



THE MEMPHIS DEPOT TENNESSEE

ADMINISTRATIVE RECORD COVER SHEET

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QUARTERLY GROUNDWATER QUALITY REPORT
(YEAR TWO, QUARTER TWO)
GROUNDWATER INTERIM REMEDIAL ACTION

776

DUNN FIELD
MEMPHIS DEFENSE DEPOT, TENNESSEE

Submitted to:

Sverdrup Civil, Inc.
Maryland Heights, MO
Subcontract No. C5X51101S200

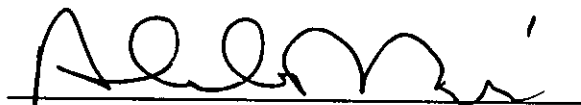
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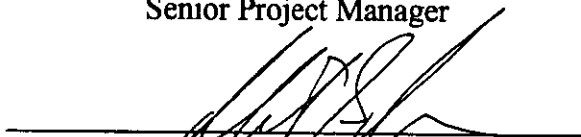
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July 27, 2000

Mr. Virgil Jansen
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Re: **TRANSMITTAL LETTER**
Quarterly Groundwater Quality Report
Year Two, Quarter Two
Groundwater Interim Remedial Action
Dunn Field
Memphis Defense Depot, Tennessee
Subcontract No. C5X51101S200

Dear Mr. Jansen:

The enclosed copy of the Groundwater Quality Report was prepared by IT Corporation for the second year, second quarter operational period of the groundwater extraction system at Dunn Field, Defense Depot, Memphis, Tennessee. Please refer to the distribution list below for those who will receive copies of this report.

Should you require additional information or have any questions, please contact the undersigned at 770.663.1435 or Serena Broska at 770.521.6561.

Respectfully submitted,

Alexander D. Davie
Senior Project Manager

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1.0 INTRODUCTION

This Quarterly Groundwater Quality Report presents results of IT Corporation's (IT) implementation of the Year two, Second quarter monitoring (Y2Q2) for the Groundwater Interim Remedial Action (IRA) extraction system at the Dunn Field area of the Memphis Depot, Memphis, Tennessee (DDMT). This work was performed for Sverdrup Civil, Inc. under Subcontract No. C5X51101S200 through April 2000. Sverdrup Civil, Inc. has had prime responsibility for the operation and maintenance of the extraction system since November 1999. This report was prepared with consideration of comments made on the previous Y2Q1 groundwater quality report.

1.1 Scope of Work

This quarterly report covers the period from February 2000 through May 2000. Monitoring of the system was performed in accordance with the *Groundwater Interim Remedial Action Defense Depot Memphis, Tennessee Operation and Maintenance Plan* (O&M Plan) prepared by CH2M HILL in May 1998. This plan contained an overview of the recovery system and described how the system functions. Start-up, operation, and shutdown procedures were discussed for the extraction system. Requirements for sampling, monitoring and reporting were also included.

1.2 Site Description and Background

DDMT covers 642 acres in Shelby County, Memphis, Tennessee. The facility is approximately four miles southeast of the central business district and one mile northwest of Memphis International Airport. *Figure 1* presents the location of DDMT. 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 principle 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 area that is located north of the main installation, across Dunn Road as in *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 gravely 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 a 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 units for the Memphis Sand Aquifer and the base of the fluvial aquifer.

1.4 Remedial Objective

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

The USACE contracted OHM/IT in October 1997 to install seven groundwater extraction wells, one pre-cast concrete building, underground conveyance system, flow measurement and control systems, and associated civil, electrical, and instrumentation/controls components. The Technical Specifications prepared by CH2M HILL (including Addendum No. 1, dated August 29, 1997) defined the Groundwater IRA's equipment, process controls, operational requirements, recovery wells sizes and depths, pumping rates and construction drawings. IT completed the installation in October 1998 and provided As-Built Drawings for the Dunn Field groundwater extraction system under a separate submittal in April 1999. The USACE contracted IT in November 1998 to perform the first year of system operation and maintenance. These activities were carried out in accordance with the O&M Plan through November 1999. Sverdrup Civil, Inc. has had prime responsibility for the operation and maintenance of the extraction system since November 1999. The location of the system is identified in *Figure 1*.

2.0 SYSTEM MONITORING METHODOLOGY

2.1 Groundwater Level Measurements

Water level measurements were recorded twice a month during this four month operational period from a select number of monitoring wells located both on and off Dunn Field. The following table lists the monitoring wells:

MW-02	MW-15	MW-37 ^b	MW-55
MW-03	MW-18	MW-38	MW-56
MW-04	MW-19 ^a	MW-40	MW-57 ^a
MW-05	MW-27	MW-41	MW-58 ^a
MW-06	MW-28	MW-42	MW-59 ^a
MW-07	MW-29	MW-43	MW-60 ^a
MW-08	MW-30	MW-44	MW-62
MW-09	MW-31	MW-45	MW-63
MW-10	MW-32 ^b	MW-46	MW-65
MW-11	MW-33	MW-49	MW-67
MW-12	MW-34 ^b	MW-51	MW-68
MW-13	MW-35	MW-53	MW-69
MW-14	MW-36	MW-54	MW-70
			MW-71
			PZ-02

^a The monitoring of these wells was added in quarter three and quarter four of year one.

^b IT began monitoring these wells manually once the continuous recording instruments were removed by the USGS

Monitoring wells; MW-32, MW-34 and MW-37, were incorporated into the bi-monthly gauging events within a month after USGS removed the electronic water level transducers. Four newly installed wells; MW-68, MW-69, MW-70 and MW-71 also required bi-monthly measurements for the second year O&M period. All wells were available for bi-monthly measurements as of January 2000. Eight existing, primarily off-site wells; MW-19, MW-27, MW-56, MW-62, MW-63, MW-65, MW-67 and PZ-02 were also added to the bi-monthly gauging events for the second year O&M period. All wells requiring water level measurements were monitored in accordance with *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. The Y2Q1 measurement data was submitted to USACE, DLA, TDEC and USEPA separately with the Y2Q1 groundwater quality report. A complete set of the Y2Q2 measurement data is available in *Appendix A*.

In addition to the above monitoring wells, recovery well water levels are electronically recorded continuously during system operation. This data is recorded with electronic water

level transducers at one hour intervals. Data is retrieved remotely on a routine basis from an electronic data logging system. *Table 6* presents the recorded transducer measurements and calculated groundwater elevations for each recovery well. The data is compiled primarily for those days which correspond to bi-monthly gauging events.

2.2 Groundwater Sample Collection and Analyses

Groundwater samples were collected in May-00. Samples were collected from 19 of 20 selected monitoring wells, 6 of 7 recovery wells, and four recently installed, but not operational, recovery wells as identified in the following table:

Well Type	Well No.	Analyses/Method at Each Well	Date Performed
Downgradient Groundwater Monitoring Wells	MW-14	<u>Quarterly Analyses:</u> PH/Field Probe Conductivity/Field Probe Volatile Organics/SW8260	15-May-00 through 18-May-00
	MW-15		
	MW-30		
	MW-31		
	MW-32		
	MW-33		
	MW-34		
	MW-40		
	MW-44		
	MW-51		
	MW-54		
	MW-56		
	MW-57		
	MW-58		
	MM-59		
	MW-68		
	MW-69		
	MW-70		
	MW-71		
Groundwater Recovery Wells	RW-1A	<u>Quarterly Analyses:</u> PH/Field Probe Conductivity/Field Probe Volatile Organics/SW8260	15-May-00 through 18-May-00
	RW-1B		
	RW-01		
	RW-02		
	RW-03		
	RW-04		
	RW-06		
	RW-07		
	RW-08		
	RW-09		

Cumulative analytical results for quarterly sampled monitoring wells presented in *Table 2* includes six quarters of data following system start-up. Cumulative analytical results for the quarterly sampled recovery wells presented in *Table 3* also include data following system start-up. Laboratory analytical reports are provided in *Appendix B*. A discussion of the results is presented in Section 3.0 of this report.

One sample collection method was revised during this event for MW-70. In order to evaluate the vertical distribution of organic compounds in the well, groundwater samples were collected at two different depths. One sample was collected at approximately 1-foot above the bottom of the well (215 ft msl) and one sample was collected from the upper portion (223 ft msl). Analytical results did not demonstrate a significant difference in organic compound concentrations from the two depth intervals. Both samples did, however, demonstrate a significant reduction in organic compound concentrations from the previous sampling event in February 2000. *Figure 3* reports the results from each groundwater sample collected.

A sample was not obtained from RW-05. This station was manually shut down for repairs in March 2000. Final repairs are scheduled for August 2000.

A groundwater sample could not be collected from MW-67 during this monitoring period because the pump used to purge the well became lodged in the well and could not be lowered into groundwater or removed from the well.

2.3 System Discharge Sample Collection and Analyses

Monthly effluent samples were 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 west property line of the Depot.

Effluent samples have been collected on a monthly basis from February 1999 through May 2000. The samples were analyzed in accordance with Section F.1 of the Industrial Wastewater Discharge Agreement for Volatile Organic Compounds (VOCs) by method SW846 8260B.

Analysis of the monthly 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 1*. 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 discharge.

2.4.1 Quarterly Groundwater Sampling Event

QA/QC samples collected in the field during each quarterly sampling event included three equipment blanks, four double blind duplicates, one field blank, temperature blanks, and trip blanks. A trip blank and temperature blank was typically included in every cooler delivered to the lab. One equipment blank and/or double blind duplicate was collected for approximately every ten 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.

2.4.2 Monthly Effluent Sampling Events

QA/QC samples collected in the field during each monthly effluent sampling event included temperature blanks, trip blanks, and equipment blanks or double blind duplicates. Throughout the quarter, one double blind duplicate was collected in Apr-00. Laboratory QA/QC included method blanks and MS/MSDs. Surrogates were used by the laboratory to show control of organic analysis. A laboratory control duplicate sample was analyzed for batches that did not include MS/MSDs.

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 chain of custody forms. Samples were typically hand delivered the same day of collection to the local laboratory: Environmental Testing and Consulting, INC. (ETC) in Memphis, TN.

3.0 MONITORING RESULTS

This section discusses results of the Y2Q2 remedial action groundwater monitoring at DDMT in May 2000. *Figure 2* shows the locations of monitoring and recovery wells at the site. *Figure 3* reports results of each groundwater sample collected for this event.

3.1 Groundwater Elevation and Hydraulic Gradient

Recently, the geologic and hydrogeological data from the Main Installation and Dunn Field has been reviewed and a revised conceptual model of the site hydrogeology has been developed and presented in the Final Feasibility Study (FS) report for the Main Installation of the Memphis Depot (CH2M HILL, Jul-2000). The consultants and government agencies involved have established that additional soil borings and groundwater wells are needed to determine the validity of the existing versus the revised conceptual model. Therefore, until the new data are available, this quarterly report maintains consistency with the existing conceptual model established in the Final Remedial Investigation (RI) report for the Main Installation of the Memphis Depot (CH2M HILL, Jan-2000) and as shown in the previous groundwater extraction system monitoring reports.

Groundwater level measurements at the site have been collected approximately twice a month at 54 monitoring wells since system start-up in Nov-98. Groundwater elevations were selected from 49 of the 54 monitoring wells and 10 recovery wells (with RW-1a, RW-1b, RW-01, RW-02 included as future recovery wells) to produce the Y2Q2 potentiometric surface map (*Figure 4*). Calculated groundwater elevations in the fluvial aquifer during this monitoring period ranged from 254.58 feet mean sea level (msl) in MW-65 to 159.74 feet msl in MW-34.

Groundwater elevations in recovery wells are influenced by target system operational groundwater level settings. Target level settings and corresponding groundwater elevations are as follows: RW-03, 4.9 feet (224.29 ft msl); RW-04, 4.0 feet (222.22 ft msl); RW-05, 3.5 feet (216.78 ft msl); RW-06, 5.5 feet (221.17 ft msl); RW-07, 5.5 feet (221.53 ft msl); RW-08, 6.7 feet (217.29 ft msl); and RW-09, 6.8 feet (220.59 ft msl). The actual groundwater elevation for each recovery well will vary slightly from target settings due to individual recovery well operating conditions.

The groundwater flow direction during the Y2Q2 groundwater measurement event was to the southwest. In general, the baseline calculated hydraulic gradient was approximately 0.039 ft/ft. Following startup of the recovery wells, the overall flow direction has remained

unchanged. During this monitoring period the hydraulic gradient across the middle of the site has increased to 0.06 ft/ft.

In general, groundwater elevations decreased <0.5 feet from the previous quarter in monitoring wells sampled with the exception of MW-14, MW-44, MW51 and MW-54. These wells displayed a decrease in groundwater elevations of 0.59 ft, 0.60 ft, 1.9 ft and 0.65 ft respectively. Quarterly groundwater level measurements of monitoring wells that are sampled are provided in *Table 5*. Groundwater measurement data from all monitored wells is provided in *Appendix A*.

3.2 Groundwater Analytical Results

This section includes analytical results of effluent samples of water discharged for the Publicly Owned Treatment Works (POTW) as well as groundwater samples collected from recovery wells and select monitoring wells. Groundwater analytical results from the Y2Q2 sampling and analysis event are presented with historical data in *Figure 3*. Copies of the laboratory analytical reports, including field logs and chain of custody documentation, are provided in *Appendix B*. Copies of the laboratory analytical reports and chain of custody documentation for the monthly effluent samples are provided in *Appendix C*.

3.2.1 Effluent Analytical Results Summary

During the Y2Q2 monitoring period (Feb-00 through May-00), monthly effluent discharge samples were collected from the groundwater recovery system in compliance with the City of Memphis Discharge Permit. The samples were analyzed for pH (Method 150.1), TAL Metals (EPA 200 Series), TCL Volatile Organics (Method 8260B) and TCL Semi-Volatile Organics (Method 8270C). Monthly effluent analytical reports are provided in *Appendix C*.

There were two exceedances of the discharge permit levels during the Y2Q2 period in April and May for cis 1,2-dichloroethene. The detected concentrations of 51.5 ug/L (April 2000) and 50.9 ug/L (May 2000) were acceptable according to the one day maximum level (100 ug/L), but exceeded the monthly average level (50 ug/L). As the monthly grab sample is more closely representative of a one day maximum level, discharge permit compliance is still observed. *Table 1* presents effluent sample analytical results from system startup through May-00.

3.2.2 Recovery Well Analytical Results Summary

Y2Q2 groundwater samples were collected from the recovery wells during the week of 15-May-00. The groundwater samples were analyzed for TCL Volatile Organics

(Method 8260B). Results are provided in *Table 3*. Y2Q2 recovery well laboratory analytical reports are provided in *Appendix B*.

Only compounds that have been detected are reported. Of the compounds detected, trichloroethene (TCE) is the only compound common to all recovery wells that has been detected above Drinking Water Maximum Contaminant Levels (MCLs) during each sampling event.

RW-01 This was the second time the recovery well has been sampled since being installed in November 1999. Two compounds were detected at concentrations exceeding MCLs. Carbon tetrachloride (CT) increased slightly from 42.4 ug/l to 45.4 ug/l. Trichloroethene (TCE) also increased from 35.2 ug/l to 45.5 ug/l.

RW-1A This was the second time the recovery well has been sampled since being installed in November 1999. Two compounds were detected at concentrations exceeding MCLs. CT decreased slightly from 15.2 ug/l to 10.6 ug/l. TCE also decreased from 119 ug/l to 73 ug/l.

RW-1B This was the second time the recovery well has been sampled since being installed in November 1999. Two compounds were detected at concentrations exceeding MCLs. CT decreased from 20.6 ug/l to 12.3 ug/l. TCE also decreased from 21.9 ug/l to 13.6 ug/l.

RW-02 This was the second time the recovery well has been sampled since being installed in November 1999. Two compounds were detected at concentrations exceeding MCLs. CT increased slightly from 15.7 ug/l to 16.4 ug/l. TCE decreased slightly from 21.4 ug/l to 16.9 ug/l.

RW-03 Three compounds (CT, Cis 1,2-dichloroethene [Cis-DCE], and TCE) were detected at concentrations exceeding MCLs during Y2Q2. CT and TCE have exceeded MCLs during each of the six quarterly sampling events. During the Y2Q2, CT demonstrated a slight increase in concentration from the previous quarter (10.9 to 16.3 ug/l). The Cis-DCE concentration increased from 101 ug/l to 138 ug/l and TCE increased from 57.8 ug/l to 78.8 ug/l.

RW-04 One compound (TCE) was detected at a concentration exceeding MCLs during this monitoring period. TCE has exceeded MCLs in each of the six sampling events. During the Y2Q2 sampling event, TCE demonstrated an increase in concentration from 252 ug/l to

316 ug/l. The CT concentration decreased to below the MCL during this sampling event [6.97 ug/l (Y2Q1) to 4.26 ug/l (Y2Q2)].

RW-05 A groundwater sample could not be collected from this recovery well during this monitoring period because the system was off-line for repairs at the time of sample collection. Two compounds have consistently exceeded MCLs during previous sampling events. Tetrachloroethene (PCE) and TCE have exceeded MCLs during each of the previous five quarterly sampling events.

RW-06 Two compounds (PCE and TCE) were detected at concentrations exceeding MCLs during this monitoring period. PCE has exceeded MCLs during five quarterly sampling events. TCE has exceeded MCLs during each of the six quarterly sampling events. PCE concentrations decreased slightly from 6.48 ug/l to 5.52 ug/l and TCE increased from 17.0 ug/l to 37.9 ug/l during Y2Q2.

RW-07 Two compounds (PCE and TCE) were detected at concentrations exceeding MCLs during Y2Q2. Cis-DCE decreased to below the MCL during this monitoring period [70.3 ug/l (Y2Q1) to 59.6 ug/l (Y2Q2)]. PCE and TCE have exceeded MCLs during each of the six quarterly sampling events. The PCE concentration decreased slightly from 9.33 ug/l to 7.76 ug/l and TCE decreased slightly from 102 ug/l to 97.2 ug/l during this monitoring period.

RW-08 Three compounds were detected at concentrations exceeding MCLs during Y2Q2. Cis-DCE has exceeded MCLs during the last five quarterly sampling events. The Cis-DCE concentration increased slightly from 115 ug/l to 120 ug/l during the Y2Q2 sampling event. PCE and TCE have exceeded MCLs during all six quarterly sampling events. The PCE concentration decreased slightly from 6.67 ug/l to 5.19 ug/l and the TCE concentration increased from 190 ug/l to 268 ug/l during this monitoring period.

RW-09 Three compounds were detected at concentrations exceeding MCLs this monitoring period. 1,1-DCE, PCE and TCE have exceeded MCLs during all six quarterly sampling events. The 1,1-DCE concentration decreased from 52.9 ug/l to 35.9 ug/l during Y2Q2. The PCE concentration decreased from 61.2 ug/l to 32.1 ug/l and the TCE concentration decreased from 51.4 ug/l to 37.7 ug/l during this monitoring period.

3.2.3 Monitoring Well Analytical Results Summary

Y2Q2 groundwater samples were collected from select monitoring wells at the site. The samples were analyzed for TCL Volatile Organics (Method 8260B). Y2Q2 monitoring well laboratory analytical reports are provided in *Appendix B*.

Table 2 (p. 1-11) presents TCL Volatile Organics analytical results from monitoring wells MW-14, MW-15, MW-30, MW-31, MW-32, MW-33, MW-34, MW-40, MW-44, MW-51 and MW-54. *Table 2 (p. 12-13)* presents TCL Volatile Organics analytical results from monitoring wells MW-56, MW-57, MW-58, MW-59, MW-67, MW-69, MW-70 and MW-71. Only compounds detected during any sampling event have been reported in the tables.

MW-14 This was the second time the monitoring well has been sampled. No volatile organic compounds have been detected at concentrations exceeding MCLs.

MW-15 Two volatile organic compounds were detected at concentrations exceeding MCLs during Y2Q2. CT and TCE have exceeded MCLs during all six quarterly sampling events. The PCE (6.91 ug/l to 3.96 ug/l) and 1,1,2-Trichloroethane (TCA) (10.2 ug/l to 4.69 ug/l) concentrations decreased to below the MCL during this monitoring period. The CT concentration (29.0 ug/l to 16.3 ug/l) and TCE concentration (299 ug/l to 154 ug/l) decreased during this monitoring period.

MW-30 No volatile organic compounds have been detected at concentrations exceeding MCLs during all six quarterly sampling events.

MW-31 Two volatile organic compounds were detected at concentrations exceeding MCLs during the Y2Q2 sampling event. The DCE concentration increased from 9.89 ug/l to 22.3 ug/l during this monitoring event. TCE has exceeded MCLs during all six quarterly sampling events. The TCE concentration increased from 25.6 ug/l to 49.5 ug/l during this monitoring event.

MW-32 Two volatile organic compounds were detected at concentrations exceeding MCLs during the Y2Q2 sampling event. Both CT and TCE have exceeded MCLs during all six quarterly sampling events. The CT concentration increased from 25.5 ug/l to 37.0 ug/l during this monitoring event. The TCE concentration also increased from 41.8 ug/l to 58.2 ug/l during this monitoring event.

MW-33 No volatile organic compounds have been detected at concentrations exceeding MCLs during all six quarterly sampling events.

MW-34 No volatile organic compounds have been detected at concentrations exceeding MCLs during all six quarterly sampling events.

MW-40 No volatile organic compounds have been detected at concentrations exceeding MCLs during all six quarterly sampling events.

MW-44 No volatile organic compounds have been detected at concentrations exceeding MCLs during all six quarterly sampling events. However, CT (2.3 ug/l) and TCE (1.36 ug/l) were detected at concentrations above the laboratory method detection limit, for the first time during the Y2Q2 sampling event.

MW-51 One volatile organic compound was detected at a concentration exceeding MCLs during the Y2Q2 sampling event. The DCE concentration increased from 1.08 ug/l (below the MCL) to 8.23 ug/l (above the MCL) during this monitoring event. However, the Y2Q1 analysis result may have been an anomaly since this constituent was detected above MCLs in each of the four previous quarterly sampling events.

MW-54 One volatile organic compound was detected at a concentration exceeding MCLs during the Y2Q2 sampling event. CT exceeded the MCL during the Y2Q1 sampling event but decreased to below the MCL (14.7 ug/l to 4.46 ug/l) during this monitoring event. The TCE concentration has exceeded MCLs during all six quarterly sampling events. The TCE concentration decreased from 43.3 ug/l to 11.6 ug/l during this monitoring event.

MW-56 This was the second time the monitoring well has been sampled. No volatile organic compounds were detected at concentrations exceeding MCLs during both sampling events.

MW-57 This was the second time the monitoring well has been sampled. Three volatile organic compounds have been detected at concentrations exceeding MCLs during both sampling events. The CT concentration increased from 39.3 ug/l to 50.6 ug/l during this monitoring event. The PCE concentration (5.38 ug/l to 5.1 ug/l) and the TCE concentration (50.8 ug/l to 46.5 ug/l) decreased slightly during this monitoring event.

MW-58 This was the second time the monitoring well has been sampled. No volatile organic compounds were detected at concentrations exceeding MCLs.

MW-59 This was the second time the monitoring well has been sampled. One volatile organic compound PCE has been detected at a concentration exceeding MCLs during both quarterly sampling events. The PCE concentration decreased from 35.0 ug/l to 24.1 ug/l during this monitoring event.

MW-67 A groundwater sample could not be collected from this monitoring well during this monitoring period because the pump used to purge the well became lodged in the well and could not be lowered into groundwater or removed from the well. This well was sampled once before during the Y2Q1 (Feb-00) sampling event. No volatile organic compounds were detected at concentrations exceeding MCLs.

MW-69 This was the second time the monitoring well has been sampled. One volatile organic compound (TCE) has been detected at a concentration exceeding MCLs both quarterly sampling events. The TCE concentration increased from 99.2 ug/l to 642 ug/l during this monitoring event.

MW-70 This was the second time the monitoring well has been sampled. Of the six volatile organic compounds that were detected at concentrations exceeding MCLs during the Y2Q1 event, three dropped below MCLs for the Y2Q2 and three decreased by at least one order of magnitude. The Trans-1,2-DCE concentration (149 ug/l to 12 ug/l), Cis-1,2-DCE concentration (522 ug/l to 54.8 ug/l) and the 1,2-TCA concentration (39.7 ug/l to 3.93 ug/l) decreased to below MCLs during this sampling event. The PCE concentration decreased from 89.7 ug/l to 5.35 ug/l and the vinyl chloride (VC) concentration decreased from 1.88 ug/l to <1.0 ug/l. The TCE concentration decreased substantially from 11,700 ug/l to 720 ug/l. Although sample collection was different for this event (Section 2.2), results from the two depth intervals did not demonstrate a significant difference in organic compound concentrations. Concentrations in the top interval were slightly lower than those in the bottom interval. Both samples, however, had significantly lower organic compound concentrations than the previous sampling event (Y2Q1).

MW-71 This was the second time the monitoring well has been sampled. Two volatile organic compounds were detected at concentrations exceeding MCLs during this quarterly sampling event. The PCE concentration (10.0 ug/l to 4.54 ug/l) decreased to below MCLs during this monitoring period. The CT concentration decreased from 53.9 ug/l to 34.0 ug/l

and the TCE concentration decreased from 330 ug/l to 239 ug/l during this monitoring period.

3.3 QA/QC Results

Quality control samples and results are presented in *Table 4* for the Y2Q2 sampling event. A data evaluation was conducted for the quarterly sampling event. A data evaluation was conducted for the March-00 and April-00 monthly sampling events. A copy of the complete data evaluation and results is provided in *Appendix D*.

3.3.1 Y2Q2 Samples

The four samples taken in duplicate were RW-09, RW-02, MW-69, and MW-51. The duplicates were analyzed for the same tests as the original samples. The following table lists the duplicate relative percent difference (RPD) calculations. A blank space indicates that compound was not found in the sample or it's duplicate. "NC" indicates the RPD could not be calculated due to a positive result in a sample but not it's duplicate.

Analyte	RW-09	RW-02	MW-69	MW-51
Carbon Tetrachloride	7	9	16	
Chloroform	2	8	9	
1,1-Dichloroethane	3			
1,1-Dichloroethene	2			1
Trans-1,2-Dichloroethene	0	11	13	
Tetrachloroethene	0	13	8	NC
1,1,1-Trichloroethane	3			
Trichloroethene	1	7	37	2
Cis-1,2-Dichloroethene	3	9	10	

The acceptance criteria used for field duplicates was <20% (Reference SW-846 Test Methods for Evaluating Solid Waste). Trichlorethene, in MW-69 and its duplicate, was the only compound yielding a RPD above the acceptance limit.

3.3.2 Monthly Effluent Samples

A duplicate sample (ST-INF-022) taken in March 2000 was analyzed for the same tests as the original sample (ST-EFF-022). The following table lists the duplicate RPD calculations. A blank space indicates that compound was not found in the sample or it's duplicate. "NC" indicates the RPD could not be calculated due to a positive result in a sample but not it's duplicate.

Analyte	022 RPD	Analyte	022 RPD
Volatile Organics		Wet-Chemistry	
Carbon Tetrachloride	4	pH	5
Chloroform	7	Metals	
1,1-Dichloroethane	NC	Barium	2
1,1-Dichloroethene	5	Calcium	0
Trans-1,2-Dichloroethene	2	Iron	137
1,1,2,2-Tetrachloroethane	8	Potassium	5
Tetrachloroethene	5	Magnesium	2
Toluene	NC	Manganese	0
1,1,1-Trichloroethane	NC	Sodium	5
1,1,2-Trichloroethene	38	Zinc	7
Trichloroethene	5		
Cis-1,2-Dichloroethene	1		

The acceptance criteria used for field duplicates was <20% for organic compounds and <30% for metal analytes (reference SW-846 Test Methods for Evaluating Solid Waste and 60094111 Methods for the Determination of Metals in Environmental Samples). There were no detectable concentrations of semi-volatile compounds in the effluent sample. There was one significant difference in the volatile results for sample ST-EFF-022 and it's duplicate found in 1,1,2-trichloroethene. All other volatile's duplicate recoveries yielded acceptable RPDs. Iron yielded a high RPD and was flagged as having quality control recoveries outside acceptance range.

4.0 CONCLUSIONS

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

4.1 Summary of Monitoring Results

- In general, groundwater elevations decreased <0.5 feet from the previous quarter in monitoring wells sampled with the exception of MW-14, MW-44, MW-51 and MW-54. These wells displayed a decrease in groundwater elevation of 0.59 ft, 0.60 ft, 1.9 ft and 0.65 ft respectively.
- The groundwater flow during this quarter is to the southwest.
- The development of a hydraulic barrier to offsite contaminant migration appears in the northern portion of the extraction system. The groundwater capture zones around RW-09, RW-08, RW-07 and RW-06 have (in previous quarters) indicated the presence of a hydraulic barrier that continues through this Y2Q2 period. Historically, this capture zone has extended to RW-05 during full system operation. The development of a hydraulic barrier from RW-05 extending south to RW-03 can not be demonstrated due to the lack of close proximity monitoring wells.
- Since system startup, the overall flow direction has remained unchanged. The hydraulic gradient across the middle of the site has increased slightly from 0.045 ft/ft in Nov-99 to 0.06 ft/ft in May-00.
- Effluent discharge limits to the POTW were not exceeded during this monitoring period.
- A groundwater sample from MW-68 was collected this period; completing the suit of quarterly groundwater well samples identified in the Updated O&M. A sample was not collected from RW-05 because this station was not operable for this event. A sample was not collected from MW-67 because the purge pump became lodged in the well, above groundwater, which prohibited sample collection from the required depth.
- A groundwater sample was collected at two different depth intervals for MW-70. No significantly different vertical distribution of contaminants was determined.

- Periods of downtime this quarter have been identified for the following wells:
 - ✓ RW-03 – downtime period was due to a manual shut down initiated by a miscalibrated discharge flow meter. This condition has been corrected and the well is currently on line.
 - ✓ RW-04 - downtime periods are occurring due to low groundwater level conditions. The station may be able to be tuned to pump continuously through this condition during the scheduled Instrumentation and Calibration visit scheduled for the week of 7-August-2000.
 - ✓ RW-05 - downtime period has been caused by a malfunctioned flow control valve. The valve is being replaced and is scheduled to be installed before the week of 7-August-2000.
 - ✓ RW-08 downtime was caused by an unrecognized system shutdown. This was a one time event and the pump is currently fully operational.

5.0 RECOMMENDATIONS FOR FUTURE SAMPLING

The monitoring and sampling scope as described in Section 2.0 should be continued for year two, quarter three. Because of increasing VOC concentrations observed in MW-32, IT recommends adding the adjacent deeper MW-37 to the sampling scope to evaluate the vertical extent of contamination at that location.

TABLE 1
Summary of Analytical Results for Total Effluent (through May 2000)
of the Groundwater Recovery System
Dunn Field, Memphis Depot, Tennessee

Sample Identification Number	ST-EFF-01	ST-EFF-02*	ST-EFF-03	ST-EFF-04	ST-EFF-04A (Duplicate)	ST-EFF-05	ST-EFF-06	City of Memphis Industrial Wastewater Discharge Max. Levels
Laboratory ID No.	9810819-01	9810819-01	9811283-01	9811479-01	9811479-04	9811708-01	9812045-01	
Total System Effluent Sample Description	Week 1 of System Startup Testing	Week 2 of System Startup Testing	Week 1 of System Operation (O&M)	Week 2 of System Operation (O&M)	Week 3 of System Operation (O&M)	Week 3 of System Operation (O&M)	Week 4 of System Operation (O&M)	
Date Effluent Sample Collected	19-Oct-98	26-Oct-98	09-Nov-98	16-Nov-98	23-Nov-98	30-Nov-98		
Instantaneous Flow Rate	230 GPM/331,200 GPD	155* GPM/223,200 GPD	196 GPM/286,500 GPD	169.8 GPM/244,512 GPD	158.8 GPM/228,072 GPD	145.0 GPM/208,800 GPD		
Totalized Flow	1,382,400 GAL	3,408,480 GAL	5,976,549 GAL	7,748,880 GAL	9,343,370 GAL	10,909,840 GAL		
LABORATORY ANALYSE	DL	Units	5.6	5.9	5.8	5.6	5.8	Monthly Ave./One Day Max
pH (Method 150.1)	ND	ND	ND	ND	ND	ND	ND	5.5 to 10.0
TAL Metals (EPA 200 Series)	0.06	mg/L	0.06	mg/L	0.06	mg/L	0.06	mg/L
Aluminum (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	1/2
Arsenic (Method 206.2)	ND	ND	ND	ND	ND	ND	ND	0.04/0.1
Barium (Method 200.7)	0.104	0.107	0.109	0.118	0.117	0.112	0.124	NS
Cadmium (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	0.01/0.02
Calcium (Method 200.7)	23	21.6	24.7	25.3	25	24.8	26.5	NS
Chromium (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	0.2/0.4
Copper (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	0.2/0.4
Iron (Method 200.7)	0.07	0.046	0.022	0.019	0.019	0.036	0.01	10/20
Lead (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	0.15/0.3
Magnesium (Method 200.7)	11.7	11.3	12.6	13	12.8	12.5	13	NS
Manganese (Method 200.7)	ND	ND	ND	0.015	0.015	0.014	0.048	NS
Mercury (Method 245.1)	ND	ND	ND	ND	ND	ND	ND	0.001/0.002
Nickel (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	0.1/0.3
Potassium (Method 200.7)	0.816	0.781	0.883	0.875	1.15	0.9	0.703	NS
Sodium (Method 200.7)	27.8	28.3	27.7	27.9	28.7	28.6	28.1	NS
Zinc (Method 200.7)	0.047	0.128	0.095	0.098	0.095	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	3.38	4.07	3.22	20/40
Chloroform	13.8	12.8	14.9	18.1	20.9	20.6	16.4	20/40
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	NS
1,1-Dichloroethane	11.8	5.42	9.99	13.9	15.6	20.3	14.6	50/100
Cis 1,2-Dichloroethene	29.2	43.8	30	33.3	36.8	37.3	32.8	50/100
Trans 1,2-Dichloroethene	5.96	9.27	6.88	7.47	7.92	8.42	7.47	50/100
Methylene Chloride	ND	ND	ND	ND	ND	ND	ND	10/20
1,1,2,2-Tetrachloroethane	87.1	159	234	234	257	272	176	500/1000
Tetrachloroethene	25.7	22.6	28.9	30	28.7	34.4	25.6	80/120
Toluene	ND	ND	ND	ND	ND	ND	ND	20/40
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	1	ND	10/20
1,1,2-Trichloroethane	1.81	2.82	1.59	1.46	1.5	1.3	1.1	50/100
Trichloroethene	108	226	195	225	220	217	180	400/800
TCL Semi-Volatile Organics (Method 8270C)								ug/L
Bis(2-ethylhexyl)phthalate	ND	23.68	ND	ND	ND	268	ND	10/20
Di-n-butyl phthalate	91.2	2.5J	ND	ND	ND	ND	ND	30/60
Naphthalene	ND	ND	ND	ND	ND	ND	ND	10/20
Phenol	ND	ND	ND	ND	ND	ND	ND	10/20

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

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

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

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

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

NS = no standard listed in the Industrial Wastewater Discharge Agreement

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

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

ND = not detected

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

ug/L = micrograms per liter

mg/L = milligrams per liter

DL = detection limit

GPD = gallons per day

A = Effluent meter started out 03-Nov-99

TABLE 1
Summary of Analytical Results for Total Effluent (through May 2000)
of the Groundwater Recovery System
Dunn Field, Memphis Depot, Tennessee

Sample Identification Number	ST-EFF-07*	ST-EFF-07A* (Duplicate)	ST-EFF-08	ST-EFF-09	ST-EFF-HQ-09A	ST-EFF-HQ-05 (Duplicate)	ST-EFF-HQ-09B	ST-EFF-HQ-09C	City of Memphis Industrial Wastewater Discharge Max Levels
Laboratory ID No.	9812784-01	9812784-02	9801685-01	9802702-01	9802702-01	9802702-02	9802755-01	9802755-01	
Total System Effluent Sample Description	Week 17 of System Operation (O&M)								
Date Effluent Sample Collected	18-Dec-98	22-Feb-99	23-Feb-99	24-Feb-99	25-Feb-99				
Instantaneous Flow Rate	98.4 GPM/141,888 GPD	108.1 GPM/155,864 GPD	80.7 GPM/118,208 GPD	79.2 GPM/114,048 GPD	104.2 GPM/150,048 GPD				
Totalized Flow	14,448,100 GAL	20,527,972 GAL	24,865,250 GAL	24,817,070 GAL	25,017,530 GAL				
LABORATORY ANALYSE	DL	Units	5.8	5.9	6.1	6.5	6.1	6.5	Monthly Ave / One Day Max
pH (Method 150.1)	-	SU							5.5 to 10.0
TAL Metals (EPA 200 Series)									
Aluminum (Method 200.7)	0.06	mg/L	ND	ND	ND	ND	ND	ND	mg/L
Arsenic (Method 208.2)	0.003	mg/L	ND	ND	ND	ND	ND	ND	1/2
Berium (Method 200.7)	0.003	mg/L	0.114	0.118	0.109	0.119	0.109	0.109	0.04/0.1
Cadmium (Method 200.7)	0.005	mg/L	ND	ND	ND	ND	ND	ND	NS
Calcium (Method 200.7)	0.015	mg/L	25.2	26.3	23.1	27.1	23.1	23.1	0.01/0.02
Chromium (Method 200.7)	0.008	mg/L	ND	ND	ND	ND	ND	ND	NS
Copper (Method 200.7)	0.008	mg/L	ND	ND	ND	ND	ND	ND	0.2/0.4
Iron (Method 200.7)	0.008	mg/L	0.020	0.014	0.044	0.044	0.151	0.151	0.2/0.4
Lead (Method 200.7)	0.06	mg/L	ND	ND	ND	ND	ND	ND	0.2/0.4
Magnesium (Method 200.7)	0.04	mg/L	11.9	12.4	12.5	12.5	11.3	11.3	10/20
Manganese (Method 200.7)	0.003	mg/L	0.097	0.101	0.175	0.175	0.049	0.049	0.15/0.3
Mercury (Method 245.1)	0.0002	mg/L	ND	ND	ND	ND	ND	ND	NS
Nickel (Method 200.7)	0.02	mg/L	ND	ND	ND	ND	ND	ND	NS
Potassium (Method 200.7)	0.25	mg/L	0.808	0.818	0.927	0.927	0.951	0.951	0.001/0.002
Sodium (Method 200.7)	0.05	mg/L	25.3	26.8	26.5	26.5	24.1	24.1	0.1/0.3
Zinc (Method 200.7)	0.01	mg/L	0.115	0.081	0.048	0.048	0.065	0.065	NS
TCL Volatile Organics (Method 8260B)									0.3/1.0
Carbon Tetrachloride	1	ug/L	4.50	4.72	2.32	2.32	2.53	2.53	ug/L
Chloroform	1	ug/L	10.1	10.3	9.95	9.95	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	5.36	13.3	13.3	19.5	19.5	NS
Cis 1,2-Dichloroethane	1	ug/L	43.4	48.7	34	34	38.2	38.2	50/100
Trans 1,2-Dichloroethane	1	ug/L	9.78	10.4	7.65	7.65	11	11	50/100
Methylene Chloride	1	ug/L	ND	ND	ND	ND	ND	ND	50/100
1,1,2,2-Tetrachloroethane	1/50/100	ug/L	175	189	80.1	80.1	46.8	46.8	500/1000
Tetrachloroethene	1	ug/L	11.8	13.4	17.9	17.9	16.5	16.5	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	10/20
1,1,2-Trichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	10/20
Trichloroethene	1/50/100	ug/L	163	186	116	116	144	144	50/100
TCL Semi-Volatile Organics (Method 8270C)									400/800
Bis(2-ethylhexyl)phthalate	10	ug/L	11.9	11.8	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 5.1 of Industrial Wastewater Discharge Agreement.

* = Recovery well RW-08 was not in operation at the time of sample collection
 ** = Recovery well RW-08 was not in operation at the time of sample collection
 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 range
 ND = not detected
 mg/L = milligrams per liter
 DL = detection limit
 GPD = gallons per day
 A/Effluent meter started out 03-Nov-99

B = analysis detected in associated method and/or equipment limit
 ug/L = micrograms per liter
 GPM = gallons per minute
 91.2 = bold number indicates that value exceeds Discharge Max. Levels

TABLE 1
Summary of Analytical Results for Total Effluent (through May 2000)
of the Groundwater Recovery System
Dunn Field, Memphis Depot, Tennessee

Sample Identification Number	ST-EFF-10	ST-EFF-11	ST-EFF-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.	9904750-01	9904750-02	9904750-01	9904750-01	9904750-01	9904750-01	9904750-02	
Total System Effluent Sample Description	Week 21 of System Operation (Q&M)	Week 28 of System Operation (Q&M)	Week 28 of System Operation (Q&M)	Week 30 of System Operation (Q&M)	Week 33 of System Operation (Q&M)	Week 38 of System Operation (Q&M)	Week 38 of System Operation (Q&M)	
Date Effluent Sample Collected	26-Mar-99	27-Apr-99	24-May-99	30-Jun-99	21-Jul-99	21-Jul-99	21-Jul-99	
Instantaneous Flow Rate	94.3 GPM/135,792 GPD	105.3 GPM/151,432 GPD	87.9 GPM/126,576 GPD	81.3 GPM/117,072 GPD	80.9 GPM/116,496 GPD	80.9 GPM/116,496 GPD	80.9 GPM/116,496 GPD	581,800 GPD
Totalized Flow	28,904,822 GAL	32,187,200 GAL	38,220,118 GAL	40,550,862 GAL	42,647,212 GAL	42,647,212 GAL	42,647,212 GAL	581,800 GPD
LABORATORY ANALYSIS	DL	Units	DL	Units	DL	Units	DL	Units
pH (Method 150.1)	5.7	8.6	6.2	8.0	5.9	5.8	5.9	5.5 to 10.0
TAL Metals (EPA 200 Series)								mg/L
Aluminum (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	1/2
Arsenic (Method 206.2)	ND	ND	ND	ND	ND	ND	ND	0.04/0.1
Barium (Method 200.7)	0.108	0.108	0.114	0.11	0.107	0.101	0.099	NS
Cadmium (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	0.01/0.02
Calcium (Method 200.7)	22.7	23	22.8	23.1	21.4	21	21.2	NS
Chromium (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	0.2/0.4
Copper (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	0.2/0.4
Iron (Method 200.7)	0.034	0.025	0.034	0.012	0.016	0.018	0.011	10/20
Lead (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	0.15/0.3
Magnesium (Method 200.7)	11.3	11.6	11.7	11.4	10.5	10.8	10.6	NS
Manganese (Method 200.7)	0.04	0.029	0.03	0.031	0.027	0.014	0.059	NS
Mercury (Method 245.1)	ND	ND	ND	ND	ND	ND	ND	0.001/0.002
Nickel (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	0.1/0.3
Potassium (Method 200.7)	0.881	0.728	0.859	0.844	0.767	0.835	0.808	NS
Sodium (Method 200.7)	23.8	22.9	24.1	24.2	23.8	22.8	22.4	NS
Zinc (Method 200.7)	0.089	0.04	0.045	0.047	0.026	0.028	0.03	0.3/1.0
TCL Volatile Organics (Method 8260B)								ug/L
Carbon Tetrachloride	2.17	1.47	1.61	2.25	2.29	1.48	1.29	20/40
Chloroform	5.59	6.63	7.15	4.54	9.3	8.48	7.93	20/40
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	NS
1,1-Dichloroethene	13.9	11.8	11.8	16.2	17.8	14.2	13.4	50/100
Cis 1,2-Dichloroethene	37	37	37.2	42.8	48.3	34.1	32.5	50/100
Trans 1,2-Dichloroethene	10.8	9.77	9.7	12.0	13.7	10.1	9.66	50/100
Methylene Chloride	29.3	38.9	39.2	58.1	78.4	65.1	59.8	500/1000
1,1,2,2-Tetrachloroethane	16.7	12.9	13.6	19.1	17	14.6	13.3	60/120
Toluene	ND	ND	ND	ND	1.58	1	ND	20/40
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	10/20
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	50/100
Trichloroethene	116	116	117	150	183	117	110	400/800
TCL Semi-Volatile Organics (Method 8270C)								ug/L
Bis(2-ethylhexyl)phthalate	24.4B	ND	14.1B	13.8B	ND	ND	ND	10/20
Di-n-butyl phthalate	ND	ND	ND	ND	ND	ND	ND	30/60
Naphthalene	ND	ND	ND	ND	ND	ND	ND	10/20
Phenol	ND	ND	ND	ND	ND	ND	ND	10/20

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

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

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

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

† = Recovery well RWA-02 was not in operation at the time of sample collection.

NS = no detectable level 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 recovery outside acceptance range.

ND = not detected.

mg/L = milligrams per liter.

DL = detection limit.

GPD = gallons per day.

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

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

ug/L = micrograms per liter.

GPM = gallons per minute.

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

TABLE 1
Summary of Analytical Results for Total Effluent (through May 2000)
of the Groundwater Recovery System
Dunn Field, Memphis Depot, Tennessee

Sample Identification Number	ST-EFF-15	ST-EFF-16	ST-EFF-17	ST-EFF-018	ST-EFF-116 (Duplicate)	ST-EFF-019	ST-EFF-117 (Duplicate)	City of Memphis
Laboratory ID No.	9908593-02	9908593-01	9910519-01	9911451-01	9911451-02	9912489-01	9912489-02	Industrial Wastewater
Total System Effluent Sample Description	Week 43 of System Operation (O&M)	Week 47 of System Operation (O&M)	Week 51 of System Operation (O&M)	Week 55 of System Operation (O&M)	Week 56 of System Operation (O&M)	Week 59 of System Operation (O&M)		
Date Effluent Sample Collected	23-Aug-99	22-Sep-99	21-Oct-99	18-Nov-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	76.2 GPM / 109,728 GPD	71.5 GPM / 102,890 GPD			961,800 GPD
Totalized Flow	46,332,590 GAL	49,474,353 GAL	52,388,107 GAL	55,040,182 GAL	57,672,540 GAL			
LABORATORY ANALYSE								Monthly Ave / One Day Max.
pH (Method 150.1)	5.7	5.7	5.7	6.1	5.7	5.9	5.7	5.5 to 10.0
TAL Metals (EPA 200 Series)								mg/L
Aluminum (Method 200.7)	0.07	ND	ND	ND	ND	ND	ND	1/2
Arsenic (Method 208.2)	ND	ND	ND	ND	ND	ND	ND	0.04 / 0.1
Barium (Method 200.7)	0.089	0.1	0.099	0.1	0.101	0.099	0.097	NS
Cadmium (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	0.01 / 0.02
Calcium (Method 200.7)	21.1	20.8	20.8	21.1	21.3	20.1	19.8	NS
Chromium (Method 200.7)	ND	ND	ND	ND	ND	ND	ND	0.2 / 0.4
Copper (Method 200.7)	ND	ND	ND	0.011	ND	ND	ND	0.2 / 0.4
Iron (Method 200.7)	0.1	0.093	0.018	0.025	0.034	0.019	0.015	10 / 20
Lead (Method 200.7)	0.06	ND	ND	ND	ND	ND	ND	0.15 / 0.3
Magnesium (Method 200.7)	10.6	10.6	10.7	10.5	10.6	10.3	10.2	NS
Manganese (Method 200.7)	0.028	0.028	0.020	0.022	0.022	0.007	0.007	NS
Mercury (Method 245.1)	ND	ND	ND	ND	ND	ND	ND	0.001 / 0.002
Nickel (Method 200.7)	ND	ND	ND	0.086	ND	ND	ND	0.1 / 0.3
Potassium (Method 200.7)	0.798	0.852	0.926	1.16	0.92	0.84	0.704	NS
Sodium (Method 200.7)	24.6	22.2	23.0	22.6	22.4	23.1	21.6	NS
Zinc (Method 200.7)	0.033	0.043	0.028	0.07	0.055	0.047	0.045	0.3 / 1.0
TCL Volatile Organics (Method 8260B)								ug/L
Carbon Tetrachloride	1.21	1.18	2.22	1.77	1.89	1.18	0.18J	20 / 40
Chloroform	9.38	9.76	6.30	7.41	7.49	8.81	6.4	20 / 40
1,1-Dichloroethane	1	ND	ND	ND	ND	ND	NS	NS
1,1-Dichloroethene	17	18	16.8	16.6	16.7	15.7	10.2	50 / 100
Cis 1,2-Dichloroethane	47.1	60.2	44.1	48.8	49.4	47	32.5	50 / 100
Trans 1,2-Dichloroethane	14.8	14.9	13.0	12.7	13.0	12.6	8.4	50 / 100
Methylene Chloride	11.8B	12.8B	14.5	12.7	ND	ND	ND	10 / 20
1,1,2,2-Tetrachloroethane	137	131	183	120	118	137	144	500 / 1000
Tetrachloroethene	19.8	18.6	19.2	17.9	17.6	19.1	14.2	60 / 120
Toluene	ND	ND	ND	ND	ND	ND	ND	20 / 40
1,1,1-Trichloroethane	1	ND	ND	ND	ND	0.81J	0.43J	10 / 20
1,1,2-Trichloroethane	1	ND	ND	ND	ND	0.88J	ND	50 / 100
Trichloroethene	207	216	208	177	181	174	134	400 / 800
TCL Semi-Volatile Organics (Method 8270C)								ug/L
Bis(2-ethylhexyl)phthalate	10	ND	ND	ND	ND	ND	13.7B	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

ND = not detected

NS = Recovery well RWH-09 was not in operation at the time of sample collection

NS = Recovery well RWH-09 was not in operation at the time of sample collection

NS = Recovery well RWH-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

J = estimated value - quality control recoveries outside acceptance ranges

ND = not detected

mg/L = milligrams per liter

DL = detection limit

GPD = gallons per day

Effluent meter served out 03-Nov-99

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

ug/L = micrograms per liter

GPM = gallons per minute

91.3 = bold number indicates that value exceeds Discharge Limit Levels

TABLE 1
Summary of Analytical Results for Total Effluent (through May 2000)
of the Groundwater Recovery System
Dunn Field, Memphis Depot, Tennessee

Sample Identification Number	ST-EFF-020	ST-EFF-021	ST-EFF-121 (Duplicate)	ST-EFF-022	ST-INF-022 (Duplicate)	ST-EFF-023	ST-EFF-024	EQB-024	City of Memphis Industrial Wastewater
Laboratory ID No.	0001169-01	0002422-01	0002422-02	0003418-01	0003418-02	0004398-01	0005400-01	0005400-02	
Total System Effluent Sample Description	Week 63 of System Operation (O&M)	Week 68 of System Operation (O&M)	Week 68 of System Operation (O&M)	Week 72 of System Operation (O&M)	Week 72 of System Operation (O&M)	Week 78 of System Operation (O&M)	Week 80 of System Operation (O&M)	Week 80 of System Operation (O&M)	
Date Effluent Sample Collected	10-Jan-00	15-Feb-00	15-Feb-00	15-Mar-00	15-Mar-00	14-Apr-00	16-May-00	16-May-00	
Instantaneous Flow Rate	74.5 GPM/93,450 GPD	70.5 GPM/101,664 GPD	70.5 GPM/101,664 GPD	57.1 GPM/82,224 GPD	57.1 GPM/82,224 GPD	57.1 GPM/82,224 GPD	52.1 GPM/75,024 GPD	52.1 GPM/75,024 GPD	961,800 GPD
Totalized Flow	59,848,612 GAL	62,926,034 GAL	62,926,034 GAL	65,383,409 GAL	65,383,409 GAL	67,775,983 GAL	70,137,871 GAL	70,137,871 GAL	
LABORATORY ANALYSE	DL	Units	DL	Units	DL	Units	DL	Units	Monthly Ave / One Day Max
PH Metals (EPA 200 Series)									
Aluminum (Method 200.7)	0.08	mg/L	ND	ND	ND	ND	ND	ND	mg/L
Arsenic (Method 200.2)	0.003	mg/L	ND	ND	ND	ND	ND	ND	1/2
Barium (Method 200.7)	0.003	mg/L	0.108	0.108	0.104	0.111	ND	ND	0.04/0.1
Cadmium (Method 200.7)	0.005	mg/L	ND	ND	ND	ND	ND	ND	NS
Calcium (Method 200.7)	0.015	mg/L	21.0	21.6	21.88	21.18	21.4	20.8	0.01/0.02
Chromium (Method 200.7)	0.008	mg/L	ND	ND	ND	ND	ND	ND	NS
Copper (Method 200.7)	0.008	mg/L	ND	ND	ND	ND	ND	ND	0.2/0.4
Iron (Method 200.7)	0.008	mg/L	0.114	0.038	0.029J*	0.048	ND	0.032	0.2/0.4
Lead (Method 200.7)	0.08	mg/L	ND	ND	ND	ND	ND	ND	10/20
Magnesium (Method 200.7)	0.04	mg/L	10.8	11.3	11	10.9	11.4	11	0.15/0.3
Manganese (Method 200.7)	0.003	mg/L	0.025	0.025	0.015	0.019	ND	ND	NS
Mercury (Method 245.1)	0.0002	mg/L	ND	ND	ND	ND	ND	ND	NS
Nickel (Method 200.7)	0.02	mg/L	ND	ND	ND	ND	ND	ND	0.001/0.002
Potassium (Method 200.7)	0.25	mg/L	0.816	0.874	0.852	0.826	0.681	0.892	0.1/0.3
Sodium (Method 200.7)	0.05	mg/L	22.7	23.5	24.8	22.9	23.3	22.3	NS
Zinc (Method 200.7)	0.01	mg/L	0.308	0.053	0.04	0.052	0.045	0.038	NS
TCL Volatile Organics (Method 8200B)									
Carbon Tetrachloride	1	ug/L	1.71	1.87	1.56	1.83	0.87	ND	ug/L
Chloroform	1	ug/L	6.51	6.58	7.76	7.80	7.59	7.78	20/40
1,1-Dichloroethane	1	ug/L	ND	ND	ND	0.47J	ND	ND	NS
1,1-Dichloroethene	1	ug/L	13.8	14.1	12.8	ND	14.8	15.6	50/100
Cis 1,2-Dichloroethene	1	ug/L	43.8	43.7	42.6	61.5	50.9	52.4	50/100
Trans 1,2-Dichloroethene	1	ug/L	13.4	12.0	13.2	14.9	15.8	16.3	50/100
Methylene Chloride	5	ug/L	ND	ND	ND	ND	ND	ND	10/20
1,1,2,2-Tetrachloroethane	1500/100	ug/L	177	189	47.5	54.7	51	51.3	500/1000
Tetrachloroethene	1	ug/L	14.8J*	15.3J*	17.2	18	15.2	15.9	80/120
Toluene	1	ug/L	ND	ND	ND	1.53J	ND	ND	20/40
1,1,1-Trichloroethane	1	ug/L	0.48J	0.48J	0.52J	ND	ND	ND	10/20
1,1,2-Trichloroethane	1	ug/L	0.96J	0.75J	0.96J*	0.96J	ND	0.78	50/100
Trichloroethene	1500/100	ug/L	177	179	115	189	124	128	400/800
TCL Semi-Volatile Organics (Method 8270C)									
Bis(2-ethylhexyl)phthalate	10	ug/L	ND	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	10/20
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 RWN-06 was not in operation at the time of sample collection

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

† = Recovery well RWN-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

An Effluent meter around 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 Limit Levels

TABLE 2
Quarterly Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number		MW-14-Y2Q1	MW-14-Y2Q2	Maximum Contaminant Level (MCL)-Primary Drinking Water Standards	USEPA Region III RBCs - Tap Water (October 7, 1999)
Laboratory & Lab Sample ID No.		0002480-08	0005523-27		
Date Sample Collected		16-Feb-00	18-May-00		
pH		5.7	6.1		
Conductivity (umhos)		218	200		
Temperature (°C)		17.6	21.9		
Turbidity (ntu)		184	>999		
LABORATORY ANALYSES		DL	Units		
TCL Volatile Organics (Method 8260B)					
Bromodichloromethane	1/10/100	ND	ug/L	NS	0.17
Carbon Tetrachloride	1/10/100	ND	ug/L	5	0.16
Chlorobenzene	1/10/100	ND	ug/L	100	110
Chloroform	1/10/100	ND	ug/L	NS	0.15
1,1-Dichloroethane	1/10/100	ND	ug/L	NS	800
1,2-Dichloroethane	1/10/100	ND	ug/L	5	0.12
1,1-Dichloroethene	1/10/100	ND	ug/L	7	0.044
Trans-1,2-Dichloroethene	1/10/100	ND	ug/L	100	120
Cis-1,2-Dichloroethene	1/10/100	ND	ug/L	70	61
1,1,2,2-Tetrachloroethane	1/10/100	ND	ug/L	NS	0.053
1,1,2-Trichloroethane	1/10/100	ND	ug/L	5	1.1
Toluene	1/10/100	ND	ug/L	1000	750
1,1,1-Trichloroethane	1/10/100	ND	ug/L	200	540
1,1,2-Trichloroethane	1/10/100	ND	ug/L	5	0.19
Trichloroethene	1/10/100	ND	ug/L	5	1.6
Vinyl Chloride	1/10/100	ND	ug/L	2	0.019

Only compounds detected are listed

ug/L = milligrams 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

TABLE 2
Quarterly Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number		MW-15-Y1Q1	MW-15-Y1Q2	MW-15-Y1Q3	MW-15-Y1Q4	MW-15-Y2Q1	MW-15-Y2Q2	Maximum Contaminant Level (MCL)-Primary Drinking Water Standards	USEPA Region III RBCs - Tap Water (October 7, 1999)
Laboratory & Lab Sample ID No.	Date Sample Collected	9902125-12 03-Feb-99	9905638-01 24-May-99	9908141-10 27-Aug-99	9911147-12 03-Nov-99	0002423-015 15-Feb-00	0005523-05 17-May-00		
pH		4.6	4.6	7.6	5.8	5.8	5.9		
Conductivity (umhos)		208	196	157	204	240	245		
Temperature (°C)		NA	17.9	20	17.1	17.8	18.8		
Turbidity (ntu)		NA	10	221	8.71	16.3	>999		
LABORATORY ANALYSES		DL		Units					
TCL Volatile Organics (Method 8260B)									
Bromodichloromethane	1/10/100			ug/L					
Carbon Tetrachloride	1/10/100			ug/L					
Chlorobenzene	1/10/100			ug/L					
Chloroform	1/10/100			ug/L					
1,1-Dichloroethane	1/10/100			ug/L					
1,2-Dichloroethane	1/10/100			ug/L					
1,1-Dichloroethene	1/10/100			ug/L					
Trans-1,2-Dichloroethene	1/10/100			ug/L					
Cis-1,2-Dichloroethene	1/10/100			ug/L					
1,1,2,2-Tetrachloroethane	1/10/100			ug/L					
Tetrachloroethene	1/10/100			ug/L					
Toluene	1/10/100			ug/L					
1,1,1-Trichloroethane	1/10/100			ug/L					
1,1,2-Trichloroethane	1/10/100			ug/L					
Trichloroethene	1/10/100			ug/L					
Vinyl Chloride	1/10/100			ug/L					

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.

