzene	1.95421	1.96983	1.76444	1.90722	1.85731	1.98755						AVRG			1.98622		6.69045
	2.09727	2.14814	1.97354	2.20273													
80 2-Chlorotoluene	1.15937	1.14331	1.02245	1.07243	1.06893	1.10621						AVRG			1.13050		6.29198
	1.19552	1.20564	1.08565	1.24551													
81 4-Chlorotoluene	++++	1.30585	1.04120	1.08130	1.09788	1.15496						AVRG			1.17974		8.00475
	1.26872	1.24534	1.16102	1.26142													
83 tert-Butylbenzene	1.33912	1.28129	1.15066	1.21628	1.18806	1.26646						AVRG			1.27384		6.00806
	1.32329	1.35490	1.23502	1.38328													
84 1,3,5-Trimethylbenzene	++++	1.36070	1.20469	1.27331	1.25005	1.33034						AVRG			1.33431		6.44469
	1.40569	1.41553	1.30013	1.46834													

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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	SRSD or R ²
85 1,2,4-Trimethylbenzene	++++ 1 43349	1.41294 1.43424	1.23442 1.32677	1.28923 1.47634	1.28367	1.35654	AVRG		1 36085		6.09093
86 sec-Butylbenzene	1 84514 2.00142	1.86145 2.03955	1.70278 1.86810	1.81967 2.10858	1.77254	1.91042	AVRG		1.89296		6.58836
87 1,3-Dichlorobenzene	++++ 1.90452	1.81236 1.97195	1.68356 1.84389	1.82494 1.92736	1.72565	1.74732	AVRG		1 82684		5.29269
88 4-Isopropyltoluene	++++ 1 62974	1.60365 1.64656	1.42932 1.50720	1.50508 1.68300	1.46969	1.56593	AVRG		1.56002		5.57273
90 1,4-Dichlorobenzene	++++ 2.00618	1.82358 1.95090	1.63708 1.83246	1.85913 1.99998	1.70095	1.77033	AVRG		1 84229		6.95981

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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 65729	1 63321 1 69369	1 46192 1.59448	1 61232 1 65562	1 50459	1 56517	AVRG		1 59759		4.73444
92 n-Butylbenzene	++++ 3 43518	3 06720 3 57901	2 89054 3.29664	3 39678 3 46995	3.12506	3 31563	AVRG		3 28622		6.67879
93 1,2-Dibromo-3-chloropropane	++++ 182674	2162 209027	7263 266157	23596 263958	69631	139116	LINR	0.01763	0 12533		0.99655
94 1,2,4-Trichlorobenzene	++++ 1 07407	1.12131 1 07226	0 96025 1 00592	1 05828 1 02823	0 99684	1 02498	AVRG		1.03802		4 67752
95 Naphthalene	++++ 2 49124	2 59139 2.41043	2 12130 2.45849	2 14931 2.37657	2.24726	2 31286	AVRG		2 35099		6 70610

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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			m1		
96 Hexachlorobutadiene	++++ 0.70629	0.61675 0.72030	0.63604 0.66403	0.72313 0.69146	0.65055	0.67931	AVRG		0.67643		5.54350
97 1,2,3-Trichlorobenzene	++++ 0.96413	1.01326 0.95938	0.85339 0.93125	0.91907 0.93315	0.88337	0.90573	AVRG		0.92919		5.06482
\$ 34 Dibromofluoromethane	++++ 0.57321	++++ 0.58269	++++ 0.57404	0.59599 0.57820	0.58373	0.59763	AVRG		0.58364		1.68394
\$ 37 1,2-Dichloroethane-d4	++++ 0.49433	++++ 0.49184	0.53404 0.50361	0.50249 0.49146	0.50311	0.51654	AVRG		0.50468		2.85948
\$ 56 Toluene-d8	++++ 1.09039	++++ 1.11378	1.18831 1.05248	1.13433 1.09258	1.08698	1.13857	AVRG		1.11218		3.72961

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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
77 Bromofluorobenzene	++++ 0.43213	++++ 0.42492	0.47321 0.40334	0.41647 0.44928	0.42661	0.44712	AVRG		0.43414	5.02402

Curve	Formula	Units
Averaged	Amt = Rsp/ml	Response
Linear	Amt = b + Rsp/ml	Response

695 565

693 566



ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Founded 1972

April 25, 2002

Mr. Kraig Smith
Jacobs
600 William Northern Blvd.
Tullahoma, TN 37388

Ref: Analytical Testing
ETC Order # 0204276
Project Description Memphis Depot

Project Number C5X51111

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

JACOBS_DDMT

Certifications

Tennessee #TN02027
Arkansas #40730
Kentucky #90047

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

USDA #S-46279

FINAL PAGE

PART I

ADMINISTRATIVE RECORD

PART I

FINAL PAGE