TABLE 2
Quarterly Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number		MW-30-Y101	MW-30-Y102	MW-30-Y103	MW-30-Y104	MW-30-Y201	MW-30-Y202	Maximum Contaminant Level (MCL)-Primary Drinking Water Standards	USEPA Region III RBCs - Tap Water (October 7, 1999)
Laboratory & Lab Sample ID No.		9902125-04	9905638-10	9908741-02	9911147-02	0002423-02	0005523-12		
Date Sample Collected		02-Feb-99	24-May-99	26-Aug-99	02-Nov-99	15-Feb-00	16-May-00		
pH		6.1	5.4	7.4	5.7	6.3	6.3		
Conductivity (umhos)		NA	174	228	300	325	286		
Temperature (°C)		15.1	19.6	21.3	16.4	14.8	20.1		
Turbidity (ntu)		NA	>999	>999	8.52	>999	473		
LABORATORY ANALYSES		DL		Units					
TCL Volatile Organics (Method 8260B)									
Bromodichloromethane	1/10/100			ug/L		ND		NS	
Carbon Tetrachloride	1/10/100			ug/L		ND		5	
Chlorobenzene	1/10/100			ug/L		ND		100	
Chloroform	1/10/100			ug/L		ND		NS	
1,1-Dichloroethane	1/10/100			ug/L		ND		NS	
1,2-Dichloroethane	1/10/100			ug/L		ND		5	
1,1-Dichloroethene	1/10/100			ug/L		ND		7	
Trans-1,2-Dichloroethene	1/10/100			ug/L		ND		100	
Cis-1,2-Dichloroethene	1/10/100			ug/L		ND		70	
1,1,2,2-Tetrachloroethane	1/10/100			ug/L		ND		NS	
Tetrachloroethene	1/10/100			ug/L		ND		5	
Toluene	1/10/100			ug/L		ND		1000	
1,1,1-Trichloroethane	1/10/100			ug/L		ND		200	
1,1,2-Trichloroethane	1/10/100			ug/L		ND		5	
Trichloroethene	1/10/100			ug/L		ND		5	
Vinyl Chloride	1/10/100			ug/L		ND		2	

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.

TABLE 2
Quarterly Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number Laboratory & Lab Sample ID No.	MW-31-Y1Q1 9902125-11	MW-31-Y1Q2 9905638-16	MW-31-Y1Q3 9908741-08	MW-31-Y1Q4 9911147-09	MW-31-Y2Q1 002423-02	MW-31-Y2Q2 0005523-07	Maximum Contaminant Level (MCL)-Primary Drinking Water Standards	USEPA Region III RBCs - Tap Water (October 7, 1999)
Date Sample Collected	03-Feb-99	25-May-99	27-Aug-99	03-Nov-99	15-Feb-00	17-May-00		
pH	4.7	6.4	7.2	5.9	6.0	NP		
Conductivity (umhos)	376	262	275	256	236	NP		
Temperature (°C)	NA	18.1	19.2	17.9	17.5	NP		
Turbidity (ntu)	NA	7	244	9.74	182	NP		
LABORATORY ANALYSES								
TCL Volatile Organics (Method 8260B)								
Bromodichloromethane	1/10/100	ND	ND	ND	ND	<1.00	NS	0.17
Carbon Tetrachloride	1/10/100	1.51	0.59J	ND	ND	<1.00	5	0.16
Chlorobenzene	1/10/100	ND	ND	ND	ND	<1.00	100	110
Chloroform	1/10/100	7.22	1.86	0.92J	1.19	1.29	NS	0.15
1,1-Dichloroethane	1/10/100	ND	ND	ND	ND	<1.00	NS	800
1,2-Dichloroethane	1/10/100	ND	ND	ND	ND	<1.00	5	0.12
1,1-Dichloroethene	1/10/100	7.86	7.90	5.98	9.89	22.3	7	0.044
Trans-1,2-Dichloroethene	1/10/100	22.2	4.66	2.52	3.37	7.78	100	120
Cis-1,2-Dichloroethene	1/10/100	58.9	4.34	5.09	8.89	15.5	70	81
1,1,2,2-Tetrachloroethane	1/10/100	3.22	ND	ND	ND	<1.00	NS	0.053
Tetrachloroethene	1/10/100	4.25	1.31	0.90J	0.84J	1.18	5	1.1
Toluene	1/10/100	ND	ND	ND	ND	<1.00	1000	750
1,1,1-Trichloroethane	1/10/100	1.26	ND	ND	ND	<1.00	200	540
1,1,2-Trichloroethane	1/10/100	ND	ND	ND	ND	<1.00	5	0.19
Trichloroethene	1/10/100	140	23.9	18.0	25.6	49.6	5	1.6
Vinyl Chloride	1/10/100	ND	ND	ND	ND	<1.00	2	0.019

Only compounds detected are listed

ug/L = micrograms per liter

DL = detection limit

TCL = Target Compound List

BCL = 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

TABLE 2
Quarterly Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number Laboratory & Lab Sample ID No.	MW-32-Y101 9902125-09 03-Feb-99	MW-32-Y1Q2 9905638-14 25-May-99	MW-32-Y1Q3 9908741-06 26-Aug-99	MW-32-Y1Q4 9911147-10 03-Nov-99	MW-32-Y2Q1 0002423-07 15-Feb-00	MW-32-Y2Q2 0005623-18 16-May-00	Maximum Contaminant Level (MCL)-Primary Drinking Water Standards	USEPA Region III RBCs - Tap Water (October 7, 1999)
Date Sample Collected	03-Feb-99	25-May-99	26-Aug-99	03-Nov-99	15-Feb-00	16-May-00		
pH	5.8	6.2	7.4	6.0	6.5	6.0		
Conductivity (umhos)	432	283	224	NA	278	310		
Temperature (°C)	NA	18.2	20.5	16.8	17.1	20		
Turbidity (ntu)	NA	0	>999	9.75	>999	>999		
LABORATORY ANALYSES								
TCL Volatile Organics (Method 8260B)	Units							
Bromochloromethane	1/10/100	ND	ND	ND	ND	<1.00	NS	0.17
Carbon Tetrachloride	1/10/100	25.2	14.2	17.3	25.2	37.0	5	0.16
Chlorobenzene	1/10/100	ND	ND	ND	ND	<1.00	100	110
Chloroform	1/10/100	7.89	32.2	76.9	77.2	117	NS	0.15
1,1-Dichloroethane	1/10/100	ND	ND	ND	ND	<1.00	NS	800
1,2-Dichloroethane	1/10/100	ND	ND	ND	ND	<1.00	5	0.12
1,1,1-Trichloroethane	1/10/100	ND	ND	ND	ND	<1.00	7	0.044
Trans-1,2-Dichloroethane	1/10/100	3.82	1.76	0.99J	1.12	2.00	100	120
Cis-1,2-Dichloroethane	1/10/100	30.5	16.7	4.64	5.07	6.61	70	61
1,1,2,2-Tetrachloroethane	1/10/100	5.67	4.42	0.92J	ND	<1.00	NS	0.053
Toluene	1/10/100	1.16	1.28	2.22	2.34	3.94	5	1.1
1,1,1-Trichloroethane	1/10/100	ND	ND	ND	ND	<1.00	1000	750
1,1,2-Trichloroethane	1/10/100	1.54	ND	ND	ND	<1.00	200	540
Trichloroethane	1/10/100	31.9	28.1	34.6	36.8	<1.00	5	0.19
Vinyl Chloride	1/10/100	ND	ND	ND	41.8	66.2	5	1.6
					ND	<1.00	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

TABLE 2
Quarterly Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number		MW-33-Y1Q1	MW-33-Y1Q2	MW-33-Y1Q3	MW-33-Y1Q4	MW-33-Y2Q1	MW-33-Y2Q2	Maximum Contaminant Level (MCL)-Primary Drinking Water Standards	USEPA Region III RBCs - Tap Water (October 7, 1999)
Laboratory & Lab Sample ID No.		9902125-07	9905638-13	9908741-05	9911147-04	0002423-05	0005523-17		
Date Sample Collected		02-Feb-99	25-May-99	26-Aug-99	02-Nov-99	15-Feb-00	16-May-00		
pH		5.7	6.2	7.4	5.3	5.8	5.7		
Conductivity (umhos)		181	181	146	190	191	181		
Temperature (°C)		NA	18.6	20	16.2	17.6	19.9		
Turbidity (ntu)		NA	5	>999	8.77	224	>999		
LABORATORY ANALYSES		DL	Units						
TCL Volatile Organics (Method 8260B)									
Bromodichloromethane	1/10/100		ug/L	ND	ND	ND	<100	NS	0.17
Carbon Tetrachloride	1/10/100		ug/L	ND	ND	ND	<100	5	0.16
Chlorobenzene	1/10/100		ug/L	ND	ND	ND	<100	100	110
Chloroform	1/10/100		ug/L	ND	ND	ND	<100	NS	0.15
1,1-Dichloroethane	1/10/100		ug/L	ND	ND	ND	<100	NS	800
1,2-Dichloroethane	1/10/100		ug/L	ND	ND	ND	<100	5	0.12
1,1-Dichloroethene	1/10/100		ug/L	ND	ND	ND	<100	7	0.044
Trans-1,2-Dichloroethene	1/10/100		ug/L	ND	ND	ND	<100	100	120
Cis-1,2-Dichloroethene	1/10/100		ug/L	ND	ND	ND	<100	70	81
1,1,2,2-Tetrachloroethane	1/10/100		ug/L	ND	ND	ND	<100	NS	0.053
Tetrachloroethene	1/10/100		ug/L	ND	ND	ND	<100	5	1.1
Toluene	1/10/100		ug/L	ND	ND	ND	<100	1000	750
1,1,1-Trichloroethane	1/10/100		ug/L	ND	ND	ND	<100	200	540
1,1,2-Trichloroethane	1/10/100		ug/L	ND	ND	ND	<100	5	0.19
Trichloroethene	1/10/100		ug/L	ND	ND	ND	<100	5	1.6
Vinyl Chloride	1/10/100		ug/L	ND	ND	ND	<100	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

TABLE 2
Quarterly Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number Laboratory & Lab Sample ID No.	MW-34-Y1Q1	MW-34-Y1Q2	MW-34-Y1Q3	MW-34-Y1Q4	MW-34-Y2Q1	MW-34-Y2Q2	Maximum Contaminant Level (MCL)-Primary Drinking Water Standards	USEPA Region III RBCs - Tap Water (October 7, 1999)
	9902168-01	9905638-17	9908741-09	9911147-07	0002480-09	0005523-32		
Date Sample Collected	04-Feb-99	25-May-99	27-Aug-99	03-Nov-99	16-Feb-00	18-May-00		
pH	5.2	5.7	7.4	5.9	NA	5.9		
Conductivity (umhos)	184	185	148	169	NA	181.2		
Temperature (°C)	NA	18.8	20.1	17.6	NA	22.2		
Turbidity (ntu)	NA	4	451	7.48	NA	219		
LABORATORY ANALYSES								
TCL Volatile Organics (Method 8260B)								
Bromochloromethane	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	NS	0.17
Carbon Tetrachloride	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	5	0.16
Chlorobenzene	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	100	110
Chloroform	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	NS	0.15
1,1-Dichloroethane	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	NS	800
1,2-Dichloroethane	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	5	0.12
1,1,1-Trichloroethane	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	7	0.044
Trans-1,2-Dichloroethane	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	100	120
Cis-1,2-Dichloroethane	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	70	81
1,1,2,2-Tetrachloroethane	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	NS	0.053
Toluene	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	5	1.1
1,1,1-Trichloroethane	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	1000	750
1,1,2-Trichloroethane	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	200	540
Trichloroethane	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	5	0.19
Vinyl Chloride	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	1/10/100	5	1.6
							2	0.019

Only compounds detected are listed

ug/L = milligrams 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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was confirmed but less than the reported DL

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acceptance ranges.

TABLE 2
Quarterly Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number Laboratory & Lab Sample ID No.	Date Sample Collected	MW-40-Y1Q1 9902125-03 02-Feb-99	MW-40-Y1Q2 9905638-09 24-May-99	MW-40-Y1Q3 9908741-01 26-Aug-99	MW-40-Y1Q4 9911147-01 02-Nov-99	MW-40-Y2Q1 0002423-01 15-Feb-00	MW-40-Y2Q2 0005523-11 17-May-00	Maximum Contaminant Level (MCL)-Primary Drinking Water Standards	USEPA Region III RBCs - Tap Water (October 7, 1999)
		pH	Conductivity (umhos)	Temperature (°C)	Turbidity (ntu)				
		8.4	<1,000	7.4	6.3	6.5	6.3		
			413	641	775	857	855		
			21.2	24.2	22.2	16.3	19		
			51	78	9.17	8.57	30.7		
LABORATORY ANALYSES									
TCL Volatile Organics (Method 8260B)		DL		Units					
Bromodichloromethane	1/10/100			ug/L				NS	
Carbon Tetrachloride	1/10/100			ug/L				5	
Chlorobenzene	1/10/100			ug/L				100	
Chloroform	1/10/100			ug/L				NS	
1,1-Dichloroethane	1/10/100			ug/L				NS	
1,2-Dichloroethane	1/10/100			ug/L				5	
1,1-Dichloroethene	1/10/100			ug/L				7	
Trans-1,2-Dichloroethene	1/10/100			ug/L				100	
Cis-1,2-Dichloroethene	1/10/100			ug/L				70	
1,1,2,2-Tetrachloroethane	1/10/100			ug/L				NS	
Tetrachloroethene	1/10/100			ug/L				5	
Toluene	1/10/100			ug/L				1000	
1,1,1-Trichloroethane	1/10/100			ug/L				200	
1,1,2-Trichloroethane	1/10/100			ug/L				5	
Trichloroethene	1/10/100			ug/L				5	
Vinyl Chloride	1/10/100			ug/L				2	

Only compounds detected are listed

ug/L = micrograms per liter

DL = detection limit

TCL = Target Compound List

BDL = below detection limit

MCL = Maximum Contaminant Level - Primary Drinking Water Standards

RBCs = Risk Based Contaminants

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

J = estimated value - presence of the compound

was confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside

acceptance ranges

TABLE 2
Quarterly Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number		MW-44-Y1Q1	MW-44-Y1Q2	MW-44-Y1Q3	MW-44-Y1Q4	MW-44-Y2Q1	MW-44-Y2Q2	Maximum Contaminant Level (MCL)-Primary Drinking Water Standards	USEPA Region III RBCs - Tap Water (October 7, 1999)
Laboratory & Lab Sample ID No.		9902125-06	9905638-12	9908741-04	9911147-03	0002423-04	0005523-16		
Date Sample Collected		02-Feb-99	25-May-99	26-Aug-99	02-Nov-99	15-Feb-00	16-May-00		
pH		6.1	6.3	7.1	5.8	6.1	6.2		
Conductivity (umhos)		292	289	247	294	307	284		
Temperature (°C)		NA	18.3	20.4	18.0	17.2	22.1		
Turbidity (ntu)		NA	10	391	6.76	13.4	424		
DL		Units							
LABORATORY ANALYSES									
TCL Volatile Organics (Method 8260B)									
Bromodichloromethane	1/10/100	ug/L	ND	ND	ND	ND	<1.00	NS	0.17
Carbon Tetrachloride	1/10/100	ug/L	ND	ND	ND	ND	2.30	5	0.16
Chlorobenzene	1/10/100	ug/L	ND	ND	ND	ND	<1.00	100	110
Chloroform	1/10/100	ug/L	ND	ND	ND	ND	1.88	NS	0.15
1,1-Dichloroethane	1/10/100	ug/L	ND	ND	ND	ND	<1.00	5	800
1,2-Dichloroethane	1/10/100	ug/L	ND	ND	ND	ND	<1.00	NS	0.12
1,1-Dichloroethene	1/10/100	ug/L	ND	ND	ND	ND	<1.00	7	0.044
Trans-1,2-Dichloroethene	1/10/100	ug/L	ND	ND	ND	ND	<1.00	100	120
Cis-1,2-Dichloroethene	1/10/100	ug/L	ND	ND	ND	ND	0.65J	70	81
1,1,2,2-Tetrachloroethane	1/10/100	ug/L	ND	ND	ND	ND	<1.00	NS	0.053
Tetrachloroethene	1/10/100	ug/L	ND	ND	ND	ND	<1.00	5	1.1
Toluene	1/10/100	ug/L	ND	ND	ND	ND	<1.00	1000	750
1,1,1-Trichloroethane	1/10/100	ug/L	ND	ND	ND	ND	<1.00	200	540
1,1,2-Trichloroethane	1/10/100	ug/L	ND	ND	ND	ND	<1.00	5	0.19
Trichloroethene	1/10/100	ug/L	ND	ND	ND	ND	1.36	5	1.6
Vinyl Chloride	1/10/100	ug/L	ND	ND	ND	ND	<1.00	2	0.019

Only compounds detected are listed.

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TCL = Target Compound List

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acceptance ranges

TABLE 2
Quarterly Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number		MW-51-Y1Q1	MW-51-Y1Q2	MW-51-Y1Q3	MW-51-Y1Q4	MW-51-Y2Q1	MW-51-Y2Q2	Maximum Contaminant Level (MCL)-Primary Drinking Water Standards	USEPA Region III RBCs - Tap Water (October 7, 1999)
Laboratory & Lab Sample ID No.		9902125-05	9905638-11	9908741-03	9911147-08	0002423-03	0005523-13		
Date Sample Collected		02-Feb-99	24-May-99	26-Aug-99	03-Nov-99	15-Feb-00	16-May-00		
pH		5.9	4.8	7.3	5.9	5.9	5.9		
Conductivity (umhos)		295	186	249	256	308	290		
Temperature (°C)		NA	19.3	20.8	18.0	16.8	20.3		
Turbidity (ntu)		NA	15	330	9.2	17.5	4.9		
LABORATORY ANALYSES		DL		Units					
TCL Volatile Organics (Method 8260B)									
Bromodichloromethane	1/10/100	ND	ND	ND	ND	ND	<1.00	NS	0.17
Carbon Tetrachloride	1/10/100	ND	ND	ND	ND	ND	<1.00	5	0.16
Chlorobenzene	1/10/100	ND	ND	ND	ND	ND	<1.00	100	110
Chloroform	1/10/100	ND	ND	ND	ND	ND	<1.00	NS	0.15
1,1-Dichloroethane	1/10/100	ND	ND	ND	ND	ND	<1.00	NS	800
1,2-Dichloroethane	1/10/100	ND	ND	ND	ND	ND	<1.00	5	0.12
1,1-Dichloroethene	1/10/100	23.4	16.9	15.2	8.19	1.08	8.23	7	0.044
Trans-1,2-Dichloroethene	1/10/100	ND	ND	ND	ND	ND	<1.00	100	120
Cis-1,2-Dichloroethene	1/10/100	ND	ND	ND	ND	ND	<1.00	70	61
1,1,2,2-Tetrachloroethane	1/10/100	ND	ND	ND	ND	ND	<1.00	NS	0.053
Tetrachloroethene	1/10/100	1.5	ND	0.54J	0.83J	ND	<1.00	5	1.1
Toluene	1/10/100	ND	ND	ND	ND	ND	<1.00	1000	750
1,1,1-Trichloroethane	1/10/100	ND	ND	ND	ND	ND	<1.00	200	540
1,1,2-Trichloroethane	1/10/100	ND	ND	ND	ND	ND	<1.00	5	0.19
Trichloroethene	1/10/100	8.44	4.64	3.71	2.93	0.70J	4.63	5	1.8
Vinyl Chloride	1/10/100	ND	ND	ND	ND	ND	<1.00	2	0.019

Only compounds detected are listed

ug/L = micrograms per liter

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

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acceptance ranges

TABLE 2
Quarterly Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number		MW-54-Y1Q1	MW-54-Y1Q2	MW-54-Y1Q3	MW-54-Y1Q4	MW-54-Y2Q1	MW-54-Y2Q2	Maximum Contaminant Level (MCL)- Primary Drinking Water Standards	USEPA Region III RBCs - Tap Water (October 7, 1999)
Laboratory & Lab Sample ID No.		9902125-10	9905638-15	9908741-07	991147-11	0002423-10	0005523-03		
Date Sample Collected		03-Feb-99	25-May-99	26-Aug-99	03-Nov-99	05-Feb-00	17-May-00		
pH		5.6	6.4	7.4	5.7	5.9	5.9		
Conductivity (umhos)		213	253	216	366	385	347		
Temperature (°C)		NA	18.2	19.7	17.2	17.7	20.4		
Turbidity (ntu)		NA	0	149	9.93	16.6	11.8		
DL		Units							
LABORATORY ANALYSES									
TCL Volatile Organics (Method 8260B)									
Bromodichloromethane	1/10/100	ug/L	ND	ND	ND	ND	<1.00	NS	0.17
Carbon Tetrachloride	1/10/100	ug/L	ND	12.8	ND	6.02	14.7	4.46	0.16
Chlorobenzene	1/10/100	ug/L	ND	ND	ND	ND	ND	<1.00	110
Chloroform	1/10/100	ug/L	ND	5.04	2.54	12.4	5.54	NS	0.15
1,1-Dichloroethane	1/10/100	ug/L	ND	ND	ND	ND	<1.00	NS	800
1,2-Dichloroethane	1/10/100	ug/L	ND	ND	ND	ND	<1.00	5	0.12
1,1-Dichloroethene	1/10/100	ug/L	ND	ND	ND	ND	<1.00	7	0.044
Trans-1,2-Dichloroethene	1/10/100	ug/L	ND	ND	1.40	2.01	<1.00	100	120
Cis-1,2-Dichloroethene	1/10/100	ug/L	3.90	10.3	24.1	22.5	7.08	70	61
1,1,2,2-Tetrachloroethane	1/10/100	ug/L	ND	ND	40.1	23.6	<1.00	NS	0.053
Tetrachloroethene	1/10/100	ug/L	ND	ND	0.68J	0.94J	<1.00	5	1.1
Toluene	1/10/100	ug/L	ND	ND	ND	ND	<1.00	1000	750
1,1,1-Trichloroethane	1/10/100	ug/L	ND	ND	ND	ND	<1.00	200	540
1,1,2-Trichloroethane	1/10/100	ug/L	ND	ND	1.15	0.90J	<1.00	5	0.19
Trichloroethene	1/10/100	ug/L	61.0	50.0	30.6	43.3	11.8	5	1.6
Vinyl Chloride	1/10/100	ug/L	ND	ND	ND	ND	<1.00	2	0.019

Only compounds detected are listed

ug/L = milligrams per liter

DL = detection limit

TCL = Target Compound List

BDL = below detection limit

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TABLE 2
Quarterly Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number Laboratory & Lab Sample ID No.	Date Sample Collected	pH	Conductivity (umhos)	Temperature (°C)	Turbidity (ntu)	MW-56-Y2Q1 MW-56-Y2Q2 MW-57-Y2Q1 MW-57-Y2Q2 MW-58-Y2Q1 MW-58-Y2Q2 MW-59-Y2Q1 MW-59-Y2Q2 MW-67-Y2Q1 MW-67-Y2Q2												Maximum Contaminant Level (MCL)-Primary Drinking Water Standards	USEPA Region III RBCs - Tap Water (October 7, 1999)
						0002480-11 0005523-01 0002480-05 0005523-19 0002480-12 0005523-02 0002480-06 0005523-06 0002480-10 0002480-10													
LABORATORY ANALYSES																			
TCL Volatile Organics (Method 8260B)																			
Bromodichloromethane	1/10/100	ug/L	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	NS	0.17
Carbon Tetrachloride	1/10/100	ug/L	0.57J	<1.00	39.9	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	5	0.16
Chlorobenzene	1/10/100	ug/L	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	100	110
Chloroform	1/10/100	ug/L	38.2	43.4	13.2	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	NS	0.15
1,1-Dichloroethane	1/10/100	ug/L	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	NS	800
1,2-Dichloroethane	1/10/100	ug/L	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	5	0.12
1,1-Dichloroethene	1/10/100	ug/L	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	7	0.044
Trans-1,2-Dichloroethene	1/10/100	ug/L	ND	<1.00	1.55	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	100	120
Cis-1,2-Dichloroethene	1/10/100	ug/L	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	70	61
1,1,2,2-Tetrachloroethane	1/10/100	ug/L	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	NS	0.053
Tetrachloroethene	1/10/100	ug/L	ND	<1.00	5.38	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	5	1.1
Toluene	1/10/100	ug/L	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	1000	750
1,1,1-Trichloroethane	1/10/100	ug/L	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	200	540
1,1,2-Trichloroethane	1/10/100	ug/L	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	5	0.19
Trichloroethene	1/10/100	ug/L	1.70	1.82	50.8	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	5	1.6
Vinyl Chloride	1/10/100	ug/L	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	2	0.019

Only compounds detected are listed

ug/L = milligrams 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.

TABLE 2
Quarterly Analytical Results for TCL Volatile Organics
on Sampled Monitoring Wells

Sample Identification Number		MW-68-Y2Q2	MW-69-Y2Q1	MW-69-Y2Q2	MW-70-Y2Q1	MW-70-TOP-Y2Q2	MW-70-Bottom-Y2Q2	MW-71-Y2Q2	MW-71-Y2Q2	Maximum Contaminant Level (MCL)- Primary Drinking Water Standards	USEPA Region III RBCs - Tap Water (October 7, 1999)
Laboratory & Lab Sample ID No.		0005523-29	0002480-01	0005523-25	0002423-08	0005523-30	000523-31	0002423-09	0005523-28		
Date Sample Collected		05/18/2000	16-Feb-00	17-May-00	15-Feb-00	18-May-00	18-May-00	15-Feb-00	18-May-00		
pH		5.84	5.8	5.9	5.8	5.9	5.9	5.9	5.9		
Conductivity (umhos)		268	251	213	233	213	213	226	203		
Temperature (°C)		22.4	16.9	19.9	18.5	23.1	23.1	18.1	20.2		
Turbidity (ntu)		>999	>999	>999	>999	601	601	>999	>999		
Units											
LABORATORY ANALYSES											
TCL Volatile Organics (Method 8260B)											
Bromochloromethane	1/10/100	<1.00	ND	<1.00	ND	<1.00	<1.00	ND	<1.00	NS	0.17
Carbon Tetrachloride	1/10/100	0.89J	ND	0.73J	3.48	<1.00	0.64J	53.9	34.0	5	0.16
Chlorobenzene	1/10/100	<1.00	ND	<1.00	ND	<1.00	<1.00	ND	<1.00	100	110
Chloroform	1/10/100	6.44	ND	3.56	18.2	4.36	5.18	996	1080	NS	0.15
1,1-Dichloroethane	1/10/100	<1.00	ND	<1.00	ND	<1.00	<1.00	ND	<1.00	NS	800
1,2-Dichloroethane	1/10/100	<1.00	ND	<1.00	1.77	<1.00	<1.00	ND	<1.00	5	0.12
1,1-Dichloroethene	1/10/100	<1.00	ND	<1.00	0.61J	<1.00	<1.00	ND	<1.00	7	0.044
Trans-1,2-Dichloroethene	1/10/100	13.1	2.26	19.1	149	10.1	12.0	470	372	100	120
Cis-1,2-Dichloroethene	1/10/100	13.7	4.11	31.2	522	38.8	54.8	11.5	9.98	70	81
1,1,2,2-Tetrachloroethane	1/10/100	<1.00	ND	<1.00	4.830	284	342	97.7	181	NS	0.053
Tetrachloroethene	1/10/100	2.07	1.76	4.87	88.7	2.92	5.35	10.0	4.54	5	1.1
Toluene	1/10/100	<1.00	ND	<1.00	ND	<1.00	<1.00	ND	<1.00	1000	750
1,1,1-Trichloroethane	1/10/100	<1.00	ND	<1.00	ND	<1.00	<1.00	ND	<1.00	200	540
1,1,2-Trichloroethane	1/10/100	<1.00	ND	<1.00	39.7	2.64	3.93	3.21	<1.00	5	0.19
Trichloroethane	1/10/100	44.5	99.2	642	11,700	538	720	330	239	5	1.6
Vinyl Chloride	1/10/100	<1.00	ND	<1.00	1.88	<1.00	<1.00	ND	<1.00	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.

TABLE 3
Quarterly Analytical Results for TCL Volatile Organics
on System Recovery Wells

Sample Identification Number		RW-1A-Y2Q1	RW-1A-Y2Q2	RW-1B-Y2Q1	RW-1B-Y2Q2	Maximum Contaminant Level (MCL) - Primary Drinking Water Standards	USEPA Region III RBCs - Tap Water (October 7, 1999)
Laboratory & Lab Sample ID No.	Date Sample Collected	0002423-16	0005523-20	0002480-03	0005523-10		
	pH	5.8	5.8	6.0	6.1		
	Conductivity (umhos)	254	262	300	285		
	Temperature (°C)	17.4	19.4	17.2	19.7		
	Turbidity (ntu)	12.7	62.4	35.5	68.4		
DL							
Units							
TCL Volatile Organics (Method 8260B)							
Carbon Tetrachloride	1/100	15.2	10.8	20.8	12.3	5	0.18
Chloroform	1/100	397	339	20.7	15.3	NS	0.15
1,1-Dichloroethane	1/100	ND	ND	ND	ND	NS	800
1,2-Dichloroethane	1/100	ND	ND	ND	ND	5	0.12
1,1-Dichloroethene	1/100	ND	ND	ND	ND	7	0.044
Trans-1,2-Dichloroethene	1/100	1.40	0.96J	1.23	0.80J	100	120
Cis-1,2-Dichloroethene	1/100	3.63	2.49	3.32	2.18	70	81
1,1,2,2-Tetrachloroethane	1/100	49.8	25.8	ND	ND	NS	0.053
Tetrachloroethene	1/100	3.14	2.31	2.37	1.08	5	1.1
1,1,1-Trichloroethane	1/100	ND	ND	ND	ND	200	540
1,1,2-Trichloroethane	1/100	1.54	0.82J	ND	ND	5	0.19
Trichloroethene	1/100	119	73.0	21.9	13.8	5	1.8

Only compounds detected are listed

ug/L = micrograms per liter

DL = detection limit

BDL = below detection limit

TCL = Target Compound List

MCL = Maximum Contaminant Level - Primary Drinking Water Standards

RBCs = Risk Based Concentrations

NS = no standard

NA = not analyzed for

NP = not performed

J = estimated value - presence of the compound

was confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside

acceptance ranges

TABLE 3
Quarterly Analytical Results for TCL Volatile Organics
on System Recovery Wells

Sample Identification Number		RW-01-Y2Q1	RW-01-Y2Q2	RW-02-Y2Q1	RW-02-Y2Q2	Maximum Contaminant Level (MCL) - Primary Drinking Water Standards	USEPA Region III RBCs - Tap Water (October 7, 1999)
Laboratory & Lab Sample ID No.	Date Sample Collected	0002480-04 16-Feb-00	0005523-21 17-May-00	0002840-02 15-Feb-00	0005523-08 17-May-00		
pH		6.1	6.1	5.8	5.9		
Conductivity (umhos)		358	407	298	287		
Temperature (°C)		18.2	19.3	17.4	18.7		
Turbidity (ntu)		101	138	168	128		
DL	Units						
TCL Volatile Organics (Method 8260B)							
Carbon Tetrachloride	1/100	42.4	45.4	15.7	16.4	5	0.16
Chloroform	1/100	15.7	22.8	14.2	11.5	NS	0.15
1,1-Dichloroethane	1/100	ND	ND	ND	ND	NS	800
1,2-Dichloroethane	1/100	ND	ND	ND	ND	5	0.12
1,1-Dichloroethene	1/100	ND	ND	ND	ND	7	0.044
Trans-1,2-Dichloroethene	1/100	0.93J	1.18	1.69	1.30	100	120
Cis-1,2-Dichloroethene	1/100	ND	ND	17.4	10.7	70	61
1,1,2,2-Tetrachloroethane	1/100	ND	ND	4.04	ND	NS	0.053
Tetrachloroethene	1/100	4.66	4.28	1.25	1.06	5	1.1
1,1,1-Trichloroethane	1/100	0.95J	ND	ND	ND	200	540
1,1,2-Trichloroethane	1/100	ND	ND	0.81J	ND	5	0.19
Trichloroethene	1/100	35.2	45.5	21.4	16.9	5	1.6

Only compounds detected are listed

ug/L = micrograms per liter

DL = detection limit

BDL = below detection limit

TCL = Target Compound List

MCL = Maximum Contaminant Level - Primary Drinking Water Standard

RBCs = Risk Based Concentrations

NS = no standard

NA = not analyzed for

NP = not performed

J = estimated value - presence of the compound

was confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside

acceptance ranges

TABLE 3
Quarterly Analytical Results for TCL Volatile Organics
on System Recovery Wells

Sample Identification Number	RW-03P-Y1Q1	RW-03-Y1Q2	RW-03-Y1Q3	RW-03-Y1Q4	RW-03-Y2Q1	RW-03-Y2Q2	USEPA Region III RBCs - Tap Water (October 7, 1999)
Laboratory & Lab Sample ID No.	9902206-01	9905638-01	9908741-15	9911028-01	0002385-01	0005523-33	
Date Sample Collected	05-Feb-99	24-May-99	27-Aug-99	01-Nov-99	14-Feb-00	18-May-00	
pH	NA	5.9	7.4	6.0	5.8	NP	
Conductivity (umhos)	NA	231	272	313	258	NP	
Temperature (°C)	NA	18.6	19.8	18.3	16.3	NP	
Turbidity (ntu)	NA	10.0	6.0	0.1	0.2	NP	
DL							
Units							
TCL Volatile Organics (Method 8260B)							
Carbon Tetrachloride	16.4	13.3	10.5	13.2	10.9	16.3	5
Chloroform	5.89	1.36	5.66	5.24	4.57	5.51	NS
1,1-Dichloroethane	ND	ND	ND	ND	ND	<1.00	NS
1,2-Dichloroethane	ND	ND	ND	ND	ND	<1.00	5
1,1-Dichloroethene	ND	ND	ND	ND	ND	<1.00	7
Trans-1,2-Dichloroethene	5.51	3.94	2.87	3.31	4.52	7.42	100
Cis-1,2-Dichloroethene	79.3	56.0	47.0	44.0	101	138	70
1,1,2,2-Tetrachloroethane	80.0	42.5	40.8	42.3	61.8	85.5	NS
Tetrachloroethene	ND	ND	0.73J	1.01	0.65J	0.73J	5
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	<1.00	200
1,1,2-Trichloroethane	3.23	2.73	1.98	1.85	2.80	3.23	5
Trichloroethene	78.2	54.3	42.1	55.0	57.8	78.6	5

Only compounds detected are listed

ug/L = micrograms per liter

DL = detection limit

BDL = below detection limit

TCL = Target Compound List

MCL = Maximum Contaminant Level - Primary Drinking Water Standard

RBCs = Risk Based Concentrations

NS = no standard

NA = not analyzed for

NP = not performed

J = estimated value - presence of the compound

was confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside

acceptance ranges

TABLE 3
Quarterly Analytical Results for TCL Volatile Organics
on System Recovery Wells

Sample Identification Number		RW-04P-Y101	RW-04-Y102	RW-04-Y103	RW-04-Y104	RW-04-Y201	RW-04-Y202	Maximum Contaminant Level (MCL) - Primary Drinking Water Standards	USEPA Region III RBCs - Tap Water (October 7, 1999)
Laboratory & Lab Sample ID No.	Date Sample Collected	9902206-02 05-Feb-99	9905638-02 24-May-99	9908740-16 27-Aug-99	9911028-02 01-Nov-99	0002385-02 14-Feb-00	005399-07 15-May-00		
pH		NA	6.0	7.3	6.1	6.0	6.0		
Conductivity (umhos)		NA	145	7	214	237	219		
Temperature (°C)		NA	19.3	20.6	18.6	17.1	22.1		
Turbidity (ntu)		NA	5.0	5.0	0.2	0.6	0.3		
DL									
Units									
TCL Volatile Organics (Method 8260B)									
Carbon Tetrachloride	1/100	3.04	3.51	3.23	<100	6.97	4.26	5	0.16
Chloroform	1/100	1.84	ND	2.308	<100	2.80	2.27	NS	0.15
1,1-Dichloroethane	1/100	ND	ND	ND	<100	ND	<100	NS	800
1,2-Dichloroethane	1/100	ND	ND	ND	<100	ND	<100	5	0.12
1,1-Dichloroethene	1/100	ND	ND	ND	<100	ND	<100	7	0.044
Trans-1,2-Dichloroethene	1/100	3.58	2.74	3.03	<100	2.15	2.85	100	120
Cis-1,2-Dichloroethene	1/100	18.2	15.4	17.6	28.6J	15.0	16.0	70	61
1,1,2,2-Tetrachloroethane	1/100	219	21.9	19.2	<100	12.3	12.9	NS	0.053
Tetrachloroethene	1/100	2.43	2.40	2.92	<100	2.03	1.97	5	1.1
1,1,1-Trichloroethane	1/100	ND	ND	ND	<100	ND	<100	200	540
1,1,2-Trichloroethane	1/100	1.32	1.50	1.40	<100	0.78J	0.70J	5	0.18
Trichloroethene	1/100	382	294	368	649	252	316	5	1.6

Only compounds detected are listed.

ug/L = micrograms per liter

DL = detection limit

BDL = below detection limit

TCL = Target Compound List

MCL = Maximum Contaminant Level - Primary Drinking Water Standard

RBCs = Risk Based Concentrations

NS = no standard

NA = not analyzed for

NP = not performed

J = estimated value - presence of the compound

was confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside

acceptance ranges.

TABLE 3
Quarterly Analytical Results for TCL Volatile Organics
on System Recovery Wells

Sample Identification Number Laboratory & Lab Sample ID No.	RW-05P-Y101 9902206-05	RW-05-Y102 9905638-03	RW-05-Y103 9908741-17	RW-05-Y104 9911028-03	RW-05-Y2Q1 0002385-03	RW-05-Y2Q2 15-May-00	Maximum Contaminant Level (MCL) - Primary Drinking Water Standards	USEPA Region III RBCs - Tap Water (October 7, 1999)
Date Sample Collected	05-Feb-99	24-May-99	27-Aug-99	01-Nov-99	14-Feb-00	NP		
pH	NA	5.9	7.4	6.0	5.9	NP		
Conductivity (umhos)	NA	151	190	220	220	NP		
Temperature (°C)	NA	18.0	19.7	17.8	18.4	NP		
Turbidity (ntu)	NA	6.0	17.0	0.1	0.6	NP		
DL								
Units								
TCL Volatile Organics (Method 8260B)								
Carbon Tetrachloride	1/100	ug/L	ND	<100	ND	NP	5	0.16
Chloroform	1/100	ug/L	ND	<100	1.36	NP	NS	0.15
1,1-Dichloroethane	1/100	ug/L	ND	<100	ND	NP	NS	800
1,2-Dichloroethane	1/100	ug/L	ND	<100	ND	NP	5	0.12
1,1-Dichloroethene	1/100	ug/L	ND	<100	ND	NP	7	0.044
Trans-1,2-Dichloroethene	1/100	ug/L	6.45	<100	12.3	NP	100	120
Cis-1,2-Dichloroethene	1/100	ug/L	17.9	48.4J	50.2	NP	70	61
1,1,2,2-Tetrachloroethane	1/100	ug/L	11.4	2260	3120	NP	NS	0.053
Tetrachloroethene	1/100	ug/L	5.87	45.1J	10.8	NP	5	1.1
1,1,1-Trichloroethane	1/100	ug/L	ND	<100	ND	NP	200	540
1,1,2-Trichloroethane	1/100	ug/L	ND	<100	1.93	NP	5	0.19
Trichloroethene	1/100	ug/L	433	1290	1170	NP	5	1.6

Only compounds detected are listed

ug/L = micrograms per liter

DL = detection limit

BOL = below detection limit

TCL = Target Compound List

MCL = Maximum Contaminant Level - Primary Drinking Water Standard

RBCs = Risk Based Concentrations

NS = no standard

NA = not analyzed for

NP = not performed

J = estimated value - presence of the compound

was confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside

acceptance ranges.

TABLE 3
Quarterly Analytical Results for TCL Volatile Organics
on System Recovery Wells

Sample Identification Number	RW-06P-Y1Q1	RW-06-Y1Q2	RW-06-Y1Q3	RW-06-Y1Q4	RW-06-Y2Q1	RW-06-Y2Q2	Maximum Contaminant Level (MCL) - Primary Drinking Water Standards	USEPA Region III RBCs - Tap Water (October 7, 1999)
Laboratory & Lab Sample ID No.	9902206-05	9905638-04	9908741-18	9911028-04	0002385-04	0005399-06		
Date Sample Collected	05-Feb-99	24-May-99	27-Aug-99	01-Nov-99	14-Feb-00	15-May-00		
pH	NA	4.6	7.4	6.2	5.9	5.9		
Conductivity (umhos)	NA	168	208	250	268	250		
Temperature (°C)	NA	19.0	20.0	17.8	16.6	20.8		
Turbidity (ntu)	NA	6.0	31.0	0.5	0.2	0.1		
DL								
Units								
TCL Volatile Organics (Method 8260B)								
Carbon Tetrachloride	1/100	ug/L						
Chloroform	1/100	ug/L	ND	ND	ND	<1.00	5	0.16
1,1-Dichloroethane	1/100	ug/L	2.11	3.08	2.48	2.28	NS	0.15
1,2-Dichloroethane	1/100	ug/L	ND	ND	ND	<1.00	NS	800
1,1-Dichloroethene	1/100	ug/L	ND	ND	ND	<1.00	5	0.12
Trans-1,2-Dichloroethene	1/100	ug/L	ND	ND	ND	<1.00	7	0.044
Cis-1,2-Dichloroethene	1/100	ug/L	1.39	1.89	1.59	2.03	100	120
1,1,2,2-Tetrachloroethane	1/100	ug/L	3.67	5.10	2.34	5.12	70	81
1,1,1-Trichloroethane	1/100	ug/L	ND	ND	ND	<1.00	NS	0.053
1,1,2-Trichloroethane	1/100	ug/L	24.2	10.1	5.80	6.62	5	1.1
Trichloroethene	1/100	ug/L	ND	ND	ND	<1.00	200	540
	1/100	ug/L	ND	ND	ND	<1.00	5	0.19
	1/100	ug/L	27.6	32.7	24.2	37.9	5	1.6

Only compounds detected are listed

ug/L = micrograms per liter

DL = detection limit

BDL = below detection limit

TCL = Target Compound List

MCL = Maximum Contaminant Level - Primary Drinking Water Standard

RBCs = Risk Based Concentrations

NS = no standard

NA = not analyzed for

NP = not performed

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

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

TABLE 3
Quarterly Analytical Results for TCL Volatile Organics
on System Recovery Wells

Sample Identification Number	RW-07-Y1Q1	RW-07-Y1Q2	RW-07-Y1Q3	RW-07-Y1Q4	RW-07-Y2Q1	RW-07-Y2Q2	Maximum Contaminant Level (MCL) - Primary Drinking Water Standards	USEPA Region III RBCs - Tap Water (October 7, 1999)
Laboratory & Lab Sample ID No.	9902206-05	9905638-05	9908741-19	9911028-05	0002385-05	0005399-04		
Date Sample Collected	05-Feb-99	24-May-99	27-Aug-99	01-Nov-99	14-Feb-00	15-May-00		
pH	NA	5.9	7.4	5.9	5.9	5.8		
Conductivity (umhos)	NA	182	211	250	268	257		
Temperature (°C)	NA	18.0	20.0	18.2	18.6	21.6		
Turbidity (ntu)	NA	3.0	5.0	0.1	0.2	0.2		
DL								
Units								
TCL Volatile Organics (Method 8260B)								
Carbon Tetrachloride	1/100 ug/L	ND	0.54J	ND	ND	<1.00	5	0.16
Chloroform	1/100 ug/L	1.91	3.39	2.28	1.84	1.27	NS	0.15
1,1-Dichloroethane	1/100 ug/L	ND	ND	ND	ND	<1.00	NS	800
1,2-Dichloroethane	1/100 ug/L	ND	ND	ND	ND	<1.00	5	0.12
1,1,1-Trichloroethane	1/100 ug/L	ND	ND	ND	ND	<1.00	7	0.044
Trans-1,2-Dichloroethene	1/100 ug/L	15.6	17.3	23.6	19.2	17.4	100	120
Cis-1,2-Dichloroethene	1/100 ug/L	45.3	59.1	74.7	70.3	59.6	70	61
1,1,2,2-Tetrachloroethane	1/100 ug/L	19.5	43.2	60.7	49.9	52.2	NS	0.053
Tetrachloroethene	1/100 ug/L	11.2	9.81	12.2	9.33	7.76	5	1.1
1,1,1-Trichloroethane	1/100 ug/L	ND	ND	ND	ND	<1.00	200	540
1,1,2-Trichloroethane	1/100 ug/L	ND	0.65J	1.08	1.03	0.95J	5	0.19
Trichloroethene	1/100 ug/L	86.6	94.0	145	102	87.2	5	1.6

Only compounds detected are listed

ug/L = micrograms per liter

DL = detection limit

BOL = below detection limit

TCL = Target Compound List

MCL = Maximum Contaminant Level - Primary Drinking Water Standard

RBCs = Risk Based Concentrations

NS = no standard

NA = not analyzed for

NP = not performed

J = estimated value - presence of the compound

was confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside

acceptance ranges

TABLE 3
Quarterly Analytical Results for TCL Volatile Organics
on System Recovery Wells

Sample Identification Number	RW-08P-Y1Q1	RW-08-Y1Q2	RW-08-Y1Q3	RW-08-Y1Q4	RW-08-Y2Q1	RW-08-Y2Q2	Maximum Contaminant Level (MCL) - Primary Drinking Water Standards	USEPA Region III RBCs - Tap Water (October 7, 1999)
Laboratory & Lab Sample ID No.	9902208-06	9905638-06	9908741-20	9911028-06	0002385-05	0005398-03		
Date Sample Collected	05-Feb-99	24-May-99	27-Aug-99	01-Nov-99	14-Feb-00	15-May-00		
pH	NA	5.8	7.5	6.1	5.8	6.0		
Conductivity (umhos)	NA	195	252	316	323	301		
Temperature (°C)	NA	17.7	19.1	18.4	15.7	20.4		
Turbidity (ntu)	NA	3.0	0.0	0.3	0.2	0.1		
DL								
TCL Volatile Organics (Method 8260B)								
Carbon Tetrachloride	1/100	1.38	1.30	1.11	1.03	0.89J	5	0.16
Chloroform	1/100	10.3	14.1	10.3	10.5	8.41	NS	0.15
1,1-Dichloroethane	1/100	ND	ND	7.84	ND	<1.00	NS	800
1,2-Dichloroethane	1/100	ND	ND	27.8	ND	<1.00	5	0.12
1,1-Dichloroethene	1/100	16.0	9.79	ND	8.82	4.98	7	0.044
Trans-1,2-Dichloroethene	1/100	20.1	42.1	ND	30.8	37.6	100	120
Cis-1,2-Dichloroethene	1/100	64.7	126	89.1	118	120	70	61
1,1,2,2-Tetrachloroethane	1/100	45.9	88.0	119	121	121	NS	0.053
Tetrachloroethene	1/100	5.35	5.96	6.14	6.87	5.19	5	1.1
1,1,1-Trichloroethane	1/100	ND	ND	ND	ND	<1.00	200	540
1,1,2-Trichloroethane	1/100	ND	1.66	1.32	1.58	1.74	5	0.19
Trichloroethene	1/100	140	273	173	190	268	5	1.0

Only compounds detected are listed

ug/L = micrograms per liter

DL = detection limit

BDL = below detection limit

TCL = Target Compound List

MCL = Maximum Contaminant Level - Primary Drinking Water Standard

RBCs = Risk Based Concentrations

NS = no standard

NA = not analyzed for

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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

TABLE 3
Quarterly Analytical Results for TCL Volatile Organics
on System Recovery Wells

Sample Identification Number Laboratory & Lab Sample ID No.	RW-09-Y1Q1 9902206-07	RW-09-Y1Q2 9905638-07	RW-09-Y1Q3 9908741-21	RW-09-Y1Q4 9911028-06	RW-09-Y2Q1 0002395-08	RW-09-Y2Q2 0005399-01	Maximum Contaminant Level (MCL) - Primary Drinking Water Standards	USEPA Region III RBCs - Tap Water (October 7, 1999)
Date Sample Collected	05-Feb-99	24-May-99	27-Aug-99	01-Nov-99	14-Feb-00	15-May-00		
pH	NA	5.9	7.4	8.0	5.9	8.0		
Conductivity (umhos)	NA	220	282	327	368	340		
Temperature (°C)	NA	17.4	19.2	18.7	15.7	20.6		
Turbidity (ntu)	NA	2.0	183.0	0.1	0.5	0.2		
DL								
Units								
TCL Volatile Organics (Method 8260B)								
Carbon Tetrachloride	1/100	ug/L						
Chloroform	1/100	ug/L	1.43	1.21	1.12	0.79J	0.90J	5
1,1-Dichloroethane	1/100	ug/L	10.1	15.4	11.8	12.5	10.8	NS
1,2-Dichloroethane	1/100	ug/L	1.17	1.35	1.24	1.88	1.15	NS
1,1,1-Trichloroethane	1/100	ug/L	ND	0.83J	0.53J	0.70J	<1.00	5
Trans-1,2-Dichloroethane	1/100	ug/L	40.4	45.1	44.4	52.9	35.9	7
Cis-1,2-Dichloroethane	1/100	ug/L	2.28	1.94	1.86	2.23	2.24	100
1,1,2,2-Tetrachloroethane	1/100	ug/L	5.20	8.47	4.95	5.45	6.03	70
Tetrachloroethane	1/100	ug/L	ND	1.21	ND	2.98	<1.00	NS
1,1,1-Trichloroethane	1/100	ug/L	35.4	41.5	38.8	61.2	32.1	5
1,1,2-Trichloroethane	1/100	ug/L	1.58	2.01	1.73	1.56	1.40	200
Trichloroethene	1/100	ug/L	ND	ND	ND	ND	<1.00	5
	1/100	ug/L	39.1	41.1	43.3	51.4	37.7	5

Only compounds detected are listed

ug/L = micrograms per liter

DL = detection limit

BDL = below detection limit

TCL = Target Compound List

MCL = Maximum Contaminant Level - Primary Drinking Water Standard

RBCs = Risk Based Concentrations

NS = no standard

NA = not analyzed for

NP = not performed

J = estimated value - presence of the compound

was confirmed but less than the reported DL

J* = estimated value - quality control recoveries outside

acceptance ranges

TABLE 4
Quarterly Quality Control Samples
Year Two, Quarter Two

Sample Identification Number Laboratory & Lab Sample ID No.	Date Sample Collected		DL	Units	RW-09-Y2Q2 0005399-01 15-May-00	RW-22-Y2Q2 0005399-02 15-May-00	Trip Blank 0005399-05 16-May-00	Trip Blank 1 0005523-04 17-May-00	Field Blank 0005523-15 16-May-00	EQB-BLK 0005523-23 17-May-00	Trip Blank 2 0005523-34 18-May-00	Maximum Contaminant Level (MCL)-Primary Drinking Water Standards	USEPA Region III RBCs - Tap Water (October 7, 1999)
LABORATORY ANALYSES													
TCL Volatile Organics (Method 8260B)													
Bromodichloromethane	1/100		ug/L	<1.00		<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	NS	0.17
Carbon Tetrachloride	1/100		ug/L	0.90J		0.97J	<1.00	<1.00	<1.00	<1.00	<1.00	5	0.18
Chlorobenzene	1/100		ug/L	<1.00		<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	100	110
Chloroform	1/100		ug/L	10.8		11.0	<1.00	<1.00	<1.00	<1.00	<1.00	NS	0.15
1,1-Dichloroethane	1/100		ug/L	1.15		1.19	<1.00	<1.00	<1.00	<1.00	<1.00	NS	800
1,2-Dichloroethane	1/100		ug/L	<1.00		<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	5	0.12
1,1,1-Trichloroethane	1/100		ug/L	35.9		36.7	<1.00	<1.00	<1.00	<1.00	<1.00	7	0.044
Trans-1,2-Dichloroethane	1/100		ug/L	2.24		2.24	<1.00	<1.00	<1.00	<1.00	<1.00	100	120
Cis-1,2-Dichloroethane	1/100		ug/L	6.03		6.20	<1.00	<1.00	<1.00	<1.00	<1.00	70	81
1,1,2,2-Tetrachloroethane	1/100		ug/L	<1.00		<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	NS	0.053
Tetrachloroethane	1/100		ug/L	32.1		32.2	<1.00	<1.00	<1.00	<1.00	<1.00	5	1.1
Toluene	1/100		ug/L	<1.00		<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	1000	750
1,1,1-Trichloroethane	1/100		ug/L	1.40		1.36	<1.00	<1.00	<1.00	<1.00	<1.00	200	540
1,1,2-Trichloroethane	1/100		ug/L	<1.00		<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	5	0.19
Trichloroethane	1/100		ug/L	37.7		38.2	<1.00	<1.00	<1.00	<1.00	<1.00	5	1.6
Vinyl Chloride	1/100		ug/L	<1.00		<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	2	0.019

TAL = Target Analyte List

TCL = Target Compound List

MCL = Maximum Contaminant Level - Primary Drinking Water Standards

RBCs = Risk Based Concentrations

ND = not detected

NS = no standard

NZ = not analyzed

NA = not available

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

TABLE 4
Quarterly Quality Control Samples
Year Two, Quarter Two

Sample Identification Number			Maximum Contaminant Level (MCL)-Primary Drinking Water Standards										USEPA Region III RBCs - Tap Water (October 7, 1999)
Laboratory & Lab Sample ID No.		Date Sample Collected	RW-02-Y2Q2	RW-AA-Y2Q2	MW-51-Y2Q2	MW-BB-Y2Q2	MW-69-Y2Q2	MW-AA-Y2Q2	EQB-B	EQB-P			
			0005523-08	0005523-09	0005523-13	0005523-14	0005523-25	000523-26	0005523-22	0005523-24			
		DL	17-May-00	17-May-00	16-May-00	16-May-00	17-May-00	18-May-00	17-May-00	17-May-00			
		Units											
LABORATORY ANALYSES													
TCL Volatile Organics (Method 8260B)													
Bromodichloromethane	1/100	ug/L	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	NS	0.17	
Carbon Tetrachloride	1/100	ug/L	16.4	15.0	<1.00	<1.00	0.73J	0.62J	<1.00	<1.00	5	0.16	
Chlorobenzene	1/100	ug/L	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	100	110	
Chloroform	1/100	ug/L	11.5	10.6	<1.00	<1.00	3.56	3.26	<1.00	<1.00	NS	0.15	
1,1-Dichloroethane	1/100	ug/L	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	NS	800	
1,2-Dichloroethane	1/100	ug/L	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	5	0.12	
1,1-Dichloroethene	1/100	ug/L	<1.00	<1.00	8.23	8.11	<1.00	<1.00	<1.00	<1.00	7	0.044	
Trans-1,2-Dichloroethene	1/100	ug/L	1.30	1.17	<1.00	<1.00	19.1	16.8	<1.00	<1.00	100	120	
Cis-1,2-Dichloroethene	1/100	ug/L	10.7	9.77	<1.00	<1.00	31.2	28.1	<1.00	<1.00	70	61	
1,1,2,2-Tetrachloroethane	1/100	ug/L	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	NS	0.053	
Tetrachloroethene	1/100	ug/L	1.06	0.93J	<1.00	0.86J	4.87	4.49	<1.00	<1.00	5	1.1	
Toluene	1/100	ug/L	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	1000	750	
1,1,1-Trichloroethane	1/100	ug/L	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	200	540	
1,1,2-Trichloroethane	1/100	ug/L	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	5	0.19	
Trichloroethene	1/100	ug/L	16.9	15.8	4.63	4.54	642	441	<1.00	<1.00	5	1.6	
Vinyl Chloride	1/100	ug/L	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	2	0.019	

TAL = Target Analyte List

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MCL = Maximum Contaminant Level - Primary Drinking Water Standards

RBCs = Risk Based Concentrations

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TABLE 5
Groundwater Levels Corresponding
to Quarterly Sampled Wells

	MW-14 GWELEV	MW-15 GWELEV	MW-30 GWELEV	MW-31 GWELEV	MW-32 GWELEV	MW-33 GWELEV	MW-34 GWELEV	MW-40 GWELEV	MW-44 GWELEV	MW-51 GWELEV	MW-54 GWELEV	MW-56 GWELEV
Sampled Date												
03-Feb-99	NA	228.80	228.85	221.80	223.90	227.48	163.51	184.32	217.62	235.32	219.23	NA
25-May-99	NA	237.80	228.36	220.48	222.25	226.52	163.14	183.52	216.89	235.47	217.55	NA
27-Aug-99	NA	227.31	227.66	217.17	222.54	226.17	154.33	178.75	216.16	234.17	216.91	NA
03-Nov-99	NA	227.04	227.07	219.37	222.44	218.16	154.47	175.93	215.45	233.18	216.20	NA
07-Feb-00	228.12	226.92	226.42	218.92	222.04	225.60	160.39	177.98	214.77	232.38	215.46	226.45
16-May-00	227.53	226.79	226.06	218.54	221.67	225.48	160.50	178.53	214.17	230.48	214.81	226.24

Notes:

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

Table contains data corresponding to quarterly sampled groundwater wells only.

NA = indicates that complete data was not available.

TABLE 5
Groundwater Levels Corresponding
to Quarterly Sampled Wells

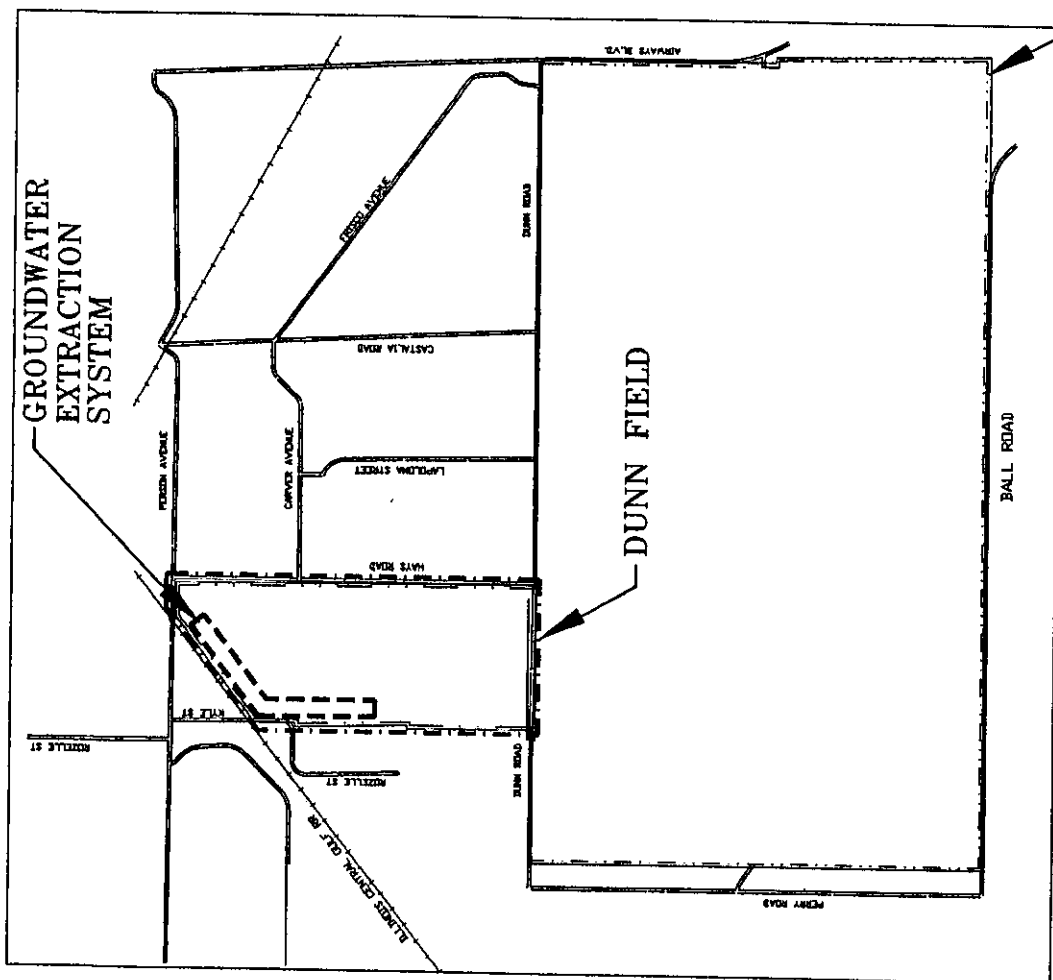
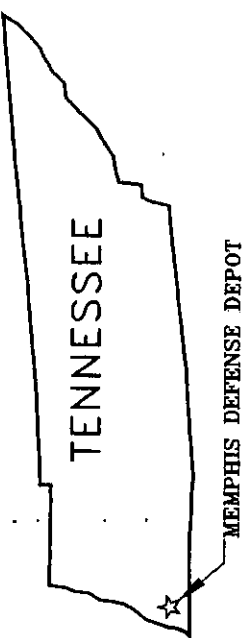
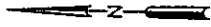
	MW-57 GWELEV	MW-58 GWELEV	MW-59 GWELEV	MW-67 GWELEV	MW-69 GWELEV	MW-70 GWELEV	MW-71 GWELEV
Sampled Date							
03-Feb-99	NA	NA	NA	NA	NA	NA	NA
25-May-99	NA	NA	NA	NA	NA	NA	NA
27-Aug-99	NA	NA	NA	NA	NA	NA	NA
03-Nov-99	NA	NA	NA	NA	NA	NA	NA
07-Feb-00	227.25	227.08	224.24	NA	222.83	223.94	225.49
16-May-00	227.19	226.87	224.13	151.22	222.82	223.71	225.24

Notes

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

Table contains data corresponding to quarterly sampled groundwater wells only.

NA = indicates that complete data was not available.



APPROXIMATE SCALE: 1" = 400'

- LEGEND
- GROUNDWATER EXTRACTION SYSTEM
- DUNN FIELD
- MEMPHIS DEFENSE DEPOT



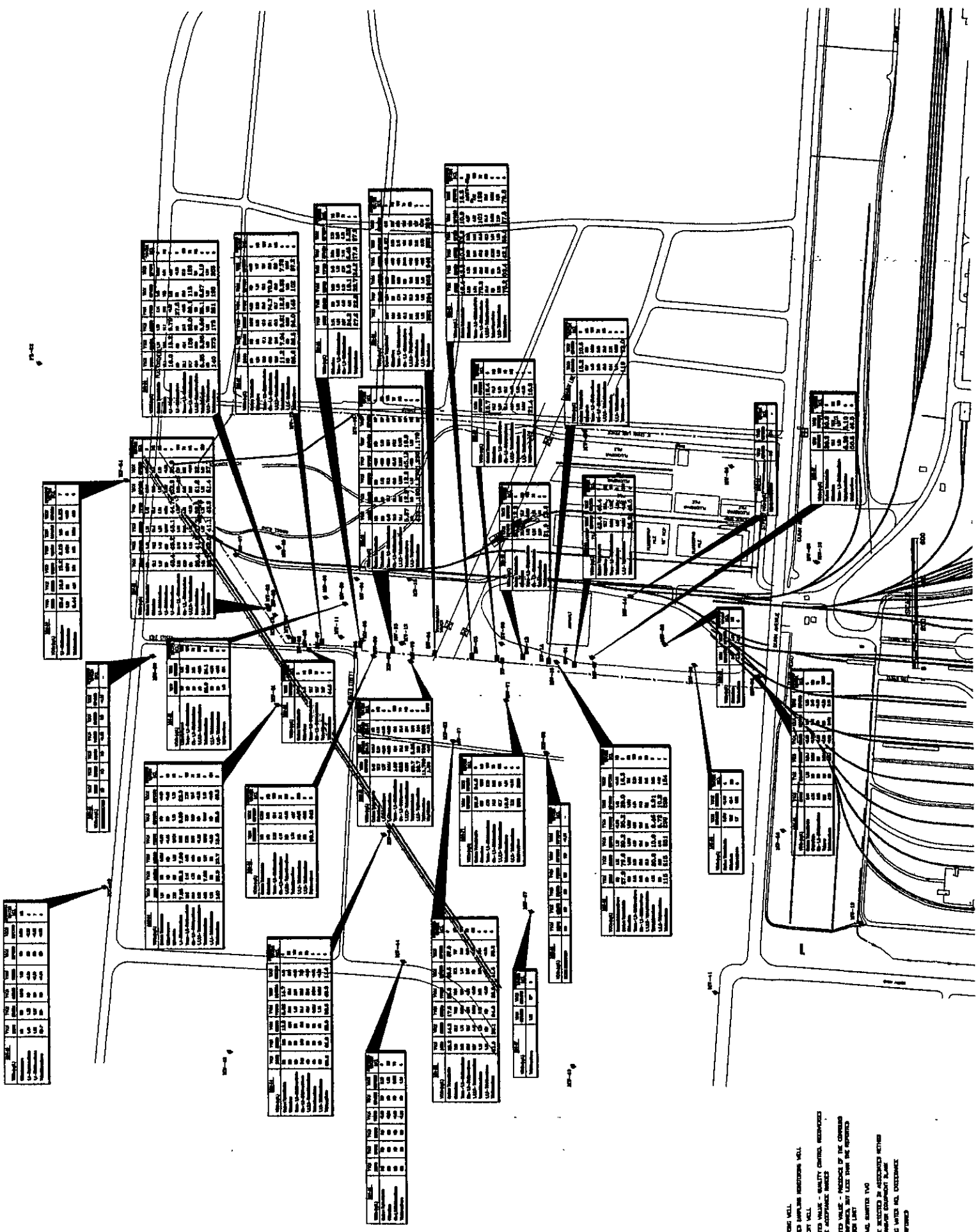
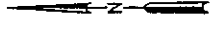
ITT CORPORATION
A Division of The ITT Corp.
Atlanta, Georgia

REVISIONS		
NO.	DESCRIPTION	DATE

SVERDRUP CIVIL, INC.
SUBCONTRACT NO. 0003107200
IT PROJECT NO. 00170
MEMPHIS, TENNESSEE

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

DRAWING NUMBER: FIG. 1
SHEET NUMBER: 1 of 4
DATE: 09/12/00



- LEGEND**
- 1. MONITORING WELL
 - 2. SELECTED MONITORING WELL
 - 3. MONITORING WELL
 - 4. ESTIMATED VALUE - QUALITY CONTROL RESERVES
 - 5. DETECTION LIMIT
 - 6. ESTIMATED VALUE - PREVIOUSLY DETECTED
 - 7. ESTIMATED VALUE - PREVIOUSLY DETECTED
 - 8. ESTIMATED VALUE - PREVIOUSLY DETECTED
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 - 95. ESTIMATED VALUE - PREVIOUSLY DETECTED
 - 96. ESTIMATED VALUE - PREVIOUSLY DETECTED
 - 97. ESTIMATED VALUE - PREVIOUSLY DETECTED
 - 98. ESTIMATED VALUE - PREVIOUSLY DETECTED
 - 99. ESTIMATED VALUE - PREVIOUSLY DETECTED
 - 100. ESTIMATED VALUE - PREVIOUSLY DETECTED



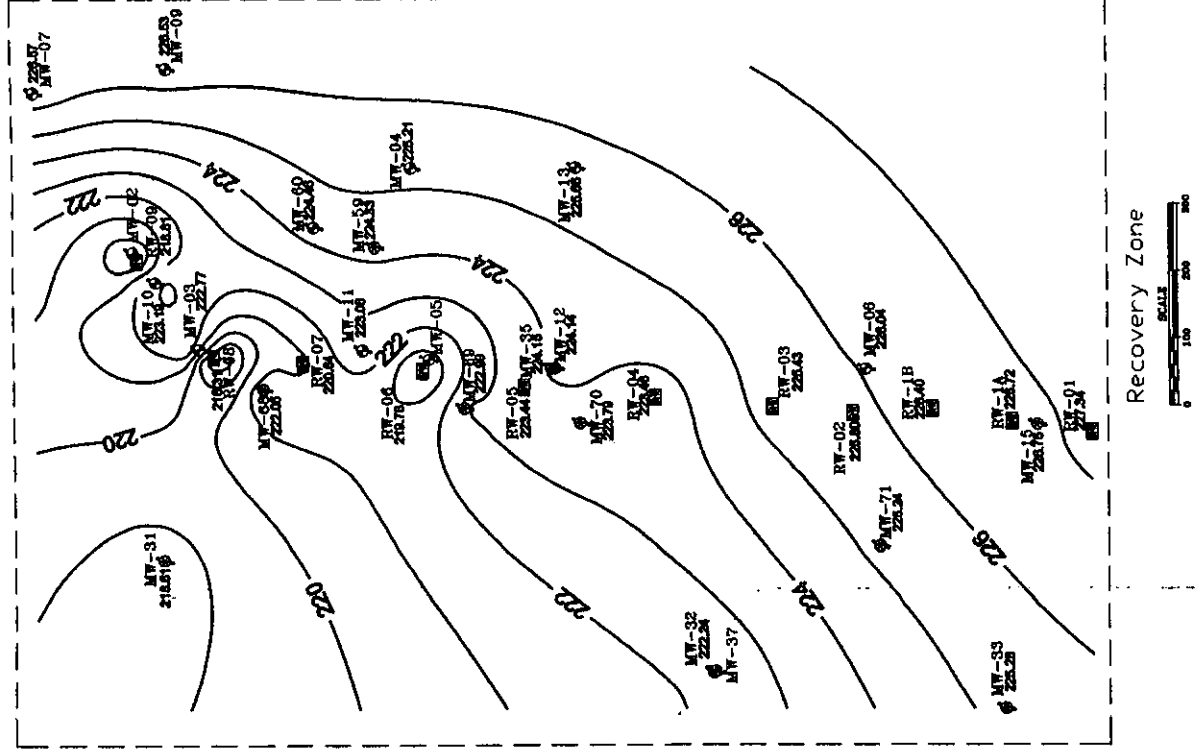
SVERDRUP CIVIL, INC.
A Subsidiary of Sverdrup Corporation
1000 Peachtree Street, N.E.
Atlanta, Georgia 30309
Phone: (404) 525-1000
Fax: (404) 525-1001
E-Mail: info@sverdrupcivil.com
Web: www.sverdrupcivil.com

REVISIONS	
NO.	DESCRIPTION
1	Initial Issue
2	Revised
3	Revised
4	Revised
5	Revised
6	Revised
7	Revised
8	Revised
9	Revised
10	Revised
11	Revised
12	Revised
13	Revised
14	Revised
15	Revised
16	Revised
17	Revised
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98	Revised
99	Revised
100	Revised

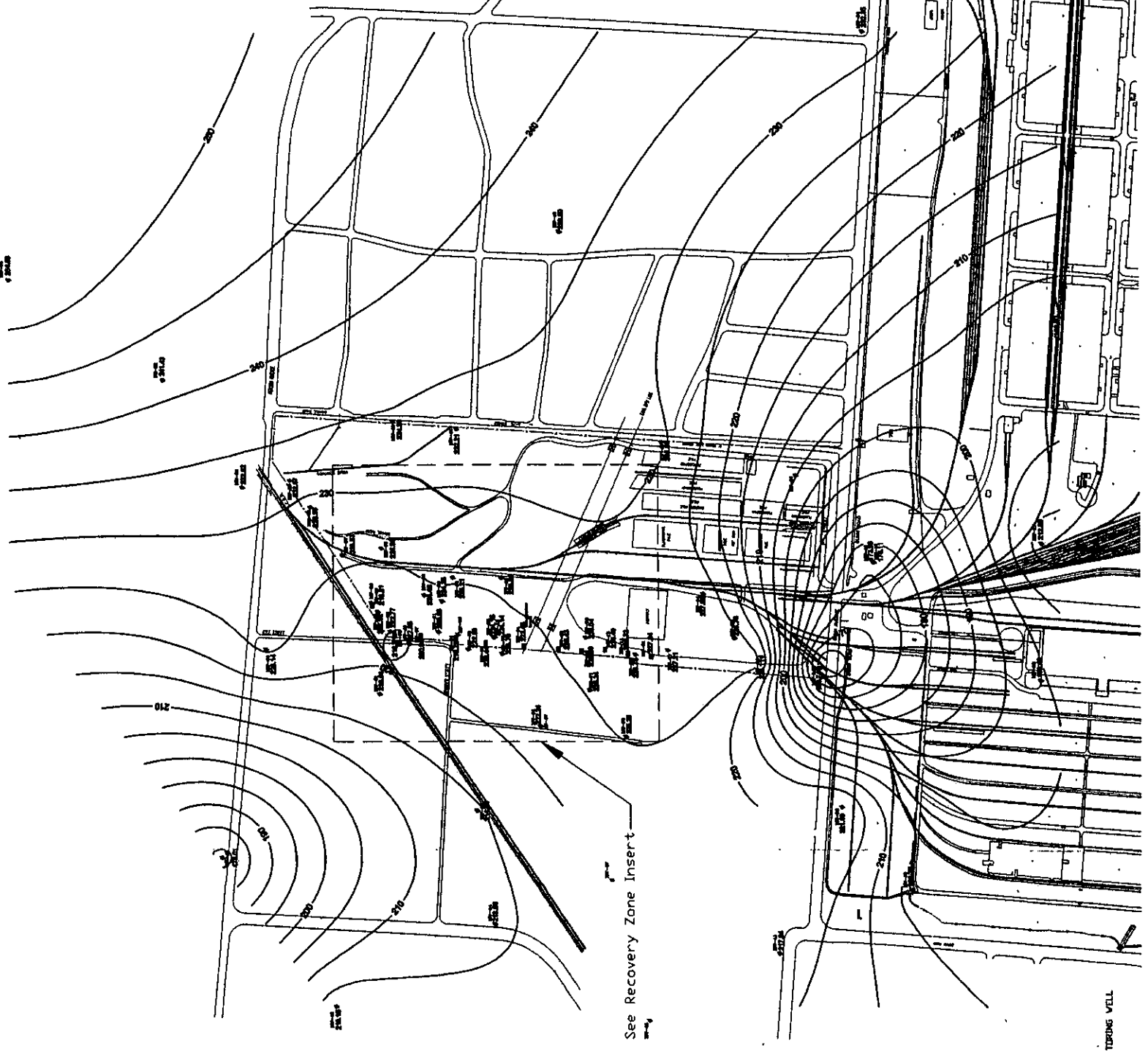
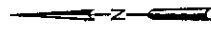
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**VOC CONCENTRATIONS
IN SELECT MONITORING WELLS**
(1992 - MAY 2000)
BURN FIELD
GROUNDWATER MONITORING SYSTEM
MEMPHIS DEFENSE DEPOT, TENNESSEE

FIG. 3
3 of 4
DATE: 06/29/00



Recovery Zone



See Recovery Zone Insert

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



SVERDRUP CIVIL, INC.
MEMPHIS, TENNESSEE

REVISIONS	
NO.	DESCRIPTION
1	INITIAL DESIGN
2	REVISIONS
3	REVISIONS
4	REVISIONS
5	REVISIONS
6	REVISIONS
7	REVISIONS
8	REVISIONS
9	REVISIONS
10	REVISIONS

DRAWING NUMBER: FIG. 4	
SHEET NUMBER: 4 of 4	
DATE: 07/14/00	
SUBCONTRACT NO. C001101200	
PROJECT NO. 00170	
MEMPHIS, TENNESSEE	
DUNN FIELD	
GROUNDWATER EXTRACTION SYSTEM	
MEMPHIS DEFENSE DEPOT, TENNESSEE	

POTENTIOMETRIC SURFACE MAP
Y2Q2 - MAY 2000

TABLE 6

[illegible]

NOTES:

- 1) Baseline measurements performed 4-May-86. These represent static conditions
- 2) OTW = depth to water
- 3) * The level transducer sits on top of pump for RM-5 only
- 4) A transducer measurement identifies the height of water column (above the instrument) of the well. The bottom of the well is the reference point.
- 5) A water level measurement identifies the depth to water. The TOC is a reference
- 6) GVE/IN = Calculated by TOC-MWD System = Transducer Measurement

7) Data retrieved from telemetry system and representative dates chosen which correspond closely to a bi-weekly gauging event

Well ID	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-18	MW-19
TOC Elevation	292.04	292.35	301.61	304.64	289.11	295.1	292.59	304.32	288.83	299.47	301.35	299.73	302.22	295.12	308.02	290.57
Total Depth (ft)	35.00	77.00	81.80	79.25	70.24	77.20	69.00	82.50	71.00	85.00	87.00	83.00	80.00	81.00	140.00	96.40
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	Depot
DATE	DTW (BTC) Elev.	DTW (BTC) Elev.	DTW (BTC) Elev.	DTW (BTC) Elev.	DTW (BTC) Elev.	DTW (BTC) Elev.	DTW (BTC) Elev.	DTW (BTC) Elev.	DTW (BTC) Elev.	DTW (BTC) Elev.	DTW (BTC) Elev.	DTW (BTC) Elev.	DTW (BTC) Elev.	DTW (BTC) Elev.	DTW (BTC) Elev.	DTW (BTC) Elev.
01-Nov-99	DRY	70.89	75.87	DRY	62.90	67.85	63.15	77.10	65.59	76.09	77.20	73.56	73.70	67.95	136.20	NM
02-Nov-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
03-Nov-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
04-Nov-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
05-Nov-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
06-Nov-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
07-Nov-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
08-Nov-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
09-Nov-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
10-Nov-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
11-Nov-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
12-Nov-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
13-Nov-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
14-Nov-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
15-Nov-99	DRY	71.05	76.06	DRY	63.10	68.03	63.29	77.23	65.67	76.47	77.39	73.64	73.85	68.15	136.60	87.06
16-Nov-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	203.51	203.51
17-Nov-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
18-Nov-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
19-Nov-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
20-Nov-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
21-Nov-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
22-Nov-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
23-Nov-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
24-Nov-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
25-Nov-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
26-Nov-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
27-Nov-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
28-Nov-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
29-Nov-99	31.50	70.95	76.20	DRY	63.12	68.08	63.40	77.25	65.85	76.55	77.44	73.70	74.15	68.35	135.00	87.50
30-Nov-99	NM	NM	NM	DRY	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	173.02	203.07
01-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
02-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
03-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
04-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
05-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
06-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
07-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
08-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
09-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
10-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
11-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
12-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
13-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
14-Dec-99	DRY	71.10	76.12	DRY	63.00	68.17	63.50	77.35	65.56	76.64	77.45	73.71	74.00	68.25	132.00	87.20
15-Dec-99	NM	NM	NM	DRY	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	176.02	203.37
16-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
17-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
18-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
19-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
20-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
21-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
22-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
23-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
24-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
25-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
26-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
27-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
28-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
29-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
30-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
31-Dec-99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM

Well ID	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-18	MW-19
TOC Elevation	292.04	292.35	301.61	304.64	289.11	295.1	292.59	304.32	288.83	299.47	301.35	299.73	302.22	295.12	308.02	290.57
Total Depth (ft)	35.00	77.00	81.80	79.25	70.24	77.20	69.00	82.50	71.00	85.00	87.00	83.00	80.00	81.00	140.00	96.40
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	Depot
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.
01-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
02-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
03-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
04-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
05-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
06-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
07-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
08-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
09-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
10-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
11-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
12-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
13-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
14-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
15-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
16-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
17-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
18-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
19-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
20-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
21-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
22-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
23-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
24-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
25-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
26-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
27-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
28-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
29-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
30-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
31-May-00	DRY	69.58	76.40	63.07	68.53	68.53	64.03	77.79	65.64	76.41	77.21	74.07	74.35	68.37	131.91	87.82
		222.77	225.21	---	226.04	226.57	228.56	226.53	223.19	223.06	224.14	225.66	227.88	226.75	176.11	202.75

[illegible]

Well ID	MW-27	MW-28	MW-29	MW-30	MW-31	MW-32	MW-33	MW-34	MW-35	MW-36	MW-37	MW-38	MW-40	MW-41	MW-42	MW-43
TOC Elevation	303.86	294.79	273.22	274.87	290.17	284.88	280.56	299.72	300.52	310.24	284.89	307.44	262.45	283.81	274.87	284.99
Total Depth (ft)	93.60	69.00	54.00	59.00	79.00	67.80	60.00	156.90	90.00	209.00	182.80	155.00	95.00	67.00	59.00	173.00
Location	Depot	Dunn Field	Dunn Field	MLGW Facility	MLGW Facility	Kyle	Off-Site	Depot Field	Dunn Field	Dunn Field	Kyle	Depot	Off-Site	Off-Site	Off-Site	Elementary School
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.
01-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
02-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
03-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
04-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
05-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
06-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
07-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
08-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
09-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
10-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
11-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
12-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
13-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
14-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
15-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
16-May-00	NM		NM		NM		NM		NM		NM		NM		NM	
17-May-00	NM		NM	48.81	NM	63.21	55.08	225.48	NM		NM		83.92	NM	NM	
18-May-00	NM		NM	NM	71.63	NM	NM	160.50	NM		NM		NM	NM	NM	
19-May-00	NM		NM	NM	NM	NM	NM		NM		NM		NM	NM	NM	
20-May-00	NM		NM	NM	NM	NM	NM		NM		NM		NM	NM	NM	
21-May-00	NM		NM	NM	NM	NM	NM		NM		NM		NM	NM	NM	
22-May-00	NM		NM	NM	NM	NM	NM		NM		NM		NM	NM	NM	
23-May-00	NM		NM	NM	NM	NM	NM		NM		NM		NM	NM	NM	
24-May-00	NM		NM	NM	NM	NM	NM		NM		NM		NM	NM	NM	
25-May-00	NM		NM	NM	NM	NM	NM		NM		NM		NM	NM	NM	
26-May-00	NM		NM	NM	NM	NM	NM		NM		NM		NM	NM	NM	
27-May-00	NM		NM	NM	NM	NM	NM		NM		NM		NM	NM	NM	
28-May-00	NM		NM	NM	NM	NM	NM		NM		NM		NM	NM	NM	
29-May-00	NM		NM	NM	NM	NM	NM		NM		NM		NM	NM	NM	
30-May-00	NM		NM	NM	NM	NM	NM		NM		NM		NM	NM	NM	
31-May-00	91.23	212.63	40.67	232.55	71.53	218.64	55.28	139.98	76.37	157.12	130.36	133.48	84.44	65.87	56.72	154.36

Well ID	MW- 44		MW-45		MW-46		MW-49		MW-51		MW-53		MW-54		MW-55		MW-56		MW-57		MW-58		MW-59		MW-60		MW-62		MW-63		MW-65		MW-67		
	TOC Elevation		269.07		292.81		287.56		310.49		275.24		306.38		295.36		292.05		293.80		290.52		300.12		296.85		293.60		304.58		263.22		278.21		
	Total Depth (ft)		74.00		68.00		72.00		90.00		65.00		82.50		94.50		74.00		69.50		70.50		67.50		85.00		84.00		135.00		52.00		275.00		
Location		Off-Site		Off-Site		Dunn Field		Dunn Field		Off-Site		Off-Site		MLGW Facility		Depot		Dunn Field		Dunn Field		Dunn Field		Dunn Field		Dunn Field		Depot		Depot		Cloverdale		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.	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.	
01-Nov-99	53.35	215.72	55.10	237.71	54.00	233.56	78.40	232.09	42.00	233.24	73.02	233.36	79.00	216.36	70.55	221.50	NM	NA	63.10	227.69	63.00	227.52	75.40	224.72	72.02	224.83	NM	NA	NM	NM	NM	NA	NM	NA	
02-Nov-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
03-Nov-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
04-Nov-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
05-Nov-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
06-Nov-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
07-Nov-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
08-Nov-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
09-Nov-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
10-Nov-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
11-Nov-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
12-Nov-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
13-Nov-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
14-Nov-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
15-Nov-99	53.61	215.46	55.45	237.36	54.21	233.35	78.41	232.08	42.15	233.09	73.34	233.04	79.20	216.16	70.70	221.35	67.05	226.75	63.25	227.54	63.16	227.36	75.57	224.55	72.20	224.65	94.10	199.50	103.60	200.98	NM	NA	NM	NA	
16-Nov-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
17-Nov-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
18-Nov-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
19-Nov-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
20-Nov-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
21-Nov-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
22-Nov-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
23-Nov-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
24-Nov-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
25-Nov-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
26-Nov-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
27-Nov-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
28-Nov-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
29-Nov-99	54.00	215.07	55.91	236.90	54.45	233.11	79.07	231.42	42.33	232.91	73.80	232.58	79.54	215.82	71.00	221.05	67.40	226.40	63.47	227.32	63.50	227.02	75.70	224.42	72.27	224.58	94.13	199.47	104.29	200.29	NM	NA	NM	NA	
30-Nov-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
01-Dec-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
02-Dec-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
03-Dec-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
04-Dec-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
05-Dec-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
06-Dec-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
07-Dec-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
08-Dec-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
09-Dec-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
10-Dec-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
11-Dec-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
12-Dec-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
13-Dec-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
14-Dec-99	54.04	215.03	55.56	237.25	54.40	233.16	78.80	231.69	42.50	232.74	73.47	232.91	79.62	215.74	70.88	221.17	67.25	226.55	63.44	227.35	63.37	227.15	75.70	224.42	72.30	224.55	94.45	199.15	103.91	200.67	NM	NA	NM	NA	
15-Dec-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
16-Dec-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
17-Dec-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
18-Dec-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
19-Dec-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
20-Dec-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
21-Dec-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
22-Dec-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
23-Dec-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
24-Dec-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
25-Dec-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
26-Dec-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
27-Dec-99	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		
28-Dec-99	NM	</																																	

Well ID	MW- 44		MW-45		MW-46		MW-49		MW-51		MW-53		MW-54		MW-55		MW-56		MW-57		MW-58		MW-59		MW-60		MW-62		MW-63		MW-65		MW-67			
	TOC Elevation	269.07	292.81	287.56	310.49	275.24	306.38	295.36	292.05	293.80	290.79	290.52	300.12	296.85	293.60	304.58	263.22	278.21																		
Total Depth (ft)	74.00	68.00	72.00	90.00	65.00	82.50	94.50	74.00	69.50	70.50	67.50	85.00	84.00	112.50	135.00	52.00	275.00																			
Location	Off-Site	Off-Site	Dunn Field	Dunn Field	Off-Site	Off-Site	MLGW Facility	Depot	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Depot	Depot	Cloverdale	Off-Site																		
DATE	DTW	GW	DTW	GW	DTW	GW	DTW	GW	DTW	GW	DTW	GW	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.	(BTC)	Elev.	(BTC)	Elev.	(BTC)	Elev.	(BTC)	Elev.	(BTC)	Elev.	(BTC)	Elev.	(BTC)	Elev.	
01-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
02-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
03-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
04-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
05-Jan-00	54.15	214.92	56.10	236.71	42.57	232.67	73.81	232.57	79.70	215.66	71.07	220.98	67.42	226.38	63.56	227.23	63.55	226.97	75.75	224.37	72.41	224.44	94.40	199.20	104.43	200.15	13.90	249.32	125.18	153.03						
06-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
07-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
08-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
09-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
10-Jan-00	54.10	214.97	55.75	237.06	42.62	232.62	73.27	233.11	79.71	215.65	70.88	221.17	67.14	226.66	63.14	227.65	63.25	227.27	75.77	224.35	72.42	224.43	94.03	199.57	103.87	200.71	13.95	249.27	124.75	153.46						
11-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
12-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
13-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
14-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
15-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
16-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
17-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
18-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
19-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
20-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
21-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
22-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
23-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
24-Jan-00	54.35	214.72	56.10	236.71	42.72	232.52	73.70	232.68	79.90	215.46	71.10	220.95	67.40	226.40	63.60	227.19	63.50	227.02	75.75	224.37	72.46	224.39	94.17	199.43	103.34	201.24	14.15	249.07	124.48	153.73						
25-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
26-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
27-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
28-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
29-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
30-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
31-Jan-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
01-Feb-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
02-Feb-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
03-Feb-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
04-Feb-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
05-Feb-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
06-Feb-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
07-Feb-00	54.30	214.77	56.00	236.81	42.86	232.38	73.56	232.82	79.90	215.46	71.05	221.00	67.35	226.45	63.54	227.25	63.45	227.07	75.88	224.24	72.55	224.30	94.10	199.50	104.16	200.42	13.89	249.33	124.15	154.06						
08-Feb-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
09-Feb-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
10-Feb-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
11-Feb-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
12-Feb-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
13-Feb-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
14-Feb-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
15-Feb-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
16-Feb-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
17-Feb-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
18-Feb-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
19-Feb-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
20-Feb-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
21-Feb-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
22-Feb-00	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
23-Feb-00	54.22	214.85	56.00	236.81	42.98</																															

[illegible]

Well ID	MW-44	MW-45	MW-46	MW-49	MW-51	MW-53	MW-54	MW-55	MW-56	MW-57	MW-58	MW-59	MW-60	MW-62	MW-63	MW-65	MW-67	
TOC Elevation	269.07	292.81	287.56	310.49	275.24	306.38	295.36	292.05	293.80	290.79	290.52	300.12	296.85	293.60	304.58	263.22	278.21	
Total Depth (ft)	74.00	68.00	72.00	90.00	65.00	82.50	94.50	74.00	69.50	70.50	67.50	85.00	84.00	112.50	135.00	52.00	275.00	
Location	Off-Site	Off-Site	Dunn Field	Dunn Field	Off-Site	Off-Site	MLGW Facility	Depot	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Dunn Field	Depot	Depot	Cloverdale	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.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.
01-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
02-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
03-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
04-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
05-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
06-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
07-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
08-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
09-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
10-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
11-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
12-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
13-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
14-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
15-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
16-May-00	54.90	214.17	NM		44.76	230.48	NM		67.56	226.24	63.60	227.19	63.65	226.87	75.99	224.13	126.99	151.22
17-May-00	NM		NM		NM		80.55	214.81	NM		NM		NM		NM		NM	
18-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
19-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
20-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
21-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
22-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
23-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
24-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
25-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
26-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
27-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
28-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
29-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
30-May-00	NM		NM		NM		NM		NM		NM		NM		NM		NM	
31-May-00	55.21	213.86	55.35	232.21	42.72	232.52	80.85	214.51	71.02	221.03	63.58	227.21	63.76	226.76	75.79	224.33	104.78	199.80
																8.64	254.58	

Well ID TOC Elevation Total Depth (ft) Location	MW-68 291.68 82.10 Off-Site	MW-69 307.04 92.20 Off-Site	MW-70 305.05 91.00 Off-Site	MW-71 294.39 75.40 Off-Site	PZ-02 284.39 54.50 Off-Site	RW-3 299.40 78.50 Dunn Field	RW-4 305.22 85.50 Dunn Field	RW-5 307.25 92.50 Dunn Field	RW-6 304.67 87.50 Dunn Field	RW-7 297.53 80.00 Dunn Field	RW-8 293.09 81.00 Dunn Field	RW-9 290.79 75.50 Dunn Field	Average System Effluent				Rainfall 24-hr Period						
													DTW (BTC) Elev.	GW (BTC) Elev.	DTW (BTC) Elev.	GW (BTC) Elev.		DTW (BTC) Elev.	DTW (BTC) Elev.	Flow Rate (gpm)	Totalized Flow* (gal)	Adjusted Totalized Flow (gallons)	Time
DATE	DTW (BTC) Elev.	GW (BTC) Elev.	DTW (BTC) Elev.	GW (BTC) Elev.	DTW (BTC) Elev.	DTW (BTC) Elev.	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Totalized Flow* (gal)	Adjusted Totalized Flow (gallons)	Time	(inches)					
01-Nov-99	NM	NA	NM	NA	NM	NA	5.6	4.4	4.2	2.0	5.1	21.7	68.8	53,449,502	53,449,502	53,449,502	12:00	0.93					
02-Nov-99	NM	NM	NM	NM	NM	NM	4.8	4.6	4.1	7.8	4.2	20.8	70.8	53,551,512	53,551,512	53,551,512	12:00	0.06					
03-Nov-99	NM	NM	NM	NM	NM	NM	5.8	4.2	NM	NM	NM	NM	NM	132,617	132,617	132,617	12:00	0.00					
04-Nov-99	NM	NM	NM	NM	NM	NM	5.3	4.1	4.1	8.8	4.1	20.9	73.5	53,684,129	53,684,129	53,684,129	12:00	0.00					
05-Nov-99	NM	NM	NM	NM	NM	NM	5.2	4.4	4.1	8.6	4.1	20.9	73.1	53,789,925	53,789,925	53,789,925	12:00	0.00					
06-Nov-99	NM	NM	NM	NM	NM	NM	5.5	4.2	4.1	8.5	4.3	21.2	73.6	53,895,117	53,895,117	53,895,117	12:00	0.00					
07-Nov-99	NM	NM	NM	NM	NM	NM	5.4	4.5	4.1	8.5	4.5	21.3	73.9	54,001,145	54,001,145	54,001,145	12:00	0.00					
08-Nov-99	NM	NM	NM	NM	NM	NM	5.3	4.4	4.1	8.4	4.4	21.2	73.5	54,107,546	54,107,546	54,107,546	12:00	0.00					
09-Nov-99	NM	NM	NM	NM	NM	NM	5.3	4.4	4.1	8.4	4.2	21.1	72.7	54,213,429	54,213,429	54,213,429	12:00	0.00					
10-Nov-99	NM	NM	NM	NM	NM	NM	5.0	3.8	4.0	8.3	4.1	21.1	72.7	54,318,146	54,318,146	54,318,146	12:00	0.00					
11-Nov-99	NM	NM	NM	NM	NM	NM	5.0	4.2	4.1	8.3	3.4	20.7	70.9	54,422,892	54,422,892	54,422,892	12:00	0.00					
12-Nov-99	NM	NM	NM	NM	NM	NM	5.2	4.2	4.1	8.3	4.2	21.0	72.0	54,525,017	54,525,017	54,525,017	12:00	0.00					
13-Nov-99	NM	NM	NM	NM	NM	NM	5.1	4.5	4.1	8.3	4.2	21.0	72.5	54,628,668	54,628,668	54,628,668	12:00	0.00					
14-Nov-99	NM	NA	NM	NA	43.64 240.75	5.1	4.3	4.1	8.3	4.1	21.9	20.9	72.0	54,733,082	54,733,082	54,733,082	12:00	0.00					
15-Nov-99	NM	NM	NM	NM	NM	NM	4.8	4.1	4.1	8.2	4.1	20.8	71.5	54,836,805	54,836,805	54,836,805	12:00	0.00					
16-Nov-99	NM	NM	NM	NM	NM	NM	7.7	3.9	4.0	8.2	4.0	20.7	71.5	54,939,751	54,939,751	54,939,751	12:00	0.00					
17-Nov-99	NM	NM	NM	NM	NM	NM	3.5	4.0	4.0	8.2	4.1	20.7	70.1	55,040,162	55,040,162	55,040,162	12:00	0.00					
18-Nov-99	NM	NM	NM	NM	NM	NM	4.9	4.1	4.0	8.2	4.1	20.7	70.9	55,143,122	55,143,122	55,143,122	12:00	0.00					
19-Nov-99	NM	NM	NM	NM	NM	NM	4.6	3.9	4.0	8.2	4.2	20.7	70.9	55,244,124	55,244,124	55,244,124	12:00	0.00					
20-Nov-99	NM	NM	NM	NM	NM	NM	4.6	4.2	4.1	8.2	4.2	20.8	67.0	55,346,263	55,346,263	55,346,263	12:00	1.29					
21-Nov-99	NM	NM	NM	NM	NM	NM	4.8	4.2	4.1	8.1	4.0	20.7	67.0	55,430,042	55,430,042	55,430,042	12:00	<0.01					
22-Nov-99	NM	NM	NM	NM	NM	NM	4.6	4.2	4.1	8.3	4.4	20.0	50.5	55,502,762	55,502,762	55,502,762	12:00	0.00					
23-Nov-99	NM	NM	NM	NM	NM	NM	4.6	4.0	4.0	8.2	4.2	22.5	63.6	55,594,361	55,594,361	55,594,361	12:00	0.00					
24-Nov-99	NM	NM	NM	NM	NM	NM	4.6	4.0	4.0	8.2	4.2	22.1	72.3	55,698,458	55,698,458	55,698,458	12:00	0.01					
25-Nov-99	NM	NM	NM	NM	NM	NM	4.4	3.9	4.0	8.2	4.1	21.2	70.2	55,799,561	55,799,561	55,799,561	12:00	0.00					
26-Nov-99	NM	NM	NM	NM	NM	NM	1.3	4.0	4.1	8.3	4.4	21.4	69.2	55,899,252	55,899,252	55,899,252	12:00	0.08					
27-Nov-99	NM	NM	NM	NM	NM	NM	0.0	4.1	4.0	8.2	4.2	20.8	67.0	55,995,775	55,995,775	55,995,775	12:00	0.00					
28-Nov-99	NM	NM	NM	NM	NM	NM	0.0	4.2	4.0	8.1	4.0	21.7	8.5	56,073,953	56,073,953	56,073,953	12:00	0.00					
29-Nov-99	NM	NA	NM	NA	40.10 244.29	1.3	3.9	4.0	8.1	4.0	22.0	0.0	46.2	56,140,437	56,140,437	56,140,437	12:00	0.00					
30-Nov-99	NM	NM	NM	NM	NM	NM	2.5	4.1	4.0	8.2	4.2	13.3	61.5	56,229,012	56,229,012	56,229,012	12:00	0.00					
01-Dec-99	NM	NM	NM	NM	NM	NM	1.7	4.2	4.0	8.3	4.3	22.3	67.3	56,325,953	56,325,953	56,325,953	12:00	0.00					
02-Dec-99	NM	NM	NM	NM	NM	NM	2.0	4.5	4.1	8.3	4.4	22.0	67.5	56,423,210	56,423,210	56,423,210	12:00	0.00					
03-Dec-99	NM	NM	NM	NM	NM	NM	0.0	4.4	4.0	8.2	4.4	21.4	64.8	56,516,493	56,516,493	56,516,493	12:00	0.00					
04-Dec-99	NM	NM	NM	NM	NM	NM	1.4	4.6	4.0	8.1	4.3	22.1	65.5	56,610,842	56,610,842	56,610,842	12:00	0.36					
05-Dec-99	NM	NM	NM	NM	NM	NM	4.2	4.6	4.0	8.1	4.1	21.0	63.2	56,701,793	56,701,793	56,701,793	12:00	0.26					
06-Dec-99	NM	NM	NM	NM	NM	NM	3.9	4.3	4.0	8.1	4.0	16.4	62.7	56,792,009	56,792,009	56,792,009	12:00	0.69					
07-Dec-99	NM	NM	NM	NM	NM	NM	2.3	4.4	4.0	8.1	3.9	0.0	46.1	56,858,436	56,858,436	56,858,436	12:00	0.00					
08-Dec-99	NM	NM	NM	NM	NM	NM	0.6	4.1	4.0	8.2	4.3	12.5	58.1	56,942,042	56,942,042	56,942,042	12:00	0.00					
09-Dec-99	NM	NM	NM	NM	NM	NM	2.7	4.9	4.1	8.2	4.4	21.9	65.0	57,035,585	57,035,585	57,035,585	12:00	0.00					
10-Dec-99	NM	NM	NM	NM	NM	NM	2.8	4.1	4.0	8.1	4.2	21.7	68.0	57,133,490	57,133,490	57,133,490	12:00	0.45					
11-Dec-99	NM	NM	NM	NM	NM	NM	1.3	4.1	4.0	8.1	3.8	12.8	56.9	57,215,397	57,215,397	57,215,397	12:00	<0.01					
12-Dec-99	NM	NM	NM	NM	NM	NM	2.0	4.6	4.0	8.2	4.2	21.5	65.1	57,309,141	57,309,141	57,309,141	12:00	0.00					
13-Dec-99	NM	NM	NM	NM	NM	NM	1.5	4.2	4.0	8.2	4.3	22.0	66.2	57,404,455	57,404,455	57,404,455	12:00	2.55					
14-Dec-99	NM	NA	NM	NA	43.95 240.44	2.3	4.2	4.0	8.2	4.1	21.7	20.6	64.2	57,496,903	57,496,903	57,496,903	12:00	0.42					
15-Dec-99	NM	NM	NM	NM	NM	NM	4.2	4.0	4.0	8.0	3.9	19.0	62.8	57,587,349	57,587,349	57,587,349	12:00	0.00					
16-Dec-99	NM	NM	NM																				

Well ID TOC Elevation	MW-68 291.68		MW-69 307.04		MW-70 305.05		MW-71 294.39		PZ-02 284.39		RW-3 299.40		RW-4 305.22		RW-5 307.25		RW-6 304.67		RW-7 297.53		RW-8 293.09		RW-9 290.79		Rainfall 24-hr Period
	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	Flow Rate (gpm)	DTW (BTC)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)		
Total Depth (ft)	82.10	Off-Site	92.20	Off-Site	91.00	Off-Site	75.40	Off-Site	54.50	Off-Site	78.50	Dunn Field	85.50	Dunn Field	92.50	Dunn Field	87.50	Dunn Field	80.00	Dunn Field	81.00	Dunn Field	75.50	Dunn Field	
Location		Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	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		
DATE	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	Flow Rate (gpm)	DTW (BTC)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)		
01-Jan-00	NM		NM		NM		NM		NM		0.0	4.3	4.0	7.9	3.9	21.3	19.9	63.8	5,591,815	59,143,327	12:00	0.00			
02-Jan-00	NM		NM		NM		NM		NM		0.0	4.7	4.0	8.0	3.9	21.4	20.0	64.5	5,684,710	59,236,221	12:00	0.00			
03-Jan-00	NM		NM		NM		NM		NM		0.0	4.7	4.0	8.0	4.1	21.5	20.1	65.1	5,778,511	59,330,023	12:00	0.01			
04-Jan-00	NM		NM		NM		NM		NM		0.0	4.0	3.9	3.2	2.9	20.6	19.0	54.7	5,857,251	59,408,762	12:00	0.01			
05-Jan-00	NM	NA	84.02	223.02	81.40	223.65	58.99	225.40	44.06	240.33	0.0	4.3	4.0	4.0	4.0	21.2	19.7	57.9	5,940,684	59,492,196	12:00	<0.01			
06-Jan-00	NM		NM		NM		NM		NM		0.0	4.6	4.0	8.2	3.8	21.1	19.6	61.9	6,029,806	59,581,317	12:00	0.00			
07-Jan-00	NM		NM		NM		NM		NM		0.0	4.5	4.0	8.1	3.9	21.1	19.6	62.0	6,119,071	59,670,583	12:00	0.00			
08-Jan-00	NM		NM		NM		NM		NM		0.0	4.6	4.0	8.1	4.2	21.6	20.2	64.9	6,212,513	59,764,025	12:00	0.00			
09-Jan-00	NM		NM		NM		NM		NM		0.0	5.0	4.1	8.1	4.2	21.7	20.3	65.9	6,307,395	59,858,906	12:00	0.05			
10-Jan-00	NM	NA	84.22	222.82	81.22	223.83	68.93	225.46	44.00	240.39	0.0	4.3	4.0	7.9	3.8	21.0	19.5	63.0	6,398,100	59,949,612	12:00	<0.01			
11-Jan-00	NM		NM		NM		NM		NM		0.0	4.2	3.9	7.8	3.2	20.7	19.2	61.2	6,486,156	60,037,668	12:00	0.00			
12-Jan-00	NM		NM		NM		NM		NM		0.0	4.3	4.0	7.9	3.9	21.0	19.5	63.0	6,576,905	60,128,417	12:00	0.00			
13-Jan-00	NM		NM		NM		NM		NM		0.0	3.9	3.9	3.1	1.9	20.2	18.5	54.3	6,655,025	60,206,537	12:00	0.10			
14-Jan-00	NM		NM		NM		NM		NM		0.0	4.8	4.0	8.0	4.1	21.0	19.4	53.0	6,731,273	60,282,785	12:00	0.00			
15-Jan-00	NM		NM		NM		NM		NM		0.0	4.4	4.1	8.0	4.4	21.5	20.1	55.5	6,811,179	60,362,690	12:00	0.00			
16-Jan-00	NM		NM		NM		NM		NM		0.0	4.5	4.1	8.0	4.2	21.3	19.6	56.1	6,892,006	60,443,517	12:00	0.14			
17-Jan-00	NM		NM		NM		NM		NM		0.0	4.8	4.1	8.0	4.4	21.4	19.8	56.8	6,973,827	60,525,338	12:00	0.19			
18-Jan-00	NM		NM		NM		NM		NM		0.0	4.9	4.1	8.0	4.3	21.2	19.5	59.2	7,059,118	60,610,629	12:00	<0.01			
19-Jan-00	NM		NM		NM		NM		NM		0.0	5.0	4.1	8.8	4.3	21.6	20.0	64.5	7,152,055	60,703,567	12:00	0.01			
20-Jan-00	NM		NM		NM		NM		NM		0.0	4.7	4.0	8.2	3.0	20.6	18.8	59.4	7,237,606	60,789,117	12:00	0.00			
21-Jan-00	NM		NM		NM		NM		NM		0.0	4.5	4.0	5.0	3.9	21.0	19.4	58.7	7,322,177	60,873,689	12:00	0.00			
22-Jan-00	NM		NM		NM		NM		NM		0.0	4.7	4.1	4.1	4.3	21.4	20.4	54.0	7,399,879	60,951,391	12:00	0.00			
23-Jan-00	NM		NM		NM		NM		NM		0.0	4.6	4.1	4.1	4.1	20.9	19.1	51.9	7,474,659	61,026,170	12:00	<0.01			
24-Jan-00	NM	NA	84.00	223.04	81.31	223.74	69.00	225.39	44.24	240.15	0.0	4.1	4.0	4.5	4.1	21.0	19.1	58.4	7,558,798	61,110,309	12:00	<0.01			
25-Jan-00	NM		NM		NM		NM		NM		0.0	4.7	4.0	8.4	4.0	21.0	19.2	62.2	7,648,351	61,199,863	12:00	0.00			
26-Jan-00	NM		NM		NM		NM		NM		0.0	4.5	4.0	8.1	3.8	20.7	19.0	62.1	7,737,718	61,289,229	12:00	0.00			
27-Jan-00	NM		NM		NM		NM		NM		0.0	4.4	4.0	8.0	3.7	20.8	19.0	59.9	7,824,017	61,375,529	12:00	0.02			
28-Jan-00	NM		NM		NM		NM		NM		0.0	4.2	4.0	8.0	3.9	20.9	19.3	61.5	7,912,635	61,464,146	12:00	0.08			
29-Jan-00	NM		NM		NM		NM		NM		0.0	4.3	4.0	8.0	3.9	21.0	19.2	59.2	7,997,883	61,549,394	12:00	0.01			
30-Jan-00	NM		NM		NM		NM		NM		0.0	4.5	4.0	7.9	3.7	20.8	19.1	59.6	8,083,735	61,635,247	12:00	0.00			
31-Jan-00	NM		NM		NM		NM		NM		0.0	4.4	4.0	7.9	3.9	21.0	19.2	62.3	8,173,375	61,724,887	12:00	0.00			
01-Feb-00	NM		NM		NM		NM		NM		0.0	4.2	4.0	7.8	3.6	20.7	18.9	60.1	8,259,977	61,811,489	12:00	0.00			
02-Feb-00	NM		NM		NM		NM		NM		0.0	4.2	4.0	7.8	3.7	20.8	19.1	60.6	8,347,270	61,898,781	12:00	0.00			
03-Feb-00	NM		NM		NM		NM		NM		0.0	4.8	4.0	7.9	4.1	21.3	19.6	63.0	8,438,047	61,989,559	12:00	0.00			
04-Feb-00	NM		NM		NM		NM		NM		0.0	4.1	3.1	7.7	2.4	20.3	18.5	57.4	8,520,646	62,072,157	12:00	0.00			
05-Feb-00	NM		NM		NM		NM		NM		0.0	4.0	3.9	7.8	3.1	20.6	18.7	59.8	8,606,787	62,158,298	12:00	0.00			
06-Feb-00	NM		NM		NM		NM		NM		0.0	4.3	4.0	7.8	3.7	20.8	19.0	60.7	8,694,209	62,245,721	12:00	0.00			
07-Feb-00	NM	NA	84.25	222.79	81.39	223.66	68.96	225.43	44.20	240.19	0.0	4.7	4.0	7.7	3.8	20.7	18.9	60.2	8,780,897	62,332,409	12:00	0.00			
08-Feb-00	NM		NM		NM		NM		NM		0.0	4.3	3.9	7.7	3.6	20.6	18.7	59.2	8,866,203	62,417,714	12:00	0.00			
09-Feb-00	NM		NM		NM		NM		NM		0.0	4.8	4.0	7.7	4.0	21.0	19.2	61.5	8,954,763	62,506,274	12:00	0			

Well ID TOC Elevation Total Depth (ft)	MW-68 291.68 82.10 Off-Site	MW-69 307.04 92.20 Off-Site	MW-70 305.05 91.00 Off-Site	MW-71 294.39 75.40 Off-Site	PZ-02 284.39 54.50 Off-Site	RW-3 299.40 78.50 Dunn Field	RW-4 305.22 85.50 Dunn Field	RW-5 307.25 92.50 Dunn Field	RW-6 304.67 87.50 Dunn Field	RW-7 297.53 80.00 Dunn Field	RW-8 293.09 81.00 Dunn Field	RW-9 290.79 75.50 Dunn Field	Average System Effluent			Rainfall 24-hr Period																																																																																																																																																																																																																																																																																													
													DTW (BTC) Elev.	DTW (BTC) Elev.	DTW (BTC) Elev.		Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow

Well ID TOC Elevation Total Depth (ft) Location	MW-68		MW-69		MW-70		MW-71		PZ-02		RW-3		RW-4		RW-5		RW-6		RW-7		RW-8		RW-9		Average System Effluent			Rainfall 24-hr Period
	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	Flow Rate (gpm)	DTW (BTC)	Flow Rate (gpm)	DTW (BTC)	Flow Rate (gpm)	DTW (BTC)	Flow Rate (gpm)	DTW (BTC)	Flow Rate (gpm)	DTW (BTC)	Flow Rate (gpm)	DTW (BTC)	Flow Rate (gpm)	Flow Rate (gpm)	Totalized Flow* (gal)	Adjusted Totalized Flow (gallons)	Time	
DATE	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	DTW (BTC)	GW Elev.	Flow Rate (gpm)	DTW (BTC)	Flow Rate (gpm)	DTW (BTC)	Flow Rate (gpm)	DTW (BTC)	Flow Rate (gpm)	DTW (BTC)	Flow Rate (gpm)	DTW (BTC)	Flow Rate (gpm)	DTW (BTC)	Flow Rate (gpm)	Flow Rate (gpm)	Totalized Flow* (gal)	Adjusted Totalized Flow (gallons)	Time	(inches)
01-May-00	NM		NM		NM		NM		NM		0.0	0.0	0.5	0.0	0.0	8.3	3.8	21.2	20.3	54.1	15,469,107	69,020,618	12:00	0.13				
02-May-00	NM		NM		NM		NM		NM		0.0	0.0	1.3	0.0	0.0	8.2	3.8	21.0	20.6	54.8	15,548,019	69,099,530	12:00	0.30				
03-May-00	NM		NM		NM		NM		NM		0.0	0.0	0.5	0.0	0.0	8.1	3.3	20.4	20.1	52.4	15,623,503	69,175,015	12:00	0.49				
04-May-00	NM		NM		NM		NM		NM		0.0	0.0	0.4	0.0	0.0	8.0	3.2	20.3	19.9	51.8	15,698,081	69,249,593	12:00	0.42				
05-May-00	NM		NM		NM		NM		NM		0.0	0.0	0.5	0.0	0.0	8.0	3.5	19.9	19.9	51.8	15,772,615	69,324,127	12:00	0.87				
06-May-00	NM		NM		NM		NM		NM		0.0	0.0	1.5	0.0	0.0	7.9	3.5	19.9	19.7	52.5	15,848,244	69,399,756	12:00	0.09				
07-May-00	NM		NM		NM		NM		NM		0.0	0.0	0.9	0.0	0.0	8.0	3.5	19.9	19.8	52.0	15,923,095	69,474,607	12:00	0.00				
08-May-00	NM		NM		NM		NM		NM		0.0	0.0	1.8	0.0	0.0	8.0	3.5	19.9	19.9	53.1	15,999,516	69,551,028	12:00	0.00				
09-May-00	NM		NM		NM		NM		NM		0.0	0.0	2.7	0.0	0.0	7.8	3.4	19.7	19.7	53.2	16,076,081	69,627,593	12:00	0.20				
10-May-00	NM		NM		NM		NM		NM		0.0	0.0	1.8	0.0	0.0	7.7	3.1	19.6	19.8	51.9	16,150,788	69,702,300	12:00	0.00				
11-May-00	NM		NM		NM		NM		NM		0.0	0.0	0.6	0.0	0.0	7.7	2.6	19.3	19.5	49.7	16,222,327	69,773,839	12:00	0.00				
12-May-00	NM		NM		NM		NM		NM		0.0	0.0	2.5	0.0	0.0	7.7	3.6	19.7	19.9	53.4	16,299,252	69,850,764	12:00	0.35				
13-May-00	NM		NM		NM		NM		NM		0.0	0.0	1.6	0.0	0.0	7.4	3.2	19.6	19.6	51.5	16,373,369	69,924,881	12:00	0.71				
14-May-00	NM		NM		NM		NM		NM		0.0	0.0	0.3	0.0	0.0	7.5	1.2	18.8	19.1	47.0	16,441,078	69,992,589	12:00	0.00				
15-May-00	NM		NM		NM		NM		NM		0.0	0.0	0.2	0.0	0.0	8.1	2.0	19.3	19.2	48.8	16,511,292	70,062,804	12:00	0.00				
16-May-00	NM		NM		NM		NM		NM		0.0	0.0	1.0	0.0	0.0	8.4	3.5	19.7	19.6	52.1	16,586,359	70,137,871	12:00	0.01				
17-May-00	NM		NM		NM		NM		NM		0.0	0.0	2.9	0.0	0.0	8.5	3.7	7.6	20.0	42.6	16,647,732	70,199,244	12:00	0.00				
18-May-00	69.72	221.96	NM		81.34	223.71	69.12	225.27	NM		0.0	0.0	2.5	0.0	0.0	8.3	4.1	0.0	20.4	35.2	16,698,478	70,249,989	12:00	0.00				
19-May-00	NM		NM		NM		NM		NM		0.0	0.0	0.7	0.0	0.0	8.2	4.2	0.0	20.5	33.6	16,746,819	70,298,330	12:00	0.06				
20-May-00	NM		NM		NM		NM		NM		0.0	0.0	0.3	0.0	0.0	8.3	4.4	0.0	20.8	33.8	16,795,473	70,346,985	12:00	0.05				
21-May-00	NM		NM		NM		NM		NM		0.0	0.0	2.2	0.0	0.0	8.4	4.7	0.0	21.2	36.6	16,848,177	70,399,639	12:00	0.00				
22-May-00	NM		NM		NM		NM		NM		0.0	0.0	2.8	0.0	0.0	8.6	4.9	0.0	21.5	37.8	16,902,609	70,454,121	12:00	0.01				
23-May-00	NM		NM		NM		NM		NM		0.0	0.0	2.1	0.0	0.0	8.6	5.2	0.0	21.6	37.5	16,956,653	70,508,164	12:00	0.02				
24-May-00	NM		NM		NM		NM		NM		0.0	0.0	2.8	0.0	0.0	8.3	5.3	0.0	21.9	38.3	17,011,862	70,563,374	12:00	0.00				
25-May-00	NM		NM		NM		NM		NM		0.0	0.0	2.3	0.0	0.0	8.0	5.2	0.0	21.9	37.5	17,065,862	70,617,374	12:00	<0.01				
26-May-00	NM		NM		NM		NM		NM		0.0	0.0	0.4	0.0	0.0	8.1	5.1	0.0	21.6	35.2	17,116,507	70,668,019	12:00	0.00				
27-May-00	NM		NM		NM		NM		NM		0.0	0.0	2.0	0.0	0.0	8.4	5.4	0.0	22.1	37.8	17,170,982	70,722,494	12:00	0.30				
28-May-00	NM		NM		NM		NM		NM		0.0	0.0	1.8	0.0	0.0	8.6	5.3	0.0	21.9	37.6	17,225,069	70,776,580	12:00	0.00				
29-May-00	NM		NM		NM		NM		NM		0.0	0.0	0.6	0.0	0.0	8.9	5.5	0.0	22.1	37.0	17,278,377	70,829,889	12:00	0.00				
30-May-00	NM		NM		NM		NM		NM		0.0	0.0	2.9	0.0	0.0	9.1	5.4	0.0	22.0	39.5	17,335,214	70,886,726	12:00	0.00				
31-May-00	69.63	222.05	NM		81.25	223.80	69.15	225.24	NM		0.0	0.0	1.3	0.0	0.0	9.3	5.5	0.0	22.2	38.3	17,390,409	70,941,921	12:00	0.00				

Chemical Analytical Data Review Checklist

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Report Type: ☐ Preliminary ☒ Final Date Received: _____ Project Number: 801370

Project Name: DDMT Analysis/Method: 8260B

Laboratory: ESC Lab Project/Case Number: 0005523

Sample Number(s): MW-56, 58, 54, 15, 59, 31, 40, 30, 51, BB,
44, 33, 32, 57, 69, AA, 14, 71, 68, 70, 34, RW-02, AA,
1B, 1A, 01, 03, TB, FB, EB

Evaluated By: Betsy McDaniel Date Evaluated: 6/6/00

Data Package Deliverables Requirement: ☒ Minimum ☐ Standard ☐ Maximum

☐ Other, please describe _____

Quality Control Deliverables	Required	Received	Passed	Failed
PQL, MDL, RL, etc meets DQOs				
Comment:				
Holding Times			✓	
Comment:				
Sample Condition (preservatives, containers, temperature, etc) / Case Narrative	X		✓	
Comment:				
Surrogate Recoveries	X		✓	
Comment:				
Lab Control Sample Recoveries	X		✓	
Comment: <u>only non-target issues</u>				
Lab Control Sample Duplicate or Other Spike Recoveries	X			
Comment: <u>N/A</u>				
Lab Control Sample Duplicate or Other Laboratory Duplicate RPD	X			
Comment: <u>N/A</u>				
Matrix Spike Recoveries	X			
Comment: <u>high TCE on MW-70 Bottom - matrix interference</u>				
Matrix Spike Duplicate Recoveries	X			
Comment: <u>high TCE on MW-70 Bottom - matrix interference</u>				
Matrix Spike / Matrix Spike Duplicate RPD	X		✓	
Comment:				
Laboratory Blanks (daily, method, instrument)	X		✓	
Comment:				
Field Blanks (trip, equip, ambient, matrix)	X		✓	
Comment:				
Field Duplicates RPD	X			
Comment: <u>see attached</u>				

Completeness Calculation

blank	882	882
LCS	611	623
MS	103	105
sur	225	225
dup	36	37
	<u>1857</u>	<u>1872</u>

99.2%

$$RPD = \frac{[orig-dup] \times 100}{orig + dup/2}$$
[illegible]

$$RPD = \frac{[orig-dup]}{orig + dup/2} \times 100$$
[illegible]

Data Validation Level III

FIELD DUPLICATES

$$RPD = \frac{[orig-dup] \times 100}{orig + dup/2}$$

Report No.: 801370

[illegible]



776 83
ENVIRONMENTAL TESTING & CONSULTING, INC.
2924 Walnut Grove Road • Memphis, TN 38111 • (901) 327-2750 • FAX (901) 327-6334

Founded 1972

May 24, 2000

Mr. Virgil Jansen
Sverdrup Corporation
13723 Riverport Drive
Maryland Heights, MO 63043

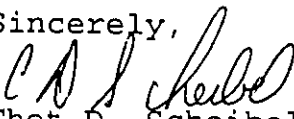
Ref: Analytical Testing
ETC Order # 0005399
Project Description DDMT-Dunn Field
Memphis, TN
Project # 801370

The above referenced project has been analyzed per your instructions. The analyses were performed in accordance with Standard Methods 17th/18th Edition; The Solid Waste Manual SW-846; EPA Methods for the Analysis of Water and Wastes and/or 40 CFR part 136.

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

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

Sincerely,


Chet D. Scheibel
Project Manager

rt
Attachment

SVE_MHDDMT

Certifications

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

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

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.

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.
N	Non-Compliance Report associated with this sample or project.
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 AND CONSULTING, INC.
CASE NARRATIVE
GC/MS VOLATILE COMPOUNDS - AQUEOUS

Client Name Sverdrup
Project Name DDMT-Dunn Field
ETC Order# 0005-399
Method (SW-846) 8260B/5030B

SAMPLE PRESERVATION (Verified at time of analysis)

All aqueous samples preserved to pH < 2.

HOLDING TIMES

Sample Analysis All samples analyzed within 14 days of collection.

QUALITY CONTROL

<u>QC Batch</u>	<u>Form 4 Summary</u>
V2052101	V2052111LB
V2052201	V2052211LB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits.

Method Blank FORM 4
V2052111LB
V2052211LB

Target Analytes were not detected in the Method Blanks.

Laboratory Control Sample FORM 3
V2052111LCS
V2052211LCS

All acceptance criteria met, except as listed below.

V2052111LCS

Furan, a non-target analyte, was flagged for slightly high recovery in the LCS. There is no effect on the data.

V2052211LCS

Furan, a non-target analyte, was flagged for slightly high recovery in the LCS. There is no effect on the data.

Matrix Spike / Matrix Spike Dup. FORM 3

Batch V2052101

0005-400-01	RPD	All analytes within QC limits.
ST-EFF024	Spike Recovery	All analytes within QC limits.

Refer to Laboratory Control Sample(s) for system verification.

Matrix Spike / Matrix Spike Dup. FORM 3

Batch V2052201

0005-523-07	RPD	All analytes within QC limits.
MW-31	Spike Recovery	All analytes within QC limits.

Refer to Laboratory Control Sample(s) for system verification.

776 86

ENVIRONMENTAL TESTING AND CONSULTING, INC.

CASE NARRATIVE

GC/MS VOLATILE COMPOUNDS - AQUEOUS

Client Name Sverdrup
Project Name DDMT-Dunn Field

ETC Order# 0005-399
Method (SW-846) 8260B/5030B

CALIBRATION

BFB Daily 12-Hour Tune All criteria met. FORM 5
Initial Calibration All criteria met. FORM 6
Calibration Verification All criteria met. FORM 7

Volatile Internal Standard Area and RT FORM 8

Daily Check Standard(s) Internal Standard Areas and Retention Times within QC limits.

SAMPLE ANALYSIS

Instrumentation HP 5890 Series II GC, 5971MSD
Dilutions Required No dilutions required.

CDS
Project Manager

000003

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ANALYTICAL SUMMARY TABLE

776 87

Client Name Sverdrup Corporation
Site ID DDMT-Dunn Field
Memphis, TN

<u>TC</u> <u>Sample ID</u>	<u>Field ID</u>	<u>Matrix</u>	<u>Method</u>	<u>Method Description</u>
000539901	RW-09	AQUEOUS	8260B	GC/MS Volatile Organics
000539902	RW-22	AQUEOUS	8260B	GC/MS Volatile Organics
000539903	RW-08	AQUEOUS	8260B	GC/MS Volatile Organics
000539904	RW-07	AQUEOUS	8260B	GC/MS Volatile Organics
000539905	Trip Blank	AQUEOUS	8260B	GC/MS Volatile Organics
000539906	RW-06	AQUEOUS	8260B	GC/MS Volatile Organics
000539907	RW-04	AQUEOUS	8260B	GC/MS Volatile Organics

Environmental Testing & Consulting, Inc.

Sample Reports

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 89

ent Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT-Dunn Field
Memphis, TN

Date Arrived 05/16/00
TC Order Number 0005399

ETC Lab ID 0005399-01
Sample ID: RW-09

Matrix :AQUEOUS
Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052101	ug/L		05/21/00	LS		
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	90J	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	10.8	ug/L	1.00				
Chloromethane	ND	ug/L	1.00				
1,1-Dichloroethane	1.15	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	35.9	ug/L	1.00				
trans-1,2-Dichloroethene	2.24	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	32.1	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	1.40	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	37.7	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
is-1,2-Dichloroethene	6.03	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	103	74 123
S2 - Toluene-d8	103	86 112

CDS
LABORATORY MANAGER

ND - Not Detected

000006

776 90

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT-Dunn Field
Memphis, TN

Date Arrived 05/16/00
ETC Order Number 0005399

ETC Lab ID 0005399-01

Sample ID: RW-09

Matrix :AQUEOUS
Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

05/21/00 LS 8260B

Surrogate Standard% RecoveryQC Limits

S3 - 4-Bromofluorobenzene

104

81

115

CDS

LABORATORY MANAGER

ND - Not Detected

000007

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

776 91

CLIENT SAMPLE NO.

0005-399-1

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0901009

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/21/00

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. _____	_____	_____	_____	_____

776 92

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # **801370**
 FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived **05/16/00**
 ETC Order Number **0005399**

ETC Lab ID **0005399-02**
Sample ID: RW-22

Matrix **:AQUEOUS**
 Sample Date **:05/15/00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052101	ug/L			05/21/00	LS	
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	0.97J	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	11.0	ug/L	1.00				
Chloromethane	ND	ug/L	1.00				
1,1-Dichloroethane	1.19	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	36.7	ug/L	1.00				
trans-1,2-Dichloroethene	2.24	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	32.2	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	1.36	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	38.2	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	6.20	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	102	74	123
S2 - Toluene-d8	102	86	112

(8)

LABORATORY MANAGER

ND - Not Detected

000009

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 93

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT-Dunn Field
Memphis, TN

Date Arrived 05/16/00
ETC Order Number 0005399

ETC Lab ID 0005399-02

Sample ID: RW-22

Matrix :AQUEOUS

Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

05/21/00 LS

8260B

Surrogate Standard% RecoveryQC Limits

S3 - 4-Bromofluorobenzene

102

81

115

776 94

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

CLIENT SAMPLE NO.

0005-399-2

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 1001010

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/21/00

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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27.				
28.				
29.				
30.				

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 95

ent Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT-Dunn Field
Memphis, TN

Date Arrived 05/16/00
ETC Order Number 0005399

ETC Lab ID 0005399-03
Sample ID: RW-08

Matrix :AQUEOUS
Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
				05/21/00 --LS			
QC Batch	V2052101	ug/L					
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	0.89J	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	8.41	ug/L	1.00				
Chloromethane	ND	ug/L	1.00				
1,1-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	4.98	ug/L	1.00				
trans-1,2-Dichloroethene	37.6	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	121	ug/L	1.00				
Tetrachloroethene	5.19	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	1.74	ug/L	1.00				
Trichloroethene	237E	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
is-1,2-Dichloroethene	120	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
1 - Dibromofluoromethane	103	74	123
2 - Toluene-d8	103	86	112

LABORATORY MANAGER

ND - Not Detected

000012

776 96

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT-Dunn Field
Memphis, TN

Date Arrived 05/16/00

ETC Order Number 0005399

ETC Lab ID 0005399-03

Sample ID: RW-08

Matrix :AQUEOUS

Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/21/00	LS	8260B
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>				
S3 - 4-Bromofluorobenzene	104		81	115			

CDS

000013

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

776 97 CLIENT SAMPLE NO.

0005-399-3

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 1101011

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/21/00

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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776 98

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived 05/16/00
 ETC Order Number 0005399

Matrix :AQUEOUS
 Sample Date :05/15/00

ETC Lab ID 0005399-03
Sample ID: RW-08-DIL

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052201	ug/L			05/22/00	LS	
Dilution Factor	10	ug/L					
Acetone	ND	ug/L	200				
Benzene	ND	ug/L	10.0				
Bromodichloromethane	ND	ug/L	10.0				
Bromoform	ND	ug/L	10.0				
Bromomethane	ND	ug/L	10.0				
Carbon Disulfide	ND	ug/L	10.0				
Carbon Tetrachloride	ND	ug/L	10.0				
Chlorobenzene	ND	ug/L	10.0				
Chlorodibromomethane	ND	ug/L	10.0				
Chloroethane	ND	ug/L	10.0				
Chloroform	ND	ug/L	10.0				
Chloromethane	ND	ug/L	10.0				
1,1-Dichloroethane	ND	ug/L	10.0				
1,2-Dichloroethane	ND	ug/L	10.0				
1,1-Dichloroethene	ND	ug/L	10.0				
trans-1,2-Dichloroethene	41.3	ug/L	10.0				
1,2-Dichloropropane	ND	ug/L	10.0				
cis-1,3-Dichloropropene	ND	ug/L	10.0				
trans-1,3-Dichloropropene	ND	ug/L	10.0				
Ethylbenzene	ND	ug/L	10.0				
2-Hexanone (MBK)	ND	ug/L	50.0				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0				
2-Butanone (MEK)	ND	ug/L	200				
Methylene Chloride	ND	ug/L	50.0				
Styrene	ND	ug/L	10.0				
1,1,2,2-Tetrachloroethane	139	ug/L	10.0				
Tetrachloroethene	ND	ug/L	10.0				
Toluene	ND	ug/L	10.0				
1,1,1-Trichloroethane	ND	ug/L	10.0				
1,1,2-Trichloroethane	ND	ug/L	10.0				
Trichloroethene	268	ug/L	10.0				
Vinyl Acetate	ND	ug/L	200				
Vinyl Chloride	ND	ug/L	10.0				
o-Xylenes	ND	ug/L	10.0				
m-Xylenes	ND	ug/L	10.0				
p-Xylenes	ND	ug/L	10.0				
cis-1,2-Dichloroethene	131	ug/L	10.0				
Surrogate Standard		% Recovery	QC Limits				
S1 - Dibromofluoromethane	102		74	123			
S2 - Toluene-d8	104		86	112			

(2)

LABORATORY MANAGER

000015

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 99

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT-Dunn Field
Memphis, TN

Date Arrived 05/16/00
ATC Order Number 0005399

Matrix :AQUEOUS
Sample Date :05/15/00

ATC Lab ID 0005399-03
Sample ID: RW-08-DIL

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/22/00	LS	8260B
Surrogate Standard	% Recovery		QC Limits				
S3 - 4-Bromofluorobenzene	102		81	115			

CDS
LABORATORY MANAGER

ND - Not Detected

000016

776 100

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

CLIENT SAMPLE NO.

0005-399-3

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0701008

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/22/00

GC Column: ID: 2.00 (mm)

Dilution Factor: 10.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
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28.				
29.				
30.				

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 101

ent Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT-Dunn Field
Memphis, TN

Date Arrived 05/16/00
ETC Order Number 0005399

ETC Lab ID 0005399-04

Sample ID: RW-07

Matrix :AQUEOUS
Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

05/21/00 LS 8260B

QC Batch	V2052101	ug/L					
Dilution Factor	1	ug/L					
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				
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	1.27	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	17.4	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	52.2	ug/L	1.00				
Tetrachloroethene	7.76	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	0.95J	ug/L	1.00				
Trichloroethene	97.2	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
trans-1,2-Dichloroethene	59.6	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits
1 - Dibromofluoromethane	101	74 123
2 - Toluene-d8	102	86 112

POS

776 102

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT-Dunn Field
Memphis, TN

Date Arrived 05/16/00
ETC Order Number 0005399

ETC Lab ID 0005399-04

Sample ID: RW-07

Matrix :AQUEOUS
Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/21/00	LS	8260B
<u>Surrogate Standard</u>	<u>% Recovery</u>			<u>QC Limits</u>			
S3 - 4-Bromofluorobenzene	102			81 115			

CD1

000019

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

776 103 CLIENT SAMPLE NO.

0005-399-4

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 1201012

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/21/00

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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776 104

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name: Sverdrup Corporation
 Memphis Defense Depot
 13723 Riverport Drive
 Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID: DDMT-Dunn Field
 Memphis, TN

Date Arrived 05/16/00
 ETC Order Number 0005399

ETC Lab ID 0005399-05
Sample ID: Trip Blank

Matrix :AQUEOUS
 Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052201	ug/L			05/22/00	LS	
Dilution Factor	1	ug/L					
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				
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				
2-Butanone (MEK)	ND	ug/L	20.0				
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	1.00				
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				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	102	74	123
S2 - Toluene-d8	103	86	112

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 105

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT-Dunn Field
Memphis, TN

Sample Arrived 05/16/00
TC Order Number 0005399

TC Lab ID 0005399-05
Sample ID: Trip Blank

Matrix :AQUEOUS
Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/22/00	LS	8260B
<u>Surrogate Standard</u>	<u>% Recovery</u>			<u>QC Limits</u>			
S3 - 4-Bromofluorobenzene	102			81	115		

776 106

FORM 1

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

0005-399-5

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0401005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/22/00

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

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

ENVIRONMENTAL TESTING & CONSULTING, INC.

776 107

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
 Memphis Defense Depot
 13723 Riverport Drive
 Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID DDMT-Dunn Field
 Memphis, TN

Date Arrived 05/16/00
 ETC Order Number 0005399

ETC Lab ID 0005399-06
Sample ID: RW-06

Matrix :AQUEOUS
 Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

8260B

05/21/00 LS

QC Batch	V2052101	ug/L					
Dilution Factor	1	ug/L					
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				
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	2.26	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	2.03	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	5.52	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	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				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
trans-1,2-Dichloroethene	5.12	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits
1 - Dibromofluoromethane	101	74 123
2 - Toluene-d8	103	86 112

000024

776 108

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT-Dunn Field
Memphis, TN

Date Arrived 05/16/00

ETC Order Number 0005399

ETC Lab ID 0005399-06

Sample ID: RW-06

Matrix :AQUEOUS

Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

05/21/00 LS

8260B

Surrogate Standard

% Recovery

QC Limits

S3 - 4-Bromofluorobenzene

102

81

115

102

000025

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 109

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT-Dunn Field
Memphis, TN

Date Arrived 05/16/00
ETC Order Number 0005399

ETC Lab ID 0005399-07
Sample ID: RW-04

Matrix :AQUEOUS
Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052201	ug/L			05/22/00	LS	
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	4.26	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	2.27	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	2.65	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	12.9	ug/L	1.00				
Tetrachloroethene	1.97	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	0.70J	ug/L	1.00				
Trichloroethene	252E	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
1,2-Dichloroethene	16.0	ug/L	1.00				
Surrogate Standard	% Recovery		QC Limits				
1,2-Dibromofluoromethane	103		74		123		
1,2-Toluene-d8	104		86		112		

000027

776 110

FORM 1

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

0005-399-6

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 1301013

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/21/00

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

000026

ENVIRONMENTAL TESTING & CONSULTING, INC.

776 111

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT-Dunn Field
Memphis, TN

Date Arrived 05/16/00
ETC Order Number 0005399

ETC Lab ID 0005399-07

Sample ID: RW-04

Matrix :AQUEOUS
Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/22/00	LS	8260B
<u>Surrogate Standard</u>			<u>% Recovery</u>		<u>QC Limits</u>		
S3 - 4-Bromofluorobenzene		103	81	115			

CDS

LABORATORY MANAGER

000028

776 112

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

CLIENT SAMPLE NO.

0005-399-7

Lab Name:

Contract:

Lab Ccde:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0501006

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/22/00

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

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

000029

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 113

Client Name Sverdrup Corporation
 Memphis Defense Depot
 13723 Riverport Drive
 Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID DDMT-Dunn Field
 Memphis, TN

Date Arrived 05/16/00
 ETC Order Number 0005399

ETC Lab ID 0005399-07
Sample ID: RW-04-DIL

Matrix :AQUEOUS
 Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/22/00	LS	8260B
QC Batch	V2052201	ug/L					
Dilution Factor	50	ug/L					
Acetone	ND	ug/L	1000				
Benzene	ND	ug/L	50.0				
Bromodichloromethane	ND	ug/L	50.0				
Bromoform	ND	ug/L	50.0				
Bromomethane	ND	ug/L	50.0				
Carbon Disulfide	ND	ug/L	50.0				
Carbon Tetrachloride	ND	ug/L	50.0				
Chlorobenzene	ND	ug/L	50.0				
Chlorodibromomethane	ND	ug/L	50.0				
Chloroethane	ND	ug/L	50.0				
Chloroform	ND	ug/L	50.0				
Chloromethane	ND	ug/L	50.0				
1,1-Dichloroethane	ND	ug/L	50.0				
1,2-Dichloroethane	ND	ug/L	50.0				
1,1-Dichloroethene	ND	ug/L	50.0				
trans-1,2-Dichloroethene	ND	ug/L	50.0				
1,2-Dichloropropane	ND	ug/L	50.0				
cis-1,3-Dichloropropene	ND	ug/L	50.0				
trans-1,3-Dichloropropene	ND	ug/L	50.0				
Ethylbenzene	ND	ug/L	50.0				
2-Hexanone (MBK)	ND	ug/L	250				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250				
2-Butanone (MEK)	ND	ug/L	1000				
Methylene Chloride	ND	ug/L	250				
Styrene	ND	ug/L	50.0				
1,1,2,2-Tetrachloroethane	ND	ug/L	50.0				
Tetrachloroethene	ND	ug/L	50.0				
Toluene	ND	ug/L	50.0				
1,1,1-Trichloroethane	ND	ug/L	50.0				
1,1,2-Trichloroethane	ND	ug/L	50.0				
Trichloroethene	316	ug/L	50.0				
Vinyl Acetate	ND	ug/L	1000				
Vinyl Chloride	ND	ug/L	50.0				
o-Xylenes	ND	ug/L	50.0				
m-Xylenes	ND	ug/L	50.0				
p-Xylenes	ND	ug/L	50.0				
3-1,2-Dichloroethene	ND	ug/L	50.0				

Inrogate Standard	% Recovery	QC Limits
1 - Dibromofluoromethane	103	74 123
2 - Toluene-d8	104	86 112

776 114

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived 05/16/00
ETC Order Number 0005399

ETC Lab ID 0005399-07
Sample ID: RW-04-DIL

Matrix :AQUEOUS
Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

8260B

05/22/00 LS

Surrogate Standard**% Recovery****QC Limits**

S3 - 4-Bromofluorobenzene

100

81

115

CDs

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

776 115

CLIENT SAMPLE NO.

0005-399-7

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0601007

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/22/00

GC Column: ID: 2.00 (mm)

Dilution Factor: 50.0

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. _____	_____	_____	_____	_____

Environmental Testing & Consulting, Inc.

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

FORM 2
WATER VOA-GCMS SYSTEM MONITORING COMPOUND RECOVERY

776 117

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER	TOT OUT
	=====	=====	=====	=====	=====	=====
01	V2052111LCS	97	101	102		0
02	V2052111LB	100	101	102		0
03	0005-399-1	103	103	104		0
04	0005-399-2	102	102	101		0
05	0005-399-3	103	103	104		0
06	0005-399-4	101	102	102		0
07	0005-399-6	101	103	102		0
08	V2052211LCS	99	102	101		0
09	V2052211LB	102	103	102		0
10	0005-399-5	102	103	102		0
11	0005-399-7	103	104	103		0
12	0005-399-7	103	104	100		0
13	0005-399-3	102	104	102		0
14						
15						
16						
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29						
30						

QC LIMITS

SMC1 = Dibromofluoromethane (74-123)
 SMC2 (TOL) = Toluene-d8 (86-112)
 SMC3 (BFB) = Bromofluorobenzene (81-115)

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

CLIENT SAMPLE NO.

V2052111LB

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Lab File ID: 0302003

Lab Prep Batch: V2052101

Date Analyzed: 05/21/00

Time Analyzed: 1405

GC Column:

ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC2

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

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
	=====	=====	=====	=====
01	V2052111LCS	V2052101	0201002LCS	1224
02	0005-400-1	V2052101	0801008	1751
03	0005-399-1	V2052101	0901009	1837
04	0005-399-2	V2052101	1001010	1922
05	0005-399-3	V2052101	1101011	2007
06	0005-399-4	V2052101	1201012	2053
07	0005-399-6	V2052101	1301013	2138
08	0005-400-1MS	V2052101	1401014	2223
09	0005-400-1MS	V2052101	1501015	2308
10				
11				
12				
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30				

COMMENTS:

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

776 119

CLIENT SAMPLE NO.

V2052111LB

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Prep Batch: V2052101

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

Lab File ID: 0302003

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/21/00

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	25.00	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
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
78-93-3-----	2-Butanone	20.00	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
110-75-0-----	2-Chloroethyl vinyl Ether	5.00	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

000036

V2052111LB

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Prep Batch: V2052101

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

Lab File ID: 0302003

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/21/00

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
67-64-1-----	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
156-59-4-----	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
590-20-7-----	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
87-63-3-----	Hexachlorobutadiene	1.00	U
110-54-3-----	Hexane	5.00	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	1.00	U
80-62-6-----	Methyl methacrylate	1.00	U
108-10-1-----	4-Methyl-2-Pentanone	5.00	U
1634-04-4-----	Methyl-tertbutyl-Ether	1.00	U
91-20-3-----	Naphthalene	1.00	U
76-01-7-----	Pentachloroethane	1.00	U

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

776 121

CLIENT SAMPLE NO.

V2052111LB

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Prep Batch: V2052101

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

Lab File ID: 0302003

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/21/00

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

107-12-0-----	Propionitrile	10.00	U
109-60-4-----	n-Propyl Acetate	1.00	U
103-65-1-----	n-Propylbenzene	1.00	U
100-42-5-----	Styrene	1.00	U
630-20-6-----	1,1,1,2-Tetrachloroethane	1.00	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1.00	U
127-18-4-----	Tetrachloroethene	1.00	U
109-99-9-----	Tetrahydrofuran	1.00	U
108-88-3-----	Toluene	1.00	U
87-61-6-----	1,2,3-Trichlorobenzene	1.00	U
120-82-1-----	1,2,4-Trichlorobenzene	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
108-67-8-----	1,3,5-Trimethylbenzene	1.00	U
108-05-4-----	Vinyl Acetate	5.00	U
75-01-4-----	Vinyl Chloride	1.00	U
1330-20-7-----	Xylene-mp	2.00	U
95-47-6-----	Xylene-o	1.00	U

776 122

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

CLIENT SAMPLE NO.

V2052111LB

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0302003

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/21/00

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

000039

Lab Name: Lab Prep Batch: V2052101
Lab Code: Case No.: SAS No.: SDG No.: 0005-399
Matrix Spike - Sample No.: V2052111LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acetone	100.0		100.2	100	59-151
Acetonitrile	1000		921.5	92	57-143
Acrolein	100.0		103.8	104	59-134
Acrylonitrile	100.0		94.54	94	60-146
Allyl chloride	100.0		93.48	93	74-120
Benzene	100.0		101.7	102	72-124
Bromobenzene	100.0		95.34	95	77-120
Bromochloromethane	100.0		96.27	96	74-120
Bromodichloromethane	100.0		97.39	97	68-119
Bromoform	100.0		98.88	99	66-136
Bromomethane	100.0		99.38	99	40-134
n-Butylbenzene	100.0		105.9	106	69-129
sec-Butylbenzene	100.0		101.9	102	72-127
tert-Butylbenzene	100.0		100.5	100	73-126
Carbon Disulfide	100.0		100.3	100	60-133
2-Butanone	100.0		107.3	107	55-151
Carbon Tetrachloride	100.0		98.60	99	64-123
Chlorobenzene	100.0		99.61	100	77-112
Chlorodibromomethane	100.0		92.03	92	72-118
Chloroethane	100.0		108.0	108	64-142
2-Chloroethyl vinyl Eth	100.0		149.5	150	22-165
Chloroform	100.0		99.69	100	70-115
Chloromethane	100.0		96.13	96	58-139
Chloroprene	100.0		100.5	100	73-118
2-Chlorotoluene	100.0		101.3	101	65-132
4-Chlorotoluene	100.0		101.9	102	67-127
1,2-Dibromo-3-chloropro	100.0		95.74	96	56-134
1,2-Dibromoethane	100.0		97.02	97	74-118

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

* Values outside of QC limits

COMMENTS:

Lab Name:

Lab Prep Batch: V2052101

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix Spike - Sample No.: V2052111LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Dibromomethane	100.0		100.9	101	75-114
1,2-Dichlorobenzene	100.0		96.46	96	80-113
1,3-Dichlorobenzene	100.0		97.89	98	77-119
1,4-Dichlorobenzene	100.0		100.4	100	78-116
cis-1,4-Dichloro-2-bute	100.0		114.4	114	62-138
trans-1,4-Dichloro-2-bu	100.0		108.5	108	62-138
Dichlorodifluoromethane	100.0		112.8	113	48-145
1,1-Dichloroethane	100.0		99.20	99	76-118
1,2-Dichloroethane	100.0		95.58	96	62-124
1,1-Dichloroethene	100.0		100.0	100	69-121
cis-1,2-Dichloroethene	100.0		100.3	100	76-114
trans-1,2-Dichloroethen	100.0		103.8	104	72-121
1,2-Dichloropropane	100.0		96.29	96	64-133
1,3-Dichloropropane	100.0		96.41	96	68-128
2,2-Dichloropropane	100.0		108.5	108	67-132
1,1-Dichloropropene	100.0		101.4	101	76-117
cis-1,3-Dichloropropene	100.0		98.24	98	77-120
trans-1,3-Dichloroprope	100.0		98.98	99	73-124
Di isopropyl ether	100.0		96.65	97	62-160
1,4-Dioxane	2000		2080	104	56-131
Ethyl Acetate	100.0		95.14	95	52-151
Ethylbenzene	100.0		103.5	104	77-111
Ethyl methacrylate	200.0		192.2	96	57-140
Furan	100.0		145.1	145*	52-124
Hexachlorobutadiene	100.0		106.1	106	69-137
Hexane	100.0		118.8	119	70-130
2-Hexanone	100.0		94.87	95	53-144
Iodomethane	100.0		94.38	94	51-153

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

* Values outside of QC limits

COMMENTS:

Lab Name: Lab Prep Batch: V2052101
Lab Code: Case No.: SAS No.: SDG No.: 0005-399
Matrix Spike - Sample No.: V2052111LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	2000		1835	92	60-134
Isopropylbenzene	100.0		102.4	102	74-125
4-Isopropyltoluene	100.0		101.2	101	72-127
Methacrylonitrile	1000		938.2	94	70-125
Methylene Chloride	100.0		99.43	99	76-115
Methyl methacrylate	200.0		192.6	96	57-147
4-Methyl-2-Pentanone	100.0		93.12	93	42-144
Methyl-tertbutyl-Ether	100.0		96.20	96	62-122
Naphthalene	100.0		90.52	90	53-124
Pentachloroethane	100.0		119.0	119	78-126
Propionitrile	1000		942.2	94	58-139
n-Propyl Acetate	100.0		138.8	139	88-170
n-Propylbenzene	100.0		104.9	105	75-125
Styrene	100.0		101.8	102	77-117
1,1,1,2-Tetrachloroetha	100.0		97.24	97	79-113
1,1,2,2-Tetrachloroetha	100.0		102.1	102	67-126
Tetrachloroethene	100.0		86.11	86	77-115
Tetrahydrofuran	100.0		90.81	91	76-181
Toluene	100.0		102.5	102	77-115
1,2,3-Trichlorobenzene	100.0		95.68	96	62-132
1,2,4-Trichlorobenzene	100.0		100.5	100	68-132
1,1,1-Trichloroethane	100.0		100.0	100	63-122
1,1,2-Trichloroethane	100.0		98.66	99	69-117
1,1,2-trichloro-1,2,2-t	100.0		100.0	100	70-130
Trichloroethene	100.0		98.02	98	75-113
Trichlorofluoromethane	100.0		104.2	104	55-130
1,2,3-Trichloropropane	100.0		103.1	103	62-130
1,2,4-Trimethylbenzene	100.0		99.12	99	69-126

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

* Values outside of QC limits

COMMENTS:

776 126

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name:

Lab Prep Batch: V2052101

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix Spike - Sample No.: V2052111LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
1,3,5-Trimethylbenzene	100.0		99.47	99	69-128
Vinyl Acetate	100.0		99.08	99	28-146
Vinyl Chloride	100.0		105.7	106	65-134
Xylene-mp	200.0		204.7	102	77-115
Xylene-o	100.0		102.2	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: 1 out of 89 outside limits

COMMENTS:

Lab Prep Batch: V2052101

SDG No.: 0005-399

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Benzene	100.0	0.000	101.5	102	72-124
Chlorobenzene	100.0	0.000	96.50	96	77-112
1,1-Dichloroethene	100.0	0.000	97.96	98	69-121
Toluene	100.0	0.000	101.6	102	77-115
Trichloroethene	100.0	2.85	99.18	96	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
Benzene	100.0	107.8	108	6	20	72-124
Chlorobenzene	100.0	97.54	98	2	20	77-112
1,1-Dichloroethene	100.0	103.0	103	5	20	69-121
Toluene	100.0	103.2	103	1	20	77-115
Trichloroethene	100.0	101.1	98	2	20	75-113

* Values outside of QC limits

Spike Recovery: 0 out of 10 outside limits

COMMENTS :

776 128

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

Lab Name:

Contract:

V2052211LB

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Lab File ID: 0302004

Lab Prep Batch: V2052201

Date Analyzed: 05/22/00

Time Analyzed: 1142

GC Column:

ID: 2

(mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC2

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

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
	=====	=====	=====	=====
01	V2052211LCS	V2052201	0201002LCS	0953
02	0005-399-5	V2052201	0401005	1228
03	0005-399-7	V2052201	0501006	1314
04	0005-399-7	V2052201	0601007	1401
05	0005-399-3	V2052201	0701008	1447
06	0005-523-7	V2052201	1401015	2010
07	0005-523-7MS	V2052201	1501016	2055
08	0005-523-7MS	V2052201	1601017	2141
09				
10				
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COMMENTS:

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

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CLIENT SAMPLE NO.

Lab Name:

Contract:

V2052211LB

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Prep Batch: V2052201

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

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/22/00

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	25.00	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
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
78-93-3-----	2-Butanone	20.00	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
110-75-0-----	2-Chloroethyl vinyl Ether	5.00	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

776 130

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2052211LB

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Prep Batch: V2052201

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

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/22/00

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
67-64-1-----	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
156-59-4-----	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
590-20-7-----	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
87-63-3-----	Hexachlorobutadiene	1.00	U
110-54-3-----	Hexane	5.00	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	1.00	U
80-62-6-----	Methyl methacrylate	1.00	U
108-10-1-----	4-Methyl-2-Pentanone	5.00	U
1634-04-4-----	Methyl-tertbutyl-Ether	1.00	U
91-20-3-----	Naphthalene	1.00	U
76-01-7-----	Pentachloroethane	1.00	U

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FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2052211LB

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Prep Batch: V2052201

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

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/22/00

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
107-12-0	Propionitrile	10.00	U
109-60-4	n-Propyl Acetate	1.00	U
103-65-1	n-Propylbenzene	1.00	U
100-42-5	Styrene	1.00	U
630-20-6	1,1,1,2-Tetrachloroethane	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane	1.00	U
127-18-4	Tetrachloroethene	1.00	U
109-99-9	Tetrahydrofuran	1.00	U
108-88-3	Toluene	1.00	U
87-61-6	1,2,3-Trichlorobenzene	1.00	U
120-82-1	1,2,4-Trichlorobenzene	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
108-67-8	1,3,5-Trimethylbenzene	1.00	U
108-05-4	Vinyl Acetate	5.00	U
75-01-4	Vinyl Chloride	1.00	U
1330-20-7	Xylene-mp	2.00	U
95-47-6	Xylene-o	1.00	U

FORM I VOA-GCMS

000048

776 132

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

CLIENT SAMPLE NO.

V2052211LB

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/22/00

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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6.				
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29.				
30.				

Lab Name: Lab Prep Batch: V2052201
Lab Code: Case No.: SAS No.: SDG No.: 0005-399
Matrix Spike - Sample No.: V2052211LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acetone	100.0		97.19	97	59-151
Acetonitrile	1000		885.5	88	57-143
Acrolein	100.0		102.2	102	59-134
Acrylonitrile	100.0		90.40	90	60-146
Allyl chloride	100.0		91.03	91	74-120
Benzene	100.0		99.84	100	72-124
Bromobenzene	100.0		87.45	87	77-120
Bromochloromethane	100.0		93.26	93	74-120
Bromodichloromethane	100.0		93.36	93	68-119
Bromoform	100.0		90.07	90	66-136
Bromomethane	100.0		100.0	100	40-134
n-Butylbenzene	100.0		101.4	101	69-129
sec-Butylbenzene	100.0		95.61	96	72-127
tert-Butylbenzene	100.0		92.80	93	73-126
Carbon Disulfide	100.0		86.34	86	60-133
2-Butanone	100.0		101.5	102	55-151
Carbon Tetrachloride	100.0		96.00	96	64-123
Chlorobenzene	100.0		91.19	91	77-112
Chlorodibromomethane	100.0		86.17	86	72-118
Chloroethane	100.0		106.7	107	64-142
2-Chloroethyl vinyl Eth	100.0		151.5	152	22-165
Chloroform	100.0		96.32	96	70-115
Chloromethane	100.0		98.25	98	58-139
Chloroprene	100.0		98.20	98	73-118
2-Chlorotoluene	100.0		94.97	95	65-132
4-Chlorotoluene	100.0		95.73	96	67-127
1,2-Dibromo-3-chloropro	100.0		87.26	87	56-134
1,2-Dibromoethane	100.0		91.67	92	74-118

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

* Values outside of QC limits

COMMENTS:

Lab Name:

Lab Prep Batch: V2052201

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix Spike - Sample No.: V2052211LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Dibromomethane	100.0		95.70	96	75-114
1,2-Dichlorobenzene	100.0		87.90	88	80-113
1,3-Dichlorobenzene	100.0		89.77	90	77-119
1,4-Dichlorobenzene	100.0		92.31	92	78-116
cis-1,4-Dichloro-2-bute	100.0		95.68	96	62-138
trans-1,4-Dichloro-2-bu	100.0		100.6	101	62-138
Dichlorodifluoromethane	100.0		110.6	111	48-145
1,1-Dichloroethane	100.0		97.44	97	76-118
1,2-Dichloroethane	100.0		91.45	91	62-124
1,1-Dichloroethene	100.0		98.58	98	69-121
cis-1,2-Dichloroethene	100.0		97.52	98	76-114
trans-1,2-Dichloroethen	100.0		102.3	102	72-121
1,2-Dichloropropane	100.0		93.72	94	64-133
1,3-Dichloropropane	100.0		91.50	92	68-128
2,2-Dichloropropane	100.0		106.3	106	67-132
1,1-Dichloropropene	100.0		101.2	101	76-117
cis-1,3-Dichloropropene	100.0		93.41	93	77-120
trans-1,3-Dichloroprope	100.0		95.48	95	73-124
Di isopropyl ether	100.0		94.38	94	62-160
1,4-Dioxane	2000		2021	101	56-131
Ethyl Acetate	100.0		92.36	92	52-151
Ethylbenzene	100.0		96.75	97	77-111
Ethyl methacrylate	200.0		183.5	92	57-140
Furan	100.0		142.4	142*	52-124
Hexachlorobutadiene	100.0		101.8	102	69-137
Hexane	100.0		118.8	119	70-130
2-Hexanone	100.0		90.99	91	53-144
Iodomethane	100.0		100.9	101	51-153

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

* Values outside of QC limits

COMMENTS:

Lab Name: Lab Prep Batch: V2052201
Lab Code: Case No.: SAS No.: SDG No.: 0005-399
Matrix Spike - Sample No.: V2052211LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Isobutyl Alcohol	2000		1823	91	60-134
Isopropylbenzene	100.0		94.42	94	74-125
4-Isopropyltoluene	100.0		94.85	95	72-127
Methacrylonitrile	1000		908.8	91	70-125
Methylene Chloride	100.0		95.59	96	76-115
Methyl methacrylate	200.0		184.8	92	57-147
4-Methyl-2-Pentanone	100.0		89.02	89	42-144
Methyl-tertbutyl-Ether	100.0		93.46	93	62-122
Naphthalene	100.0		84.92	85	53-124
Pentachloroethane	100.0		112.9	113	78-126
Propionitrile	1000		916.7	92	58-139
n-Propyl Acetate	100.0		133.8	134	88-170
n-Propylbenzene	100.0		98.64	99	75-125
Styrene	100.0		94.65	95	77-117
1,1,1,2-Tetrachloroetha	100.0		88.98	89	79-113
1,1,2,2-Tetrachloroetha	100.0		95.78	96	67-126
Tetrachloroethene	100.0		81.45	81	77-115
Tetrahydrofuran	100.0		90.10	90	76-181
Toluene	100.0		97.27	97	77-115
1,2,3-Trichlorobenzene	100.0		90.71	91	62-132
1,2,4-Trichlorobenzene	100.0		95.17	95	68-132
1,1,1-Trichloroethane	100.0		97.65	98	63-122
1,1,2-Trichloroethane	100.0		94.39	94	69-117
1,1,2-trichloro-1,2,2-t	100.0		97.22	97	70-130
Trichloroethene	100.0		95.56	96	75-113
Trichlorofluoromethane	100.0		102.8	103	55-130
1,2,3-Trichloropropane	100.0		94.08	94	62-130
1,2,4-Trimethylbenzene	100.0		94.68	95	69-126

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

* Values outside of QC limits

COMMENTS:

776 136

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name:

Lab Prep Batch: V2052201

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix Spike - Sample No.: V2052211LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
1,3,5-Trimethylbenzene	100.0		94.70	95	69-128
Vinyl Acetate	100.0		96.62	97	28-146
Vinyl Chloride	100.0		107.6	108	65-134
Xylene-mp	200.0		190.9	95	77-115
Xylene-o	100.0		95.56	96	77-115

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

* Values outside of QC limits

RPD: 0 out of 0 outside limits

Spike Recovery: 1 out of 89 outside limits

COMMENTS:

Lab Prep Batch: V2052201

Case No. :

SDG No.: 0005-399

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Benzene	100.0	0.000	109.8	110	72-124
Chlorobenzene	100.0	0.000	100.5	100	77-112
1,1-Dichloroethene	100.0	22.33	122.1	100	69-121
Toluene	100.0	0.000	106.0	106	77-115
Trichloroethene	100.0	49.48	151.8	102	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
Benzene	100.0	108.9	109	1	20	72-124
Chlorobenzene	100.0	96.76	97	3	20	77-112
1,1-Dichloroethene	100.0	120.8	98	2	20	69-121
Toluene	100.0	102.5	102	4	20	77-115
Trichloroethene	100.0	146.6	97	5	20	75-113

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

COMMENTS :

776 138

Environmental Testing & Consulting, Inc.

Login
Chain-of-Custody



OHl. mediation
Services Corp.

111 Corp

CHAIN-OF-CUSTODY RECORD

LAB COPY
Form 0019
Field Technical Services
199291 Rev 08/89

0005399

419-423-3526

FINDLAY, OH 45839-0551

P.O. BOX 551

O.H. MATERIALS CORP.

PROJECT NAME		PROJECT LOCATION		ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)		NUMBER OF CONTAINERS		REMARKS						
PROJECT NO	PROJECT CONTACT	PROJECT TELEPHONE NO.	PROJECT MANAGER/SUPERVISOR	CLIENT'S REPRESENTATIVE	DATE	TIME	GRAB	COMP	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME	SAMPLER'S SIGNATURE
1	111-09	5/15/00 15:40	X											
2	111-22	5/15/00 15:30	X											
3	111-08	5/15/00 16:00	X											
4	111-07	5/15/00 10:10	X											
5	Trip Blank													
6	111-06	5/15/00 16:30	X											
7	111-05	5/15/00 16:40	X											
8														
9														
10														

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME	REMARKS
1	1-77	Serena Albrechts	Neil Rao	5/15/00	17:35	
2						
3						
4						

Environmental Testing & Consulting, Inc.
Cooler Receipt Form

Date Received 5/15/00
Date/Time Checked In 5/16/00-0800 *
Carrier/Bill# _____ Hand-Delivered _____

LIMS# 0005-399
Project DDMT-Dunn Field
Memphis, TN
By R. Baug

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

Comments _____

*Validated Date and Time of Sample Receipt (VDTSR)



ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Founded 1972

May 31, 2000

Mr. Virgil Jansen
 Sverdrup Corporation
 13723 Riverport Drive
 Maryland Heights, MO 63043

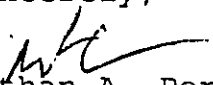
Ref: Analytical Testing
 ETC Order # 0005523
 Project Description DDMT/Dunn Field
 Memphis, TN
 Project # 801370

The above referenced project has been analyzed per your instructions. The analyses were performed in accordance with Standard Methods 17th/18th Edition; The Solid Waste Manual SW-846; EPA Methods for the Analysis of Water and Wastes and/or 40 CFR part 136.

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

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

Sincerely,


 Nathan A. Pera, IV
 Chief Executive Officer

rt
 Attachment

SVE_MHDDMT

Certifications

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

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

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.

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.
N	Non-Compliance Report associated with this sample or project.
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 AND CONSULTING, INC.
CASE NARRATIVE
GC/MS VOLATILE COMPOUNDS - AQUEOUS

Client Name Sverdrup Corporation
Project Name DDMT/ Dunn Field
ETC Order# 0005-523
Method (SW-846) 8260B/5030B

SAMPLE PRESERVATION (Verified at time of analysis)

All aqueous samples preserved to pH < 2.

HOLDING TIMES

Sample Analysis All samples analyzed within 14 days of collection.

QUALITY CONTROL

<u>QC Batch</u>	<u>Form 4 Summary</u>
V2052201	V2052211LB
V2052301	V2052311LB
V2052401	V2052411LB
V2052501	V2052511LB
V2052601	V2052611LB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits.

Method Blank FORM 4
V2052211LB
V2052311LB
V2052411LB
V2052511LB
V2052611LB

Target Analytes were not detected in the Method Blanks.

Laboratory Control Sample FORM 3
V2052211LCS
V2052311LCS
V2052411LCS
V2052511LCS
V2052611LCS

All acceptance criteria met, except as listed below.

V2052211LCS

Furan, a non-target analyte, was flagged for slightly high recovery in this LCS. There is no effect on the detected data.

V2052311LCS

2-Chloroethyl-vinyl ether and Furan (non-target analyte) were flagged for slightly high recovery in this LCS. There is no effect on the detected data.

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

Client Name Sverdrup Corporation
Project Name DDMT/ Dunn Field
ETC Order# 0005-523
Method (SW-846) 8260B/5030B

QUALITY CONTROL

V2052411LCS

2-Chloroethyl-vinyl ether and Furan (non-target analyte) were flagged for slightly high recovery in this LCS. There is no effect on the detected data.

V2052511LCS

2-Chloroethyl-vinyl ether and Furan (non-target analyte) were flagged for slightly high recovery in this LCS. There is no effect on the detected data.

V2052611LCS

2-Chloroethyl-vinyl ether and Furan (non-target analyte) were flagged for slightly high recovery in this LCS. There is no effect on the detected data. Acrolein, a non-target analyte, was flagged for low recovery in the LCS. There is no effect on the data.

Matrix Spike / Matrix Spike Dup. FORM 3

Batch V2052201

0005-523-07

RPD

All analytes within QC limits.

MW-31

Spike Recovery

All analytes within QC limits.

Refer to Laboratory Control Sample(s) for system verification.

Matrix Spike / Matrix Spike Dup. FORM 3

Batch V2052301

0005-523-16

RPD

All analytes within QC limits.

MW-44

Spike Recovery

All analytes within QC limits.

Refer to Laboratory Control Sample(s) for system verification.

Matrix Spike / Matrix Spike Dup. FORM 3

Batch V2052401

0005-523-27

RPD

All analytes within QC limits.

MW-14

Spike Recovery

All analytes within QC limits.

Refer to Laboratory Control Sample(s) for system verification.

Matrix Spike / Matrix Spike Dup. FORM 3

Batch V2052501

0005-523-33

RPD

All analytes within QC limits.

RW-03

Spike Recovery

All analytes within QC limits.

Refer to Laboratory Control Sample(s) for system verification.

ENVIRONMENTAL TESTING AND CONSULTING, INC.

CASE NARRATIVE

GC/MS VOLATILE COMPOUNDS - AQUEOUS

Client Name Sverdrup Corporation
Project Name DDMT/ Dunn Field
ETC Order# 0005-523
Method (SW-846) 8260B/5030B

QUALITY CONTROL

Matrix Spike / Matrix Spike Dup. FORM 3

Batch V2052601

0005-523-31 RPD All analytes within QC limits.

MW-70 Bottom DIL Spike Recovery All analytes within QC limits, except as listed below.

Trichloroethene was flagged outside control limits due to the level of this analyte present in the samples. Recoveries of this analyte in other batches were within control limits indicating an absence of matrix interferences. There is only a minimal effect on the data.

Refer to Laboratory Control Sample(s) for system verification.

CALIBRATION

BFB Daily 12-Hour Tune All criteria met. FORM 5

Initial Calibration All criteria met. FORM 6

Calibration Verification All criteria met. FORM 7

Volatile Internal Standard Area and RT FORM 8

Daily Check Standard(s) Internal Standard Areas and Retention Times within QC limits.

SAMPLE ANALYSIS

Instrumentation HP 5890 Series II GC, 5971MSD

Dilutions Required No dilutions required, except as listed below.

Dilutions were performed on seven samples to bring Target Analyte(s) within calibration range as shown on the individual report forms.

OTHER

Samples 0005-523-07MSD (Batch V2052201) and 0005-523-27 MSD (Batch V2052401) were analyzed outside the BFB 12-Hour Tune Window. Recoveries were within QC Limits. There is no effect on the data.



Project Manager

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ANALYTICAL SUMMARY TABLE

Client Name: Sverdrup Corporation
 Site ID: DDMT/Dunn Field
 Memphis, TN

<u>ETC</u> <u>Sample ID</u>	<u>Field ID</u>	<u>Matrix</u>	<u>Method</u>	<u>Method Description</u>
000552301	MW-56	AQUEOUS	8260B	GC/MS Volatile Organics
000552302	MW-58	AQUEOUS	8260B	GC/MS Volatile Organics
000552303	MW-54	AQUEOUS	8260B	GC/MS Volatile Organics
000552304	Trip Blank 1	AQUEOUS	8260B	GC/MS Volatile Organics
000552305	MW-15	AQUEOUS	8260B	GC/MS Volatile Organics
000552306	MW-59	AQUEOUS	8260B	GC/MS Volatile Organics
000552307	MW-31	AQUEOUS	8260B	GC/MS Volatile Organics
000552308	RW-02	AQUEOUS	8260B	GC/MS Volatile Organics
000552309	RW-AA	AQUEOUS	8260B	GC/MS Volatile Organics
000552310	RW-1B	AQUEOUS	8260B	GC/MS Volatile Organics
000552311	MW-40	AQUEOUS	8260B	GC/MS Volatile Organics
000552312	MW-30	AQUEOUS	8260B	GC/MS Volatile Organics
000552313	MW-51	AQUEOUS	8260B	GC/MS Volatile Organics
000552314	MW-BB	AQUEOUS	8260B	GC/MS Volatile Organics
000552315	Field Blank	AQUEOUS	8260B	GC/MS Volatile Organics
000552316	MW-44	AQUEOUS	8260B	GC/MS Volatile Organics
000552317	MW-33	AQUEOUS	8260B	GC/MS Volatile Organics
000552318	MW-32	AQUEOUS	8260B	GC/MS Volatile Organics
000552319	MW-57	AQUEOUS	8260B	GC/MS Volatile Organics
000552320	RW-1A	AQUEOUS	8260B	GC/MS Volatile Organics
000552321	RW-01	AQUEOUS	8260B	GC/MS Volatile Organics
000552322	EQB-B	AQUEOUS	8260B	GC/MS Volatile Organics
000552323	EQB-BLK	AQUEOUS	8260B	GC/MS Volatile Organics
00552324	EQB-P	AQUEOUS	8260B	GC/MS Volatile Organics
00552325	MW-69	AQUEOUS	8260B	GC/MS Volatile Organics
00552326	MW-AA	AQUEOUS	8260B	GC/MS Volatile Organics

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

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ANALYTICAL SUMMARY TABLE

Client Name Sverdrup Corporation
Site ID DDMT/Dunn Field
Memphis, TN

ITC Sample ID	Field ID	Matrix	Method	Method Description
000552327	MW-14	AQUEOUS	8260B	GC/MS Volatile Organics
000552328	MW-71	AQUEOUS	8260B	GC/MS Volatile Organics
000552329	MW-68	AQUEOUS	8260B	GC/MS Volatile Organics
000552330	MW-70 Top	AQUEOUS	8260B	GC/MS Volatile Organics
000552331	MW-70 Bottom	AQUEOUS	8260B	GC/MS Volatile Organics
000552332	MW-34	AQUEOUS	8260B	GC/MS Volatile Organics
000552333	RW-03	AQUEOUS	8260B	GC/MS Volatile Organics
000552334	Trip Blank 2	AQUEOUS	8260B	GC/MS Volatile Organics

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Environmental Testing & Consulting, Inc.

Sample Reports

000007

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 149

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-01
Sample ID: MW-56

Matrix :AQUEOUS
Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/22/00	LS	8260B
QC Batch	V2052201	ug/L					
Dilution Factor	1	ug/L					
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				
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	43.4	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	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				
2-Butanone (MEK)	ND	ug/L	20.0				
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	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	1.82	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
is-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	104	74 123
S2 - Toluene-d8	105	86 112

LABORATORY MANAGER

ND - Not Detected

000008

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ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-01
Sample ID: MW-56

Matrix :AQUEOUS
Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

05/22/00 LS 8260B

Surrogate Standard	% Recovery	QC Limits
S3 - 4-Bromofluorobenzene	105	81 115

COS

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

776 151 CLIENT SAMPLE NO.

0005-523-1

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0901010

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/22/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 108-70-3	BENZENE, 1,3,5-TRICHLORO-	33.00	11.89	NJ
2.				
3.				
4.				
5.				
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30.				

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ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID **DDMT/Dunn Field**
Memphis, TN

Date Arrived 05/19/00
 ETC Order Number 0005523

ETC Lab ID 0005523-02
Sample ID: MW-58

Matrix :AQUEOUS
 Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							
QC Batch	V2052201	ug/L			05/22/00	LS	8260B
Dilution Factor	1	ug/L					
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				
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	5.88	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				
2-Butanone (MEK)	ND	ug/L	20.0				
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	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	4.22	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				
Surrogate Standard							
S1 - Dibromofluoromethane	105		74				123
S2 - Toluene-d8	104		86				112

000011

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 153

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-02

Sample ID: MW-58

Matrix :AQUEOUS

Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

05/22/00 LS 8260B

Surrogate Standard	% Recovery	QC Limits
S3 - 4-Bromofluorobenzene	106	81 115

776 154

FORM 1

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

0005-523-2

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 1001011

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/22/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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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28.				
29.				
30.				

FORM I VOA-GCMS-TIC

000013

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 155

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-03
Sample ID: MW-54

Matrix :AQUEOUS
Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052201	ug/L			05/22/00	LS	
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	4.46	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	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				
2-Butanone (MEK)	ND	ug/L	20.0				
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	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	11.6	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
trans-1,2-Dichloroethene	7.08	ug/L	1.00				
Surrogate Standard	% Recovery		QC Limits				
1 - Dibromofluoromethane	103		74		123		
2 - Toluene-d8	105		86		112		

CDS

LABORATORY MANAGER

ND Not Detected

000014

776 156

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

Matrix :AQUEOUS
Sample Date :05/17/00

ETC Lab ID 0005523-03

Sample ID: MW-54

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/22/00	LS	8260B
Surrogate Standard	% Recovery		QC Limits				
S3 - 4-Bromofluorobenzene	104		81	115			

CDS

000015

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

776 157 CLIENT SAMPLE NO.

0005-523-3

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 1101012

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/22/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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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30.				

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ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # **801370**
 FID #

Site ID **DDMT/Dunn Field**
Memphis, TN

Date Arrived **05/19/00**
 ETC Order Number **0005523**

ETC Lab ID **0005523-04**
Sample ID: Trip Blank 1

Matrix : **AQUEOUS**
 Sample Date : **05/17/00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052201	ug/L			05/22/00	LS	
Dilution Factor	1	ug/L					
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				
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	1.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
2-Butanone (MEK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	20.0				
Styrene	ND	ug/L	5.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	ND	ug/L	1.00				
Toluene	ND	ug/L	1.00				
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	1.00				
Vinyl Chloride	ND	ug/L	20.0				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				
	ND	ug/L	1.00				
Surrogate Standard			% Recovery	QC Limits			
S1 - Dibromofluoromethane	104			74	123		
S2 - Toluene-d8	104			86	112		

PDS

000017

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 159

ent Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-04
Sample ID: Trip Blank 1

Matrix :AQUEOUS
Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

05/22/00 LS 8260B

Surrogate Standard	% Recovery	QC Limits
S3 - 4-Bromofluorobenzene	104	81 115

776 160

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

CLIENT SAMPLE NO.

0005-523-4

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0801009

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/22/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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

000019

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 161

ent Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-05

Sample ID: MW-15

Matrix :AQUEOUS
Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/22/00	LS	8260B
QC Batch	V2052201	ug/L					
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	16.3	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	593E	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	2.29	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	297E	ug/L	1.00				
Tetrachloroethene	3.96	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	4.69	ug/L	1.00				
Trichloroethene	154	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
is-1,2-Dichloroethene	6.96	ug/L	1.00				
Surrogate Standard		% Recovery	QC Limits				
1 - Dibromofluoromethane	102		74	123			
2 - Toluene-d8	105		86	112			

776 162 **ENVIRONMENTAL TESTING & CONSULTING, INC.**
2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750
ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID **DDMT/Dunn Field**
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

Matrix :AQUEOUS
Sample Date :05/17/00

ETC Lab ID 0005523-05
Sample ID: MW-15

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/22/00	LS	8260B
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>				
S3 - 4-Bromofluorobenzene	107		81	115			

POS

000021

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

776 163

CLIENT SAMPLE NO.

0005-523-5

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 1201013

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/22/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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

000022

776 164

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
 Memphis Defense Depot
 13723 Riverport Drive
 Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID DDMT/Dunn Field
 Memphis, TN

Date Arrived 05/19/00
 ETC Order Number 0005523

ETC Lab ID 0005523-05
Sample ID: MW-15-DIL

Matrix :AQUEOUS
 Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052301	ug/L			05/23/00	LS	
Dilution Factor	50	ug/L					
Acetone	ND	ug/L	1000				
Benzene	ND	ug/L	50.0				
Bromodichloromethane	ND	ug/L	50.0				
Bromoform	ND	ug/L	50.0				
Bromomethane	ND	ug/L	50.0				
Carbon Disulfide	ND	ug/L	50.0				
Carbon Tetrachloride	ND	ug/L	50.0				
Chlorobenzene	ND	ug/L	50.0				
Chlorodibromomethane	ND	ug/L	50.0				
Chloroethane	ND	ug/L	50.0				
Chloroform	704	ug/L	50.0				
Chloromethane	ND	ug/L	50.0				
1,1-Dichloroethane	ND	ug/L	50.0				
1,2-Dichloroethane	ND	ug/L	50.0				
1,1-Dichloroethene	ND	ug/L	50.0				
trans-1,2-Dichloroethene	ND	ug/L	50.0				
1,2-Dichloropropane	ND	ug/L	50.0				
cis-1,3-Dichloropropene	ND	ug/L	50.0				
trans-1,3-Dichloropropene	ND	ug/L	50.0				
Ethylbenzene	ND	ug/L	50.0				
2-Hexanone (MBK)	ND	ug/L	250				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250				
2-Butanone (MEK)	ND	ug/L	1000				
Methylene Chloride	ND	ug/L	250				
Styrene	ND	ug/L	50.0				
1,1,2,2-Tetrachloroethane	343	ug/L	50.0				
Tetrachloroethene	ND	ug/L	50.0				
Toluene	ND	ug/L	50.0				
1,1,1-Trichloroethane	ND	ug/L	50.0				
1,1,2-Trichloroethane	ND	ug/L	50.0				
Trichloroethene	ND	ug/L	50.0				
Vinyl Acetate	ND	ug/L	1000				
Vinyl Chloride	ND	ug/L	50.0				
o-Xylenes	ND	ug/L	50.0				
m-Xylenes	ND	ug/L	50.0				
p-Xylenes	ND	ug/L	50.0				
cis-1,2-Dichloroethene	ND	ug/L	50.0				
Surrogate Standard			% Recovery	QC Limits			
S1 - Dibromofluoromethane			103	74	123		
S2 - Toluene-d8			105	86	112		

C&S

ENVIRONMENTAL TESTING & CONSULTING, INC.
2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750
ORGANIC ANALYSIS DATA SHEET

776 165

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-05
Sample ID: MW-15-DIL

Matrix :AQUEOUS
Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

8260B

05/23/00 LS

Surrogate Standard	% Recovery	QC Limits
S3 - 4-Bromofluorobenzene	104	81 115

776 166

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

CLIENT SAMPLE NO.

0005-523-5

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0501005

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/23/00

Injection Volume: _____ (uL)

Dilution Factor: 50.0

GPC Cleanup: (Y/N) N

pH: 7.0

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.				

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 167

Client Name Sverdrup Corporation
 Memphis Defense Depot
 13723 Riverport Drive
 Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID DDMT/Dunn Field
 Memphis, TN

Date Arrived 05/19/00
 ETC Order Number 0005523

ETC Lab ID 0005523-06
Sample ID: MW-59

Matrix :AQUEOUS
 Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/23/00	LS	8260B
QC Batch	V2052301	ug/L					
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	1.82	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	0.82J	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	24.1	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	4.94	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
trans-1,2-Dichloroethene	2.38	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
1 - Dibromofluoromethane	101	74	123
2 - Toluene-d8	105	86	112

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000026

776 168

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-06

Sample ID: MW-59

Matrix :AQUEOUS

Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/23/00	LS	8260B
Surrogate Standard	% Recovery		QC Limits				
S3 - 4-Bromofluorobenzene	104		81	115			

105

000027

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

776 169
CLIENT SAMPLE NO.

0005-523-6

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0401004

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/23/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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. _____	_____	_____	_____	_____

776 170

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
 Memphis Defense Depot
 13723 Riverport Drive
 Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID DDMT/Dunn Field
 Memphis, TN

Date Arrived 05/19/00
 ETC Order Number 0005523

ETC Lab ID 0005523-07

Sample ID: MW-31

Matrix :AQUEOUS

Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
C/MS Volatile Organics							8260B
QC Batch	V2052201	ug/L			05/22/00	LS	
Dilution Factor	1	ug/L					
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				
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	1.29	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	22.3	ug/L	1.00				
trans-1,2-Dichloroethene	7.78	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	1.16	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	49.5	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	15.5	ug/L	1.00				
Surrogate Standard							
S1 - Dibromofluoromethane	104		74		123		
S2 - Toluene-d8	104		86		112		

000029

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-07

Sample ID: MW-31

Matrix :AQUEOUS
Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/22/00	LS	8260B
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>				
S3 - 4-Bromofluorobenzene	106		81	115			

C/S

776 172

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

CLIENT SAMPLE NO.

0005-523-7

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 1401015

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/22/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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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ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
 Memphis Defense Depot
 13723 Riverport Drive
 Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID DDMT/Dunn Field
 Memphis, TN

Date Arrived 05/19/00
 ETC Order Number 0005523

ETC Lab ID 0005523-08
Sample ID: RW-02

Matrix :AQUEOUS
 Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052301	ug/L			05/23/00	LS	
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	16.4	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	11.5	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	1.30	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	1.06	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	16.9	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
trans-1,2-Dichloroethene	10.7	ug/L	1.00				
Surrogate Standard			% Recovery	QC Limits			
S1 - Dibromofluoromethane	106			74	123		
S2 - Toluene-d8	105			86	112		

Ces

776 174

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-08

Sample ID: RW-02

Matrix :AQUEOUS

Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/23/00	LS	8260B
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>				
S3 - 4-Bromofluorobenzene	104		81 115				

000033

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

776 175

CLIENT SAMPLE NO.

0005-523-8

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0601006

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/23/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

Number TICs found: 0

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

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

776 176

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # **801370**
 FID #

Site ID **DDMT/Dunn Field**
Memphis, TN

Date Arrived **05/19/00**
 ETC Order Number **0005523**

ETC Lab ID **0005523-09****Sample ID: RW-AA**Matrix : **AQUEOUS**Sample Date : **05/17/00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052301	ug/L			05/23/00	LS	
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	15.0	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	10.6	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	1.17	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	0.93J	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	15.8	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	9.77	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	106	74	123
S2 - Toluene-d8	105	86	112

COJ

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 177

ent Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-09
Sample ID: RW-AA

Matrix :AQUEOUS
Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/23/00	LS	8260B
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>				
S3 - 4-Bromofluorobenzene	101		81	115			

CAS

LABORATORY MANAGER

ND - Not Detected

000026

776 178

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

CLIENT SAMPLE NO.

0005-523-9

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0701007

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/23/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
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29.				
30.				

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 179

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

Project # 801370
 FID #

Date Arrived 05/19/00
 ETC Order Number 0005523

ETC Lab ID 0005523-10
Sample ID: RW-1B

Matrix :AQUEOUS
 Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/23/00	LS	8260B 5030B
QC Batch	V2052301						
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	12.3	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	15.3	ug/L	1.00				
Chloromethane	ND	ug/L	1.00				
1,1-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	0.80J	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	1.08	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	13.6	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	2.18	ug/L	1.00				

Spiked Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	104	74	123
S2 - Toluene-d8	106	86	112
S3 - 4-Bromofluorobenzene	105	81	115

CDS

000038

LABORATORY MANAGER

ND - Not Detected

ENVIRONMENTAL TESTING & CONSULTING, INC.

776 180

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

ORGANIC ANALYSIS DATA SHEET

ent Name Sverdrup Corporation
 Memphis Defense Depot
 13723 Riverport Drive
 Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID DDMT/Dunn Field
 Memphis, TN

Date Arrived 05/19/00
 ETC Order Number 0005523

ETC Lab ID 0005523-10
Sample ID: RW-1B

Matrix :AQUEOUS
 Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/23/00	LS	8260B
QC Batch	V2052301	ug/L					
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	12.3	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	15.3	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	0.80	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	1.08	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	13.6	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
trans-1,2-Dichloroethene	2.18	ug/L	1.00				

reissued
 6/22/00

Bmcd

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	104	74 123
S2 - Toluene-d8	106	86 112

776 181

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-10

Sample ID: RW-1B

Matrix :AQUEOUS

Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/23/00	LS	8260B
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>				
S3 - 4-Bromofluorobenzene	105		81	115			

CDS

000039

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

776 182

CLIENT SAMPLE NO.

0005-523-10

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0801008

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/23/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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

000040

776 183

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name: Sverdrup Corporation
 Memphis Defense Depot
 13723 Riverport Drive
 Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID: DDMT/Dunn Field
 Memphis, TN

Date Arrived 05/19/00
 ETC Order Number 0005523

ETC Lab ID 0005523-11

Sample ID: MW-40

Matrix :AQUEOUS

Sample Date :05/16/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052301	ug/L			05/23/00	LS	
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	0.99J	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				
2-Butanone (MEK)	ND	ug/L	20.0				
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	1.00				
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				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard

	% Recovery	QC Limits
S1 - Dibromofluoromethane	105	74 123
S2 - Toluene-d8	105	86 112

000041

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 184

ent Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

ite ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-11

Sample ID: MW-40

Matrix :AQUEOUS

Sample Date :05/16/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

05/23/00 LS

8260B

Surrogate Standard	% Recovery	QC Limits
S3 - 4-Bromofluorobenzene	105	81 115

CDS

000042

776 185

FORM 1

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

0005-523-11

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0901009

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/23/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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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21. _____				
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23. _____				
24. _____				
25. _____				
26. _____				
27. _____				
28. _____				
29. _____				
30. _____				

FORM I VOA-GCMS-TIC

000043

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 186

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # **801370**
 FID #

Site ID **DDMT/Dunn Field**
Memphis, TN

Date Arrived **05/19/00**
 ETC Order Number **0005523**

ETC Lab ID **0005523-12**
Sample ID: MW-30

Matrix : **AQUEOUS**
 Sample Date : **05/16/00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/23/00	LS	8260B
QC Batch	V2052301	ug/L					
Dilution Factor	1	ug/L					
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				
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				
2-Butanone (MEK)	ND	ug/L	20.0				
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	1.00				
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				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
1 - Dibromofluoromethane	107	74	123
2 - Toluene-d8	106	86	112

CDS

776 187

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-12

Sample ID: MW-30

Matrix :AQUEOUS

Sample Date :05/16/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/23/00	LS	8260B
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>				
S3 - 4-Bromofluorobenzene	107		81	115			

COs

776 188

FORM 1

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

0005-523-12

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 1001010

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/23/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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

776 189

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
 Memphis Defense Depot
 13723 Riverport Drive
 Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID DDMT/Dunn Field
 Memphis, TN

Date Arrived 05/19/00
 ETC Order Number 0005523

ETC Lab ID 0005523-13

Sample ID: MW-51

Matrix :AQUEOUS

Sample Date :05/16/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052301	ug/L			05/23/00	LS	
Dilution Factor	1	ug/L					
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				
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	8.23	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				
2-Butanone (MEK)	ND	ug/L	20.0				
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	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	4.63	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				
Surrogate Standard							
S1 - Dibromofluoromethane	108		74	123			
S2 - Toluene-d8	104		86	112			

CDS

000047

ENVIRONMENTAL TESTING & CONSULTING, INC. 776 190
2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750
ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-13
Sample ID: MW-51

Matrix :AQUEOUS
Sample Date :05/16/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/23/00	LS	8260B
<u>Surrogate Standard</u>		<u>% Recovery</u>	<u>QC Limits</u>				
S3 - 4-Bromofluorobenzene		105	81	115			

COS

000010

776 191

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

CLIENT SAMPLE NO.

0005-523-13

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 1101011

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/23/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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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2.				
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ENVIRONMENTAL TESTING & CONSULTING, INC.

776 192

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

ORGANIC ANALYSIS DATA SHEET

ent Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-14
Sample ID: MW-BB

Matrix :AQUEOUS
Sample Date :05/16/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/23/00	LS	8260B
QC Batch	V2052301	ug/L					
Dilution Factor	1	ug/L					
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				
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	8.11	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	0.86J	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	4.54	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
s-1,2-Dichloroethene	ND	ug/L	1.00				

Arrogate Standard	% Recovery	QC Limits
1 - Dibromofluoromethane	106	74 123
2 - Toluene-d8	106	86 112

CAS

ENVIRONMENTAL TESTING & CONSULTING, INC.

776 193

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

ORGANIC ANALYSIS DATA SHEET

ent Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-14

Sample ID: MW-BB

Matrix :AQUEOUS

Sample Date :05/16/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/23/00	LS	8260B
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>				
S3 - 4-Bromofluorobenzene	105		81	115			

776 194

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

CLIENT SAMPLE NO.

0005-523-14

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 1201012

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/23/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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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30.				

FORM I VOA-GCMS-TIC

000052

ENVIRONMENTAL TESTING & CONSULTING, INC.

776 195

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

ORGANIC ANALYSIS DATA SHEET

ent Name Sverdrup Corporation
 Memphis Defense Depot
 13723 Riverport Drive
 Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID DDMT/Dunn Field
 Memphis, TN

Date Arrived 05/19/00
 ETC Order Number 0005523

ETC Lab ID 0005523-15
Sample ID: Field Blank

Matrix :AQUEOUS
 Sample Date :05/16/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052401	ug/L			05/24/00	LS	
Dilution Factor	1	ug/L					
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				
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				
2-Butanone (MEK)	ND	ug/L	20.0				
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	1.00				
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				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
1 - Dibromofluoromethane	102	74	123
2 - Toluene-d8	105	86	112

776 196

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-15
Sample ID: Field Blank

Matrix :AQUEOUS
Sample Date :05/16/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

05/24/00 LS 8260B

Surrogate Standard% RecoveryQC Limits

S3 - 4-Bromofluorobenzene

103

81

115

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

776 197

CLIENT SAMPLE NO.

0005-523-15

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0401004

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/24/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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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776 198

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750
ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID **DDMT/Dunn Field**
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-16
Sample ID: MW-44

Matrix :AQUEOUS
Sample Date :05/16/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							
QC Batch	V2052301	ug/L			05/23/00	LS	8260B
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	2.30	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	1.88	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				
2-Butanone (MEK)	ND	ug/L	20.0				
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	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	1.36	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	0.65J	ug/L	1.00				
Surrogate Standard							
S1 - Dibromofluoromethane	106		74	123			
S2 - Toluene-d8	105		86	112			

LABORATORY MANAGER

ND - Not Detected

000056

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 199

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # **801370**
FID #

Site ID **DDMT/Dunn Field**
Memphis, TN

Date Arrived **05/19/00**
ETC Order Number **0005523**

ETC Lab ID **0005523-16****Sample ID: MW-44**Matrix : **AQUEOUS**Sample Date : **05/16/00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/23/00	LS	8260B
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>				
S3 - 4-Bromofluorobenzene	107		81	115			

776 200

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

CLIENT SAMPLE NO.

0005-523-16

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 1301013

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/23/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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

000058

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 201

ent Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-17
Sample ID: MW-33

Matrix :AQUEOUS
Sample Date :05/16/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/23/00	LS	8260B
QC Batch	V2052301	ug/L					
Dilution Factor	1	ug/L					
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				
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				
2-Butanone (MEK)	ND	ug/L	20.0				
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	1.00				
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				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
surrogate Standard	% Recovery		QC Limits				
- Dibromofluoromethane	106		74	123			
- Toluene-d8	105		86	112			

776 202

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-17
Sample ID: MW-33

Matrix :AQUEOUS
Sample Date :05/16/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/23/00	LS	8260B
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>				
S3 - 4-Bromofluorobenzene	105		81	115			

CDS
LABORATORY MANAGER

ND - Not Detected

000060

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

776 203

CLIENT SAMPLE NO.

0005-523-17

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 1401014

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/23/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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

Number TICs found: 0

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

000061

776 204

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
 Memphis Defense Depot
 13723 Riverport Drive
 Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID DDMT/Dunn Field
 Memphis, TN

Date Arrived 05/19/00
 ETC Order Number 0005523

ETC Lab ID 0005523-18
Sample ID: MW-32

Matrix :AQUEOUS
 Sample Date :05/16/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052401	ug/L			05/24/00	LS	
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	37.0	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	117	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	2.00	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	3.94	ug/L	1.00				
Toluene	ND	ug/L	1.00				
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				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	6.61	ug/L	1.00				
Surrogate Standard			% Recovery	QC Limits			
S1 - Dibromofluoromethane	106			74	123		
S2 - Toluene-d8	106			86	112		

000062

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 205

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # **801370**
FID #

Site ID **DDMT/Dunn Field**
Memphis, TN

Date Arrived **05/19/00**
ETC Order Number **0005523**

ETC Lab ID **0005523-18**
Sample ID: MW-32

Matrix : **AQUEOUS**
Sample Date : **05/16/00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/24/00	LS	8260B
<u>Surrogate Standard</u>		<u>% Recovery</u>	<u>QC Limits</u>				
S3 - 4-Bromofluorobenzene		103	81	115			

776 206

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

CLIENT SAMPLE NO.

0005-523-18

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0801008

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/24/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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

000064

ENVIRONMENTAL TESTING & CONSULTING, INC.

776 207

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-19
Sample ID: MW-57

Matrix :AQUEOUS
Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/24/00	LS	8260B
QC Batch	V2052401	ug/L					
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	50.6	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	10.3	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	1.51	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	5.10	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	46.5	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
Surrogate Standard			% Recovery	QC Limits			
1 - Dibromofluoromethane	107			74	123		
2 - Toluene-d8	106			86	112		

CDs

776 208

ENVIRONMENTAL TESTING & CONSULTING, INC.
2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750
ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # **801370**
FID #

Site ID **DDMT/Dunn Field**
Memphis, TN

Date Arrived **05/19/00**
ETC Order Number **0005523**

ETC Lab ID **0005523-19****Sample ID: MW-57**Matrix : **AQUEOUS**Sample Date : **05/17/00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

8260B

05/24/00 LS

Surrogate Standard	% Recovery	QC Limits
S3 - 4-Bromofluorobenzene	102	81 115

C.D>

000066

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

776 209

CLIENT SAMPLE NO.

0005-523-19

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0901009

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/24/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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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776 210

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
 Memphis Defense Depot
 13723 Riverport Drive
 Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID DDMT/Dunn Field
 Memphis, TN

Date Arrived 05/19/00
 ETC Order Number 0005523

ETC Lab ID 0005523-20
Sample ID: RW-1A

Matrix :AQUEOUS
 Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052401	ug/L			05/24/00	LS	
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	10.6	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	300E	ug/L	1.00				
Chloromethane	ND	ug/L	1.00				
1,1-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	0.96J	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	25.8	ug/L	1.00				
Tetrachloroethene	2.31	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	0.82J	ug/L	1.00				
Trichloroethene	73.0	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	2.49	ug/L	1.00				
Surrogate Standard			% Recovery	QC Limits			
S1 - Dibromofluoromethane	106			74	123		
S2 - Toluene-d8	106			86	112		

000068

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 211

ent Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

ite ID DDMT/Dunn Field
Memphis, TN

ate Arrived 05/19/00
TC Order Number 0005523

ETC Lab ID 0005523-20

Sample ID: RW-1A

Matrix :AQUEOUS

Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/24/00	LS	8260B
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>				
S3 - 4-Bromofluorobenzene	104		81	115			

776 212

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

CLIENT SAMPLE NO.

0005-523-20

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 1001010

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/24/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

Number TICs found: 0

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

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

000070

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 213

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-20
Sample ID: RW-1A-DIL

Matrix :AQUEOUS
Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052501	ug/L			05/25/00	LS	
Dilution Factor	10	ug/L					
Acetone	ND	ug/L	200				
Benzene	ND	ug/L	10.0				
Bromodichloromethane	ND	ug/L	10.0				
Bromoform	ND	ug/L	10.0				
Bromomethane	ND	ug/L	10.0				
Carbon Disulfide	ND	ug/L	10.0				
Carbon Tetrachloride	11.6	ug/L	10.0				
Chlorobenzene	ND	ug/L	10.0				
Chlorodibromomethane	ND	ug/L	10.0				
Chloroethane	ND	ug/L	10.0				
Chloroform	339	ug/L	10.0				
Chloromethane	ND	ug/L	10.0				
1,1-Dichloroethane	ND	ug/L	10.0				
1,2-Dichloroethane	ND	ug/L	10.0				
1,1-Dichloroethene	ND	ug/L	10.0				
trans-1,2-Dichloroethene	ND	ug/L	10.0				
1,2-Dichloropropane	ND	ug/L	10.0				
cis-1,3-Dichloropropene	ND	ug/L	10.0				
trans-1,3-Dichloropropene	ND	ug/L	10.0				
Ethylbenzene	ND	ug/L	10.0				
2-Hexanone (MBK)	ND	ug/L	50.0				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0				
2-Butanone (MEK)	ND	ug/L	200				
Methylene Chloride	ND	ug/L	50.0				
Styrene	ND	ug/L	10.0				
1,1,2,2-Tetrachloroethane	ND	ug/L	10.0				
Tetrachloroethene	ND	ug/L	10.0				
Toluene	ND	ug/L	10.0				
1,1,1-Trichloroethane	ND	ug/L	10.0				
1,1,2-Trichloroethane	ND	ug/L	10.0				
Trichloroethene	82.7	ug/L	10.0				
Vinyl Acetate	ND	ug/L	200				
Vinyl Chloride	ND	ug/L	10.0				
o-Xylenes	ND	ug/L	10.0				
m-Xylenes	ND	ug/L	10.0				
p-Xylenes	ND	ug/L	10.0				
cis-1,2-Dichloroethene	ND	ug/L	10.0				

Surrogate Standard	% Recovery	QC Limits	
1 - Dibromofluoromethane	105	74	123
2 - Toluene-d8	104	86	112

LABORATORY MANAGER

ND - Not Detected

000071

776 214 ENVIRONMENTAL TESTING & CONSULTING, INC.
2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750
ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-20
Sample ID: RW-1A-DIL

Matrix :AQUEOUS
Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

8260B

05/25/00 LS

Surrogate Standard	% Recovery	QC Limits
S3 - 4-Bromofluorobenzene	102	81 115

CDS

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

776 215

CLIENT SAMPLE NO.

0005-523-20

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0501005

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/25/00

Injection Volume: _____ (uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: 7.0

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

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.				
2.				
3.				
4.				
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776 216

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID **DDMT/Dunn Field**
Memphis, TN

Date Arrived 05/19/00
 ETC Order Number 0005523

ETC Lab ID 0005523-21
Sample ID: RW-01

Matrix :AQUEOUS
 Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052401	ug/L			05/24/00	LS	
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	45.4	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	22.8	ug/L	1.00				
Chloromethane	ND	ug/L	1.00				
1,1-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	1.18	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	4.28	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	45.5	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				
Surrogate Standard			% Recovery	QC Limits			
S1 - Dibromofluoromethane	106			74	123		
S2 - Toluene-d8	107			86	112		

000074

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 217

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Sample Arrived 05/19/00
Lab Order Number 0005523

Lab ID 0005523-21
Sample ID: RW-01

Matrix :AQUEOUS
Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

05/24/00 LS 8260B

Surrogate Standard	% Recovery	QC Limits
S3 - 4-Bromofluorobenzene	104	81 115

776 218

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

CLIENT SAMPLE NO.

0005-523-21

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 1101011

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/24/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
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29.				
30.				

FORM I VOA-GCMS-TIC

000076

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 219

ent Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-22

Sample ID: EQB-B

Matrix :AQUEOUS
Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052401	ug/L			05/24/00	LS	
Dilution Factor	1	ug/L					
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				
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				
2-Butanone (MEK)	ND	ug/L	20.0				
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	1.00				
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				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				
Surrogate Standard	% Recovery	QC Limits					
S1 - Dibromofluoromethane	103	74	123				
S2 - Toluene-d8	106	86	112				

LABORATORY MANAGER

ND - Not Detected

000077

776 220

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-22

Sample ID: EQB-B

Matrix :AQUEOUS

Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

8260B

05/24/00 -LS-

Surrogate Standard	% Recovery	QC Limits
S3 - 4-Bromofluorobenzene	101	81 115

LOS

000078

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

776 221 CLIENT SAMPLE NO.

0005-523-22

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0501005

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/24/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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

000079

776 222 **ENVIRONMENTAL TESTING & CONSULTING, INC.**
 2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750
ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
 Memphis Defense Depot
 13723 Riverport Drive
 Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID DDMT/Dunn Field
 Memphis, TN

Date Arrived 05/19/00
 ETC Order Number 0005523

ETC Lab ID 0005523-23
Sample ID: EQB-BLK

Matrix :AQUEOUS
 Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052401	ug/L			05/24/00	LS	
Dilution Factor	1	ug/L					
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				
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				
2-Butanone (MEK)	ND	ug/L	20.0				
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	1.00				
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				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	104	74	123
S2 - Toluene-d8	105	86	112

LABORATORY MANAGER

ND - Not Detected

000080

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 223

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # **801370**
FID #

Site ID **DDMT/Dunn Field**
Memphis, TN

Date Arrived **05/19/00**JTC Order Number **0005523**JTC Lab ID **0005523-23**Sample ID: **EQB-BLK**Matrix : **AQUEOUS**Sample Date : **05/17/00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/24/00	LS	8260B
Surrogate Standard	% Recovery		QC Limits				
S3 - 4-Bromofluorobenzene	102		81	115			

P & S

000081

776 224

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

CLIENT SAMPLE NO.

0005-523-23

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0601006

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/24/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
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28.				
29.				
30.				

FORM I VOA-GCMS-TIC

000082

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 225

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID **DDMT/Dunn Field**
Memphis, TN

Date Arrived 05/19/00
 ETC Order Number 0005523

ETC Lab ID 0005523-24

Sample ID: EQB-P

Matrix :AQUEOUS

Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/24/00	LS	8260B
QC Batch	V2052401	ug/L					
Dilution Factor	1	ug/L					
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				
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				
2-Butanone (MEK)	ND	ug/L	20.0				
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	1.00				
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				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
31 - Dibromofluoromethane	105	74	123
32 - Toluene-d8	105	86	112

CDS

LABORATORY MANAGER

000083

776 226

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-24

Sample ID: EQB-P

Matrix :AQUEOUS

Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

05/24/00 LS

8260B

Surrogate Standard	% Recovery	QC Limits
S3 - 4-Bromofluorobenzene	102	81 115

CDS

000084

776 227

FORM 1

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

0005-523-24

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0701007

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/24/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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

000085

776 228

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # **801370**
 FID #

Site ID **DDMT/Dunn Field**
Memphis, TN

Date Arrived **05/19/00**
 ETC Order Number **0005523**

ETC Lab ID **0005523-25****Sample ID: MW-69**Matrix **:AQUEOUS**Sample Date **:05/17/00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052401	ug/L			05/24/00	LS	
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	0.73J	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	3.56	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	19.1	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	4.87	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	530E	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	31.2	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	107	74	123
S2 - Toluene-d8	105	86	112

C 6.5

000086

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 229

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-25

Sample ID: MW-69

Matrix :AQUEOUS

Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

05/24/00 LS 8260B

Surrogate Standard	% Recovery	QC Limits
S3 - 4-Bromofluorobenzene	103	81 115

COS

000087

776 230

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

CLIENT SAMPLE NO.

0005-523-25

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 1201012

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/24/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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

000088

ENVIRONMENTAL TESTING & CONSULTING, INC.**776 231**

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # **801370**
FID #

Site ID **DDMT/Dunn Field**
Memphis, TN

Date Arrived **05/19/00**
ETC Order Number **0005523**

ETC Lab ID **0005523-25**
Sample ID: MW-69-DIL

Matrix : **AQUEOUS**
Sample Date : **05/17/00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/25/00	LS	8260B
QC Batch	V2052501	ug/L					
Dilution Factor	10	ug/L					
Acetone	ND	ug/L	200				
Benzene	ND	ug/L	10.0				
Bromodichloromethane	ND	ug/L	10.0				
Bromoform	ND	ug/L	10.0				
Bromomethane	ND	ug/L	10.0				
Carbon Disulfide	ND	ug/L	10.0				
Carbon Tetrachloride	ND	ug/L	10.0				
Chlorobenzene	ND	ug/L	10.0				
Chlorodibromomethane	ND	ug/L	10.0				
Chloroethane	ND	ug/L	10.0				
Chloroform	ND	ug/L	10.0				
Chloromethane	ND	ug/L	10.0				
1,1-Dichloroethane	ND	ug/L	10.0				
1,2-Dichloroethane	ND	ug/L	10.0				
1,1-Dichloroethene	ND	ug/L	10.0				
trans-1,2-Dichloroethene	22.2	ug/L	10.0				
1,2-Dichloropropane	ND	ug/L	10.0				
cis-1,3-Dichloropropene	ND	ug/L	10.0				
trans-1,3-Dichloropropene	ND	ug/L	10.0				
Ethylbenzene	ND	ug/L	10.0				
2-Hexanone (MBK)	ND	ug/L	50.0				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0				
2-Butanone (MEK)	ND	ug/L	200				
Methylene Chloride	ND	ug/L	50.0				
Styrene	ND	ug/L	10.0				
1,1,2,2-Tetrachloroethane	ND	ug/L	10.0				
Tetrachloroethene	ND	ug/L	10.0				
Toluene	ND	ug/L	10.0				
1,1,1-Trichloroethane	ND	ug/L	10.0				
1,1,2-Trichloroethane	ND	ug/L	10.0				
Trichloroethene	642	ug/L	10.0				
Vinyl Acetate	ND	ug/L	200				
Vinyl Chloride	ND	ug/L	10.0				
o-Xylenes	ND	ug/L	10.0				
m-Xylenes	ND	ug/L	10.0				
p-Xylenes	ND	ug/L	10.0				
cis-1,2-Dichloroethene	34.2	ug/L	10.0				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	104	74	123
S2 - Toluene-d8	105	86	112

CPS

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776 232

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-25

Sample ID: MW-69-DIL

Matrix :AQUEOUS

Sample Date :05/17/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/25/00	LS	8260B
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>				
S3 - 4-Bromofluorobenzene	101		81	115			

000090

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

776 233

CLIENT SAMPLE NO.

0005-523-25

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0601006

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/25/00

Injection Volume: _____ (uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) N

pH: 7.0

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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22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I VOA-GCMS-TIC

000091

776 234

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID **DDMT/Dunn Field**
Memphis, TN

Date Arrived 05/19/00
 ETC Order Number 0005523

ETC Lab ID 0005523-26

Sample ID: MW-AA

Matrix :AQUEOUS

Sample Date :05/18/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052501	ug/L			05/25/00	LS	
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	0.62J	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	3.26	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	16.8	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	4.49	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	469E	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	28.1	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	106	74	123
S2 - Toluene-d8	106	86	112

000092

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 235

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID **DDMT/Dunn Field**
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-26
Sample ID: MW-AA

Matrix :AQUEOUS
Sample Date :05/18/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/25/00	LS	8260B
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>				
S3 - 4-Bromofluorobenzene	101		81	115			

CDS

LABORATORY MANAGER

ND - Not Detected

000093

776 236

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

CLIENT SAMPLE NO.

0005-523-26

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0701007

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/25/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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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ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 237

ent Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # **801370**
 FID #

Site ID **DDMT/Dunn Field**
Memphis, TN

Date Arrived **05/19/00**
 ETC Order Number **0005523**

ETC Lab ID **0005523-26**
Sample ID: MW-AA-DIL

Matrix : **AQUEOUS**
 Sample Date : **05/18/00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/26/00	LS	8260B
QC Batch	V2052601	ug/L					
Dilution Factor	10	ug/L					
Acetone	ND	ug/L	200				
Benzene	ND	ug/L	10.0				
Bromodichloromethane	ND	ug/L	10.0				
Bromoform	ND	ug/L	10.0				
Bromomethane	ND	ug/L	10.0				
Carbon Disulfide	ND	ug/L	10.0				
Carbon Tetrachloride	ND	ug/L	10.0				
Chlorobenzene	ND	ug/L	10.0				
Chlorodibromomethane	ND	ug/L	10.0				
Chloroethane	ND	ug/L	10.0				
Chloroform	ND	ug/L	10.0				
Chloromethane	ND	ug/L	10.0				
1,1-Dichloroethane	ND	ug/L	10.0				
1,2-Dichloroethane	ND	ug/L	10.0				
1,1-Dichloroethene	ND	ug/L	10.0				
trans-1,2-Dichloroethene	15.1	ug/L	10.0				
1,2-Dichloropropane	ND	ug/L	10.0				
cis-1,3-Dichloropropene	ND	ug/L	10.0				
trans-1,3-Dichloropropene	ND	ug/L	10.0				
Ethylbenzene	ND	ug/L	10.0				
2-Hexanone (MBK)	ND	ug/L	50.0				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0				
2-Butanone (MEK)	ND	ug/L	200				
Methylene Chloride	ND	ug/L	50.0				
Styrene	ND	ug/L	10.0				
1,1,2,2-Tetrachloroethane	ND	ug/L	10.0				
Tetrachloroethene	ND	ug/L	10.0				
Toluene	ND	ug/L	10.0				
1,1,1-Trichloroethane	ND	ug/L	10.0				
1,1,2-Trichloroethane	ND	ug/L	10.0				
Trichloroethene	441	ug/L	10.0				
Vinyl Acetate	ND	ug/L	200				
Vinyl Chloride	ND	ug/L	10.0				
o-Xylenes	ND	ug/L	10.0				
m-Xylenes	ND	ug/L	10.0				
p-Xylenes	ND	ug/L	10.0				
cis-1,2-Dichloroethene	25.1	ug/L	10.0				
Surrogate Standard			% Recovery	QC Limits			
1 - Dibromofluoromethane			107	74	123		
2 - Toluene-d8			107	86	112		

005

000095

776 238

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-26

Sample ID: MW-AA-DIL

Matrix :AQUEOUS

Sample Date :05/18/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/26/00	LS	8260B
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>				
S3 - 4-Bromofluorobenzene	106		81	115			

CDs

000096

776 239

FORM 1

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

0005-523-26

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0401020

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/26/00

Injection Volume: _____ (uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) N

pH: 7.0

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

000097

776 240

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # **801370**
 FID #

Site ID **DDMT/Dunn Field**
Memphis, TN

Date Arrived **05/19/00**
 ETC Order Number **0005523**

ETC Lab ID **0005523-27**
Sample ID: MW-14

Matrix : **AQUEOUS**
 Sample Date : **05/18/00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052401	ug/L			05/24/00	LS	
Dilution Factor	1	ug/L					
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				
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				
2-Butanone (MEK)	ND	ug/L	20.0				
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	1.00				
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				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	105	74	123
S2 - Toluene-d8	106	86	112

CDS
 LABORATORY MANAGER

ND - Not Detected

000098

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 241

ent Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

te ID DDMT/Dunn Field
Memphis, TN

ate Arrived 05/19/00

TC Order Number 0005523

TC Lab ID 0005523-27

Sample ID: MW-14

Matrix :AQUEOUS

Sample Date :05/18/00

EST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

MS Volatile Organics

05/24/00 LS 8260B

Surrogate Standard	% Recovery	QC Limits
S3 - 4-Bromofluorobenzene	105	81 115

COJ

000099

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

776 242 CLIENT SAMPLE NO.

0005-523-27

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 1401014

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/24/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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

000100

776 243

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
 Memphis Defense Depot
 13723 Riverport Drive
 Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID DDMT/Dunn Field
 Memphis, TN

Date Arrived 05/19/00
 ETC Order Number 0005523

ETC Lab ID 0005523-28
Sample ID: MW-71

Matrix :AQUEOUS
 Sample Date :05/18/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/25/00	LS	8260B
QC Batch	V2052501	ug/L					
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	34.0	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	989E	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	3.72	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	181	ug/L	1.00				
Tetrachloroethene	7.35	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	4.54	ug/L	1.00				
Trichloroethene	255E	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	9.98	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	104	74	123
S2 - Toluene-d8	105	86	112

COS

000101

ENVIRONMENTAL TESTING & CONSULTING, INC.

776 244

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-28
Sample ID: MW-71

Matrix :AQUEOUS
Sample Date :05/18/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/25/00	LS	8260B
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>				
S3 - 4-Bromofluorobenzene	104		81	115			

CDS

776 245

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

CLIENT SAMPLE NO.

0005-523-28

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0801008

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/25/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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. _____	_____	_____	_____	_____

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 246

Client Name Sverdrup Corporation
 Memphis Defense Depot
 13723 Riverport Drive
 Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID DDMT/Dunn Field
 Memphis, TN

Date Arrived 05/19/00
 ETC Order Number 0005523

ETC Lab ID 0005523-28
Sample ID: MW-71-DIL

Matrix :AQUEOUS
 Sample Date :05/18/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/26/00	MK	8260B
QC Batch	V2052601	ug/L					
Dilution Factor	10	ug/L					
Acetone	ND	ug/L	200				
Benzene	ND	ug/L	10.0				
Bromodichloromethane	ND	ug/L	10.0				
Bromoform	ND	ug/L	10.0				
Bromomethane	ND	ug/L	10.0				
Carbon Disulfide	ND	ug/L	10.0				
Carbon Tetrachloride	26.5	ug/L	10.0				
Chlorobenzene	ND	ug/L	10.0				
Chlorodibromomethane	ND	ug/L	10.0				
Chloroethane	ND	ug/L	10.0				
Chloroform	1,080	ug/L	10.0				
Chloromethane	ND	ug/L	10.0				
1,1-Dichloroethane	ND	ug/L	10.0				
1,2-Dichloroethane	ND	ug/L	10.0				
1,1-Dichloroethene	ND	ug/L	10.0				
trans-1,2-Dichloroethene	2.92J	ug/L	10.0				
1,2-Dichloropropane	ND	ug/L	10.0				
cis-1,3-Dichloropropene	ND	ug/L	10.0				
trans-1,3-Dichloropropene	ND	ug/L	10.0				
Ethylbenzene	ND	ug/L	10.0				
2-Hexanone (MBK)	ND	ug/L	50.0				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0				
2-Butanone (MEK)	ND	ug/L	200				
Methylene Chloride	ND	ug/L	50.0				
Styrene	ND	ug/L	10.0				
1,1,2,2-Tetrachloroethane	182	ug/L	10.0				
Tetrachloroethene	5.8J	ug/L	10.0				
Toluene	ND	ug/L	10.0				
1,1,1-Trichloroethane	ND	ug/L	10.0				
1,1,2-Trichloroethane	ND	ug/L	10.0				
Trichloroethene	239	ug/L	10.0				
Vinyl Acetate	ND	ug/L	200				
Vinyl Chloride	ND	ug/L	10.0				
o-Xylenes	ND	ug/L	10.0				
m-Xylenes	ND	ug/L	10.0				
p-Xylenes	ND	ug/L	10.0				
cis-1,2-Dichloroethene	9.86J	ug/L	10.0				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	109	74	123
S2 - Toluene-d8	107	86	112

CDS

LABORATORY MANAGER

ND Not Detected

000104

776 247

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-28

Sample ID: MW-71-DIL

Matrix :AQUEOUS

Sample Date :05/18/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

8260B

05/26/00 MK

Surrogate Standard% RecoveryQC Limits

S3 - 4-Bromofluorobenzene

104

81

115

CD)

LABORATORY MANAGER

ND - Not Detected

000105

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

776 248

CLIENT SAMPLE NO.

0005-523-28

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0501021

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/26/00

Injection Volume: _____ (uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) N

pH: 7.0

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

000106

776 249

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID **DDMT/Dunn Field**
Memphis, TN

Date Arrived 05/19/00
 ETC Order Number 0005523

ETC Lab ID 0005523-29

Sample ID: MW-68

Matrix :AQUEOUS

Sample Date :05/18/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052501	ug/L			05/25/00	LS	
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	0.89J	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	6.44	ug/L	1.00				
Chloromethane	ND	ug/L	1.00				
1,1-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	13.1	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	2.07	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	44.5	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	13.7	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	105	74	123
S2 - Toluene-d8	104	86	112

C 05

000107

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 250

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-29

Sample ID: MW-68

Matrix :AQUEOUS

Sample Date :05/18/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

8260B
05/25/00 LS

Surrogate Standard	% Recovery	QC Limits
S3 - 4-Bromofluorobenzene	106	81 115

CDS

LABORATORY MANAGER

ND - Not Detected

000108

776 251

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

CLIENT SAMPLE NO.

0005-523-29

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0901009

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/25/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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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30.				

FORM I VOA-GCMS-TIC

000109

ENVIRONMENTAL TESTING & CONSULTING, INC.

776 252

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Sample Arrived 05/19/00
Lab Order Number 0005523

ETC Lab ID 0005523-30
Sample ID: MW-70 Top

Matrix :AQUEOUS
Sample Date :05/18/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/25/00	LS	8260B
QC Batch	V2052501	ug/L					
Dilution Factor	1	ug/L					
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				
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	4.36	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	10.1	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	313E	ug/L	1.00				
Tetrachloroethene	2.92	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	2.64	ug/L	1.00				
Trichloroethene	536E	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	38.8	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits
1 - Dibromofluoromethane	107	74 123
2 - Toluene-d8	106	86 112

POS

LABORATORY MANAGER

ND - Not Detected

000110

776 253

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-30
Sample ID: MW-70 Top

Matrix :AQUEOUS
Sample Date :05/18/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

05/25/00 LS 8260B

Surrogate Standard	% Recovery	QC Limits
S3 - 4-Bromofluorobenzene	102	81 115

CDS

LABORATORY MANAGER

ND - Not Detected

000111

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

776 254 CLIENT SAMPLE NO.

0005-523-30

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 1001010

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/25/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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

000112

776 255

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
 Memphis Defense Depot
 13723 Riverport Drive
 Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID DDMT/Dunn Field
 Memphis, TN

Date Arrived 05/19/00
 ETC Order Number 0005523

ETC Lab ID 0005523-30

Sample ID: MW-70 Top-DIL

Matrix :AQUEOUS

Sample Date :05/18/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/26/00	MK	8260B
QC Batch	V2052601	ug/L					
Dilution Factor	10	ug/L					
Acetone	ND	ug/L	200				
Benzene	ND	ug/L	10.0				
Bromodichloromethane	ND	ug/L	10.0				
Bromoform	ND	ug/L	10.0				
Bromomethane	ND	ug/L	10.0				
Carbon Disulfide	ND	ug/L	10.0				
Carbon Tetrachloride	ND	ug/L	10.0				
Chlorobenzene	ND	ug/L	10.0				
Chlorodibromomethane	ND	ug/L	10.0				
Chloroethane	ND	ug/L	10.0				
Chloroform	ND	ug/L	10.0				
Chloromethane	ND	ug/L	10.0				
1,1-Dichloroethane	ND	ug/L	10.0				
1,2-Dichloroethane	ND	ug/L	10.0				
1,1-Dichloroethene	ND	ug/L	10.0				
trans-1,2-Dichloroethene	9.62J	ug/L	10.0				
1,2-Dichloropropane	ND	ug/L	10.0				
cis-1,3-Dichloropropene	ND	ug/L	10.0				
trans-1,3-Dichloropropene	ND	ug/L	10.0				
Ethylbenzene	ND	ug/L	10.0				
2-Hexanone (MBK)	ND	ug/L	50.0				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0				
2-Butanone (MEK)	ND	ug/L	200				
Methylene Chloride	ND	ug/L	50.0				
Styrene	ND	ug/L	10.0				
1,1,2,2-Tetrachloroethane	284	ug/L	10.0				
Tetrachloroethene	ND	ug/L	10.0				
Toluene	ND	ug/L	10.0				
1,1,1-Trichloroethane	ND	ug/L	10.0				
1,1,2-Trichloroethane	ND	ug/L	10.0				
Trichloroethene	538	ug/L	10.0				
Vinyl Acetate	ND	ug/L	200				
Vinyl Chloride	ND	ug/L	10.0				
o-Xylenes	ND	ug/L	10.0				
m-Xylenes	ND	ug/L	10.0				
p-Xylenes	ND	ug/L	10.0				
cis-1,2-Dichloroethene	37.3	ug/L	10.0				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	107	74	123
S2 - Toluene-d8	108	86	112

LABORATORY MANAGER

ND - Not Detected

000113

ENVIRONMENTAL TESTING & CONSULTING, INC. 776 256
2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750
ORGANIC ANALYSIS DATA SHEET

ent Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-30

Sample ID: MW-70 Top-DIL

Matrix :AQUEOUS
Sample Date :05/18/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics					05/26/00	MK	8260B

Surrogate Standard	% Recovery	QC Limits
S3 - 4-Bromofluorobenzene	106	81 115

CDS
BORATORY MANAGER

ND - Not Detected

000114

776 257

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

CLIENT SAMPLE NO.

0005-523-30

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0601022

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/26/00

Injection Volume: _____ (uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: 7.0

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

000115

ENVIRONMENTAL TESTING & CONSULTING, INC.

776 258

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

ORGANIC ANALYSIS DATA SHEET

ent Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID **DDMT/Dunn Field**
Memphis, TN

Date Arrived 05/19/00
 ETC Order Number 0005523

ETC Lab ID 0005523-31

Sample ID: MW-70 Bottom

Matrix :AQUEOUS

Sample Date :05/18/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/25/00	LB	8260B
QC Batch	V2052501	ug/L					
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	0.64J	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	5.18	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	12.0	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	400E	ug/L	1.00				
Tetrachloroethene	5.35	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	3.93	ug/L	1.00				
Trichloroethene	789E	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	54.8	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	106	74 123
S2 - Toluene-d8	106	86 112

CO

LABORATORY MANAGER

ND - Not Detected

000116

776 259

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-31

Sample ID: MW-70 Bottom

Matrix :AQUEOUS

Sample Date :05/18/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/25/00	LB	8260B
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>				
S3 - 4-Bromofluorobenzene	105		81	115			

CDS

LABORATORY MANAGER

NOT DETECTED

000117

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

776 260

CLIENT SAMPLE NO.

0005-523-31

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 1101011

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/25/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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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30.				

FORM I VOA-GCMS-TIC

000118

776 261 ENVIRONMENTAL TESTING & CONSULTING, INC.
 2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750
 ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
 Memphis Defense Depot
 13723 Riverport Drive
 Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID DDMT/Dunn Field
 Memphis, TN

Date Arrived 05/19/00
 ETC Order Number 0005523

ETC Lab ID 0005523-31
Sample ID: MW-70 Bottom-DIL

Matrix :AQUEOUS
 Sample Date :05/18/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/26/00	MK	8260B
QC Batch	V2052601	ug/L					
Dilution Factor	10	ug/L					
Acetone	ND	ug/L	200				
Benzene	ND	ug/L	10.0				
Bromodichloromethane	ND	ug/L	10.0				
Bromoform	ND	ug/L	10.0				
Bromomethane	ND	ug/L	10.0				
Carbon Disulfide	ND	ug/L	10.0				
Carbon Tetrachloride	ND	ug/L	10.0				
Chlorobenzene	ND	ug/L	10.0				
Chlorodibromomethane	ND	ug/L	10.0				
Chloroethane	ND	ug/L	10.0				
Chloroform	ND	ug/L	10.0				
Chloromethane	ND	ug/L	10.0				
1,1-Dichloroethane	ND	ug/L	10.0				
1,2-Dichloroethane	ND	ug/L	10.0				
1,1-Dichloroethene	ND	ug/L	10.0				
trans-1,2-Dichloroethene	9.99J	ug/L	10.0				
1,2-Dichloropropane	ND	ug/L	10.0				
cis-1,3-Dichloropropene	ND	ug/L	10.0				
trans-1,3-Dichloropropene	ND	ug/L	10.0				
Ethylbenzene	ND	ug/L	10.0				
2-Hexanone (MBK)	ND	ug/L	50.0				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0				
2-Butanone (MEK)	ND	ug/L	200				
Methylene Chloride	ND	ug/L	50.0				
Styrene	ND	ug/L	10.0				
1,1,2,2-Tetrachloroethane	342	ug/L	10.0				
Tetrachloroethene	ND	ug/L	10.0				
Toluene	ND	ug/L	10.0				
1,1,1-Trichloroethane	ND	ug/L	10.0				
1,1,2-Trichloroethane	ND	ug/L	10.0				
Trichloroethene	720	ug/L	10.0				
Vinyl Acetate	ND	ug/L	200				
Vinyl Chloride	ND	ug/L	10.0				
o-Xylenes	ND	ug/L	10.0				
m-Xylenes	ND	ug/L	10.0				
p-Xylenes	ND	ug/L	10.0				
cis-1,2-Dichloroethene	44.3	ug/L	10.0				

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	104	74 123
S2 - Toluene-d8	108	86 112

CDS

LABORATORY MANAGER

ND - Not Detected

000119

ENVIRONMENTAL TESTING & CONSULTING, INC.

776 262

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-31

Matrix :AQUEOUS

Sample ID: MW-70 Bottom-DIL

Sample Date :05/18/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

05/26/00 MK 8260B

Surrogate Standard	% Recovery	QC Limits
S3 - 4-Bromofluorobenzene	105	81 115

776 263

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

CLIENT SAMPLE NO.

0005-523-31

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0701023

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/26/00

Injection Volume: _____ (uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) N

pH: 7.0

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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29.				
30.				

FORM I VOA-GCMS-TIC

000121

ENVIRONMENTAL TESTING & CONSULTING, INC.

776 264

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-32
Sample ID: MW-34

Matrix :AQUEOUS
Sample Date :05/18/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052501	ug/L			05/25/00	LS	
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	1.03	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	3.49	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				
2-Butanone (MEK)	ND	ug/L	20.0				
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	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	2.15	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits
1 - Dibromofluoromethane	103	74 123
2 - Toluene-d8	104	86 112

CDS

LABORATORY MANAGER

ND - Not Detected

000122

776 265

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-32
Sample ID: MW-34

Matrix :AQUEOUS
Sample Date :05/18/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

05/25/00 LS 8260B

Surrogate Standard% RecoveryQC Limits

S3 - 4-Bromofluorobenzene

105

81

115

C65

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

776 266 CLIENT SAMPLE NO.

0005-523-32

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 1201012

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/25/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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. _____	_____	_____	_____	_____

776 267

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID **DDMT/Dunn Field**
Memphis, TN

Date Arrived 05/19/00
 ETC Order Number 0005523

ETC Lab ID 0005523-33

Sample ID: RW-03

Matrix :AQUEOUS

Sample Date :05/18/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052501	ug/L			05/25/00	LS	
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	16.3	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	5.51	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	7.42	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	85.5	ug/L	1.00				
Tetrachloroethene	0.73J	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	3.23	ug/L	1.00				
Trichloroethene	78.8	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	138	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	107	74	123
S2 - Toluene-d8	106	86	112

CDS

ENVIRONMENTAL TESTING & CONSULTING, INC.

776 268

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

ORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT/Dunn Field
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-33

Sample ID: RW-03

Matrix :AQUEOUS

Sample Date :05/18/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

05/25/00 LS 8260B

Surrogate Standard	% Recovery	QC Limits
S3 - 4-Bromofluorobenzene	104	81 115

776 269

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

CLIENT SAMPLE NO.

0005-523-33

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 1301013

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/25/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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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27.				
28.				
29.				
30.				

FORM I VOA-GCMS-TIC

000127

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 270

ent Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

te ID DDMT/Dunn Field
Memphis, TN

te Arrived 05/19/00
C Order Number 0005523

TC Lab ID 0005523-34
Sample ID: Trip Blank 2

Matrix :AQUEOUS
Sample Date :05/18/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
C/MS Volatile Organics							8260B
QC Batch	V2052501	ug/L			05/25/00	LS	
Dilution Factor	1	ug/L					
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				
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				
2-Butanone (MEK)	ND	ug/L	20.0				
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	1.00				
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				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
Surrogate Standard	% Recovery		QC Limits				
1 - Dibromofluoromethane	105		74		123		
2 - Toluene-d8	105		86		112		

000128

776 271

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID **DDMT/Dunn Field**
Memphis, TN

Date Arrived 05/19/00
ETC Order Number 0005523

ETC Lab ID 0005523-34

Sample ID: Trip Blank 2

Matrix :AQUEOUS

Sample Date :05/18/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

05/25/00 LS 8260B

Surrogate Standard% RecoveryQC Limits

S3 - 4-Bromofluorobenzene

103

81

115

COS

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

776 272 CLIENT SAMPLE NO.

0005-523-34

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0401004

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/25/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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.				
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28.				
29.				
30.				

Environmental Testing & Consulting, Inc.

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

FORM 2
WATER VOA-GCMS SURROGATE RECOVERY

776 274

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

	CLIENT SAMPLE NO.	S1 #	S2 (TOL) #	S3 (BFB) #	S4 #	S5 #	S6 #	S7 #	S8 #	TOT OUT
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
01	V2052211LCS	99	102	101						0
02	V2052211LB	102	103	102						0
03	0005-523-4	104	104	104						0
04	0005-523-1	104	105	105						0
05	0005-523-2	105	104	106						0
06	0005-523-3	103	105	104						0
07	0005-523-5	102	105	107						0
08	0005-523-6	103	104	107						0
09	0005-523-7	104	104	106						0
10	0005-523-7MS	102	104	104						0
11	0005-523-7MS	106	103	103						0
12	V2052311LCS	101	102	106						0
13	V2052311LB	100	104	105						0
14	0005-523-6	101	105	104						0
15	0005-523-5	103	105	104						0
16	0005-523-8	106	105	104						0
17	0005-523-9	106	105	101						0
18	0005-523-10	104	106	105						0
19	0005-523-11	105	105	105						0
20	0005-523-12	107	106	107						0
21	0005-523-13	108	104	105						0
22	0005-523-14	106	106	105						0
23	0005-523-16	106	105	107						0
24	0005-523-17	106	105	105						0
25	0005-523-16M	107	104	107						0
26	0005-523-16M	105	105	108						0
27	V2052411LCS	103	103	106						0
28	V2052411LB	102	104	101						0
29	0005-523-15	102	105	103						0
30	0005-523-22	103	106	101						0

QC LIMITS

S1 = Dibromofluoromethane (74-123)
 S2 (TOL) = Toluene-d8 (86-112)
 S3 (BFB) = Bromofluorobenzene (81-115)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D Surrogate diluted out

FORM 2
WATER VOA-GCMS SURROGATE RECOVERY

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

	CLIENT SAMPLE NO.	S1 #	S2 (TOL) #	S3 (BFB) #	S4 #	S5 #	S6 #	S7 #	S8 #	TOT OUT
01	0005-523-23	104	105	102						0
02	0005-523-24	105	105	102						0
03	0005-523-18	106	106	103						0
04	0005-523-19	107	106	102						0
05	0005-523-20	106	106	104						0
06	0005-523-21	106	107	104						0
07	0005-523-25	107	105	103						0
08	0005-523-27	105	106	105						0
09	0005-523-27M	106	106	111						0
10	0005-523-27M	108	106	106						0
11	V2052511LCS	103	104	103						0
12	V2052511LB	104	104	102						0
13	0005-523-34	105	105	103						0
14	0005-523-20	105	104	102						0
15	0005-523-25	104	105	101						0
16	0005-523-26	106	106	101						0
17	0005-523-28	104	105	104						0
18	0005-523-29	105	104	106						0
19	0005-523-30	107	106	102						0
20	0005-523-31	106	106	105						0
21	0005-523-32	103	104	105						0
22	0005-523-33	107	106	104						0
23	0005-523-33M	106	105	108						0
24	0005-523-33M	106	105	107						0
25	V2052601LCS	105	107	105						0
26	V2052611LB	106	108	104						0
27	0005-523-26	107	107	106						0
28	0005-523-28	109	107	104						0
29	0005-523-30	107	108	106						0
30	0005-523-31	104	108	105						0

QC LIMITS

S1 = Dibromofluoromethane (74-123)
 S2 (TOL) = Toluene-d8 (86-112)
 S3 (BFB) = Bromofluorobenzene (81-115)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D Surrogate diluted out

FORM 2
WATER VOA-GCMS SURROGATE RECOVERY

776 276

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

	CLIENT SAMPLE NO.	S1 #	S2 (TOL) #	S3 (BFB) #	S4 #	S5 #	S6 #	S7 #	S8 #	TOT OUT
01	0005-523-31M	108	108	107						0
02	0005-523-31M	105	108	105						0
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QC LIMITS

S1 = Dibromofluoromethane (74-123)
 S2 (TOL) = Toluene-d8 (86-112)
 S3 (BFB) = Bromofluorobenzene (81-115)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D Surrogate diluted out

776 277

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

Lab Name: ETC, INC.

Contract:

V2052211LB

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Lab File ID: 0302004

Lab Prep Batch: V2052201

Instrument ID: VOC2

Date Extracted:

Matrix: (soil/water) WATER

Date Analyzed: 05/22/00

Level: (low/med) LOW

Time Analyzed: 1142

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

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	V2052211LCS	V2052201	0201002LCS	05/22/00
02	0005-523-4	V2052201	0801009	05/22/00
03	0005-523-1	V2052201	0901010	05/22/00
04	0005-523-2	V2052201	1001011	05/22/00
05	0005-523-3	V2052201	1101012	05/22/00
06	0005-523-5	V2052201	1201013	05/22/00
07	0005-523-6	V2052201	1301014	05/22/00
08	0005-523-7	V2052201	1401015	05/22/00
09	0005-523-7MS	V2052201	1501016	05/22/00
10	0005-523-7MS	V2052201	1601017	05/22/00
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COMMENTS:

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2052211LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Prep Batch: V2052201

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

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/22/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q

67-64-1-----	Acetone	20.00	U
75-05-8-----	Acetonitrile	25.00	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
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
78-93-3-----	2-Butanone	20.00	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
110-75-0-----	2-Chloroethyl vinyl Ether	5.00	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

776 279

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2052211LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Prep Batch: V2052201

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

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/22/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

110-57-6-----	trans-1,4-Dichloro-2-butene	1.00	U
67-64-1-----	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
156-59-4-----	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
590-20-7-----	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
87-63-3-----	Hexachlorobutadiene	1.00	U
110-54-3-----	Hexane	5.00	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	1.00	U
80-62-6-----	Methyl methacrylate	1.00	U
108-10-1-----	4-Methyl-2-Pentanone	5.00	U
1634-04-4-----	Methyl-tertbutyl-Ether	1.00	U
91-20-3-----	Naphthalene	1.00	U
76-01-7-----	Pentachloroethane	1.00	U

FORM I VOA-GCMS

000137

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

776 280

CLIENT SAMPLE NO.

V2052211LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Prep Batch: V2052201

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

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/22/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

107-12-0-----	Propionitrile	10.00	U
109-60-4-----	n-Propyl Acetate	1.00	U
103-65-1-----	n-Propylbenzene	1.00	U
100-42-5-----	Styrene	1.00	U
630-20-6-----	1,1,1,2-Tetrachloroethane	1.00	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1.00	U
127-18-4-----	Tetrachloroethene	1.00	U
109-99-9-----	Tetrahydrofuran	1.00	U
108-88-3-----	Toluene	1.00	U
87-61-6-----	1,2,3-Trichlorobenzene	1.00	U
120-82-1-----	1,2,4-Trichlorobenzene	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
108-67-8-----	1,3,5-Trimethylbenzene	1.00	U
108-05-4-----	Vinyl Acetate	5.00	U
75-01-4-----	Vinyl Chloride	1.00	U
1330-20-7-----	Xylene-mp	2.00	U
95-47-6-----	Xylene-o	1.00	U

776 281

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

CLIENT SAMPLE NO.

V2052211LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/22/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

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

000139

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

776 282

Lab Name: ETC, INC.

Lab Prep Batch: V2052201

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix Spike - Sample No.: V2052211LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acetone	100.0		97.19	97	59-151
Acetonitrile	1000		885.5	88	57-143
Acrolein	100.0		102.2	102	59-134
Acrylonitrile	100.0		90.40	90	60-146
Allyl chloride	100.0		91.03	91	74-120
Benzene	100.0		99.84	100	72-124
Bromobenzene	100.0		87.45	87	77-120
Bromochloromethane	100.0		93.26	93	74-120
Bromodichloromethane	100.0		93.36	93	68-119
Bromoform	100.0		90.07	90	66-136
Bromomethane	100.0		100.0	100	40-134
n-Butylbenzene	100.0		101.4	101	69-129
sec-Butylbenzene	100.0		95.61	96	72-127
tert-Butylbenzene	100.0		92.80	93	73-126
Carbon Disulfide	100.0		86.34	86	60-133
2-Butanone	100.0		101.5	102	55-151
Carbon Tetrachloride	100.0		96.00	96	64-123
Chlorobenzene	100.0		91.19	91	77-112
Chlorodibromomethane	100.0		86.17	86	72-118
Chloroethane	100.0		106.7	107	64-142
2-Chloroethyl vinyl Eth	100.0		151.5	152	22-165
Chloroform	100.0		96.32	96	70-115
Chloromethane	100.0		98.25	98	58-139
Chloroprene	100.0		98.20	98	73-118
2-Chlorotoluene	100.0		94.97	95	65-132
4-Chlorotoluene	100.0		95.73	96	67-127
1,2-Dibromo-3-chloropro	100.0		87.26	87	56-134
1,2-Dibromoethane	100.0		91.67	92	74-118

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

COMMENTS: _____

776 283

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V2052201

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix Spike - Sample No.: V2052211LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dibromomethane	100.0		95.70	96	75-114
1,2-Dichlorobenzene	100.0		87.90	88	80-113
1,3-Dichlorobenzene	100.0		89.77	90	77-119
1,4-Dichlorobenzene	100.0		92.31	92	78-116
cis-1,4-Dichloro-2-bute	100.0		95.68	96	62-138
trans-1,4-Dichloro-2-bu	100.0		100.6	101	62-138
Dichlorodifluoromethane	100.0		110.6	111	48-145
1,1-Dichloroethane	100.0		97.44	97	76-118
1,2-Dichloroethane	100.0		91.45	91	62-124
1,1-Dichloroethene	100.0		98.58	98	69-121
cis-1,2-Dichloroethene	100.0		97.52	98	76-114
trans-1,2-Dichloroethen	100.0		102.3	102	72-121
1,2-Dichloropropane	100.0		93.72	94	64-133
1,3-Dichloropropane	100.0		91.50	92	68-128
2,2-Dichloropropane	100.0		106.3	106	67-132
1,1-Dichloropropene	100.0		101.2	101	76-117
cis-1,3-Dichloropropene	100.0		93.41	93	77-120
trans-1,3-Dichloroprope	100.0		95.48	95	73-124
Di isopropyl ether	100.0		94.38	94	62-160
1,4-Dioxane	2000		2021	101	56-131
Ethyl Acetate	100.0		92.36	92	52-151
Ethylbenzene	100.0		96.75	97	77-111
Ethyl methacrylate	200.0		183.5	92	57-140
Furan	100.0		142.4	142*	52-124
Hexachlorobutadiene	100.0		101.8	102	69-137
Hexane	100.0		118.8	119	70-130
2-Hexanone	100.0		90.99	91	53-144
Iodomethane	100.0		100.9	101	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

776 284

Lab Name: ETC, INC.

Lab Prep Batch: V2052201

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix Spike - Sample No.: V2052211LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	2000		1823	91	60-134
Isopropylbenzene	100.0		94.42	94	74-125
4-Isopropyltoluene	100.0		94.85	95	72-127
Methacrylonitrile	1000		908.8	91	70-125
Methylene Chloride	100.0		95.59	96	76-115
Methyl methacrylate	200.0		184.8	92	57-147
4-Methyl-2-Pentanone	100.0		89.02	89	42-144
Methyl-tertbutyl-Ether	100.0		93.46	93	62-122
Naphthalene	100.0		84.92	85	53-124
Pentachloroethane	100.0		112.9	113	78-126
Propionitrile	1000		916.7	92	58-139
n-Propyl Acetate	100.0		133.8	134	88-170
n-Propylbenzene	100.0		98.64	99	75-125
Styrene	100.0		94.65	95	77-117
1,1,1,2-Tetrachloroetha	100.0		88.98	89	79-113
1,1,2,2-Tetrachloroetha	100.0		95.78	96	67-126
Tetrachloroethene	100.0		81.45	81	77-115
Tetrahydrofuran	100.0		90.10	90	76-181
Toluene	100.0		97.27	97	77-115
1,2,3-Trichlorobenzene	100.0		90.71	91	62-132
1,2,4-Trichlorobenzene	100.0		95.17	95	68-132
1,1,1-Trichloroethane	100.0		97.65	98	63-122
1,1,2-Trichloroethane	100.0		94.39	94	69-117
1,1,2-trichloro-1,2,2-t	100.0		97.22	97	70-130
Trichloroethene	100.0		95.56	96	75-113
Trichlorofluoromethane	100.0		102.8	103	55-130
1,2,3-Trichloropropane	100.0		94.08	94	62-130
1,2,4-Trimethylbenzene	100.0		94.68	95	69-126

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

COMMENTS:

776 285

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V2052201

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix Spike - Sample No.: V2052211LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
1,3,5-Trimethylbenzene	100.0		94.70	95	69-128
Vinyl Acetate	100.0		96.62	97	28-146
Vinyl Chloride	100.0		107.6	108	65-134
Xylene-mp	200.0		190.9	95	77-115
Xylene-o	100.0		95.56	96	77-115

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 0 outside limits

Spike Recovery: 1 out of 89 outside limits

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: V2052201

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix Spike - Sample No.: 0005-523-7

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Benzene	100.0	0.000	109.8	110	72-124
Chlorobenzene	100.0	0.000	100.5	100	77-112
1,1-Dichloroethene	100.0	22.33	122.1	100	69-121
Toluene	100.0	0.000	106.0	106	77-115
Trichloroethene	100.0	49.48	151.8	102	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
Benzene	100.0	108.9	109	1	20	72-124
Chlorobenzene	100.0	96.76	97	3	20	77-112
1,1-Dichloroethene	100.0	120.8	98	2	20	69-121
Toluene	100.0	102.5	102	4	20	77-115
Trichloroethene	100.0	146.6	97	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:

776 287

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

Lab Name: ETC, INC.

Contract:

V2052311LB

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Lab File ID: 0302003

Lab Prep Batch: V2052301

Instrument ID: VOC2

Date Extracted:

Matrix: (soil/water) WATER

Date Analyzed: 05/23/00

Level: (low/med) LOW

Time Analyzed: 1153

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

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	V2052311LCS	V2052301	0201002LCS	05/23/00
02	0005-523-6	V2052301	0401004	05/23/00
03	0005-523-5	V2052301	0501005	05/23/00
04	0005-523-8	V2052301	0601006	05/23/00
05	0005-523-9	V2052301	0701007	05/23/00
06	0005-523-10	V2052301	0801008	05/23/00
07	0005-523-11	V2052301	0901009	05/23/00
08	0005-523-12	V2052301	1001010	05/23/00
09	0005-523-13	V2052301	1101011	05/23/00
10	0005-523-14	V2052301	1201012	05/23/00
11	0005-523-16	V2052301	1301013	05/23/00
12	0005-523-17	V2052301	1401014	05/23/00
13	0005-523-16M	V2052301	1501015	05/23/00
14	0005-523-16M	V2052301	1601016	05/23/00
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COMMENTS:

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

776 288

CLIENT SAMPLE NO.

V2052311LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Prep Batch: V2052301

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

Lab File ID: 0302003

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/23/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

67-64-1-----	Acetone	20.00	U
75-05-8-----	Acetonitrile	25.00	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
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
78-93-3-----	2-Butanone	20.00	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
110-75-0-----	2-Chloroethyl vinyl Ether	5.00	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

000146

776 289

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2052311LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Prep Batch: V2052301

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

Lab File ID: 0302003

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/23/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q

110-57-6-----	trans-1,4-Dichloro-2-butene	1.00	U
67-64-1-----	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
156-59-4-----	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
590-20-7-----	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
87-63-3-----	Hexachlorobutadiene	1.00	U
110-54-3-----	Hexane	5.00	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	1.00	U
80-62-6-----	Methyl methacrylate	1.00	U
108-10-1-----	4-Methyl-2-Pentanone	5.00	U
1634-04-4-----	Methyl-tertbutyl-Ether	1.00	U
91-20-3-----	Naphthalene	1.00	U
76-01-7-----	Pentachloroethane	1.00	U

FORM I VOA-GCMS

000147

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

776 290
CLIENT SAMPLE NO.

V2052311LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Prep Batch: V2052301

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

Lab File ID: 0302003

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/23/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q

107-12-0	Propionitrile	10.00	U
109-60-4	n-Propyl Acetate	1.00	U
103-65-1	n-Propylbenzene	1.00	U
100-42-5	Styrene	1.00	U
630-20-6	1,1,1,2-Tetrachloroethane	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane	1.00	U
127-18-4	Tetrachloroethene	1.00	U
109-99-9	Tetrahydrofuran	1.00	U
108-88-3	Toluene	1.00	U
87-61-6	1,2,3-Trichlorobenzene	1.00	U
120-82-1	1,2,4-Trichlorobenzene	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
108-67-8	1,3,5-Trimethylbenzene	1.00	U
108-05-4	Vinyl Acetate	5.00	U
75-01-4	Vinyl Chloride	1.00	U
1330-20-7	Xylene-mp	2.00	U
95-47-6	Xylene-o	1.00	U

776 291

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

CLIENT SAMPLE NO.

V2052311LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0302003

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/23/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

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

000149

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

776 292

Lab Name: ETC, INC.

Lab Prep Batch: V2052301

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix Spike - Sample No.: V2052311LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acetone	100.0		104.4	104	59-151
Acetonitrile	1000		975.8	98	57-143
Acrolein	100.0		113.8	114	59-134
Acrylonitrile	100.0		97.67	98	60-146
Allyl chloride	100.0		88.73	89	74-120
Benzene	100.0		101.0	101	72-124
Bromobenzene	100.0		91.13	91	77-120
Bromochloromethane	100.0		95.10	95	74-120
Bromodichloromethane	100.0		93.61	94	68-119
Bromoform	100.0		96.39	96	66-136
Bromomethane	100.0		94.26	94	40-134
n-Butylbenzene	100.0		102.7	103	69-129
sec-Butylbenzene	100.0		99.38	99	72-127
tert-Butylbenzene	100.0		92.01	92	73-126
Carbon Disulfide	100.0		97.93	98	60-133
2-Butanone	100.0		113.9	114	55-151
Carbon Tetrachloride	100.0		95.47	95	64-123
Chlorobenzene	100.0		94.49	94	77-112
Chlorodibromomethane	100.0		87.62	88	72-118
Chloroethane	100.0		101.1	101	64-142
2-Chloroethyl vinyl Eth	100.0		178.0	178*	22-165
Chloroform	100.0		96.86	97	70-115
Chloromethane	100.0		95.94	96	58-139
Chloroprene	100.0		97.32	97	73-118
2-Chlorotoluene	100.0		99.60	100	65-132
4-Chlorotoluene	100.0		100.9	101	67-127
1,2-Dibromo-3-chloropro	100.0		94.78	95	56-134
1,2-Dibromoethane	100.0		94.33	94	74-118

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

COMMENTS:

776 293

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V2052301

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix Spike - Sample No.: V2052311LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dibromomethane	100.0		98.55	98	75-114
1,2-Dichlorobenzene	100.0		88.59	88	80-113
1,3-Dichlorobenzene	100.0		89.68	90	77-119
1,4-Dichlorobenzene	100.0		92.48	92	78-116
cis-1,4-Dichloro-2-bute	100.0		112.8	113	62-138
trans-1,4-Dichloro-2-bu	100.0		108.9	109	62-138
Dichlorodifluoromethane	100.0		101.8	102	48-145
1,1-Dichloroethane	100.0		96.82	97	76-118
1,2-Dichloroethane	100.0		92.62	93	62-124
1,1-Dichloroethene	100.0		95.54	96	69-121
cis-1,2-Dichloroethene	100.0		98.19	98	76-114
trans-1,2-Dichloroethen	100.0		100.2	100	72-121
1,2-Dichloropropane	100.0		94.07	94	64-133
1,3-Dichloropropane	100.0		95.21	95	68-128
2,2-Dichloropropane	100.0		106.6	107	67-132
1,1-Dichloropropene	100.0		101.3	101	76-117
cis-1,3-Dichloropropene	100.0		96.33	96	77-120
trans-1,3-Dichloroprope	100.0		96.95	97	73-124
Di isopropyl ether	100.0		96.45	96	62-160
1,4-Dioxane	2000		2172	109	56-131
Ethyl Acetate	100.0		100.8	101	52-151
Ethylbenzene	100.0		100.1	100	77-111
Ethyl methacrylate	200.0		196.4	98	57-140
Furan	100.0		137.8	138*	52-124
Hexachlorobutadiene	100.0		101.8	102	69-137
Hexane	100.0		116.2	116	70-130
2-Hexanone	100.0		100.6	101	53-144
Iodomethane	100.0		83.91	84	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

776 294

Lab Name: ETC, INC.

Lab Prep Batch: V2052301

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix Spike - Sample No.: V2052311LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	2000		2070	104	60-134
Isopropylbenzene	100.0		98.71	99	74-125
4-Isopropyltoluene	100.0		94.32	94	72-127
Methacrylonitrile	1000		980.1	98	70-125
Methylene Chloride	100.0		95.10	95	76-115
Methyl methacrylate	200.0		198.1	99	57-147
4-Methyl-2-Pentanone	100.0		98.01	98	42-144
Methyl-tertbutyl-Ether	100.0		97.50	98	62-122
Naphthalene	100.0		90.47	90	53-124
Pentachloroethane	100.0		118.5	118	78-126
Propionitrile	1000		1014	101	58-139
n-Propyl Acetate	100.0		144.6	145	88-170
n-Propylbenzene	100.0		103.3	103	75-125
Styrene	100.0		96.40	96	77-117
1,1,1,2-Tetrachloroetha	100.0		92.15	92	79-113
1,1,2,2-Tetrachloroetha	100.0		104.4	104	67-126
Tetrachloroethene	100.0		80.49	80	77-115
Tetrahydrofuran	100.0		98.07	98	76-181
Toluene	100.0		99.05	99	77-115
1,2,3-Trichlorobenzene	100.0		92.88	93	62-132
1,2,4-Trichlorobenzene	100.0		97.10	97	68-132
1,1,1-Trichloroethane	100.0		97.78	98	63-122
1,1,2-Trichloroethane	100.0		97.42	97	69-117
1,1,2-trichloro-1,2,2-t	100.0		95.52	96	70-130
Trichloroethene	100.0		94.91	95	75-113
Trichlorofluoromethane	100.0		98.64	99	55-130
1,2,3-Trichloropropane	100.0		102.5	102	62-130
1,2,4-Trimethylbenzene	100.0		99.71	100	69-126

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

COMMENTS:

776 295

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V2052301

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix Spike - Sample No.: V2052311LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
1,3,5-Trimethylbenzene	100.0		99.06	99	69-128
Vinyl Acetate	100.0		102.2	102	28-146
Vinyl Chloride	100.0		99.11	99	65-134
Xylene-mp	200.0		199.6	100	77-115
Xylene-o	100.0		100.0	100	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 89 outside limits

COMMENTS:

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

776 296

Lab Name: ETC, INC.

Lab Prep Batch: V2052301

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix Spike - Sample No.: 0005-523-16

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Benzene	100.0	0.000	113.8	114	72-124
Chlorobenzene	100.0	0.000	101.0	101	77-112
1,1-Dichloroethene	100.0	0.000	103.1	103	69-121
Toluene	100.0	0.000	104.0	104	77-115
Trichloroethene	100.0	1.36	103.3	102	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
=====	=====	=====	=====	=====	=====	=====
Benzene	100.0	111.6	112	2	20	72-124
Chlorobenzene	100.0	102.1	102	1	20	77-112
1,1-Dichloroethene	100.0	101.8	102	1	20	69-121
Toluene	100.0	105.2	105	1	20	77-115
Trichloroethene	100.0	103.4	102	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: 0 out of 10 outside limits

COMMENTS:

776 297

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

Lab Name: ETC, INC.

Contract:

V2052411LB

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Lab File ID: 0302003

Lab Prep Batch: V2052401

Instrument ID: VOC2

Date Extracted:

Matrix: (soil/water) WATER

Date Analyzed: 05/24/00

Level: (low/med) LOW

Time Analyzed: 1248

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

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	V2052411LCS	V2052401	0201001LCS	05/24/00
02	0005-523-15	V2052401	0401004	05/24/00
03	0005-523-22	V2052401	0501005	05/24/00
04	0005-523-23	V2052401	0601006	05/24/00
05	0005-523-24	V2052401	0701007	05/24/00
06	0005-523-18	V2052401	0801008	05/24/00
07	0005-523-19	V2052401	0901009	05/24/00
08	0005-523-20	V2052401	1001010	05/24/00
09	0005-523-21	V2052401	1101011	05/24/00
10	0005-523-25	V2052401	1201012	05/24/00
11	0005-523-27	V2052401	1401014	05/24/00
12	0005-523-27M	V2052401	1501015	05/24/00
13	0005-523-27M	V2052401	1601016	05/24/00
14				
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29				
30				

COMMENTS:

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2052411LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Prep Batch: V2052401

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

Lab File ID: 0302003

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/24/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

67-64-1-----	Acetone	20.00	U
75-05-8-----	Acetonitrile	25.00	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
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
78-93-3-----	2-Butanone	20.00	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
110-75-0-----	2-Chloroethyl vinyl Ether	5.00	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

776 299

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2052411LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Prep Batch: V2052401

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

Lab File ID: 0302003

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/24/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.

COMPOUND

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

Q

110-57-6-----	trans-1,4-Dichloro-2-butene	1.00	U
67-64-1-----	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
156-59-4-----	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
590-20-7-----	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
87-63-3-----	Hexachlorobutadiene	1.00	U
110-54-3-----	Hexane	5.00	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	1.00	U
80-62-6-----	Methyl methacrylate	1.00	U
108-10-1-----	4-Methyl-2-Pentanone	5.00	U
1634-04-4-----	Methyl-tertbutyl-Ether	1.00	U
91-20-3-----	Naphthalene	1.00	U
76-01-7-----	Pentachloroethane	1.00	U

FORM I VOA-GCMS

000157

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

776 300

CLIENT SAMPLE NO.

V2052411LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Prep Batch: V2052401

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

Lab File ID: 0302003

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/24/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

107-12-0-----	Propionitrile	10.00	U
109-60-4-----	n-Propyl Acetate	1.00	U
103-65-1-----	n-Propylbenzene	1.00	U
100-42-5-----	Styrene	1.00	U
630-20-6-----	1,1,1,2-Tetrachloroethane	1.00	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1.00	U
127-18-4-----	Tetrachloroethene	1.00	U
109-99-9-----	Tetrahydrofuran	1.00	U
108-88-3-----	Toluene	1.00	U
87-61-6-----	1,2,3-Trichlorobenzene	1.00	U
120-82-1-----	1,2,4-Trichlorobenzene	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
108-67-8-----	1,3,5-Trimethylbenzene	1.00	U
108-05-4-----	Vinyl Acetate	5.00	U
75-01-4-----	Vinyl Chloride	1.00	U
1330-20-7-----	Xylene-mp	2.00	U
95-47-6-----	Xylene-o	1.00	U

776 301

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

CLIENT SAMPLE NO.

V2052411LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0302003

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/24/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

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

000159

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

776 302

Lab Name: ETC, INC.

Lab Prep Batch: V2052401

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix Spike - Sample No.: V2052411LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acetone	100.0		108.2	108	59-151
Acetonitrile	1000		1038	104	57-143
Acrolein	100.0		120.2	120	59-134
Acrylonitrile	100.0		105.9	106	60-146
Allyl chloride	100.0		97.78	98	74-120
Benzene	100.0		104.2	104	72-124
Bromobenzene	100.0		90.92	91	77-120
Bromochloromethane	100.0		98.32	98	74-120
Bromodichloromethane	100.0		94.49	94	68-119
Bromoform	100.0		94.46	94	66-136
Bromomethane	100.0		111.7	112	40-134
n-Butylbenzene	100.0		105.0	105	69-129
sec-Butylbenzene	100.0		100.0	100	72-127
tert-Butylbenzene	100.0		92.29	92	73-126
Carbon Disulfide	100.0		86.10	86	60-133
2-Butanone	100.0		110.4	110	55-151
Carbon Tetrachloride	100.0		97.84	98	64-123
Chlorobenzene	100.0		93.93	94	77-112
Chlorodibromomethane	100.0		88.07	88	72-118
Chloroethane	100.0		114.2	114	64-142
2-Chloroethyl vinyl Eth	100.0		193.6	194*	22-165
Chloroform	100.0		101.3	101	70-115
Chloromethane	100.0		108.4	108	58-139
Chloroprene	100.0		99.78	100	73-118
2-Chlorotoluene	100.0		99.95	100	65-132
4-Chlorotoluene	100.0		101.0	101	67-127
1,2-Dibromo-3-chloropro	100.0		90.24	90	56-134
1,2-Dibromoethane	100.0		94.99	95	74-118

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

COMMENTS:

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

776 303

Lab Name: ETC, INC.

Lab Prep Batch: V2052401

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix Spike - Sample No.: V2052411LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dibromomethane	100.0		99.02	99	75-114
1,2-Dichlorobenzene	100.0		89.70	90	80-113
1,3-Dichlorobenzene	100.0		90.87	91	77-119
1,4-Dichlorobenzene	100.0		93.76	94	78-116
cis-1,4-Dichloro-2-bute	100.0		110.0	110	62-138
trans-1,4-Dichloro-2-bu	100.0		103.6	104	62-138
Dichlorodifluoromethane	100.0		112.3	112	48-145
1,1-Dichloroethane	100.0		98.47	98	76-118
1,2-Dichloroethane	100.0		96.57	96	62-124
1,1-Dichloroethene	100.0		106.3	106	69-121
cis-1,2-Dichloroethene	100.0		102.0	102	76-114
trans-1,2-Dichloroethen	100.0		103.6	104	72-121
1,2-Dichloropropane	100.0		94.08	94	64-133
1,3-Dichloropropane	100.0		96.31	96	68-128
2,2-Dichloropropane	100.0		109.8	110	67-132
1,1-Dichloropropene	100.0		103.6	104	76-117
cis-1,3-Dichloropropene	100.0		97.21	97	77-120
trans-1,3-Dichloroprope	100.0		97.28	97	73-124
Di isopropyl ether	100.0		98.20	98	62-160
1,4-Dioxane	2000		2136	107	56-131
Ethyl Acetate	100.0		99.88	100	52-151
Ethylbenzene	100.0		99.27	99	77-111
Ethyl methacrylate	200.0		193.2	97	57-140
Furan	100.0		149.9	150*	52-124
Hexachlorobutadiene	100.0		106.2	106	69-137
Hexane	100.0		123.0	123	70-130
2-Hexanone	100.0		96.09	96	53-144
Iodomethane	100.0		85.10	85	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: V2052401

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix Spike - Sample No.: V2052411LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	2000		1975	99	60-134
Isopropylbenzene	100.0		98.26	98	74-125
4-Isopropyltoluene	100.0		96.34	96	72-127
Methacrylonitrile	1000		977.9	98	70-125
Methylene Chloride	100.0		113.9	114	76-115
Methyl methacrylate	200.0		193.6	97	57-147
4-Methyl-2-Pentanone	100.0		93.29	93	42-144
Methyl-tertbutyl-Ether	100.0		100.9	101	62-122
Naphthalene	100.0		91.71	92	53-124
Pentachloroethane	100.0		119.0	119	78-126
Propionitrile	1000		1003	100	58-139
n-Propyl Acetate	100.0		139.2	139	88-170
n-Propylbenzene	100.0		103.6	104	75-125
Styrene	100.0		99.14	99	77-117
1,1,1,2-Tetrachloroetha	100.0		90.78	91	79-113
1,1,2,2-Tetrachloroetha	100.0		102.1	102	67-126
Tetrachloroethene	100.0		80.99	81	77-115
Tetrahydrofuran	100.0		92.10	92	76-181
Toluene	100.0		98.72	99	77-115
1,2,3-Trichlorobenzene	100.0		97.06	97	62-132
1,2,4-Trichlorobenzene	100.0		102.3	102	68-132
1,1,1-Trichloroethane	100.0		99.82	100	63-122
1,1,2-Trichloroethane	100.0		99.10	99	69-117
1,1,2-trichloro-1,2,2-t	100.0		108.2	108	70-130
Trichloroethene	100.0		94.78	95	75-113
Trichlorofluoromethane	100.0		106.0	106	55-130
1,2,3-Trichloropropane	100.0		98.89	99	62-130
1,2,4-Trimethylbenzene	100.0		100.6	101	69-126

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

776 305

Lab Name: ETC, INC.

Lab Prep Batch: V2052401

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix Spike - Sample No.: V2052411LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
1,3,5-Trimethylbenzene	100.0		100.3	100	69-128
Vinyl Acetate	100.0		103.1	103	28-146
Vinyl Chloride	100.0		113.0	113	65-134
Xylene-mp	200.0		197.8	99	77-115
Xylene-o	100.0		99.69	100	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 89 outside limits

COMMENTS:

776 306

FORM 3

WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC, INC.

Lab Prep Batch: V2052401

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix Spike - Sample No.: 0005-523-27

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Benzene	100.0	0.000	113.3	113	72-124
Chlorobenzene	100.0	0.000	101.5	102	77-112
1,1-Dichloroethene	100.0	0.000	105.3	105	69-121
Toluene	100.0	0.000	107.2	107	77-115
Trichloroethene	100.0	0.000	103.2	103	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
Benzene	100.0	116.1	116	3	20	72-124
Chlorobenzene	100.0	96.90	97	5	20	77-112
1,1-Dichloroethene	100.0	108.8	109	4	20	69-121
Toluene	100.0	106.5	106	1	20	77-115
Trichloroethene	100.0	103.3	103	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: 0 out of 10 outside limits

COMMENTS:

FORM III VOA-GCMS

000164

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

776 307 CLIENT SAMPLE NO.

V2052511LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Lab File ID: 0302003

Lab Prep Batch: V2052501

Instrument ID: VOC2

Date Extracted:

Matrix: (soil/water) WATER

Date Analyzed: 05/25/00

Level: (low/med) LOW

Time Analyzed: 1345

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

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	V2052511LCS	V2052501	0201002LCS	05/25/00
02	0005-523-34	V2052501	0401004	05/25/00
03	0005-523-20	V2052501	0501005	05/25/00
04	0005-523-25	V2052501	0601006	05/25/00
05	0005-523-26	V2052501	0701007	05/25/00
06	0005-523-28	V2052501	0801008	05/25/00
07	0005-523-29	V2052501	0901009	05/25/00
08	0005-523-30	V2052501	1001010	05/25/00
09	0005-523-31	V2052501	1101011	05/25/00
10	0005-523-32	V2052501	1201012	05/25/00
11	0005-523-33	V2052501	1301013	05/25/00
12	0005-523-33M	V2052501	1401014	05/25/00
13	0005-523-33M	V2052501	1501015	05/25/00
14				
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30				

COMMENTS:

776 308

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2052511LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Prep Batch: V2052501

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

Lab File ID: 0302003

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/25/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.

COMPOUND

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

Q

67-64-1-----	Acetone	20.00	U
75-05-8-----	Acetonitrile	25.00	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
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
78-93-3-----	2-Butanone	20.00	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
110-75-0-----	2-Chloroethyl vinyl Ether	5.00	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

000166

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

776 309

CLIENT SAMPLE NO.

V2052511LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Prep Batch: V2052501

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

Lab File ID: 0302003

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/25/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

110-57-6-----	trans-1,4-Dichloro-2-butene	1.00	U
67-64-1-----	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
156-59-4-----	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
590-20-7-----	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
87-63-3-----	Hexachlorobutadiene	1.00	U
110-54-3-----	Hexane	5.00	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	1.00	U
80-62-6-----	Methyl methacrylate	1.00	U
108-10-1-----	4-Methyl-2-Pentanone	5.00	U
1634-04-4-----	Methyl-tertbutyl-Ether	1.00	U
91-20-3-----	Naphthalene	1.00	U
76-01-7-----	Pentachloroethane	1.00	U

FORM I VOA-GCMS

000167

776 310

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2052511LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Prep Batch: V2052501

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

Lab File ID: 0302003

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/25/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.

COMPOUND

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

Q

107-12-0-----	Propionitrile	10.00	U
109-60-4-----	n-Propyl Acetate	1.00	U
103-65-1-----	n-Propylbenzene	1.00	U
100-42-5-----	Styrene	1.00	U
630-20-6-----	1,1,1,2-Tetrachloroethane	1.00	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1.00	U
127-18-4-----	Tetrachloroethene	1.00	U
109-99-9-----	Tetrahydrofuran	1.00	U
108-88-3-----	Toluene	1.00	U
87-61-6-----	1,2,3-Trichlorobenzene	1.00	U
120-82-1-----	1,2,4-Trichlorobenzene	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
108-67-8-----	1,3,5-Trimethylbenzene	1.00	U
108-05-4-----	Vinyl Acetate	5.00	U
75-01-4-----	Vinyl Chloride	1.00	U
1330-20-7-----	Xylene-mp	2.00	U
95-47-6-----	Xylene-o	1.00	U

FORM I VOA-GCMS

000168

776 311

FORM 1

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

V2052511LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0302003

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/25/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

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

000169

776 312

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V2052501

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix Spike - Sample No.: V20525f1LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acetone	100.0		102.8	103	59-151
Acetonitrile	1000		966.3	97	57-143
Acrolein	100.0		113.8	114	59-134
Acrylonitrile	100.0		98.74	99	60-146
Allyl chloride	100.0		88.22	88	74-120
Benzene	100.0		104.2	104	72-124
Bromobenzene	100.0		90.08	90	77-120
Bromochloromethane	100.0		97.62	98	74-120
Bromodichloromethane	100.0		98.74	99	68-119
Bromoform	100.0		97.90	98	66-136
Bromomethane	100.0		88.14	88	40-134
n-Butylbenzene	100.0		107.2	107	69-129
sec-Butylbenzene	100.0		98.75	99	72-127
tert-Butylbenzene	100.0		95.74	96	73-126
Carbon Disulfide	100.0		92.21	92	60-133
2-Butanone	100.0		112.6	113	55-151
Carbon Tetrachloride	100.0		97.00	97	64-123
Chlorobenzene	100.0		93.78	94	77-112
Chlorodibromomethane	100.0		91.01	91	72-118
Chloroethane	100.0		94.51	94	64-142
2-Chloroethyl vinyl Eth	100.0		204.4	204*	22-165
Chloroform	100.0		103.6	104	70-115
Chloromethane	100.0		83.15	83	58-139
Chloroprene	100.0		97.78	98	73-118
2-Chlorotoluene	100.0		98.25	98	65-132
4-Chlorotoluene	100.0		98.78	99	67-127
1,2-Dibromo-3-chloropro	100.0		97.81	98	56-134
1,2-Dibromoethane	100.0		97.71	98	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

776 313

Lab Name: ETC, INC.

Lab Prep Batch: V2052501

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix Spike - Sample No.: V2052511LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dibromomethane	100.0		101.7	102	75-114
1,2-Dichlorobenzene	100.0		93.68	94	80-113
1,3-Dichlorobenzene	100.0		93.86	94	77-119
1,4-Dichlorobenzene	100.0		95.94	96	78-116
cis-1,4-Dichloro-2-bute	100.0		116.3	116	62-138
trans-1,4-Dichloro-2-bu	100.0		108.0	108	62-138
Dichlorodifluoromethane	100.0		68.74	69	48-145
1,1-Dichloroethane	100.0		99.51	100	76-118
1,2-Dichloroethane	100.0		97.48	97	62-124
1,1-Dichloroethene	100.0		84.22	84	69-121
cis-1,2-Dichloroethene	100.0		103.3	103	76-114
trans-1,2-Dichloroethen	100.0		101.3	101	72-121
1,2-Dichloropropane	100.0		96.12	96	64-133
1,3-Dichloropropane	100.0		98.59	98	68-128
2,2-Dichloropropane	100.0		110.3	110	67-132
1,1-Dichloropropene	100.0		102.8	103	76-117
cis-1,3-Dichloropropene	100.0		99.89	100	77-120
trans-1,3-Dichloroprope	100.0		99.91	100	73-124
Di isopropyl ether	100.0		98.12	98	62-160
1,4-Dioxane	2000		2207	110	56-131
Ethyl Acetate	100.0		99.34	99	52-151
Ethylbenzene	100.0		99.19	99	77-111
Ethyl methacrylate	200.0		195.6	98	57-140
Furan	100.0		138.5	138*	52-124
Hexachlorobutadiene	100.0		113.6	114	69-137
Hexane	100.0		108.3	108	70-130
2-Hexanone	100.0		98.51	98	53-144
Iodomethane	100.0		79.18	79	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: V2052501

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix Spike - Sample No.: V2052511LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	2000		2053	103	60-134
Isopropylbenzene	100.0		97.59	98	74-125
4-Isopropyltoluene	100.0		98.31	98	72-127
Methacrylonitrile	1000		987.2	99	70-125
Methylene Chloride	100.0		101.4	101	76-115
Methyl methacrylate	200.0		195.5	98	57-147
4-Methyl-2-Pentanone	100.0		95.78	96	42-144
Methyl-tertbutyl-Ether	100.0		99.01	99	62-122
Naphthalene	100.0		86.42	86	53-124
Pentachloroethane	100.0		119.5	120	78-126
Propionitrile	1000		1021	102	58-139
n-Propyl Acetate	100.0		141.8	142	88-170
n-Propylbenzene	100.0		100.9	101	75-125
Styrene	100.0		97.81	98	77-117
1,1,1,2-Tetrachloroetha	100.0		92.03	92	79-113
1,1,2,2-Tetrachloroetha	100.0		107.0	107	67-126
Tetrachloroethene	100.0		82.10	82	77-115
Tetrahydrofuran	100.0		95.90	96	76-181
Toluene	100.0		100.8	101	77-115
1,2,3-Trichlorobenzene	100.0		99.55	100	62-132
1,2,4-Trichlorobenzene	100.0		104.6	105	68-132
1,1,1-Trichloroethane	100.0		99.36	99	63-122
1,1,2-Trichloroethane	100.0		102.2	102	69-117
1,1,2-trichloro-1,2,2-t	100.0		91.42	91	70-130
Trichloroethene	100.0		96.86	97	75-113
Trichlorofluoromethane	100.0		91.17	91	55-130
1,2,3-Trichloropropane	100.0		103.2	103	62-130
1,2,4-Trimethylbenzene	100.0		96.37	96	69-126

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: V2052501

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix Spike - Sample No.: V2052511LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
1,3,5-Trimethylbenzene	100.0		95.94	96	69-128
Vinyl Acetate	100.0		102.8	103	28-146
Vinyl Chloride	100.0		87.26	87	65-134
Xylene-mp	200.0		192.9	96	77-115
Xylene-o	100.0		96.78	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: 2 out of 89 outside limits

COMMENTS:

776 316

FORM 3

WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC, INC.

Lab Prep Batch: V2052501

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix Spike - Sample No.: 0005-523-33

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Benzene	100.0	0.000	110.4	110	72-124
Chlorobenzene	100.0	0.000	100.9	101	77-112
1,1-Dichloroethene	100.0	0.000	96.16	96	69-121
Toluene	100.0	0.000	106.6	107	77-115
Trichloroethene	100.0	78.77	169.8	91	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
=====	=====	=====	=====	=====	=====	=====
Benzene	100.0	111.2	111	1	20	72-124
Chlorobenzene	100.0	101.5	102	1	20	77-112
1,1-Dichloroethene	100.0	97.40	97	1	20	69-121
Toluene	100.0	108.2	108	1	20	77-115
Trichloroethene	100.0	172.4	94	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

000174

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

776 317

CLIENT SAMPLE NO.

V2052611LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Lab File ID: 0302019

Lab Prep Batch: V2052601

Instrument ID: VOC2

Date Extracted:

Matrix: (soil/water) WATER

Date Analyzed: 05/26/00

Level:(low/med) LOW

Time Analyzed: 1347

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

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	V2052601LCS	V2052601	0202017LCS	05/26/00
02	0005-523-26	V2052601	0401020	05/26/00
03	0005-523-28	V2052601	0501021	05/26/00
04	0005-523-30	V2052601	0601022	05/26/00
05	0005-523-31	V2052601	0701023	05/26/00
06	0005-523-31M	V2052601	0801024	05/26/00
07	0005-523-31M	V2052601	0901025	05/26/00
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COMMENTS:

776 318

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2052611LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Prep Batch: V2052601

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

Lab File ID: 0302019

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/26/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.

COMPOUND

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

Q

67-64-1-----	Acetone	20.00	U
75-05-8-----	Acetonitrile	25.00	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
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
78-93-3-----	2-Butanone	20.00	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
110-75-0-----	2-Chloroethyl vinyl Ether	5.00	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

000176

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

776 319

CLIENT SAMPLE NO.

V2052611LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Prep Batch: V2052601

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

Lab File ID: 0302019

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/26/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

110-57-6-----	trans-1,4-Dichloro-2-butene	1.00	U
67-64-1-----	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
156-59-4-----	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
590-20-7-----	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
87-63-3-----	Hexachlorobutadiene	1.00	U
110-54-3-----	Hexane	5.00	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	1.00	U
80-62-6-----	Methyl methacrylate	1.00	U
108-10-1-----	4-Methyl-2-Pentanone	5.00	U
1634-04-4-----	Methyl-tertbutyl-Ether	1.00	U
91-20-3-----	Naphthalene	1.00	U
76-01-7-----	Pentachloroethane	1.00	U

FORM I VOA-GCMS

000177

776 320

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

Lab Name: ETC, INC.

Contract:

V2052611LB

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Prep Batch: V2052601

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

Lab File ID: 0302019

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/26/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

107-12-0-----	Propionitrile	10.00	U
109-60-4-----	n-Propyl Acetate	1.00	U
103-65-1-----	n-Propylbenzene	1.00	U
100-42-5-----	Styrene	1.00	U
630-20-6-----	1,1,1,2-Tetrachloroethane	1.00	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1.00	U
127-18-4-----	Tetrachloroethene	1.00	U
109-99-9-----	Tetrahydrofuran	1.00	U
108-88-3-----	Toluene	1.00	U
87-61-6-----	1,2,3-Trichlorobenzene	1.00	U
120-82-1-----	1,2,4-Trichlorobenzene	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
108-67-8-----	1,3,5-Trimethylbenzene	1.00	U
108-05-4-----	Vinyl Acetate	5.00	U
75-01-4-----	Vinyl Chloride	1.00	U
1330-20-7-----	Xylene-mp	2.00	U
95-47-6-----	Xylene-o	1.00	U

FORM I VOA-GCMS

000178

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

776 321
CLIENT SAMPLE NO.

V2052611LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0302019

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: _____ (uL)

Date Analyzed: 05/26/00

Injection Volume: _____ (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

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 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V2052601

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix Spike - Sample No.: V2052601LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acetone	100.0		104.5	104	59-151
Acetonitrile	1000		977.9	98	57-143
Acrolein	100.0		21.99	22*	59-134
Acrylonitrile	100.0		102.6	103	60-146
Allyl chloride	100.0		108.1	108	74-120
Benzene	100.0		110.5	110	72-124
Bromobenzene	100.0		87.40	87	77-120
Bromochloromethane	100.0		102.4	102	74-120
Bromodichloromethane	100.0		99.55	100	68-119
Bromoform	100.0		92.44	92	66-136
Bromomethane	100.0		105.5	106	40-134
n-Butylbenzene	100.0		108.6	109	69-129
sec-Butylbenzene	100.0		107.0	107	72-127
tert-Butylbenzene	100.0		96.44	96	73-126
Carbon Disulfide	100.0		115.3	115	60-133
2-Butanone	100.0		111.7	112	55-151
Carbon Tetrachloride	100.0		104.3	104	64-123
Chlorobenzene	100.0		95.32	95	77-112
Chlorodibromomethane	100.0		88.44	88	72-118
Chloroethane	100.0		120.6	121	64-142
2-Chloroethyl vinyl Eth	100.0		202.0	202*	22-165
Chloroform	100.0		109.1	109	70-115
Chloromethane	100.0		105.6	106	58-139
Chloroprene	100.0		104.9	105	73-118
2-Chlorotoluene	100.0		102.4	102	65-132
4-Chlorotoluene	100.0		103.1	103	67-127
1,2-Dibromo-3-chloropro	100.0		92.42	92	56-134
1,2-Dibromoethane	100.0		96.77	97	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

776 323

Lab Name: ETC, INC.

Lab Prep Batch: V2052601

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix Spike - Sample No.: V2052601LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Dibromomethane	100.0		102.8	103	75-114
1,2-Dichlorobenzene	100.0		91.69	92	80-113
1,3-Dichlorobenzene	100.0		94.64	95	77-119
1,4-Dichlorobenzene	100.0		96.56	96	78-116
cis-1,4-Dichloro-2-bute	100.0		111.6	112	62-138
trans-1,4-Dichloro-2-bu	100.0		104.5	104	62-138
Dichlorodifluoromethane	100.0		130.1	130	48-145
1,1-Dichloroethane	100.0		106.1	106	76-118
1,2-Dichloroethane	100.0		100.9	101	62-124
1,1-Dichloroethene	100.0		103.4	103	69-121
cis-1,2-Dichloroethene	100.0		109.3	109	76-114
trans-1,2-Dichloroethen	100.0		111.6	112	72-121
1,2-Dichloropropane	100.0		98.98	99	64-133
1,3-Dichloropropane	100.0		99.27	99	68-128
2,2-Dichloropropane	100.0		116.7	117	67-132
1,1-Dichloropropene	100.0		112.2	112	76-117
cis-1,3-Dichloropropene	100.0		99.62	100	77-120
trans-1,3-Dichloroprope	100.0		101.6	102	73-124
Di isopropyl ether	100.0		103.6	104	62-160
1,4-Dioxane	2000		2186	109	56-131
Ethyl Acetate	100.0		100.2	100	52-151
Ethylbenzene	100.0		100.6	101	77-111
Ethyl methacrylate	200.0		197.5	99	57-140
Furan	100.0		156.4	156*	52-124
Hexachlorobutadiene	100.0		118.8	119	69-137
Hexane	100.0		129.7	130	70-130
2-Hexanone	100.0		94.14	94	53-144
Iodomethane	100.0		85.58	86	51-153

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

* Values outside of QC limits

COMMENTS:

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V2052601

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix Spike - Sample No.: V2052601LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Isobutyl Alcohol	2000		1918	96	60-134
Isopropylbenzene	100.0		103.4	103	74-125
4-Isopropyltoluene	100.0		96.76	97	72-127
Methacrylonitrile	1000		989.0	99	70-125
Methylene Chloride	100.0		109.2	109	76-115
Methyl methacrylate	200.0		200.2	100	57-147
4-Methyl-2-Pentanone	100.0		91.62	92	42-144
Methyl-tertbutyl-Ether	100.0		98.05	98	62-122
Naphthalene	100.0		89.67	90	53-124
Pentachloroethane	100.0		124.7	125	78-126
Propionitrile	1000		1017	102	58-139
n-Propyl Acetate	100.0		137.6	138	88-170
n-Propylbenzene	100.0		106.2	106	75-125
Styrene	100.0		96.25	96	77-117
1,1,1,2-Tetrachloroetha	100.0		89.55	90	79-113
1,1,2,2-Tetrachloroetha	100.0		103.4	103	67-126
Tetrachloroethene	100.0		83.22	83	77-115
Tetrahydrofuran	100.0		90.97	91	76-181
Toluene	100.0		102.5	102	77-115
1,2,3-Trichlorobenzene	100.0		103.1	103	62-132
1,2,4-Trichlorobenzene	100.0		105.8	106	68-132
1,1,1-Trichloroethane	100.0		107.8	108	63-122
1,1,2-Trichloroethane	100.0		102.4	102	69-117
1,1,2-trichloro-1,2,2-t	100.0		110.3	110	70-130
Trichloroethene	100.0		101.3	101	75-113
Trichlorofluoromethane	100.0		112.8	113	55-130
1,2,3-Trichloropropane	100.0		97.76	98	62-130
1,2,4-Trimethylbenzene	100.0		95.97	96	69-126

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

776 325

Lab Name: ETC, INC.

Lab Prep Batch: V2052601

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix Spike - Sample No.: V2052601LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
1,3,5-Trimethylbenzene	100.0		95.53	96	69-128
Vinyl Acetate	100.0		89.15	89	28-146
Vinyl Chloride	100.0		117.4	117	65-134
Xylene-mp	200.0		195.4	98	77-115
Xylene-o	100.0		104.2	104	77-115

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 0 outside limits

Spike Recovery: 3 out of 89 outside limits

COMMENTS:

776 326

FORM 3

WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC, INC.

Lab Prep Batch: V2052501

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-523

Matrix Spike - Sample No.: 0005-523-31

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Benzene	100.0	0.000	111.7	112	72-124
Chlorobenzene	100.0	0.000	94.44	94	77-112
1,1-Dichloroethene	100.0	0.000	103.2	103	69-121
Toluene	100.0	0.000	103.2	103	77-115
Trichloroethene	100.0	789.4	174.2	-615*	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
=====	=====	=====	=====	=====	=====	=====
Benzene	100.0	111.7	112	0	20	72-124
Chlorobenzene	100.0	94.44	94	0	20	77-112
1,1-Dichloroethene	100.0	103.2	103	0	20	69-121
Toluene	100.0	103.2	103	0	20	77-115
Trichloroethene	100.0	174.2	-615*	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: 2 out of 10 outside limits

COMMENTS:

FORM III VOA-GCMS

000184

Environmental Testing & Consulting, Inc.

**Login
Chain-of-Custody**



OHM Remediation Services Corp.
005523 p. 1 of 4
Chain-of-Custody Record
11500 Great Oaks Way #500 Alpharetta, GA 30022-199293

LAB COPY
Form 0019
Field Technical Services
Rev. 08/89

O.H. MATERIALS CORP.		P.O. BOX 551	FINDLAY, OH 45839-0551	419-423-3526	770.475.8994	
PROJECT NAME DDMIT - Dunn Field		PROJECT LOCATION Memphis TN		ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)		
PROJECT CONTACT 800330 Virgil Jansen		PROJECT TELEPHONE NO. 314770.4025		OF CONTAINERS		
CLIENT'S REPRESENTATIVE Sundup Inc. Virgil Jansen		PROJECT MANAGER/SUPERVISOR		REMARKS		
ITEM NO	SAMPLE NUMBER	DATE	TIME	GRAB	COMP	REMARKS
1	MW-56	5/17	9:40	X		
2	MW-58	5/17	10:00	X		
3	MW-54	5/17	16:00	X		
4	Trip Blank	5/17	16:00			
5	MW-45	5/17	8:20	X		
6	MW-59	5/17	17:40	X		
7	MW-31	5/17	17:12	X		
8	MW-02	5/17	18:20	X		
9	MW-AA	5/17	18:00	X		
10	MW-1B	5/17	19:00	X		
TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY		TRANSFERS ACCEPTED BY		REMARKS
1	1-10	Sundup Inc.		Sundup Inc.		Received 2 sets of Trip Blanks.
2						
3						
4						
						24°C
						SAMPLER'S SIGNATURE



OHM Remediation
Services Corp.

HI Corp

CHAIN-OF-CUSTODY RECORD

0005523

p. 2 of 4

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Form 0019
Field Technical Services
Rev. 08/89

164400

11560 Great Oaks Way, #500, Alpharetta, GA 30022

419-423-3526

FINDLAY, OH 45839-0551

P.O. BOX 551

770.475.8994

O.H. MATERIALS CORP.

PROJECT NAME		PROJECT LOCATION		PROJECT CONTACT		PROJECT TELEPHONE NO.		PROJECT MANAGER/SUPERVISOR		ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)		NUMBER OF CONTAINERS		REMARKS	
PROJECT NO.		PROJECT CONTACT		PROJECT NO.		PROJECT NO.		PROJECT NO.		ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)		NUMBER OF CONTAINERS		REMARKS	
CLIENT'S REPRESENTATIVE		CLIENT'S REPRESENTATIVE		CLIENT'S REPRESENTATIVE		CLIENT'S REPRESENTATIVE		CLIENT'S REPRESENTATIVE		ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)		NUMBER OF CONTAINERS		REMARKS	
ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)		SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)		ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)		NUMBER OF CONTAINERS		REMARKS	
1	MW-40	5/16/01	10:15	X	X					X					
2	MW-30	5/16	11:40	X	X					X					
3	MW-57	5/16	12:15	X	X					X					
4	MW-68	5/16	12:20	X	X					X					
5	Field Blank	5/16	12:20	X	X					X					
6	MW-44	5/16	15:15	X	X					X					
7	MW-33	5/16	17:00	X	X					X					
8	MW-32	5/16	17:30	X	X					X					
9	MW-57	5/17	8:00	X	X					X					
10	MW-15	5/17	8:20	X	X					X				Did not receive sample in lab. 5/17/01	
TRANSFERS															REMARKS
NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY		TRANSFERS ACCEPTED BY		DATE		TIME							
1	1-10	Svendrup Inc		Svendrup Inc										4°C	
2															
3															
4															
5															
6															
7															
8															
9															
10															

SAMPLER'S SIGNATURE

5-16-01 5:00



CHAIN-OF-CUSTODY RECORD

00005533 p. 3 of 4
776 330
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Form 0019
Field Technical Services
Rev. 08/89
199295

O.H. MATERIALS CORP.		P.O. BOX 551	FINDLAY, OH 45839-0551	419-423-3526					
PROJECT NAME DDMT - Dummitfield		PROJECT LOCATION Memphis, TN							
PROJECT NO. 80132		PROJECT CONTACT Vigil Jansen							
CLIENT'S REPRESENTATIVE Vigil Jansen		PROJECT TELEPHONE NO. 347-704025							
PROJECT MANAGER/SUPERVISOR Vigil Jansen									
ITEM NO.	SAMPLE NUMBER	DATE	TIME	GRAB	COMP	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)	NUMBER OF CONTAINERS	REMARKS
1	MW-1A	5/17	10:30	X				3	
2	MW-01	5/17	11:45	X				3	
3	EGS-B	5/17	11:40	X				3	
4	EGS-BL	5/17	11:40	X				3	
5	EGS-P	5/17	11:40	X				3	
6	MW-09	5/18	08:05	X				3	
7	MW-AA	5/18	08:35	X				3	
8	MW-14	5/18	09:25	X				3	
9	MW-71	5/18	10:50	X				3	
10	MW-68	5/18	5:00	X				3	
TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY		TRANSFERS ACCEPTED BY		REMARKS			
1	1-10	Sandra Bork		Sandra Bork					
2									
3									
4									
000188						5/18/92 5:00 Sandra Bork 420			



OHM Remediation
Services Corp.

CHAIN-OF-CUSTODY RECORD

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Form 0019
Field Technical Services
Rev. 08/89

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526 • 770.475.8994

PROJECT NAME DDMT - Dunn Field Memphis, TN		PROJECT LOCATION Memphis, TN	
PROJ. NO. 801320	PROJECT CONTACT Virgil Jansen	PROJECT TELEPHONE NO. 347.78.4025	
CLIENT'S REPRESENTATIVE Snyder Inc. Virgil Jansen		PROJECT MANAGER/SUPERVISOR	

ITEM NO	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)	NUMBER OF CONTAINERS	REMARKS
1	MW-70 Top	5/18/18	14:00		X		X	3	
2	MW-70 Bottom	5/18/18	14:15		X		X	3	
3	MW-34	5/18/18	15:30		X		X	3	
4	GW-03	5/18/18	16:45		X		X	3	
5	Trip Block 2						X	3	
6									
7									
8									
9									
10									

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME	REMARKS
1	1-735	Snyder Inc. Broken				
2	4					
3						
4						

68189

4400

SAMPLER'S SIGNATURE

Chemical Analytical Data Review Checklist

776 332

Report Type: ☐ Preliminary ☒ Final Date Received: _____ Project Number: 801370
 Project Name: DDMT Analysis/Method: 8260B
 Laboratory: ETC Lab Project/Case Number: 0005399
 Sample Number(s): RW-09, 22, 08, 07, 06, 04, TB

Evaluated By: Betsy McDaniel Date Evaluated: 6/6/00
 Data Package Deliverables Requirement: ☒ Minimum ☐ Standard ☐ Maximum
☐ Other, please describe _____

Quality Control Deliverables	Required	Received	Passed	Failed
PQL, MDL, RL, etc meets DQOs				
Comment:				
Holding Times			✓	
Comment:				
Sample Condition (preservatives, containers, temperature, etc) / Case Narrative	X		✓	
Comment:				
Surrogate Recoveries	X		✓	
Comment:				
Lab Control Sample Recoveries	X		✓	
Comment: <u>high furan recovery - non-target compound</u>				
Lab Control Sample Duplicate or Other Spike Recoveries	X			
Comment: <u>NA</u>				
Lab Control Sample Duplicate or Other Laboratory Duplicate RPD	X			
Comment: <u>NA</u>				
Matrix Spike Recoveries	X		✓	
Comment:				
Matrix Spike Duplicate Recoveries	X		✓	
Comment:				
Matrix Spike / Matrix Spike Duplicate RPD	X		✓	
Comment:				
Laboratory Blanks (daily, <u>method</u> , instrument)	X		✓	
Comment:				
Field Blanks (<u>trip</u> , equip, ambient, matrix)	X		✓	
Comment:				
Field Duplicates RPD	X		✓	
Comment: <u>See attached</u>				

776 333

Data Validation Level III

FIELD DUPLICATES

$$RPD = \frac{[orig-dup] \times 100}{orig + dup/2}$$

Report No.: 801370

[illegible]



ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Founded 1972

May 24, 2000

Mr. Virgil Jansen
Sverdrup Corporation
13723 Riverport Drive
Maryland Heights, MO 63043

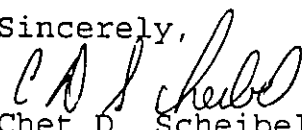
Ref: Analytical Testing
ETC Order # 0005399
Project Description DDMT-Dunn Field
Memphis, TN
Project # 801370

The above referenced project has been analyzed per your instructions. The analyses were performed in accordance with Standard Methods 17th/18th Edition; The Solid Waste Manual SW-846; EPA Methods for the Analysis of Water and Wastes and/or 40 CFR part 136.

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

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

Sincerely,


Chet D. Scheibel
Project Manager

rt
Attachment

SVE_MHDDMT

Certifications

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

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

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.

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.
N	Non-Compliance Report associated with this sample or project.
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 AND CONSULTING, INC.
CASE NARRATIVE
GC/MS VOLATILE COMPOUNDS - AQUEOUS

Client Name Sverdrup
Project Name DDMT-Dunn Field
ETC Order# 0005-399
Method (SW-846) 8260B/5030B

SAMPLE PRESERVATION (Verified at time of analysis)

All aqueous samples preserved to pH < 2.

HOLDING TIMES

Sample Analysis All samples analyzed within 14 days of collection.

QUALITY CONTROL

<u>QC Batch</u>	<u>Form 4 Summary</u>
V2052101	V2052111LB
V2052201	V2052211LB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits.

Method Blank FORM 4
V2052111LB
V2052211LB

Target Analytes were not detected in the Method Blanks.

Laboratory Control Sample FORM 3
V2052111LCS
V2052211LCS

All acceptance criteria met, except as listed below.

V2052111LCS

Furan, a non-target analyte, was flagged for slightly high recovery in the LCS. There is no effect on the data.

V2052211LCS

Furan, a non-target analyte, was flagged for slightly high recovery in the LCS. There is no effect on the data.

Matrix Spike / Matrix Spike Dup. FORM 3

Batch V2052101

0005-400-01	RPD	All analytes within QC limits.
ST-EFF024	Spike Recovery	All analytes within QC limits.

Refer to Laboratory Control Sample(s) for system verification.

Matrix Spike / Matrix Spike Dup. FORM 3

Batch V2052201

0005-523-07	RPD	All analytes within QC limits.
MW-31	Spike Recovery	All analytes within QC limits.

Refer to Laboratory Control Sample(s) for system verification.

776 337

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

Client Name Sverdrup
Project Name DDMT-Dunn Field
ETC Order# 0005-399
Method (SW-846) 8260B/5030B

CALIBRATION

BFB Daily 12-Hour Tune	All criteria met. FORM 5
Initial Calibration	All criteria met. FORM 6
Calibration Verification	All criteria met. FORM 7

Volatile Internal Standard Area and RT FORM 8

Daily Check Standard(s) Internal Standard Areas and Retention Times within QC limits.

SAMPLE ANALYSIS

Instrumentation	HP 5890 Series II GC, 5971MSD
Dilutions Required	No dilutions required.

COS
Project Manager

000003

ENVIRONMENTAL TESTING & CONSULTING, INC. 776 338
2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750
ANALYTICAL SUMMARY TABLE

Client Name Sverdrup Corporation
Site ID DDMT-Dunn Field
Memphis, TN

ETC <u>Sample ID</u>	<u>Field ID</u>	<u>Matrix</u>	<u>Method</u>	<u>Method Description</u>
000539901	RW-09	AQUEOUS	8260B	GC/MS Volatile Organics
000539902	RW-22	AQUEOUS	8260B	GC/MS Volatile Organics
000539903	RW-08	AQUEOUS	8260B	GC/MS Volatile Organics
000539904	RW-07	AQUEOUS	8260B	GC/MS Volatile Organics
000539905	Trip Blank	AQUEOUS	8260B	GC/MS Volatile Organics
000539906	RW-06	AQUEOUS	8260B	GC/MS Volatile Organics
000539907	RW-04	AQUEOUS	8260B	GC/MS Volatile Organics

776 339

Environmental Testing & Consulting, Inc.

Sample Reports

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 340

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

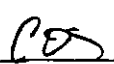
Date Arrived 05/16/00
 ETC Order Number 0005399

ETC Lab ID 0005399-01
Sample ID: RW-09

Matrix :AQUEOUS
 Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/21/00	LS	8260B 5030B
QC Batch	V2052101						
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	0.90J	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	10.8	ug/L	1.00				
Chloromethane	ND	ug/L	1.00				
1,1-Dichloroethane	1.15	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	35.9	ug/L	1.00				
trans-1,2-Dichloroethene	2.24	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	32.1	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	1.40	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	37.7	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	6.03	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits
91 - Dibromofluoromethane	103	74 123
92 - Toluene-d8	103	86 112


 LABORATORY MANAGER

ND - Not Detected

000006

776 341



Environmental Testing & Consulting, Inc.
2924 Walnut Grove Road Memphis, TN 38111
Founded 1972

Transmittal Cover Sheet

To : <i>Kelsey McDaniel</i>	From : <i>Angela Jones</i>
Fax Number : <i>770-777-8168</i>	
Date : <i>6/5/00</i>	For Information Call : 901-327-2750
Subject : <i>Revision</i>	Fax Number : 901-327-6334

This transmittal contains 2 pages including this cover.

*Original will be submitted to Virgil
Jansen with Sverdrup.*

Thank you

A Jones

The information contained in this transmittal is confidential and is intended for the sole use of the addressee named above. The copying or distribution of any information contained herein by any party other than the addressee is prohibited. If you have received this document in error, please notify us by phone and return it by mail to the above address.
Thank you.

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 342

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # **801370**
 EID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived **05/16/00**
 ETC Order Number **0005399**

ETC Lab ID **0005399-01**

Sample ID: RW-09

Matrix : **AQUEOUS**

Sample Date : **05/15/00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/21/00	LS	8260B
QC Batch	V2052101	ug/L					
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	90J	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	10.8	ug/L	1.00				
Chloromethane	ND	ug/L	1.00				
1,1-Dichloroethane	1.15	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	35.9	ug/L	1.00				
trans-1,2-Dichloroethene	2.24	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	32.1	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	1.40	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	37.7	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	6.03	ug/L	1.00				
Surrogate Standard			% Recovery	QC Limits			
1 - Dibromofluoromethane	103			74	123		
2 - Toluene-d8	103			86	112		

reissued

CDS
 LABORATORY MANAGER

ND - Not Detected

000006

776 343

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived 05/16/00
ETC Order Number 0005399

ETC Lab ID 0005399-01

Sample ID: RW-09

Matrix :AQUEOUS

Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

05/21/00 LS 8260B

Surrogate Standard% RecoveryQC Limits

S3 - 4-Bromofluorobenzene

104

81

115

CAS
LABORATORY MANAGER

ND - Not Detected

000007

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

CLIENT SAMPLE NO.

0005-399-1

Lab Name:

Contract: . . .

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0901009

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/21/00

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. _____	_____	_____	_____	_____

776 345

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750
ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived 05/16/00
ETC Order Number 0005399

ETC Lab ID 0005399-02
Sample ID: RW-22

Matrix :AQUEOUS
Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							
QC Batch	V2052101	ug/L			05/21/00	LS	8260B
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	0.97J	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	11.0	ug/L	1.00				
Chloromethane	ND	ug/L	1.00				
1,1-Dichloroethane	1.19	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	36.7	ug/L	1.00				
trans-1,2-Dichloroethene	2.24	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	32.2	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	1.36	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	38.2	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	6.20	ug/L	1.00				
Surrogate Standard							
S1 - Dibromofluoromethane	102		74		123		
S2 - Toluene-d8	102		86		112		

(P 8)

LABORATORY MANAGER

000009

ENVIRONMENTAL TESTING & CONSULTING, INC.
2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750
ORGANIC ANALYSIS DATA SHEET

776 346

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # **801370**
FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived **05/16/00**
ETC Order Number **0005399**

ETC Lab ID **0005399-02**
Sample ID: RW-22

Matrix : **AQUEOUS**
Sample Date : **05/15/00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/21/00	LS	8260B
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>				
S3 - 4-Bromofluorobenzene	102		81	115			

776 347

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

CLIENT SAMPLE NO.

Lab Name:

Contract:

0005-399-2

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 1001010

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/21/00

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.				
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26.				
27.				
28.				
29.				
30.				

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 348

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT-Dunn Field
Memphis, TN

Date Arrived 05/16/00
ETC Order Number 0005399

ETC Lab ID 0005399-03

Sample ID: RW-08

Matrix :AQUEOUS
Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/21/00	LS	8260B
QC Batch	V2052101	ug/L					
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	0.89J	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	8.41	ug/L	1.00				
Chloromethane	ND	ug/L	1.00				
1,1-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	4.98	ug/L	1.00				
trans-1,2-Dichloroethene	37.6	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	121	ug/L	1.00				
Tetrachloroethene	5.19	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	1.74	ug/L	1.00				
Trichloroethene	237E	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	120	ug/L	1.00				
Surrogate Standard			% Recovery	QC Limits			
S1 - Dibromofluoromethane	103			74	123		
S2 - Toluene-d8	103			86	112		

LABORATORY MANAGER

ND - Not Detected

000012

776 349

ENVIRONMENTAL TESTING & CONSULTING, INC.
2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750
ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived 05/16/00
ETC Order Number 0005399

ETC Lab ID 0005399-03

Sample ID: RW-08

Matrix :AQUEOUS
Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/21/00	LS	8260B

Surrogate Standard	% Recovery	QC Limits
S3 - 4-Bromofluorobenzene	104	81 115

CDJ

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

776 350
CLIENT SAMPLE NO.

0005-399-3

Lab Name: _____ Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 0005-399

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

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1101011

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

% Moisture: not dec. _____ Date Analyzed: 05/21/00

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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8.				
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27.				
28.				
29.				
30.				

776 351

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived 05/16/00
 ETC Order Number 0005399

ETC Lab ID 0005399-03
Sample ID: RW-08-DIL

Matrix :AQUEOUS
 Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052201	ug/L			05/22/00	LS	
Dilution Factor	10	ug/L					
Acetone	ND	ug/L	200				
Benzene	ND	ug/L	10.0				
Bromodichloromethane	ND	ug/L	10.0				
Bromoform	ND	ug/L	10.0				
Bromomethane	ND	ug/L	10.0				
Carbon Disulfide	ND	ug/L	10.0				
Carbon Tetrachloride	ND	ug/L	10.0				
Chlorobenzene	ND	ug/L	10.0				
Chlorodibromomethane	ND	ug/L	10.0				
Chloroethane	ND	ug/L	10.0				
Chloroform	ND	ug/L	10.0				
Chloromethane	ND	ug/L	10.0				
1,1-Dichloroethane	ND	ug/L	10.0				
1,2-Dichloroethane	ND	ug/L	10.0				
1,1-Dichloroethene	ND	ug/L	10.0				
trans-1,2-Dichloroethene	41.3	ug/L	10.0				
1,2-Dichloropropane	ND	ug/L	10.0				
cis-1,3-Dichloropropene	ND	ug/L	10.0				
trans-1,3-Dichloropropene	ND	ug/L	10.0				
Ethylbenzene	ND	ug/L	10.0				
2-Hexanone (MBK)	ND	ug/L	50.0				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0				
2-Butanone (MEK)	ND	ug/L	200				
Methylene Chloride	ND	ug/L	50.0				
Styrene	ND	ug/L	10.0				
1,1,2,2-Tetrachloroethane	139	ug/L	10.0				
Tetrachloroethene	ND	ug/L	10.0				
Toluene	ND	ug/L	10.0				
1,1,1-Trichloroethane	ND	ug/L	10.0				
1,1,2-Trichloroethane	ND	ug/L	10.0				
Trichloroethene	268	ug/L	10.0				
Vinyl Acetate	ND	ug/L	200				
Vinyl Chloride	ND	ug/L	10.0				
o-Xylenes	ND	ug/L	10.0				
m-Xylenes	ND	ug/L	10.0				
p-Xylenes	ND	ug/L	10.0				
cis-1,2-Dichloroethene	131	ug/L	10.0				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	102	74	123
S2 - Toluene-d8	104	86	112

(2)

LABORATORY MANAGER

ND - Not Detected

000015

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 352

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived 05/16/00
ETC Order Number 0005399

ETC Lab ID 0005399-03
Sample ID: RW-08-DIL

Matrix :AQUEOUS
Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/22/00	LS	8260B
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>				
S3 - 4-Bromofluorobenzene	102		81	115			

CDS
LABORATORY MANAGER

ND - Not Detected

000016

776 353

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

CLIENT SAMPLE NO.

0005-399-3

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0701008

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/22/00

GC Column: ID: 2.00 (mm)

Dilution Factor: 10.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # **801370**
 FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived **05/16/00**
 ETC Order Number **0005399**

ETC Lab ID **0005399-04****Sample ID: RW-07**Matrix : **AQUEOUS**Sample Date : **05/15/00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/21/00	LS	8260B
QC Batch	V2052101	ug/L					
Dilution Factor	1	ug/L					
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				
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	1.27	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	17.4	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	52.2	ug/L	1.00				
Tetrachloroethene	7.76	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	0.95J	ug/L	1.00				
Trichloroethene	97.2	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
is-1,2-Dichloroethene	59.6	ug/L	1.00				
Surrogate Standard			% Recovery	QC Limits			
S1 - Dibromofluoromethane	101			74	123		
S2 - Toluene-d8	102			86	112		

POS

776 355

ENVIRONMENTAL TESTING & CONSULTING, INC.
2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750
ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived 05/16/00
ETC Order Number 0005399

ETC Lab ID 0005399-04
Sample ID: RW-07

Matrix :AQUEOUS
Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/21/00	LS	8260B
Surrogate Standard							
S3 - 4-Bromofluorobenzene	% Recovery		QC Limits				
	102		81 115				

CD1

LABORATORY MANAGER

ND - Not Detected

000019

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

CLIENT SAMPLE NO.

0005-399-4

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 1201012

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/21/00

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

000020

776 357

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived 05/16/00
 ETC Order Number 0005399

ETC Lab ID 0005399-05
Sample ID: Trip Blank

Matrix :AQUEOUS
 Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							
QC Batch	V2052201	ug/L			05/22/00	LS	8260B
Dilution Factor	1	ug/L					
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				
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				
2-Butanone (MEK)	ND	ug/L	20.0				
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	1.00				
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				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				
Surrogate Standard							
S1 - Dibromofluoromethane	102		74	123			
S2 - Toluene-d8	103		86	112			

CDS

LABORATORY MANAGER

ND - Not Detected

000021

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 358

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived 05/16/00
ETC Order Number 0005399

ETC Lab ID 0005399-05
Sample ID: Trip Blank

Matrix :AQUEOUS
Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

05/22/00 LS

8260B

Surrogate Standard**% Recovery****QC Limits**

S3 - 4-Bromofluorobenzene

102

81

115

776 359

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

CLIENT SAMPLE NO.

0005-399-5

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0401005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/22/00

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
ORGANIC ANALYSIS DATA SHEET

776 360

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # **801370**
FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived **05/16/00**
ETC Order Number **0005399**

ETC Lab ID **0005399-06**
Sample ID: RW-06

Matrix **:AQUEOUS**
Sample Date **:05/15/00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/21/00	LS	8260B
QC Batch	V2052101	ug/L					
Dilution Factor	1	ug/L					
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				
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	2.26	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	2.03	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	5.52	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	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				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	5.12	ug/L	1.00				
Surrogate Standard	% Recovery		QC Limits				
S1 - Dibromofluoromethane	101		74	123			
S2 - Toluene-d8	103		86	112			

105

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 361

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # **801370**
FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived **05/16/00**
ETC Order Number **0005399**

ETC Lab ID **0005399-06****Sample ID: RW-06**Matrix : **AQUEOUS**Sample Date : **05/15/00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD

GC/MS Volatile Organics

05/21/00 LS

8260B

Surrogate Standard	% Recovery	QC Limits
S3 - 4-Bromofluorobenzene	102	81 115

COs

000025

776 362

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

CLIENT SAMPLE NO.

0005-399-6

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 1301013

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/21/00

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

000026

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 363

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # **801370**
 FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived **05/16/00**
 ETC Order Number **0005399**

ETC Lab ID **0005399-07**

Sample ID: RW-04

Matrix : **AQUEOUS**
 Sample Date : **05/15/00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052201	ug/L			05/22/00	LS	
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	4.26	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	2.27	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	2.65	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	12.9	ug/L	1.00				
Tetrachloroethene	1.97	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	0.70J	ug/L	1.00				
Trichloroethene	252E	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	16.0	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	103	74	123
S2 - Toluene-d8	104	86	112

776 364

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived 05/16/00
ETC Order Number 0005399

ETC Lab ID 0005399-07

Sample ID: RW-04

Matrix :AQUEOUS

Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/22/00	LS	8260B
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>				
S3 - 4-Bromofluorobenzene	103		81	115			

COS

LABORATORY MANAGER

ND - Not Detected

000028

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

776 365

CLIENT SAMPLE NO.

0005-399-7

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0501006

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/22/00

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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776 366

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived 05/16/00
 ETC Order Number 0005399

ETC Lab ID 0005399-07
Sample ID: RW-04-DIL

Matrix :AQUEOUS
 Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052201	ug/L			05/22/00	LS	
Dilution Factor	50	ug/L					
Acetone	ND	ug/L	1000				
Benzene	ND	ug/L	50.0				
Bromodichloromethane	ND	ug/L	50.0				
Bromoform	ND	ug/L	50.0				
Bromomethane	ND	ug/L	50.0				
Carbon Disulfide	ND	ug/L	50.0				
Carbon Tetrachloride	ND	ug/L	50.0				
Chlorobenzene	ND	ug/L	50.0				
Chlorodibromomethane	ND	ug/L	50.0				
Chloroethane	ND	ug/L	50.0				
Chloroform	ND	ug/L	50.0				
Chloromethane	ND	ug/L	50.0				
1,1-Dichloroethane	ND	ug/L	50.0				
1,2-Dichloroethane	ND	ug/L	50.0				
1,1-Dichloroethene	ND	ug/L	50.0				
trans-1,2-Dichloroethene	ND	ug/L	50.0				
1,2-Dichloropropane	ND	ug/L	50.0				
cis-1,3-Dichloropropene	ND	ug/L	50.0				
trans-1,3-Dichloropropene	ND	ug/L	50.0				
Ethylbenzene	ND	ug/L	50.0				
2-Hexanone (MBK)	ND	ug/L	250				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250				
2-Butanone (MEK)	ND	ug/L	1000				
Methylene Chloride	ND	ug/L	250				
Styrene	ND	ug/L	50.0				
1,1,2,2-Tetrachloroethane	ND	ug/L	50.0				
Tetrachloroethene	ND	ug/L	50.0				
Toluene	ND	ug/L	50.0				
1,1,1-Trichloroethane	ND	ug/L	50.0				
1,1,2-Trichloroethane	ND	ug/L	50.0				
Trichloroethene	316	ug/L	50.0				
Vinyl Acetate	ND	ug/L	1000				
Vinyl Chloride	ND	ug/L	50.0				
o-Xylenes	ND	ug/L	50.0				
m-Xylenes	ND	ug/L	50.0				
p-Xylenes	ND	ug/L	50.0				
cis-1,2-Dichloroethene	ND	ug/L	50.0				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	103	74	123
S2 - Toluene-d8	104	86	112

EVS

LABORATORY MANAGER

ND - Not Detected

000030

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 367

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT-Dunn Field
Memphis, TN

Sample Arrived 05/16/00
ETC Order Number 0005399

ETC Lab ID 0005399-07

Sample ID: RW-04-DIL

Matrix :AQUEOUS

Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/22/00	LS	8260B
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>				
S3 - 4-Bromofluorobenzene	100		81	115			

776 368

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

CLIENT SAMPLE NO.

0005-399-7

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0601007

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/22/00

GC Column: ID: 2.00 (mm)

Dilution Factor: 50.0

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

000032

Environmental Testing & Consulting, Inc.

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

FORM 2
WATER VOA-GCMS SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER	TOT OUT
	=====	=====	=====	=====	=====	=====
01	V2052111LCS	97	101	102		0
02	V2052111LB	100	101	102		0
03	0005-399-1	103	103	104		0
04	0005-399-2	102	102	101		0
05	0005-399-3	103	103	104		0
06	0005-399-4	101	102	102		0
07	0005-399-6	101	103	102		0
08	V2052211LCS	99	102	101		0
09	V2052211LB	102	103	102		0
10	0005-399-5	102	103	102		0
11	0005-399-7	103	104	103		0
12	0005-399-7	103	104	100		0
13	0005-399-3	102	104	102		0
14						
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QC LIMITS

SMC1 = Dibromofluoromethane (74-123)

SMC2 (TOL) = Toluene-d8 (86-112)

SMC3 (BFB) = Bromofluorobenzene (81-115)

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

776 371

CLIENT SAMPLE NO.

V2052111LB

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Lab File ID: 0302003

Lab Prep Batch: V2052101

Date Analyzed: 05/21/00

Time Analyzed: 1405

GC Column:

ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC2

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

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	V2052111LCS	V2052101	0201002LCS	1224
02	0005-400-1	V2052101	0801008	1751
03	0005-399-1	V2052101	0901009	1837
04	0005-399-2	V2052101	1001010	1922
05	0005-399-3	V2052101	1101011	2007
06	0005-399-4	V2052101	1201012	2053
07	0005-399-6	V2052101	1301013	2138
08	0005-400-1MS	V2052101	1401014	2223
09	0005-400-1MS	V2052101	1501015	2308
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COMMENTS:

776 372

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

Lab Name:

Contract:

V2052111LB

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Prep Batch: V2052101

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

Lab File ID: 0302003

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/21/00

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	25.00	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
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
78-93-3-----	2-Butanone	20.00	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
110-75-0-----	2-Chloroethyl vinyl Ether	5.00	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

000000

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

776 373

CLIENT SAMPLE NO.

V2052111LB

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Prep Batch: V2052101

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

Lab File ID: 0302003

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/21/00

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
67-64-1-----	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
156-59-4-----	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
590-20-7-----	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
87-63-3-----	Hexachlorobutadiene	1.00	U
110-54-3-----	Hexane	5.00	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	1.00	U
80-62-6-----	Methyl methacrylate	1.00	U
108-10-1-----	4-Methyl-2-Pentanone	5.00	U
1634-04-4-----	Methyl-tertbutyl-Ether	1.00	U
91-20-3-----	Naphthalene	1.00	U
76-01-7-----	Pentachloroethane	1.00	U

FORM I VOA-GCMS

000037

776 374

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2052111LB

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Prep Batch: V2052101

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

Lab File ID: 0302003

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/21/00

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.

COMPOUND

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

Q

107-12-0-----	Propionitrile	10.00	U
109-60-4-----	n-Propyl Acetate	1.00	U
103-65-1-----	n-Propylbenzene	1.00	U
100-42-5-----	Styrene	1.00	U
630-20-6-----	1,1,1,2-Tetrachloroethane	1.00	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1.00	U
127-18-4-----	Tetrachloroethene	1.00	U
109-99-9-----	Tetrahydrofuran	1.00	U
108-88-3-----	Toluene	1.00	U
87-61-6-----	1,2,3-Trichlorobenzene	1.00	U
120-82-1-----	1,2,4-Trichlorobenzene	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
108-67-8-----	1,3,5-Trimethylbenzene	1.00	U
108-05-4-----	Vinyl Acetate	5.00	U
75-01-4-----	Vinyl Chloride	1.00	U
1330-20-7-----	Xylene-mp	2.00	U
95-47-6-----	Xylene-o	1.00	U

FORM I VOA-GCMS

000028

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

776 375 CLIENT SAMPLE NO.

V2052111LB

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0302003

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/21/00

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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776 376

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name:

Lab Prep Batch: V2052101

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix Spike - Sample No.: V2052111LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acetone	100.0		100.2	100	59-151
Acetonitrile	1000		921.5	92	57-143
Acrolein	100.0		103.8	104	59-134
Acrylonitrile	100.0		94.54	94	60-146
Allyl chloride	100.0		93.48	93	74-120
Benzene	100.0		101.7	102	72-124
Bromobenzene	100.0		95.34	95	77-120
Bromochloromethane	100.0		96.27	96	74-120
Bromodichloromethane	100.0		97.39	97	68-119
Bromoform	100.0		98.88	99	66-136
Bromomethane	100.0		99.38	99	40-134
n-Butylbenzene	100.0		105.9	106	69-129
sec-Butylbenzene	100.0		101.9	102	72-127
tert-Butylbenzene	100.0		100.5	100	73-126
Carbon Disulfide	100.0		100.3	100	60-133
2-Butanone	100.0		107.3	107	55-151
Carbon Tetrachloride	100.0		98.60	99	64-123
Chlorobenzene	100.0		99.61	100	77-112
Chlorodibromomethane	100.0		92.03	92	72-118
Chloroethane	100.0		108.0	108	64-142
2-Chloroethyl vinyl Eth	100.0		149.5	150	22-165
Chloroform	100.0		99.69	100	70-115
Chloromethane	100.0		96.13	96	58-139
Chloroprene	100.0		100.5	100	73-118
2-Chlorotoluene	100.0		101.3	101	65-132
4-Chlorotoluene	100.0		101.9	102	67-127
1,2-Dibromo-3-chloropro	100.0		95.74	96	56-134
1,2-Dibromoethane	100.0		97.02	97	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

776 377

Lab Name: _____ Lab Prep Batch: V2052101
Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 0005-399
Matrix Spike - Sample No.: V2052111LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Dibromomethane	100.0		100.9	101	75-114
1,2-Dichlorobenzene	100.0		96.46	96	80-113
1,3-Dichlorobenzene	100.0		97.89	98	77-119
1,4-Dichlorobenzene	100.0		100.4	100	78-116
cis-1,4-Dichloro-2-bute	100.0		114.4	114	62-138
trans-1,4-Dichloro-2-bu	100.0		108.5	108	62-138
Dichlorodifluoromethane	100.0		112.8	113	48-145
1,1-Dichloroethane	100.0		99.20	99	76-118
1,2-Dichloroethane	100.0		95.58	96	62-124
1,1-Dichloroethene	100.0		100.0	100	69-121
cis-1,2-Dichloroethene	100.0		100.3	100	76-114
trans-1,2-Dichloroethen	100.0		103.8	104	72-121
1,2-Dichloropropane	100.0		96.29	96	64-133
1,3-Dichloropropane	100.0		96.41	96	68-128
2,2-Dichloropropane	100.0		108.5	108	67-132
1,1-Dichloropropene	100.0		101.4	101	76-117
cis-1,3-Dichloropropene	100.0		98.24	98	77-120
trans-1,3-Dichloroprope	100.0		98.98	99	73-124
Di isopropyl ether	100.0		96.65	97	62-160
1,4-Dioxane	2000		2080	104	56-131
Ethyl Acetate	100.0		95.14	95	52-151
Ethylbenzene	100.0		103.5	104	77-111
Ethyl methacrylate	200.0		192.2	96	57-140
Furan	100.0		145.1	145*	52-124
Hexachlorobutadiene	100.0		106.1	106	69-137
Hexane	100.0		118.8	119	70-130
2-Hexanone	100.0		94.87	95	53-144
Iodomethane	100.0		94.38	94	51-153

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

* Values outside of QC limits

COMMENTS: _____

776 378

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name:

Lab Prep Batch: V2052101

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix Spike - Sample No.: V2052111LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Isobutyl Alcohol	2000		1835	92	60-134
Isopropylbenzene	100.0		102.4	102	74-125
4-Isopropyltoluene	100.0		101.2	101	72-127
Methacrylonitrile	1000		938.2	94	70-125
Methylene Chloride	100.0		99.43	99	76-115
Methyl methacrylate	200.0		192.6	96	57-147
4-Methyl-2-Pentanone	100.0		93.12	93	42-144
Methyl-tertbutyl-Ether	100.0		96.20	96	62-122
Naphthalene	100.0		90.52	90	53-124
Pentachloroethane	100.0		119.0	119	78-126
Propionitrile	1000		942.2	94	58-139
n-Propyl Acetate	100.0		138.8	139	88-170
n-Propylbenzene	100.0		104.9	105	75-125
Styrene	100.0		101.8	102	77-117
1,1,1,2-Tetrachloroetha	100.0		97.24	97	79-113
1,1,2,2-Tetrachloroetha	100.0		102.1	102	67-126
Tetrachloroethene	100.0		86.11	86	77-115
Tetrahydrofuran	100.0		90.81	91	76-181
Toluene	100.0		102.5	102	77-115
1,2,3-Trichlorobenzene	100.0		95.68	96	62-132
1,2,4-Trichlorobenzene	100.0		100.5	100	68-132
1,1,1-Trichloroethane	100.0		100.0	100	63-122
1,1,2-Trichloroethane	100.0		98.66	99	69-117
1,1,2-trichloro-1,2,2-t	100.0		100.0	100	70-130
Trichloroethene	100.0		98.02	98	75-113
Trichlorofluoromethane	100.0		104.2	104	55-130
1,2,3-Trichloropropane	100.0		103.1	103	62-130
1,2,4-Trimethylbenzene	100.0		99.12	99	69-126

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

* Values outside of QC limits

COMMENTS:

Lab Prep Batch: V2052101

SDG No.: 0005-399

Matrix Spike - Sample No.: V2052111LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
1,3,5-Trimethylbenzene	100.0		99.47	99	69-128
Vinyl Acetate	100.0		99.08	99	28-146
Vinyl Chloride	100.0		105.7	106	65-134
Xylene-mp	200.0		204.7	102	77-115
Xylene-o	100.0		102.2	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: 1 out of 89 outside limits

COMMENTS :

776 380

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

Lab Name:

Lab Prep Batch: V2052101

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix Spike - Sample No.: 0005-400-1

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Benzene	100.0	0.000	101.5	102	72-124
Chlorobenzene	100.0	0.000	96.50	96	77-112
1,1-Dichloroethene	100.0	0.000	97.96	98	69-121
Toluene	100.0	0.000	101.6	102	77-115
Trichloroethene	100.0	2.85	99.18	96	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
=====	=====	=====	=====	=====	=====	=====
Benzene	100.0	107.8	108	6	20	72-124
Chlorobenzene	100.0	97.54	98	2	20	77-112
1,1-Dichloroethene	100.0	103.0	103	5	20	69-121
Toluene	100.0	103.2	103	1	20	77-115
Trichloroethene	100.0	101.1	98	2	20	75-113

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

COMMENTS:

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

776 381

CLIENT SAMPLE NO.

V2052211LB

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Lab File ID: 0302004

Lab Prep Batch: V2052201

Date Analyzed: 05/22/00

Time Analyzed: 1142

GC Column: ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC2

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

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	V2052211LCS	V2052201	0201002LCS	0953
02	0005-399-5	V2052201	0401005	1228
03	0005-399-7	V2052201	0501006	1314
04	0005-399-7	V2052201	0601007	1401
05	0005-399-3	V2052201	0701008	1447
06	0005-523-7	V2052201	1401015	2010
07	0005-523-7MS	V2052201	1501016	2055
08	0005-523-7MS	V2052201	1601017	2141
09				
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COMMENTS:

776 382

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2052211LB

Lab Name: _____ Contract: _____
 Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 0005-399
 Matrix: (soil/water) WATER Lab Prep Batch: V2052201
 Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0302004
 Level: (low/med) LOW Date Received: _____
 % Moisture: not dec. _____ Date Analyzed: 05/22/00
 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	25.00	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
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
78-93-3	2-Butanone	20.00	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
110-75-0	2-Chloroethyl vinyl Ether	5.00	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

776 383

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2052211LB

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Prep Batch: V2052201

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

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/22/00

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
67-64-1	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
156-59-4	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
590-20-7	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
87-63-3	Hexachlorobutadiene	1.00	U
110-54-3	Hexane	5.00	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	1.00	U
80-62-6	Methyl methacrylate	1.00	U
108-10-1	4-Methyl-2-Pentanone	5.00	U
1634-04-4	Methyl-tertbutyl-Ether	1.00	U
91-20-3	Naphthalene	1.00	U
76-01-7	Pentachloroethane	1.00	U

776 384

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2052211LB

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Prep Batch: V2052201

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

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/22/00

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.

COMPOUND

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

Q

107-12-0-----	Propionitrile	10.00	U
109-60-4-----	n-Propyl Acetate	1.00	U
103-65-1-----	n-Propylbenzene	1.00	U
100-42-5-----	Styrene	1.00	U
630-20-6-----	1,1,1,2-Tetrachloroethane	1.00	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1.00	U
127-18-4-----	Tetrachloroethene	1.00	U
109-99-9-----	Tetrahydrofuran	1.00	U
108-88-3-----	Toluene	1.00	U
87-61-6-----	1,2,3-Trichlorobenzene	1.00	U
120-82-1-----	1,2,4-Trichlorobenzene	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
108-67-8-----	1,3,5-Trimethylbenzene	1.00	U
108-05-4-----	Vinyl Acetate	5.00	U
75-01-4-----	Vinyl Chloride	1.00	U
1330-20-7-----	Xylene-mp	2.00	U
95-47-6-----	Xylene-o	1.00	U

776 385

FORM 1

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

V2052211LB

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/22/00

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

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name:

Lab Prep Batch: V2052201

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix Spike - Sample No.: V2052211LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acetone	100.0		97.19	97	59-151
Acetonitrile	1000		885.5	88	57-143
Acrolein	100.0		102.2	102	59-134
Acrylonitrile	100.0		90.40	90	60-146
Allyl chloride	100.0		91.03	91	74-120
Benzene	100.0		99.84	100	72-124
Bromobenzene	100.0		87.45	87	77-120
Bromochloromethane	100.0		93.26	93	74-120
Bromodichloromethane	100.0		93.36	93	68-119
Bromoform	100.0		90.07	90	66-136
Bromomethane	100.0		100.0	100	40-134
n-Butylbenzene	100.0		101.4	101	69-129
sec-Butylbenzene	100.0		95.61	96	72-127
tert-Butylbenzene	100.0		92.80	93	73-126
Carbon Disulfide	100.0		86.34	86	60-133
2-Butanone	100.0		101.5	102	55-151
Carbon Tetrachloride	100.0		96.00	96	64-123
Chlorobenzene	100.0		91.19	91	77-112
Chlorodibromomethane	100.0		86.17	86	72-118
Chloroethane	100.0		106.7	107	64-142
2-Chloroethyl vinyl Eth	100.0		151.5	152	22-165
Chloroform	100.0		96.32	96	70-115
Chloromethane	100.0		98.25	98	58-139
Chloroprene	100.0		98.20	98	73-118
2-Chlorotoluene	100.0		94.97	95	65-132
4-Chlorotoluene	100.0		95.73	96	67-127
1,2-Dibromo-3-chloropro	100.0		87.26	87	56-134
1,2-Dibromoethane	100.0		91.67	92	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

776 387

Lab Name: _____ Lab Prep Batch: V2052201
Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 0005-399
Matrix Spike - Sample No.: V2052211LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Dibromomethane	100.0		95.70	96	75-114
1,2-Dichlorobenzene	100.0		87.90	88	80-113
1,3-Dichlorobenzene	100.0		89.77	90	77-119
1,4-Dichlorobenzene	100.0		92.31	92	78-116
cis-1,4-Dichloro-2-bute	100.0		95.68	96	62-138
trans-1,4-Dichloro-2-bu	100.0		100.6	101	62-138
Dichlorodifluoromethane	100.0		110.6	111	48-145
1,1-Dichloroethane	100.0		97.44	97	76-118
1,2-Dichloroethane	100.0		91.45	91	62-124
1,1-Dichloroethene	100.0		98.58	98	69-121
cis-1,2-Dichloroethene	100.0		97.52	98	76-114
trans-1,2-Dichloroethen	100.0		102.3	102	72-121
1,2-Dichloropropane	100.0		93.72	94	64-133
1,3-Dichloropropane	100.0		91.50	92	68-128
2,2-Dichloropropane	100.0		106.3	106	67-132
1,1-Dichloropropene	100.0		101.2	101	76-117
cis-1,3-Dichloropropene	100.0		93.41	93	77-120
trans-1,3-Dichloroprope	100.0		95.48	95	73-124
Di isopropyl ether	100.0		94.38	94	62-160
1,4-Dioxane	2000		2021	101	56-131
Ethyl Acetate	100.0		92.36	92	52-151
Ethylbenzene	100.0		96.75	97	77-111
Ethyl methacrylate	200.0		183.5	92	57-140
Furan	100.0		142.4	142*	52-124
Hexachlorobutadiene	100.0		101.8	102	69-137
Hexane	100.0		118.8	119	70-130
2-Hexanone	100.0		90.99	91	53-144
Iodomethane	100.0		100.9	101	51-153

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

* Values outside of QC limits

COMMENTS: _____

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name:

Lab Prep Batch: V2052201

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix Spike - Sample No.: V2052211LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Isobutyl Alcohol	2000		1823	91	60-134
Isopropylbenzene	100.0		94.42	94	74-125
4-Isopropyltoluene	100.0		94.85	95	72-127
Methacrylonitrile	1000		908.8	91	70-125
Methylene Chloride	100.0		95.59	96	76-115
Methyl methacrylate	200.0		184.8	92	57-147
4-Methyl-2-Pentanone	100.0		89.02	89	42-144
Methyl-tertbutyl-Ether	100.0		93.46	93	62-122
Naphthalene	100.0		84.92	85	53-124
Pentachloroethane	100.0		112.9	113	78-126
Propionitrile	1000		916.7	92	58-139
n-Propyl Acetate	100.0		133.8	134	88-170
n-Propylbenzene	100.0		98.64	99	75-125
Styrene	100.0		94.65	95	77-117
1,1,1,2-Tetrachloroetha	100.0		88.98	89	79-113
1,1,2,2-Tetrachloroetha	100.0		95.78	96	67-126
Tetrachloroethene	100.0		81.45	81	77-115
Tetrahydrofuran	100.0		90.10	90	76-181
Toluene	100.0		97.27	97	77-115
1,2,3-Trichlorobenzene	100.0		90.71	91	62-132
1,2,4-Trichlorobenzene	100.0		95.17	95	68-132
1,1,1-Trichloroethane	100.0		97.65	98	63-122
1,1,2-Trichloroethane	100.0		94.39	94	69-117
1,1,2-trichloro-1,2,2-t	100.0		97.22	97	70-130
Trichloroethene	100.0		95.56	96	75-113
Trichlorofluoromethane	100.0		102.8	103	55-130
1,2,3-Trichloropropane	100.0		94.08	94	62-130
1,2,4-Trimethylbenzene	100.0		94.68	95	69-126

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

* Values outside of QC limits

COMMENTS:

Lab Prep Batch: V2052201

Case No. :

SAS No. :

SDG No. : 0005-399

Matrix Spike - Sample No.: V2052211LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
1,3,5-Trimethylbenzene	100.0		94.70	95	69-128
Vinyl Acetate	100.0		96.62	97	28-146
Vinyl Chloride	100.0		107.6	108	65-134
Xylene-mp	200.0		190.9	95	77-115
Xylene-o	100.0		95.56	96	77-115

* Values outside of QC limits

RPD: 0 out of 0 outside limits

Spike Recovery: 1 out of 89 outside limits

COMMENTS :

776 390

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

Lab Name:

Lab Prep Batch: V2052201

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-399

Matrix Spike - Sample No.: 0005-523-7

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Benzene	100.0	0.000	109.8	110	72-124
Chlorobenzene	100.0	0.000	100.5	100	77-112
1,1-Dichloroethene	100.0	22.33	122.1	100	69-121
Toluene	100.0	0.000	106.0	106	77-115
Trichloroethene	100.0	49.48	151.8	102	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS	
=====	=====	=====	=====	=====	=====	=====
Benzene	100.0	108.9	109	1	20	72-124
Chlorobenzene	100.0	96.76	97	3	20	77-112
1,1-Dichloroethene	100.0	120.8	98	2	20	69-121
Toluene	100.0	102.5	102	4	20	77-115
Trichloroethene	100.0	146.6	97	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.

**Login
Chain-of-Custody**



OHM Remediation
Services Corp.

IT Corp

CHAIN-OF-CUSTODY RECORD

776 392

LAB COPY
Form 0019
Field Technical Services
Rev 08/89

199291

0005399

O.H. MATERIALS CORP.		P.O. BOX 551	FINDLAY, OH 45839-0551	419-423-3526					
PROJECT NAME ODMT - Dunn Field Memphis, TN		PROJECT LOCATION							
PRQJ NO 801370	PROJECT CONTACT Vigil Jansen	PROJECT TELEPHONE NO. 314.970.4025							
CLIENT'S REPRESENTATIVE		PROJECT MANAGER/SUPERVISOR Vigil Jansen							
ITEM NO	SAMPLE NUMBER	DATE	TIME	GRAB	COMP	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)	REMARKS
1	NW-09	5/15/00	15:40	X			3	X	
2	NW-22	5/15/00	15:50	X			3	X	
3	NW-08	5/15/00	16:00	X			3	X	
4	NW-07	5/15/00	16:10	X			3	X	
5	Trip Blank						3	X	
6	NW-06	5/15/00	16:30	X			3	X	
7	NW-05	5/15/00	16:40	X			3	X	
8									
9									
10									

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME	REMARKS
1	1-77	Serena A. Branka	Vigil Jansen	5/15/00	17:35	
2						
3						
4						

SAMPLER'S SIGNATURE
Serena A. Branka

Environmental Testing & Consulting, Inc.
Cooler Receipt Form

Date Received 5/15/00
Date/Time Checked In 5/16/00-0800 *
Carrier/Bill# Hand-Delivered

LIMS# 0005-399
Project DDMT-Dunn Field
Memphis, TN
By RBaugh

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-bags, ice, bubble wrap	Yes
6. Chain of Custody filled out properly?	Yes
7. All containers in separate bags?	Yes
8. Sample containers intact?	Yes
9. Label(s) complete and in good condition?	Yes
10. Label(s) agree with Chain of Custody?	Yes
11. Correct containers used?	Yes
12. Sufficient sample?	Yes
13. VOA vials bubble-free (H ₂ O) or no head space (soil)?	Yes
14. Preservation OK? TM pH____; TRPH pH____; TOC pH____; TOX pH____; CN pH____; N/P pH____; Other pH____	Yes

Comments _____

*Validated Date and Time of Sample Receipt (VDTSR)

Chemical Analytical Data Review Checklist

776 394

Report Type: ☐ Preliminary ☒ Final Date Received: _____ Project Number: 801370

Project Name: DDMT Analysis/Method: VOA, SVOA, Metals

Laboratory: ETC Lab Project/Case Number: 0003418

Sample Number(s): ST-EFF-022, ST-INF-022, TB

Evaluated By: Betsy McDaniel Date Evaluated: 4/7/00

Data Package Deliverables Requirement: ☒ Minimum ☐ Standard ☐ Maximum

☐ Other, please describe _____

Quality Control Deliverables	Required	Received	Passed	Failed
PQL, MDL, RL, etc meets DQOs				
Comment:				
Holding Times			✓	
Comment:				
Sample Condition (preservatives, containers, temperature, etc) / Case Narrative	X		✓	
Comment: DVP incorrectly ID'ed as EC2B				
Surrogate Recoveries	X		✓	
Comment:				
Lab Control Sample Recoveries	X			✓
Comment: non-target VOA failures some SVOA failures, Benzoic acid low				
Lab Control Sample Duplicate or Other Spike Recoveries	X			
Comment: NA				
Lab Control Sample Duplicate or Other Laboratory Duplicate RPD	X			
Comment: NA				
Matrix Spike Recoveries	X			—
Comment: low phenol, pyrene				
Matrix Spike Duplicate Recoveries	X			✓
Comment: low Na, phenol, pyrene				
Matrix Spike / Matrix Spike Duplicate RPD	X		✓	
Comment:				
Laboratory Blanks (daily, method, instrument)	X			✓
Comment: hits of Ca, Bis (2-ethylhexyl) phthalate, Dibenz(a,h)anthracene, Indeno (1,2,3-cd) pyrene, 1,2-D. phenylhydrazine				
Field Blanks (trip, equip, ambient, matrix)	X			✓
Comment: hit of Toluene				
Field Duplicates RPD	X			✓
Comment: see attached				

776 395

Data Validation Level III

FIELD DUPLICATES

$$\text{RPD} = \frac{[\text{orig-dup}] \times 100}{\text{orig} + \text{dup}/2}$$

Report No.: 801370

[illegible]

Flag iron and 1,1,2-trichloroethane.

DDMT Completeness Calculation

Test	Actual	Possible
VOA blank	328	329
LCS	259	267
MS	30	30
surc	48	48
dup	36	37
SVOA blank	295	300
LCS	158	166
MS	52	60
surc	72	72
dup	67	67
Metals blank	67	69
LCS	46	46
MS	135	138
dup	22	23
	<u>1615</u>	<u>1652</u>

97.8%

776 397



ENVIRONMENTAL TESTING & CONSULTING, INC.
2924 Walnut Grove Road • Memphis, TN 38111 • (901) 327-2750 • FAX (901) 327-6334

Founded 1972

March 29, 2000

Mr. Virgil Jansen
Sverdrup Corporation
13723 Riverport Drive
Maryland Heights, MO 63043

Ref: Analytical Testing
ETC Order # 0003418
Project Description DDMT-Dunn Field

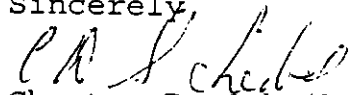
Project # - 801370 Memphis Defense Depot

The above referenced project has been analyzed per your instructions. The analyses were performed in our laboratory in accordance with Standard Methods 17th/18th Edition; The Solid Waste Manual SW-846; EPA Methods for the Analysis of Water and Wastes and/or 40 CFR part 136.

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

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

Sincerely,


Chester D. Scheibel
Project Manager

rt
Attachment

SVE_MHDDMT

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.

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.
N	Non-Compliance Report associated with this sample or project.
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 AND CONSULTING, INC.
CASE NARRATIVE
METALS - AQUEOUS

Client Name Sverdrup
 Project Name DDMT-Dunn Field

ETC Order# 0003-418

HOLDING TIMES

QC Batch(s) for this order	ICP/GFAA V19-AQ-46
	Mercury V6-AQ-43
Sample Analysis	All samples digested and analyzed within 180 days of collection.
Mercury Analysis	All samples analyzed within 28 days of collection.

CALIBRATION

Initial Calibration	All criteria met.
Continuing Calibration	All criteria met.

SAMPLE ANALYSIS

Instrumentation: Thermo Jarrell Ash Enviro-I ICP
 Varian 640Z Zeeman Graphite Furnace
 Perkin Elmer 5100ZL Graphite Furnace
 Perkin Elmer 6000 Graphite Furnace
 Thermo Jarrell Ash AA-Scan 4 Graphite Furnace
 CETAC M-6000A Mercury Analyzer

Dilutions Required No dilutions required.

QUALITY CONTROL

0003-418.MQCBLANK

Method Blank

V19-AQ-46BLK	ICP/GFAA Metals
V6-AQ-43BLK	Mercury

Calcium identified in V19-AQ-46BLK at 0.021 mg/L.

0003-418.MQCLCS

Laboratory Control Sample(s)

V19-AQ-46LCS	ICP/GFAA Metals
V6-AQ-43LCS	Mercury

All criteria met.

0003-418.MQCMSMSD

Matrix Spike / Matrix Spike Dup - ICP Metals

0003-418-01	RPD	All analytes within QC limits.
ST-EFF-022	Spike Recovery All analytes within QC limits, except as listed below.	

Sodium was flagged as outside QC Limits due to the level of this analyte present relative to the spike amount. A Dilution Test was performed for verification:

Analyte	No Dilution	1:5 Dilution	% Difference	QA Evaluation
Sodium	24.6 mg/L	22.4 mg/L	9	Pass

Refer to Laboratory Control Sample(s) for system verification.

ENVIRONMENTAL TESTING AND CONSULTING, INC.
CASE NARRATIVE
METALS - AQUEOUS

776 400

Client Name Sverdrup
Project Name DDMT-Dunn Field
ETC Order# 0003-418

QUALITY CONTROL

Matrix Spike / Matrix Spike Dup - Graphite Metals

0003-418-01 RPD All analytes within QC limits.
ST-EFF-022 Spike Recovery All analytes within QC limits.

Refer to Laboratory Control Sample(s) for system verification.

Matrix Spike / Matrix Spike Dup - Hg

0003-418-01 RPD All analytes within QC limits.
ST-EFF-022 Spike Recovery All analytes within QC limits.

Refer to Laboratory Control Sample(s) for system verification.

Dilution Test Dilution result must agree within 10% of original result when sample is diluted by a factor of 5.

Post Digestion Spike Recovery must be +/-15% of expected value.


Project Manager

000003

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

Client Name Sverdrup
Project Name DDMT-Dunn Field
ETC Order# 0003-418
Method (SW-846) 8260B/5030B

SAMPLE PRESERVATION (Verified at time of analysis)

All aqueous samples preserved to pH < 2.

HOLDING TIMES

Sample Analysis All samples analyzed within 14 days of collection.

QUALITY CONTROL

QC Batch Form 4 Summary
V1031701 V1031711LB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits.

Method Blank FORM 4
V1031711LB

Target Analytes were not detected in the Method Blanks.

Laboratory Control Sample FORM 3
V1031711LCS

All acceptance criteria met, except as listed below.

1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Hexane, and 1,1,1,2-Tetrachloroethane were flagged for high recovery in the LCS. These analytes were non-target analytes associated with this project. There is no effect on the data. Tetrahydrofuran and n-Propyl Acetate, which were also non-target analytes, were flagged for slightly low recovery in the LCS. There is no effect on the data.

Matrix Spike / Matrix Spike Dup. FORM 3
Batch V1031701

0003-418-01	RPD	All analytes within QC limits.
ST-EFF-022	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

Volatile Internal Standard Area and RT FORM 8

Daily Check Standard(s) Internal Standard Areas and Retention Times within QC limits.

ENVIRONMENTAL TESTING AND CONSULTING, INC.

776 402

CASE NARRATIVE

GC/MS VOLATILE COMPOUNDS - AQUEOUS

Client Name Sverdrup
Project Name DDMT-Dunn Field
ETC Order# 0003-418
Method (SW-846) 8260B/5030B

SAMPLE ANALYSIS

Instrumentation HP 5890 Series II GC, 5971MSD
Dilutions Required No dilutions required.

COJ
Project Manager

000005

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

Client Name Sverdrup
Project Name DDMT-Dunn Field
ETC Order# 0003-418
Method (SW-846) 8270C/3510C

HOLDING TIMES

Sample Extraction All aqueous samples extracted within 7 days.
Sample Analysis All samples analyzed within 40 days of extraction.

QUALITY CONTROL

QC Batch Form 4 Summary
P05311 P05311LB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits.

Method Blank FORM 4
P05311LB

Target analytes were not detected in the Method Blanks, except as listed below.

Bis(2-ethylhexyl)phthalate detected at a concentration of 1.34J ug/L. Dibenzo(a,h)anthracene was detected at a concentration of 6.96 ug/L. Indeno (1,2,3-CD) pyrene was detected at a concentration of 5.02 ug/L. These analytes were not identified in associated project samples. There is no effect on the data.

Laboratory Control Sample FORM 3
P05311LCS

All acceptance criteria met, except as listed below.

Benzidine (non-target analyte), Di-n-Butylphthalate, and 3,3'-Dimethylbenzidine (non-target analyte) exceeded control limits the LCS. Di-n-Butylphthalate was not identified in associated samples. There is no effect on the data. Benzoic Acid was flagged slightly below control limits (1%) in the LCS. This slightly low recovery does not affect the data. The laboratory spiked the LCS with all target compounds and all recoveries were within QC Limits except as previously noted. Due to the large number of spike compounds, it is likely that a few compounds may be out of control limits. It is ETC, Inc. QC policy that 90% of all spike compound recoveries are within control limits. The LCS complies with this requirement.

Matrix Spike / Matrix Spike Dup FORM 3

Batch P05311

0003-418-01

RPD

All analytes within QC limits.

ST-EFF-022

Spike Recovery All analytes within QC limits, except as listed below.

Pyrene and Phenol were flagged below control limits in the MS/MSD. These analytes were not detected in the associated samples. There is no effect on the data.

Refer to Laboratory Control Sample(s) for system verification.

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

776 404

Client Name Sverdrup
Project Name DDMT-Dunn Field
ETC Order# 0003-418
Method (SW-846) 8270C/3510C

CALIBRATION

DFTPP Daily 12-Hour Tune All criteria met. FORM 5
Initial Calibration All criteria met. FORM 6
Calibration Verification All criteria met. FORM 7, except as listed below.

Calibration Verification (CV): Date 03/23/00 Time: 0934

Analyte	%Diff(30% Max)	Response
Benzidine	+43.8	High
Carbazole	+47.0	High
Di-n-Butylphthalate	+48.2	High
3,3'-Dimethylbenzidine	+62.5	High
Hexachlorocyclopentadiene	+40.8	High
4-Nitrophenol	+37.8	High

Samples affected by this CV include P05311LB, samples 0003-418-01, and 0003-418-02. High responses indicate that reported levels for these analytes may be biased high. These analytes were not identified in associated project samples. There is no effect on the data.

Calibration Verification (CV): Date 03/24/00 Time: 1411

Analyte	%Diff(30% Max)	Response
Benzoic Acid	-37.4	Low
Carbazole	+47.6	High
Di-n-Butylphthalate	+49.1	High
Hexachlorocyclopentadiene	+45.5	High
4-Nitrophenol	+30.6	High

Sample affected by this CV includes P05311LCS. High responses indicate that reported levels for these analytes may be biased high. The high responses may account for the high LCS recovery. Low response indicates that reported levels for Benzoic Acid may be biased low. The low response may account for the low LCS recovery.

Semi-Volatile Internal Standard Area and RT FORM 8

Daily Check Standard(s) Internal Standard Areas and Retention Times within QC limits.

SAMPLE ANALYSIS

Instrumentation HP 5890 Series II GC, 5971MSD
Dilutions Required No dilutions required.

CE's
Project Manager

000007

ANALYTICAL SUMMARY TABLE

Client Name Sverdrup Corporation
 Site ID DDMT-Dunn Field
 Memphis, TN

ETC Sample ID	Field ID	Matrix	Method	Method Description
000341801	ST-EFF-022	AQUEOUS	200.7	Silver
000341801	ST-EFF-022	AQUEOUS	200.7	Aluminum
000341801	ST-EFF-022	AQUEOUS	206.2	Arsenic
000341801	ST-EFF-022	AQUEOUS	8270C	GC/MS Base/Neutral & Acid
000341801	ST-EFF-022	AQUEOUS	200.7	Barium
000341801	ST-EFF-022	AQUEOUS	200.7	Beryllium
000341801	ST-EFF-022	AQUEOUS	200.7	Calcium
000341801	ST-EFF-022	AQUEOUS	200.7	Cadmium
000341801	ST-EFF-022	AQUEOUS	200.7	Cobalt
000341801	ST-EFF-022	AQUEOUS	200.7	Chromium
000341801	ST-EFF-022	AQUEOUS	200.7	Copper
000341801	ST-EFF-022	AQUEOUS	200.7	Iron
000341801	ST-EFF-022	AQUEOUS	245.1	Mercury
000341801	ST-EFF-022	AQUEOUS	200.7	Potassium
000341801	ST-EFF-022	AQUEOUS	200.7	Magnesium
000341801	ST-EFF-022	AQUEOUS	200.7	Manganese
000341801	ST-EFF-022	AQUEOUS	200.7	Sodium
000341801	ST-EFF-022	AQUEOUS	200.7	Nickel
000341801	ST-EFF-022	AQUEOUS	200.7	Lead
000341801	ST-EFF-022	AQUEOUS	150.1	pH
000341801	ST-EFF-022	AQUEOUS	200.7	Antimony
000341801	ST-EFF-022	AQUEOUS	200.7	Selenium
000341801	ST-EFF-022	AQUEOUS	200.7	Thallium
000341801	ST-EFF-022	AQUEOUS	8260B	GC/MS Volatile Organics
000341801	ST-EFF-022	AQUEOUS	200.7	Vanadium
000341801	ST-EFF-022	AQUEOUS	200.7	Zinc
000341802	EQB-022	AQUEOUS	200.7	Silver
000341802	EQB-022	AQUEOUS	200.7	Aluminum
000341802	EQB-022	AQUEOUS	206.2	Arsenic
000341802	EQB-022	AQUEOUS	8270C	GC/MS Base/Neutral & Acid
000341802	EQB-022	AQUEOUS	200.7	Barium
000341802	EQB-022	AQUEOUS	200.7	Beryllium
000341802	EQB-022	AQUEOUS	200.7	Calcium
000341802	EQB-022	AQUEOUS	200.7	Cadmium
000341802	EQB-022	AQUEOUS	200.7	Cobalt
000341802	EQB-022	AQUEOUS	200.7	Chromium
000341802	EQB-022	AQUEOUS	200.7	Copper
000341802	EQB-022	AQUEOUS	200.7	Iron
000341802	EQB-022	AQUEOUS	245.1	Mercury
000341802	EQB-022	AQUEOUS	200.7	Potassium
000341802	EQB-022	AQUEOUS	200.7	Magnesium
000341802	EQB-022	AQUEOUS	200.7	Manganese
000341802	EQB-022	AQUEOUS	200.7	Sodium
000341802	EQB-022	AQUEOUS	200.7	Nickel
000341802	EQB-022	AQUEOUS	200.7	Lead
000341802	EQB-022	AQUEOUS	150.1	pH
000341802	EQB-022	AQUEOUS	200.7	Antimony
000341802	EQB-022	AQUEOUS	200.7	Selenium
000341802	EQB-022	AQUEOUS	200.7	Thallium
000341802	EQB-022	AQUEOUS	8260B	GC/MS Volatile Organics
000341802	EQB-022	AQUEOUS	200.7	Vanadium
000341802	EQB-022	AQUEOUS	200.7	Zinc
000341803	Trip Blank	AQUEOUS	8260B	GC/MS Volatile Organics

Environmental Testing & Consulting, Inc.

Sample Reports

776 407

ENVIRONMENTAL TESTING & CONSULTING, INC.
2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750
INORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370

Site ID DDMT-Dunn Field
Memphis, TN

Date Arrived 03/15/00
ETC Order Number 0003418

ETC Lab ID 0003418-01
Sample ID: ST-EFF-022

Matrix :AQUEOUS
Sample Date :03/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED BY	METHOD
pH	6.1	SU		1540	03/15/00 RB	150.1

PEY
LABORATORY MANAGER

000010

776 408

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

INORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived 03/15/00

ETC Order Number 0003418

ETC Lab ID 0003418-02

Sample ID: EQB-022

Matrix :AQUEOUS

Sample Date :03/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED BY	METHOD
pH	5.8	SU		1540	03/15/00 RB	150.1

CP S
LABORATORY MANAGER

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776 409

ENVIRONMENTAL TESTING & CONSULTING, INC.
 2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750
INORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived 03/15/00
 ETC Order Number 0003418

ETC Lab ID 0003418-01
Sample ID: ST-EFF-022

Matrix :AQUEOUS
 Sample Date :03/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED BY	METHOD
Mercury Digestion Batch	V6-AQ-43					
Metals Digestion Batch	V19-AQ-46					SH 245.1
Silver	<0.009	mg/L	0.009	1259	03/21/00	NR 3030K
Aluminum	<0.060	mg/L	0.060	1259	03/21/00	SH 200.7
Arsenic	<0.003	mg/L	0.003	0511	03/20/00	JF 206.2
Barium	0.106	mg/L	0.003	1259	03/21/00	SH 200.7
Beryllium	<0.002	mg/L	0.002	1259	03/21/00	SH 200.7
Calcium	21.9 B	mg/L	0.015	1259	03/21/00	SH 200.7
Cadmium	<0.005	mg/L	0.005	1259	03/21/00	SH 200.7
Cobalt	<0.009	mg/L	0.009	1259	03/21/00	SH 200.7
Chromium	<0.009	mg/L	0.009	1259	03/21/00	SH 200.7
Copper	<0.008	mg/L	0.008	1259	03/21/00	SH 200.7
Iron	0.155 J*	mg/L	0.009	1259	03/21/00	SH 200.7
Mercury	<0.0002	mg/L	0.0002	0945	03/22/00	SH 245.1
Potassium	0.852	mg/L	0.250	1259	03/21/00	SH 200.7
Magnesium	11.2	mg/L	0.040	1259	03/21/00	SH 200.7
Manganese	0.015	mg/L	0.003	1259	03/21/00	SH 200.7
Sodium	24.6	mg/L	0.050	1259	03/21/00	SH 200.7
Nickel	<0.020	mg/L	0.020	1259	03/21/00	SH 200.7
Lead	<0.060	mg/L	0.060	1259	03/21/00	SH 200.7
Antimony	<0.040	mg/L	0.040	1259	03/21/00	SH 200.7
Selenium	<0.100	mg/L	0.100	1259	03/21/00	SH 200.7
Thallium	<0.065	mg/L	0.065	1259	03/21/00	SH 200.7
Vanadium	<0.010	mg/L	0.010	1259	03/21/00	SH 200.7
Zinc	0.040	mg/L	0.010	1259	03/21/00	SH 200.7

PES
 LABORATORY MANAGER

000012

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

INORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived 03/15/00

ETC Order Number 0003418

ETC Lab ID 0003418-02

Sample ID: EQB-022

Matrix :AQUEOUS

Sample Date :03/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED BY	METHOD
Mercury Digestion Batch	V6-AQ-43					SH 245.1
Metals Digestion Batch	V19-AQ-46					NR 3030K
Silver	<0.009	mg/L	0.009	1259	03/21/00	SH 200.7
Aluminum	<0.060	mg/L	0.060	1259	03/21/00	SH 200.7
Arsenic	<0.003	mg/L	0.003	0511	03/20/00	JF 206.2
Barium	0.104	mg/L	0.003	1259	03/21/00	SH 200.7
Beryllium	<0.002	mg/L	0.002	1259	03/21/00	SH 200.7
Bismuth	21.8B	mg/L	0.015	1259	03/21/00	SH 200.7
Cadmium	<0.005	mg/L	0.005	1259	03/21/00	SH 200.7
Cobalt	<0.009	mg/L	0.009	1259	03/21/00	SH 200.7
Chromium	<0.009	mg/L	0.009	1259	03/21/00	SH 200.7
Copper	<0.008	mg/L	0.008	1259	03/21/00	SH 200.7
Cron	0.029J*	mg/L	0.009	1259	03/21/00	SH 200.7
Mercury	<0.0002	mg/L	0.0002	0945	03/22/00	SH 245.1
Potassium	0.809	mg/L	0.250	1259	03/21/00	SH 200.7
Magnesium	11.0	mg/L	0.040	1259	03/21/00	SH 200.7
Manganese	0.015	mg/L	0.003	1259	03/21/00	SH 200.7
Sodium	23.5	mg/L	0.050	1259	03/21/00	SH 200.7
Nickel	<0.020	mg/L	0.020	1259	03/21/00	SH 200.7
Lead	<0.060	mg/L	0.060	1259	03/21/00	SH 200.7
Vanadium	<0.040	mg/L	0.040	1259	03/21/00	SH 200.7
Zinc	<0.100	mg/L	0.100	1259	03/21/00	SH 200.7
Barium	<0.065	mg/L	0.065	1259	03/21/00	SH 200.7
Sodium	<0.010	mg/L	0.010	1259	03/21/00	SH 200.7
Copper	0.043	mg/L	0.010	1259	03/21/00	SH 200.7

776 411

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # **801370**
 FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived **03/15/00**
 ETC Order Number **0003418**

ETC Lab ID **0003418-01**
Sample ID: ST-EFF-022

Matrix : **AQUEOUS**
 Sample Date : **03/15/00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					03/17/00	LS	8260B
QC Batch	V1031701	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	1.56	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	7.76	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	12.8	ug/L	1.00				
trans-1,2-Dichloroethene	13.2	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	47.5	ug/L	1.00				
Tetrachloroethene	17.2	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	0.52J	ug/L	1.00				
1,1,2-Trichloroethane	0.66J★	ug/L	1.00				
Trichloroethene	115	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	42.6	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	106	74	123
S2 - Toluene-d8	104	86	112
S3 - 4-Bromofluorobenzene	108	81	115

LABORATORY MANAGER

ND - Not Detected

000014

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 412

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID DDMT-Dunn Field
Memphis, TN

Date Arrived 03/15/00
ETC Order Number 0003418

ETC Lab ID 0003418-02
Sample ID: EQB-022

Matrix :AQUEOUS
Sample Date :03/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V1031701	ug/L			03/17/00	LS	
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	1.50	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	8.36	ug/L	1.00				
Chloromethane	ND	ug/L	1.00				
1,1-Dichloroethane	0.52J	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	13.5	ug/L	1.00				
trans-1,2-Dichloroethene	13.4	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	51.7	ug/L	1.00				
Tetrachloroethene	18.0	ug/L	1.00				
Toluene	1.53J	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	0.97J*	ug/L	1.00				
Trichloroethene	121	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	43.1	ug/L	1.00				

Reference Standard	% Recovery	QC Limits	
1 - Dibromofluoromethane	106	74	123
32 - Toluene-d8	101	86	112
33 - 4-Bromofluorobenzene	105	81	115

LABORATORY MANAGER

ND - Not Detected

000015

776 413

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived 03/15/00
 ETC Order Number 0003418

ETC Lab ID 0003418-03
Sample ID: Trip Blank

Matrix :AQUEOUS
 Sample Date :03/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V1031701	ug/L			03/17/00	LS	
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				
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				
2-Butanone (MEK)	ND	ug/L	20.0				
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	1.25	ug/L	1.00				
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				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	106	74	123
S2 - Toluene-d8	104	86	112
S3 - 4-Bromofluorobenzene	108	81	115

C b S

LABORATORY MANAGER

ND - Not Detected

000016

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 414

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # **801370**
 FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived **03/15/00**
 ETC Order Number **0003418**

ETC Lab ID **0003418-03**
Sample ID: Trip Blank

Matrix : **AQUEOUS**
 Sample Date : **03/15/00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					03/17/00	LS	8260B
QC Batch	V1031701	ug/L					
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				
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				
2-Butanone (MEK)	ND	ug/L	20.0				
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	1.25	ug/L	1.00				
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				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	106	74 123
S2 - Toluene-d8	104	86 112
S3 - 4-Bromofluorobenzene	108	81 115

LABORATORY MANAGER

ND - Not Detected

000016

776 415

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived 03/15/00
 ETC Order Number 0003418

ETC Lab ID 0003418-01
Sample ID: ST-EFF-022

Matrix :AQUEOUS
 Sample Date :03/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Base/Neutral & Acid				03/15/00	03/23/00	PF	8270C
QC Batch	P05311	ug/L					
Acenaphthene	ND	ug/L	2.00				
Acenaphthylene	ND	ug/L	2.00				
Anthracene	ND	ug/L	2.00				
Benzo(a)anthracene	ND	ug/L	2.00				
Benzo(b)fluoranthene	ND	ug/L	2.00				
Benzo(k)fluoranthene	ND	ug/L	2.00				
Benzo(g,h,i)perylene	ND	ug/L	2.00				
Benzo(a)pyrene	ND	ug/L	2.00				
Benzoic Acid	ND	ug/L	50.0				
Benzyl Alcohol	ND	ug/L	10.0				
Bis(2-chloroethoxy)methane	ND	ug/L	5.00				
Bis(2-chloroethyl)ether	ND	ug/L	5.00				
Bis(2-chloroisopropyl)ether	ND	ug/L	5.00				
Bis(2-ethylhexyl)phthalate	ND	ug/L	10.0				
4-Bromophenyl phenyl ether	ND	ug/L	5.00				
Butyl benzyl phthalate	ND	ug/L	5.00				
4-Chloroaniline	ND	ug/L	5.00				
2-Chloronaphthalene	ND	ug/L	5.00				
4-Chloro-3-methylphenol	ND	ug/L	5.00				
2-Chlorophenol	ND	ug/L	5.00				
4-Chlorophenyl phenyl ether	ND	ug/L	5.00				
Chrysene	ND	ug/L	2.00				
Dibenzo(a,h)anthracene	ND	ug/L	2.00				
Dibenzofuran	ND	ug/L	5.00				
Di-n-butyl phthalate	ND	ug/L	5.00				
1,2-Dichlorobenzene	ND	ug/L	5.00				
1,3-Dichlorobenzene	ND	ug/L	5.00				
1,4-Dichlorobenzene	ND	ug/L	5.00				
3,3'-Dichlorobenzidine	ND	ug/L	10.0				
2,4-Dichlorophenol	ND	ug/L	5.00				
2,6-Dichlorophenol	ND	ug/L	5.00				
Diethyl phthalate	ND	ug/L	5.00				
2,4-Dimethylphenol	ND	ug/L	5.00				
Dimethyl phthalate	ND	ug/L	5.00				
4,6-Dinitro-2-methylphenol	ND	ug/L	10.0				
2,4-Dinitrophenol	ND	ug/L	50.0				
2,4-Dinitrotoluene	ND	ug/L	5.00				
2,6-Dinitrotoluene	ND	ug/L	5.00				
Di-n-octyl phthalate	ND	ug/L	5.00				
Fluoranthene	ND	ug/L	2.00				
Fluorene	ND	ug/L	2.00				
Hexachlorobenzene	ND	ug/L	5.00				

PDS

LABORATORY MANAGER

ND - Not Detected

J00017

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 416

ent Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived 03/15/00
ETC Order Number 0003418

ETC Lab ID 0003418-01
Sample ID: ST-EFF-022

Matrix :AQUEOUS
Sample Date :03/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Base/Neutral & Acid				03/15/00	03/23/00	PF	8270C
Hexachlorobutadiene	ND	ug/L	5.00				
Hexachlorocyclopentadiene	ND	ug/L	5.00				
Hexachloroethane	ND	ug/L	5.00				
Indeno (1,2,3-cd) pyrene	ND	ug/L	2.00				
Isophorone	ND	ug/L	5.00				
2-Methylnaphthalene	ND	ug/L	2.00				
2-Methylphenol (o-cresol)	ND	ug/L	5.00				
3-Methylphenol (m-cresol)	ND	ug/L	5.00				
4-Methylphenol (p-cresol)	ND	ug/L	5.00				
1,2,3,4-Tetrahydronaphthalene	ND	ug/L	2.00				
Nitrobenzene	ND	ug/L	5.00				
2-Nitroaniline	ND	ug/L	5.00				
3-Nitroaniline	ND	ug/L	10.0				
4-Nitroaniline	ND	ug/L	5.00				
2-Nitrophenol	ND	ug/L	5.00				
4-Nitrophenol	ND	ug/L	5.00				
N-Nitrosodiphenylamine	ND	ug/L	5.00				
N-Nitrosodipropylamine	ND	ug/L	5.00				
Pentachlorophenol	ND	ug/L	10.0				
Phenanthrene	ND	ug/L	2.00				
Phenol	ND	ug/L	5.00				
Pyrene	ND	ug/L	2.00				
1,2,4-Trichlorobenzene	ND	ug/L	5.00				
2,4,5-Trichlorophenol	ND	ug/L	5.00				
2,4,6-Trichlorophenol	ND	ug/L	5.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Nitrobenzene-d5	86	29	110
S2 - 2-Fluorobiphenyl	91	38	107
S3 - 4-Terphenyl-d14	64	33	122
S4 - Phenol-d6	36	7	58
S5 - 2,4,6-Tribromophenol	94	16	138
S6 - 2-Fluorophenol	49	8	88

776 417

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

CLIENT SAMPLE NO.

0003-418-1

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0003-418

Matrix: (soil/water) WATER

Lab Sample ID:

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: 0901010

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: 1 (mL)

Date Analyzed: 03/23/00

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 127-18-4	TETRACHLOROETHYLENE	3.70	7.92	NJ
2. 19780-68-8	3-ETHYL-4-METHYL-2-PENTENE	4.29	6.50	NJ
3. 79-34-5	ETHANE, 1,1,2,2-TETRACHLORO-	4.56	35.58	NJ
4. 584-94-1	HEXANE, 2,3-DIMETHYL-	4.62	7.48	NJ
5. 4291-79-6	CYCLOHEXANE, 1-METHYL-2-PROP	4.74	17.06	NJ
6.				
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8.				
9.				
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29.				
30.				

FORM I BNA-GCMS-TIC

000019

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 418

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # **801370**
FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived **03/15/00**
ETC Order Number **0003418**

ETC Lab ID **0003418-02**
Sample ID: EQB-022

Matrix : **AQUEOUS**
Sample Date : **03/15/00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Base/Neutral & Acid				03/15/00	03/23/00	PF	8270C
QC Batch	P05311	ug/L					
Acenaphthene	ND	ug/L	2.00				
Acenaphthylene	ND	ug/L	2.00				
Anthracene	ND	ug/L	2.00				
Benzo(a)anthracene	ND	ug/L	2.00				
Benzo(b)fluoranthene	ND	ug/L	2.00				
Benzo(k)fluoranthene	ND	ug/L	2.00				
Benzo(g,h,i)perylene	ND	ug/L	2.00				
Benzo(a)pyrene	ND	ug/L	2.00				
Benzoic Acid	ND	ug/L	50.0				
Benzyl Alcohol	ND	ug/L	10.0				
Bis(2-chloroethoxy)methane	ND	ug/L	5.00				
Bis(2-chloroethyl)ether	ND	ug/L	5.00				
Bis(2-chloroisopropyl)ether	ND	ug/L	5.00				
Bis(2-ethylhexyl)phthalate	ND	ug/L	10.0				
4-Bromophenyl phenyl ether	ND	ug/L	5.00				
Butyl benzyl phthalate	ND	ug/L	5.00				
4-Chloroaniline	ND	ug/L	5.00				
2-Chloronaphthalene	ND	ug/L	5.00				
4-Chloro-3-methylphenol	ND	ug/L	5.00				
2-Chlorophenol	ND	ug/L	5.00				
4-Chlorophenyl phenyl ether	ND	ug/L	5.00				
Chrysene	ND	ug/L	2.00				
Dibenzo(a,h)anthracene	ND	ug/L	2.00				
Dibenzofuran	ND	ug/L	5.00				
Di-n-butyl phthalate	ND	ug/L	5.00				
1,2-Dichlorobenzene	ND	ug/L	5.00				
1,3-Dichlorobenzene	ND	ug/L	5.00				
1,4-Dichlorobenzene	ND	ug/L	5.00				
3,3'-Dichlorobenzidine	ND	ug/L	10.0				
2,4-Dichlorophenol	ND	ug/L	5.00				
2,6-Dichlorophenol	ND	ug/L	5.00				
Diethyl phthalate	ND	ug/L	5.00				
2,4-Dimethylphenol	ND	ug/L	5.00				
Dimethyl phthalate	ND	ug/L	5.00				
4,6-Dinitro-2-methylphenol	ND	ug/L	10.0				
2,4-Dinitrophenol	ND	ug/L	50.0				
2,4-Dinitrotoluene	ND	ug/L	5.00				
2,6-Dinitrotoluene	ND	ug/L	5.00				
Di-n-octyl phthalate	ND	ug/L	5.00				
Fluoranthene	ND	ug/L	2.00				
Fluorene	ND	ug/L	2.00				
Hexachlorobenzene	ND	ug/L	5.00				

LABORATORY MANAGER

ND - Not Detected

000020

776 419

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived 03/15/00
 ETC Order Number 0003418

ETC Lab ID 0003418-02
Sample ID: EQB-022

Matrix :AQUEOUS
 Sample Date :03/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Base/Neutral & Acid							8270C
Hexachlorobutadiene	ND	ug/L	5.00	03/15/00	03/23/00	PF	
Hexachlorocyclopentadiene	ND	ug/L	5.00				
Hexachloroethane	ND	ug/L	5.00				
Indeno (1,2,3-cd) pyrene	ND	ug/L	2.00				
Isophorone	ND	ug/L	5.00				
2-Methylnaphthalene	ND	ug/L	2.00				
2-Methylphenol (o-cresol)	ND	ug/L	5.00				
3-Methylphenol (m-cresol)	ND	ug/L	5.00				
4-Methylphenol (p-cresol)	ND	ug/L	5.00				
Naphthalene	ND	ug/L	2.00				
Nitrobenzene	ND	ug/L	5.00				
2-Nitroaniline	ND	ug/L	5.00				
3-Nitroaniline	ND	ug/L	10.0				
4-Nitroaniline	ND	ug/L	5.00				
2-Nitrophenol	ND	ug/L	5.00				
4-Nitrophenol	ND	ug/L	5.00				
N-Nitrosodiphenylamine	ND	ug/L	5.00				
N-Nitrosodipropylamine	ND	ug/L	5.00				
Pentachlorophenol	ND	ug/L	10.0				
Phenanthrene	ND	ug/L	2.00				
Phenol	ND	ug/L	5.00				
Pyrene	ND	ug/L	2.00				
1,2,4-Trichlorobenzene	ND	ug/L	5.00				
2,4,5-Trichlorophenol	ND	ug/L	5.00				
2,4,6-Trichlorophenol	ND	ug/L	5.00				

Surrogate Standard	% Recovery	QC Limits
S1 - Nitrobenzene-d5	93	29 110
S2 - 2-Fluorobiphenyl	100	38 107
S3 - 4-Terphenyl-d14	66	33 122
S4 - Phenol-d6	39	7 58
S5 - 2,4,6-Tribromophenol	96	16 138
S6 - 2-Fluorophenol	54	8 88

000021

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

776 420

CLIENT SAMPLE NO.

0003-418-2

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0003-418

Matrix: (soil/water) WATER

Lab Sample ID:

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: 1201013

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: 1(mL)

Date Analyzed: 03/23/00

Injection Volume: 1.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 127-18-4	TETRACHLOROETHYLENE	3.71	7.10	NJ
2. 19780-68-8	3-ETHYL-4-METHYL-2-PENTENE	4.30	7.10	NJ
3. 79-34-5	ETHANE, 1,1,2,2-TETRACHLORO-	4.56	38.11	NJ
4. 18450-73-2	1-HEPTANOL, 2,4-DIMETHYL-, (	4.63	7.93	NJ
5. 4291-79-6	CYCLOHEXANE, 1-METHYL-2-PROP	4.74	16.01	NJ
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776 421

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level III
Metals (ICP/GFAA/CV)**

000023

WATER METHOD BLANK
METALS

Lab Name Environmental Testing and Consulting, Inc

Laboratory ID ICP/GFAA Metals V19-AQ-46 BLK QC Batch V19-AQ-46
Laboratory ID Mercury V6-AQ-43 BLK V6-AQ-43

Date Sample Prepared 03/17/00 ICP/GFAA Metals
03/21/00 Mercury

Metals	Concentration mg/L	Detection Limit mg/L	Date Analyzed	Method
Silver	ND	0.009	03/21/00	200.7
Aluminum	ND	0.060	03/21/00	200.7
Arsenic	ND	0.003	03/20/00	206.2
Barium	ND	0.003	03/21/00	200.7
Beryllium	ND	0.002	03/21/00	200.7
Calcium	0.021	0.015	03/21/00	200.7
Cadmium	ND	0.005	03/21/00	200.7
Cobalt	ND	0.009	03/21/00	200.7
Chromium	ND	0.009	03/21/00	200.7
Copper	ND	0.008	03/21/00	200.7
Iron	ND	0.009	03/21/00	200.7
Potassium	ND	0.250	03/21/00	200.7
Magnesium	ND	0.040	03/21/00	200.7
Manganese	ND	0.003	03/21/00	200.7
Sodium	ND	0.050	03/21/00	200.7
Nickel	ND	0.020	03/21/00	200.7
Lead	ND	0.060	03/21/00	200.7
Antimony	ND	0.040	03/21/00	200.7
Selenium	ND	0.100	03/21/00	200.7
Thallium	ND	0.065	03/21/00	200.7
Vanadium	ND	0.010	03/21/00	200.7
Zinc	ND	0.010	03/21/00	200.7
Mercury	ND	0.0002	03/22/00	245.1

ND - Not Detected

QC Reviewed



776 423

WATER LABORATORY CONTROL SAMPLE METALS

Lab Name

Environmental Testing and Consulting, Inc

Laboratory Control ID

ICP/GFAA Metals V19-AQ-46 LCS

QC Batch

Mercury

V6-AQ-43 LCS

V19-AQ-46

V6-AQ-43

Date Prepared

ICP/GFAA Metals 03/17/00

Mercury

03/21/00

Metals	Spike Added mg/L	Found mg/L	% R	#	QC Limits
Silver	0.250	0.243	97	80	120
Aluminum	2.50	2.50	100	80	120
Arsenic	0.063	0.063	100	85	115
Barium	2.50	2.43	97	80	120
Beryllium	0.250	0.243	97	80	120
Calcium	5.00	5.11	102	80	120
Cadmium	0.250	0.255	102	80	120
Cobalt	1.25	1.25	100	80	120
Chromium	0.500	0.499	100	80	120
Copper	0.500	0.502	100	80	120
Iron	2.50	2.61	104	80	120
Potassium	5.00	5.24	105	80	120
Magnesium	5.00	5.04	101	80	120
Manganese	0.250	0.243	97	80	120
Sodium	5.00	5.33	107	80	120
Nickel	1.25	1.26	101	80	120
Lead	1.25	1.27	102	80	120
Antimony	2.50	2.55	102	80	120
Selenium	1.25	1.29	103	80	120
Thallium	1.25	1.16	93	80	120
Vanadium	1.25	1.23	98	80	120
Zinc	0.250	0.261	104	80	120
Mercury	0.0050	0.0043	86	80	120

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

QC Reviewed



WATER MATRIX SPIKE
METALS

Lab Name Environmental Testing and Consulting, Inc

Laboratory ID MS ICP/GFAA Metals	0003-418-01	QC Batch V19-AQ-46
Laboratory ID MS Mercury	0003-418-01	V6-AQ-43

Date Sample Prepared	<u>03/17/00</u>	ICP/GFAA Metals
	<u>03/21/00</u>	Mercury

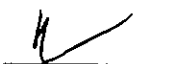
Metals	SPIKE Added mg/L	SAMPLE Conc mg/L	MS Conc mg/L	RPD <20% #	MS % Rec #	QC Limits	
Silver	0.250	ND	0.238	9	95	75	125
Aluminum	2.50	ND	2.49	1	100	75	125
Arsenic	0.063	ND	0.069	3	110	85	115
Barium	2.50	0.106	2.52	1	97	75	125
Beryllium	0.250	ND	0.244	1	98	75	125
Calcium	5.00	21.9	26.7	1	96	75	125
Cadmium	0.250	ND	0.256	1	102	75	125
Cobalt	1.25	ND	1.24	1	99	75	125
Chromium	0.500	ND	0.500	0	100	75	125
Copper	0.500	ND	0.503	0	101	75	125
Iron	2.50	0.155	2.65	0	100	75	125
Potassium	5.00	0.852	5.99	3	103	75	125
Magnesium	5.00	11.2	16.0	1	96	75	125
Manganese	0.250	0.015	0.257	1	97	75	125
Sodium	5.00	24.6	28.5	1	78	75	125
Nickel	1.25	ND	1.26	0	101	75	125
Lead	1.250	ND	1.21	4	97	75	125
Antimony	2.50	ND	2.56	3	102	75	125
Selenium	1.25	ND	1.31	1	105	75	125
Thallium	1.25	ND	1.13	5	90	75	125
Vanadium	1.25	ND	1.22	1	98	75	125
Zinc	0.250	0.040	0.297	0	103	75	125
Mercury	0.0050	ND	0.0042	2	84	75	125

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

ND - Not Detected

QC Reviewed



WATER MATRIX SPIKE DUPLICATE METALS

Lab Name Environmental Testing and Consulting, Inc

Laboratory ID MS ICP/GFAA Metals 0003-418-01 QC Batch V19-AQ-46
Laboratory ID MS Mercury 0003-418-01 V6-AQ-43

Date Sample Prepared 03/17/00 ICP/GFAA Metals
03/21/00 Mercury

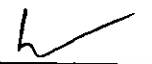
Metals	SPIKE Added mg/L	SAMPLE Conc mg/L	MSD Conc mg/L		MSD % Rec #	QC Limits	
Silver	0.250	ND	0.217		87	75	125
Aluminum	2.50	ND	2.52		101	75	125
Arsenic	0.063	ND	0.071		113	85	115
Barium	2.50	0.106	2.54		97	75	125
Beryllium	0.250	ND	0.247		99	75	125
Calcium	5.00	21.9	26.9		100	75	125
Cadmium	0.250	ND	0.258		103	75	125
Cobalt	1.25	ND	1.25		100	75	125
Chromium	0.500	ND	0.499		100	75	125
Copper	0.500	ND	0.501		100	75	125
Iron	2.50	0.155	2.66		100	75	125
Potassium	5.00	0.852	5.82		99	75	125
Magnesium	5.00	11.2	16.1		98	75	125
Manganese	0.250	0.015	0.260		98	75	125
Sodium	5.00	24.6	28.1		70 *	75	125
Nickel	1.25	ND	1.26		101	75	125
Lead	1.25	ND	1.26		101	75	125
Antimony	2.50	ND	2.63		105	75	125
Selenium	1.25	ND	1.32		106	75	125
Thallium	1.25	ND	1.19		95	75	125
Vanadium	1.25	ND	1.23		98	75	125
Zinc	0.250	0.040	0.298		103	75	125
Mercury	0.0050	ND	0.0043		86	75	125

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

ND - Not Detected

QC Reviewed



000027

Environmental Testing & Consulting, Inc.

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

FORM 2
WATER VOA-GCMS SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0003-418

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER	TOT OUT
	=====	=====	=====	=====	=====	=====
01	V1031711LCS	104	102	100		0
02	V1031711LB	104	106	103		0
03	0003-418-3	106	104	108		0
04	0003-418-1	106	104	108		0
05	0003-418-2	106	101	105		0
06	0003-418-1MS	108	108	103		0
07	0003-418-1MS	100	107	104		0
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QC LIMITS

SMC1 = Dibromofluoromethane (74-123)

SMC2 (TOL) = Toluene-d8 (86-112)

SMC3 (BFB) = Bromofluorobenzene (81-115)

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

776 428

CLIENT SAMPLE NO.

V1031711LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0003-418

Lab File ID: 0302005

Lab Prep Batch: V1031701

Date Analyzed: 03/17/00

Time Analyzed: 1651

GC Column: ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC1

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

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	V1031711LCS	V1031701	0201003LCS	1511
02	0003-418-3	V1031701	0401006	1735
03	0003-418-1	V1031701	0501007	1817
04	0003-418-2	V1031701	0601008	1900
05	0003-418-1MS	V1031701	1501017	0121
06	0003-418-1MS	V1031701	1601018	0203
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COMMENTS:

776 429

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V1031711LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0003-418

Matrix: (soil/water) WATER

Lab Prep Batch: V1031701

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

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 03/17/00

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	50.00	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
74-83-9-----	Bromomethane	1.00	U
78-93-3-----	2-Butanone	20.00	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	5.00	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	5.00	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

000031

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

776 430

CLIENT SAMPLE NO.

V1031711LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0003-418

Matrix: (soil/water) WATER

Lab Prep Batch: V1031701

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

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 03/17/00

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

110-57-6-----	trans-1,4-Dichloro-2-butene	1.00	U
75-71-8-----	-Dichlorodifluoromethane	1.00	U
75-34-3-----	1,1-Dichloroethane	1.00	U
107-06-2-----	1,2-Dichloroethane	1.00	U
75-35-4-----	1,1-Dichloroethene	1.00	U
156-59-2-----	cis-1,2-Dichloroethene	1.00	U
156-60-5-----	trans-1,2-Dichloroethene	1.00	U
78-87-5-----	1,2-Dichloropropane	1.00	U
142-28-9-----	1,3-Dichloropropane	1.00	U
594-20-7-----	2,2-Dichloropropane	1.00	U
563-58-6-----	1,1-Dichloropropene	1.00	U
10061-01-5-----	cis-1,3-Dichloropropene	1.00	U
10061-02-6-----	trans-1,3-Dichloropropene	1.00	U
108-20-3-----	Di isopropyl ether	5.00	U
123-91-1-----	1,4-Dioxane	100.0	U
141-78-6-----	Ethyl Acetate	10.00	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	20.00	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	1.00	U
80-62-6-----	Methyl methacrylate	2.00	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
76-01-7-----	Pentachloroethane	1.00	U

776 431

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V1031711LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0003-418

Matrix: (soil/water) WATER

Lab Prep Batch: V1031701

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

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 03/17/00

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.

COMPOUND

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

Q

107-12-0-----	Propionitrile	10.00	U
109-60-4-----	n-Propyl Acetate	1.00	U
103-65-1-----	n-Propylbenzene	1.00	U
100-42-5-----	Styrene	1.00	U
630-20-6-----	1,1,1,2-Tetrachloroethane	1.00	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1.00	U
127-18-4-----	Tetrachloroethene	1.00	U
109-99-9-----	Tetrahydrofuran	20.00	U
108-88-3-----	Toluene	1.00	U
87-61-6-----	1,2,3-Trichlorobenzene	1.00	U
120-82-1-----	1,2,4-Trichlorobenzene	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
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	2.00	U
95-47-6-----	Xylene-o	1.00	U

FORM I VOA-GCMS

000033

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

776 432

CLIENT SAMPLE NO.

V1031711LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0003-418

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0302005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 03/17/00

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. _____	_____	_____	_____	_____

776 433

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V1031701

Lab Code:

Case No.:

SAS No.:

SDG No.: 0003-418

Matrix Spike - Sample No.: V1031711LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acetone	100.0		84.20	84	59-151
Acetonitrile	1000		899.2	90	57-143
Acrolein	100.0		67.88	68	59-134
Acrylonitrile	100.0		87.90	88	60-146
Allyl chloride	100.0		110.5	110	74-120
Benzene	100.0		93.34	93	72-124
Bromobenzene	100.0		112.6	113	77-120
Bromochloromethane	100.0		93.34	93	74-120
Bromodichloromethane	100.0		99.47	99	68-119
Bromoform	100.0		105.1	105	66-136
Bromomethane	100.0		115.9	116	40-134
2-Butanone	100.0		122.3	122	55-151
n-Butylbenzene	100.0		128.6	129	69-129
sec-Butylbenzene	100.0		107.7	108	72-127
tert-Butylbenzene	100.0		110.8	111	73-126
Carbon Disulfide	100.0		101.4	101	60-133
Carbon Tetrachloride	100.0		102.3	102	64-123
Chlorobenzene	100.0		106.8	107	77-112
Chlorodibromomethane	100.0		112.0	112	72-118
Chloroethane	100.0		117.5	118	64-142
2-Chloroethyl vinyl Eth	100.0		97.87	98	22-165
Chloroform	100.0		103.1	103	70-115
Chloromethane	100.0		117.8	118	58-139
Chloroprene	100.0		115.4	115	73-118
2-Chlorotoluene	100.0		115.3	115	65-132
4-Chlorotoluene	100.0		112.8	113	67-127
1,2-Dibromo-3-chloropro	100.0		119.1	119	56-134
1,2-Dibromoethane	100.0		96.21	96	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

776 434

Lab Name: ETC, INC.

Lab Prep Batch: V1031701

Lab Code:

Case No.:

SAS No.:

SDG No.: 0003-418

Matrix Spike - Sample No.: V1031711LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Dibromomethane	100.0		92.50	92	75-114
1,2-Dichlorobenzene	100.0		124.7	125*	80-113
1,3-Dichlorobenzene	100.0		125.7	126*	77-119
1,4-Dichlorobenzene	100.0		120.1	120*	78-116
cis-1,4-Dichloro-2-bute	100.0		109.6	110	62-138
trans-1,4-Dichloro-2-bu	100.0		112.0	112	62-138
Dichlorodifluoromethane	100.0		86.22	86	48-145
1,1-Dichloroethane	100.0		101.8	102	76-118
1,2-Dichloroethane	100.0		93.36	93	62-124
1,1-Dichloroethene	100.0		98.96	99	69-121
cis-1,2-Dichloroethene	100.0		97.59.	98	76-114
trans-1,2-Dichloroethen	100.0		107.8	108	72-121
1,2-Dichloropropane	100.0		97.87	98	64-133
1,3-Dichloropropane	100.0		99.62	100	68-128
2,2-Dichloropropane	100.0		104.0	104	67-132
1,1-Dichloropropene	100.0		96.70	97	76-117
cis-1,3-Dichloropropene	100.0		109.0	109	77-120
trans-1,3-Dichloroprope	100.0		98.21	98	73-124
Di isopropyl ether	100.0		110.7	111	62-160
1,4-Dioxane	2000		1543	77	56-131
Ethyl Acetate	100.0		83.18	83	52-151
Ethylbenzene	100.0		107.7	108	77-111
Ethyl methacrylate	200.0		177.2	89	57-140
Furan	100.0		113.7	114	52-124
Hexachlorobutadiene	100.0		128.6	129	69-137
Hexane	100.0		131.4	131*	70-130
2-Hexanone	100.0		86.94	87	53-144
Iodomethane	100.0		140.6	141	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: V1031701

Lab Code:

Case No.:

SAS No.:

SDG No.: 0003-418

Matrix Spike - Sample No.: V1031711LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Isobutyl Alcohol	2000		1455	73	60-134
Isopropylbenzene	100.0		113.3	113	74-125
4-Isopropyltoluene	100.0		111.2	111	72-127
Methacrylonitrile	1000		979.4	98	70-125
Methylene Chloride	100.0		107.8	108	76-115
Methyl methacrylate	200.0		170.4	85	57-147
4-Methyl-2-Pentanone	100.0		82.64	83	42-144
Methyl-tertbutyl-Ether	100.0		104.0	104	62-122
Naphthalene	100.0		113.2	113	53-124
Pentachloroethane	100.0		111.4	111	78-126
Propionitrile -	1000		827.8	83	58-139
n-Propyl Acetate	100.0		85.09	85*	88-170
n-Propylbenzene	100.0		111.2	111	75-125
Styrene	100.0		105.0	105	77-117
1,1,1,2-Tetrachloroetha	100.0		119.2	119*	79-113
1,1,2,2-Tetrachloroetha	100.0		111.3	111	67-126
Tetrachloroethene	100.0		113.7	114	77-115
Tetrahydrofuran	100.0		70.66	71*	76-181
Toluene	100.0		93.06	93	77-115
1,2,3-Trichlorobenzene	100.0		119.6	120	62-132
1,2,4-Trichlorobenzene	100.0		129.4	129	68-132
1,1,1-Trichloroethane	100.0		100.7	101	63-122
1,1,2-Trichloroethane	100.0		104.9	105	69-117
1,1,2-trichloro-1,2,2-t	100.0		118.0	118	70-130
Trichloroethene	100.0		101.7	102	75-113
Trichlorofluoromethane	100.0		107.8	108	55-130
1,2,3-Trichloropropane	100.0		107.6	108	62-130
1,2,4-Trimethylbenzene	100.0		109.3	109	69-126

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: V1031701

Lab Code:

Case No.:

SAS No.:

SDG No.: 0003-418

Matrix Spike - Sample No.: V1031711LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
1,3,5-Trimethylbenzene	100.0		110.1	110	69-128
Vinyl Acetate	100.0		103.3	103	28-146
Vinyl Chloride	100.0		103.8	104	65-134
Xylene-mp	200.0		219.4	110	77-115
Xylene-o	100.0		107.9	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: 7 out of 89 outside limits

COMMENTS:

776 437

FORM 3

WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC, INC.

Lab Prep Batch: V1031701

Lab Code:

Case No.:

SAS No.:

SDG No.: 0003-418

Matrix Spike - Sample No.: 0003-418-1

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Benzene	100.0	0.000	95.41	95	72-124
Chlorobenzene	100.0	0.000	108.5	108	77-112
1,1-Dichloroethene	100.0	12.78	97.09	84	69-121
Toluene	100.0	0.000	97.52	98	77-115
Trichloroethene	100.0	115.1	210.2	95	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
Benzene	100.0	91.66	92	3	20	72-124
Chlorobenzene	100.0	109.0	109	1	20	77-112
1,1-Dichloroethene	100.0	93.99	81	4	20	69-121
Toluene	100.0	96.07	96	2	20	77-115
Trichloroethene	100.0	206.2	91	4	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

000039

Environmental Testing & Consulting, Inc.

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

776 439

FORM 2
WATER BNA-GCMS SURROGATE RECOVERY

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0003-418

	CLIENT SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (TBP) #	S6 (2FP) #	S7 #	S8 #	TOT OUT
01	P05311LB	69	75	55	32	87	44			0
02	0003-418-1	86	91	64	36	94	49			0
03	0003-418-1MS	84	92	62	37	96	50			0
04	0003-418-1MS	88	99	70	39	100	53			0
05	0003-418-2	93	100	66	39	96	54			0
06	P05311LCS	75	91	65	32	89	49			0
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08										
09										
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30										

QC LIMITS

S1 (NBZ) = Nitrobenzene-d5 (29-110)
 S2 (FBP) = 2-Fluorobiphenyl (38-107)
 S3 (TPH) = Terphenyl-d14 (33-122)
 S4 (PHL) = Phenol-d6 (7- 58)
 S5 (TBP) = 2,4,6-Tribromophenol (16-138)
 S6 (2FP) = 2-Fluorophenol (8- 88)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D Surrogate diluted out

FORM 4
BNA-GCMS METHOD BLANK SUMMARY

776 440

CLIENT SAMPLE NO.

P05311LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0003-418

Lab File ID: 0301004

Lab Prep Batch: P05311

Instrument ID: BNA2

Date Extracted:

Matrix: (soil/water) WATER

Date Analyzed: 03/23/00

Level: (low/med) LOW

Time Analyzed: 1006

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

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	0003-418-1	P05311	0901010	03/23/00
02	0003-418-1MS	P05311	1001011	03/23/00
03	0003-418-1MS	P05311	1101012	03/23/00
04	0003-418-2	P05311	1201013	03/23/00
05	P05311LCS	P05311	0301003	03/24/00
06				
07				
08				
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COMMENTS:

776 441

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

P05311LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0003-418

Matrix: (soil/water) WATER

Lab Prep Batch: P05311

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: 0301004

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: 1 (mL)

Date Analyzed: 03/23/00

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

83-32-9-----	Acenaphthene	2.00	U
208-96-8-----	Acenaphthylene	2.00	U
98-86-2-----	Acetophenone	5.00	U
62-53-3-----	Aniline	5.00	U
120-12-7-----	Anthracene	2.00	U
92-87-5-----	Benzidine	20.00	U
56-55-3-----	Benz (a) Anthracene	2.00	U
205-99-2-----	Benzo (b) fluoranthene	2.00	U
207-08-9-----	Benzo (k) fluoranthene	2.00	U
191-24-2-----	Benzo (ghi) perylene	2.00	U
50-32-8-----	Benzo (a) pyrene	2.00	U
65-85-0-----	Benzoic acid	50.00	U
100-51-6-----	Benzyl alcohol	5.00	U
111-91-1-----	Bis (2-chloroethoxy) methane	5.00	U
111-44-4-----	Bis (2-chloroethyl) ether	5.00	U
108-60-1-----	Bis (2-chloroisopropyl) ether	5.00	U
117-81-7-----	Bis (2-ethylhexyl) phthalate	1.34	J
101-55-3-----	4-Bromophenyl phenyl ether	5.00	U
85-68-7-----	Butyl benzyl phthalate	5.00	U
86-74-8-----	Carbazole	2.00	U
106-47-8-----	4-Chloroaniline	5.00	U
510-15-6-----	Chlorobenzilate	5.00	U
59-50-7-----	4-Chloro-3-methylphenol	5.00	U
91-58-7-----	2-Chloronaphthalene	2.00	U
95-57-8-----	2-Chlorophenol	5.00	U
7005-72-3-----	4-Chlorophenyl phenyl ether	5.00	U
218-01-9-----	Chrysene	2.00	U
53-70-3-----	Dibenz (a, h) anthracene	6.96	
132-64-9-----	Dibenzofuran	5.00	U
84-74-2-----	Di-n-butyl phthalate	5.00	U
95-50-1-----	1,2-Dichlorobenzene	5.00	U
541-73-1-----	1,3-Dichlorobenzene	5.00	U
106-46-7-----	1,4-Dichlorobenzene	5.00	U

FORM I BNA-GCMS

000043

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET

776 442

CLIENT SAMPLE NO.

P05311LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0003-418

Matrix: (soil/water) WATER

Lab Prep Batch: P05311

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: 0301004

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: 1 (mL)

Date Analyzed: 03/23/00

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

91-94-1-----	3,3'-Dichlorobenzidine	10.00	U
120-83-2-----	2,4-Dichlorophenol	5.00	U
87-65-0-----	2,6-Dichlorophenol	5.00	U
84-66-2-----	Diethyl phthalate	5.00	U
119-93-7-----	3,3-Dimethylbenzidine	10.00	U
105-67-9-----	2,4-Dimethyphenol	5.00	U
131-11-3-----	Dimethyl phthalate	5.00	U
534-52-1-----	4,6-Dinitro-2-methylphenol	10.00	U
51-28-5-----	2,4-Dinitrophenol	20.00	U
121-14-2-----	2,4-Dinitrotoluene	5.00	U
606-20-2-----	2,6-Dinitrotoluene	5.00	U
122-39-4-----	N-NitrosdiphenylAm/Diphenylamin	5.00	U
117-84-0-----	Di-n-octyl phthalate	5.00	U
62-50-0-----	Ethyl methanesulfonate	5.00	U
206-44-0-----	Fluoranthene	2.00	U
86-73-7-----	Fluorene	2.00	U
118-74-1-----	Hexachlorobenzene	5.00	U
87-68-3-----	Hexachlorobutadiene	5.00	U
77-47-4-----	Hexachlorocyclopentadiene	5.00	U
67-72-1-----	Hexachloroethane	5.00	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	5.02	
78-59-1-----	Isophorone	5.00	U
66-27-3-----	Methyl methanesulfonate	5.00	U
91-57-6-----	2-Methylnaphthalene	2.00	U
95-48-7-----	2-Methylphenol	5.00	U
108-39-4-----	3&4-Methylphenol	5.00	U
91-20-3-----	Naphthalene	2.00	U
88-74-4-----	2-Nitroaniline	10.00	U
99-09-2-----	3-Nitroaniline	10.00	U
100-01-6-----	4-Nitroaniline	10.00	U
98-95-3-----	Nitrobenzene	5.00	U
88-75-5-----	2-Nitrophenol	10.00	U
100-02-7-----	4-Nitrophenol	5.00	U

FORM I BNA-GCMS

000044

776 443

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

P05311LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0003-418

Matrix: (soil/water) WATER

Lab Prep Batch: P05311

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: 0301004

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: 1 (mL)

Date Analyzed: 03/23/00

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

924-16-3-----	N-Nitrosodibutylamine	5.00	U
55-18-5-----	N-Nitrosodiethylamine	5.00	U
129-00-0-----	N-Nitrosodimethylamine	5.00	U
621-64-7-----	N-Nitrosodi-n-propylamine	5.00	U
82-68-8-----	Pentachloronitrobenzene	10.00	U
87-86-5-----	Pentachlorophenol	5.00	U
62-44-2-----	Phenacetin	5.00	U
85-01-8-----	Phenanthrene	2.00	U
108-95-2-----	Phenol	5.00	U
129-00-0-----	Pyrene	2.00	U
110-86-1-----	Pyridine	5.00	U
95-94-3-----	1,2,4,5-Tetrachlorobenzene	5.00	U
58-90-2-----	2,3,4,6-Tetrachlorophenol	5.00	U
120-82-1-----	1,2,4-Trichlorobenzene	5.00	U
95-95-4-----	2,4,5-Trichlorophenol	5.00	U
88-06-2-----	2,4,6-Trichlorophenol	5.00	U
103-33-3-----	1,2-Dphenylhydrazine/Azobenzen	3.87	J 14

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

776 444

CLIENT SAMPLE NO.

P05311LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0003-418

Matrix: (soil/water) WATER

Lab Sample ID:

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: 0301004

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: 1(mL)

Date Analyzed: 03/23/00

Injection Volume: 1.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 4

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 19780-68-8	3-ETHYL-4-METHYL-2-PENTENE	4.29	5.18	NJ
2. 107-86-8	2-BUTENAL, 3-METHYL-	4.53	11.65	NJ
3. 2050-01-3	PROPANOIC ACID, 2-METHYL-, 3	4.62	6.33	NJ
4. 4291-79-6	CYCLOHEXANE, 1-METHYL-2-PROP	4.74	15.63	NJ
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FORM I BNA-GCMS-TIC

000046

776 445

FORM 3
WATER BNA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: P05311

Lab Code:

Case No.:

SAS No.:

SDG No.: 0003-418

Matrix Spike - Sample No.: P05311LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acenaphthene	50.00		49.01	98	37-123
Acenaphthylene	50.00		45.90	92	67-118
Acetophenone	50.00		41.83	84	60-120
Aniline	50.00		34.46	69	25-102
Anthracene	50.00		49.86	100	68-124
Benzidine	50.00		115.2	230*	22-127
Benz (a) Anthracene	50.00		45.67	91	69-125
Benzo (b) fluoranthene	50.00		45.12	90	68-127
Benzo (k) fluoranthene	50.00		39.62	79	73-128
Benzo (ghi) perylene	50.00		41.41	83	53-138
Benzo (a) pyrene	50.00		44.30	89	73-125
Benzoic acid	50.00		9.34	19*	20-150
Benzyl alcohol	50.00		36.44	73	23-142
Bis (2-chloroethoxy) meth	50.00		43.47	87	45-135
Bis (2-chloroethyl) ether	50.00		40.86	82	51-120
Bis (2-chloroisopropyl) e	50.00		43.08	86	34-137
Bis (2-ethylhexyl) phthal	50.00		40.38	81	61-151
4-Bromophenyl phenyl et	50.00		42.94	86	60-120
Butyl benzyl phthalate	50.00		43.07	86	60-120
Carbazole	50.00		75.67	151	37-156
4-Chloroaniline	50.00		41.44	83	45-135
Chlorobenzilate	50.00		35.45	71	20-150
4-Chloro-3-methylphenol	50.00		35.99	72	33-134
2-Chloronaphthalene	50.00		56.43	113	63-121
2-Chlorophenol	50.00		37.38	75	17-134
4-Chlorophenyl phenyl e	50.00		43.68	87	60-120
Chrysene	50.00		44.25	88	70-124
Dibenz (a, h) anthracene	50.00		43.30	87	57-136

Column to be used to flag recovery and RPD values with an asterisk
 * Values outside of QC limits

COMMENTS:

FORM 3
WATER BNA-GCMS LAB CONTROL SAMPLE

776 446

Lab Name: ETC, INC.

Lab Prep Batch: P05311

Lab Code:

Case No.:

SAS No.:

SDG No.: 0003-418

Matrix Spike - Sample No.: P05311LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dibenzofuran	50.00		44.18	88	64-122
Di-n-butyl phthalate	50.00		68.35	137*	60-120
1,2-Dichlorobenzene	50.00		38.98	78	39-101
1,3-Dichlorobenzene	50.00		36.61	73	38- 98
1,4-Dichlorobenzene	50.00		38.06	76	31- 97
3,3'-Dichlorobenzidine	50.00		57.70	115	35-165
2,4-Dichlorophenol	50.00		38.87	78	13-146
2,6-Dichlorophenol	50.00		37.88	76	20-150
Diethyl phthalate	50.00		51.75	104	60-120
3,3-Dimethylbenzidine	50.00		101.5.	203*	20-150
2,4-Dimethyphenol	50.00		36.01	72	51-118
Dimethyl phthalate	50.00		48.48	97	60-120
4,6-Dinitro-2-methylphe	50.00		44.67	89	15-150
2,4-Dinitrophenol	50.00		35.78	72	12-182
2,4-Dinitrotoluene	50.00		57.96	116	34-130
2,6-Dinitrotoluene	50.00		49.03	98	62-135
N-NitrsdiphylAm/Dipheny	100.0		77.76	78	45-135
Di-n-octyl phthalate	50.00		44.31	89	60-120
Ethyl methanesulfonate	50.00		41.04	82	45-135
Fluoranthene	50.00		59.62	119	55-135
Fluorene	50.00		46.07	92	66-121
Hexachlorobenzene	50.00		42.74	85	65-133
Hexachlorobutadiene	50.00		41.07	82	50-112
Hexachlorocyclopentadie	50.00		38.44	77	21-141
Hexachloroethane	50.00		43.67	87	37-100
Indeno(1,2,3-cd)pyrene	50.00		41.71	83	57-140
Isophorone	50.00		41.65	83	13-146
Methyl methanesulfonate	50.00		29.05	58	45-135

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

COMMENTS:

FORM 3
 WATER BNA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: P05311

Lab Code:

Case No.:

SAS No.:

SDG No.: 0003-418

Matrix Spike - Sample No.: P05311LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
2-Methylnaphthalene	50.00		37.58	75	50-124
2-Methylphenol	50.00		33.91	68	48-117
3&4-Methylphenol	50.00		30.91	62	46- 99
Naphthalene	50.00		40.83	82	55-113
2-Nitroaniline	50.00		48.28	96	63-129
3-Nitroaniline	50.00		49.91	100	61-120
4-Nitroaniline	50.00		56.71	113	60-126
Nitrobenzene	50.00		43.32	87	57-120
2-Nitrophenol	50.00		39.90	80	27-137
4-Nitrophenol	50.00		20.75	42	20-150
N-Nitrosodibutylamine	50.00		42.01	84	60-120
N-Nitrosodiethylamine	50.00		42.09	84	60-120
N-Nitrosodimethylamine	50.00		32.70	65	30- 96
N-Nitrosodi-n-propylami	50.00		46.23	92	60-120
Pentachloronitrobenzene	50.00		51.40	103	20-150
Pentachlorophenol	50.00		51.79	104	22-171
Phenacetin	50.00		64.88	130	20-150
Phenanthrene	50.00		47.48	95	65-126
Phenol	50.00		16.91	34	12- 57
Pyrene	50.00		31.47	63	40-149
Pyridine	50.00		30.29	60	10- 82
1,2,4,5-Tetrachlorobenz	50.00		50.29	100	60-120
2,3,4,6-Tetrachlorophen	50.00		42.99	86	20-150
1,2,4-Trichlorobenzene	50.00		38.16	76	29-116
2,4,5-Trichlorophenol	50.00		46.25	92	31-147
2,4,6-Trichlorophenol	50.00		45.38	91	31-147
1,2-Dphnylhydrzine/Azob	50.00		40.28	80	45-135

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: 4 out of 83 outside limits

COMMENTS:

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

776 448

Lab Name: ETC, INC.

Lab Prep Batch: P05311

Lab Code:

Case No.:

SAS No.:

SDG No.: 0003-418

Matrix Spike - Sample No.: 0003-418-1

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acenaphthene	100.0	0.000	75.52	76	45- 99
4-Chloro-3-methylphenol	160.0	0.000	105.9	66	35-113
2-Chlorophenol	160.0	0.000	98.07	61	38-100
1,4-Dichlorobenzene	100.0	0.000	65.72	66	40- 90
2,4-Dinitrotoluene	100.0	0.000	101.4	101	34-110
4-Nitrophenol	160.0	0.000	70.90	44	9- 92
Pentachlorophenol	160.0	0.000	138.6	87	28-124
Phenol	160.0	0.000	45.54	28*	37-103
Pyrene	100.0	0.000	43.95	44*	60-127
1,2,4-Trichlorobenzene	100.0	0.000	64.91.	65	45- 94

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS	
=====	=====	=====	=====	=====	RPD	REC.
Acenaphthene	100.0	77.80	78	2	20	45- 99
4-Chloro-3-methylphenol	160.0	113.3	71	7	20	35-113
2-Chlorophenol	160.0	105.9	66	8	20	38-100
1,4-Dichlorobenzene	100.0	67.55	68	3	20	40- 90
2,4-Dinitrotoluene	100.0	99.68	100	1	20	34-110
4-Nitrophenol	160.0	67.47	42	5	20	9- 92
Pentachlorophenol	160.0	139.9	87	0	20	28-124
Phenol	160.0	49.04	31*	10	20	37-103
Pyrene	100.0	48.21	48*	9	20	60-127
1,2,4-Trichlorobenzene	100.0	66.68	67	3	20	45- 94

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 10 outside limits
Spike Recovery: 4 out of 20 outside limits

COMMENTS:

776 449

Environmental Testing & Consulting, Inc.

**Login
Chain-of-Custody**

000051



IT Group

776 450

LA 007 547

Form 0019
Field Technical Services,
Rev. 08/89

128153

O.H. MATERIALS CORP.						P.O. BOX 551	FINDLAY, OH 45839-0551	419-423-3526
PROJECT NAME DOMT - Dunn Field Memphis TN		PROJECT LOCATION Memphis TN		PROJECT CONTACT Vigil Jansen		PROJECT TELEPHONE NO. 314.770.4025		
PROJ. NO. 80330		CLIENT'S REPRESENTATIVE Vigil Jansen		PROJECT MANAGER/SUPERVISOR Vigil Jansen				
ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)		
1	ST-EFF-022	3/15/00	1:00P	X	X			
2	EFT-022	3/15/00	1:15P	X	X	change sample ID ST-INF-022		
3	Trip Blank			X	X			
4						BMD		
5						4/7/00		
6								
7								
8								
9								
10								

ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)

TEMPERATURE 15°C

PH 7.5

COND. 150 µS/cm

REMARKS

Please run MS & MSD from ST-EFF-022 Containers

TRANSFER NUMBER

ITEM NUMBER

TRANSFERS RELINQUISHED BY

TRANSFERS ACCEPTED BY

DATE

TIME

REMARKS

Temp. → NA

pH → NA

Cond. → NA

Access to Control bldg w/ Equipment Denied due to CWRN

Morim Affina

SAMPLER'S SIGNATURE

Environmental Testing & Consulting, Inc.
Cooler Receipt FormDate Received 3/15/00
Date/Time Checked In 3/15/00-1520 *
Carrier/Bill# _____ Hand-Delivered _____LIMS# 0003-418
Project DDMT
Dunn Field _____
By RBA

1. Custody Seals?/Location-Front	Yes
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-Bags, Bubble Wrap, Ice	Yes
6. Chain of Custody filled out properly?	Yes
7. All containers in separate bags?	Yes
8. Sample containers intact?	Yes
9. Label(s) complete and in good condition?	Yes
10. Label(s) agree with Chain of Custody?	Yes
11. Correct containers used?	Yes
12. Sufficient sample?	Yes
13. VOA vials bubble-free (H ₂ O) or no head space (soil)?	Yes
14. Preservation OK? TM pH____; TRPH pH____; TOC pH____; TOX pH____; CN pH____; N/P pH____; Other pH____	Yes

Comments _____

*Validated Date and Time of Sample Receipt (VDTSR)

Chemical Analytical Data Review Checklist

776 452

Report Type: ☐ Preliminary ☒ Final Date Received: _____ Project Number: 801370
 Project Name: DDMT Analysis/Method: VOA, SVOA, Metals
 Laboratory: ETC Lab Project/Case Number: 0004399
 Sample Number(s): ST-EFF-023, EQB023, TB

Evaluated By: Betsy McDaniel Date Evaluated: 5/3/00
 Data Package Deliverables Requirement: ☒ Minimum ☐ Standard ☐ Maximum
☐ Other, please describe _____

Quality Control Deliverables	Required	Received	Passed	Failed
PQL, MDL, RL, etc meets DQOs				
Comment:				
Holding Times			✓	
Comment:				
Sample Condition (preservatives, containers, temperature, etc) / Case Narrative	X		✓	
Comment:				
Surrogate Recoveries	X		✓	
Comment:				
Lab Control Sample Recoveries	X		✓	
Comment: high VOA, but non-target compound some high SVOA, non-detect in samples				
Lab Control Sample Duplicate or Other Spike Recoveries	X			
Comment: NA				
Lab Control Sample Duplicate or Other Laboratory Duplicate RPD	X			
Comment: NA				
Matrix Spike Recoveries	X			✓
Comment: high Na, high 2,4-Dinitrotoluene, low Phenol pass on LCS				
Matrix Spike Duplicate Recoveries	X			✓
Comment: high Na, high 2,4-Dinitrotoluene, low Phenol pass on LCS				
Matrix Spike / Matrix Spike Duplicate RPD	X		✓	
Comment:				
Laboratory Blanks (daily, method, instrument)	X		✓	
Comment: hit for bis (2-ethylhexyl) phthalate, non-detect in samples				
Field Blanks (trip, equip, ambient, matrix)	X			✓
Comment: ECR hit for Ca, Ca biased high in samples				
Field Duplicates RPD	X			
Comment: NA				

776 453



ENVIRONMENTAL TESTING & CONSULTING, INC.
2924 Walnut Grove Road • Memphis, TN 38111 • (901) 327-2750 • FAX (901) 327-6334

Founded 1972

April 24, 2000

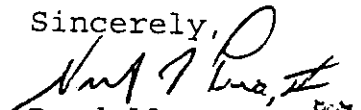
Mr. Virgil Jansen
Sverdrup Corporation
13723 Riverport Drive
Maryland Heights, MO 63043

Ref: Analytical Testing
ETC Order # 0004399
Project Description Memphis Defense Depot

The above referenced project has been analyzed per your instructions. The analyses were performed in our laboratory in accordance with Standard Methods 17th/18th Edition; The Solid Waste Manual SW-846; EPA Methods for the Analysis of Water and Wastes and/or 40 CFR part 136.

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

Sincerely,


Randall H. Thomas
Vice-President
General Manager

rt
Attachment

Laboratory Certifications

Tennessee Department of Drinking Water #02027
Alabama Department of Environmental Management #40730
Arkansas Department of Pollution Control and Ecology
Kentucky Department for Environmental Protection #90047
Oklahoma Department of Environmental Quality #9311
Mississippi Department of Water & Pollution Control and Ecology
New Jersey Department of Environmental Protection and Energy #81617
North Carolina Department of Environmental Health and Natural Resources
South Carolina Department of Health and Environmental Control #84002
Commonwealth of Virginia Department of General Services #00106
Washington Department of Ecology #C248

SVE_MHDDMT

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.

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.
N	Non-Compliance Report associated with this sample or project.
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)

776 455

Environmental Testing & Consulting, Inc.

**Login
Chain-of-Custody**

000002



UIN
Services Corp.

W. Svendrup

CHAIN-OF-CUSTODY RECORD

COPY

Form 0019
Field Technical Services
Rev. 08/89

166993

004-799

419-423-3526

FINDLAY, OH 45839-0551

P.O. BOX 551

O.H. MATERIALS CORP.

PROJECT NAME		PROJECT LOCATION		PROJECT CONTACT		PROJECT TELEPHONE NO.		PROJECT MANAGER/SUPERVISOR		ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)		NUMBER OF CONTAINERS		REMARKS	
ITEM NO	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)									
1	STEFFOZ3	4-14	1040		X	System Discharge		Vigil Jansen		X	X	X	X	X	Plase Lim MSD from STEFFOZ3 Containers
2	EOB023	4-14	1055		X	Equipment Blank		Vigil Jansen		X	X	X	X	X	
3	Trip Blank				X					X					
4															
5															
6															
7															
8															
9															
0															
TRANSFER NUMBER		ITEM NUMBER	TRANSFERS RELINQUISHED BY		TRANSFERS ACCEPTED BY		DATE	TIME	REMARKS						
1	000003		Tom Campbell				4-14	1035	Temp. → 18.1°C pH. → 6.26 Cond. → 0.44						
2	000003														
3	000003														
4			Tom Campbell				4-14	1035	SAMPLER'S SIGNATURE						

776 456

Environmental Testing & Consulting, Inc.
Cooler Receipt FormDate Received 04/14/00
Date/Time Checked In 4/14/00 1230 *
Carrier/Bill# Hand-DeliveredLIMS# 0004399
Project Memphis Defense
Depot
By s. herrmann

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

Comments _____

*Validated Date and Time of Sample Receipt (VDTSR)

ENVIRONMENTAL TESTING & CONSULTING, INC.

776 458

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

ANALYTICAL SUMMARY TABLE

Client Name Sverdrup Corporation
Site ID Memphis Defense Depot

ETC				
<u>Sample ID</u>	<u>Field ID</u>	<u>Matrix</u>	<u>Method</u>	<u>Method Description</u>
000439901	STEFF023	AQUEOUS	200.7	Silver
000439901	STEFF023	AQUEOUS	200.7	Aluminum
000439901	STEFF023	AQUEOUS	206.2	Arsenic
000439901	STEFF023	AQUEOUS	8270C	GC/MS Base/Neutral & Acid
000439901	STEFF023	AQUEOUS	200.7	Barium
000439901	STEFF023	AQUEOUS	200.7	Beryllium
000439901	STEFF023	AQUEOUS	200.7	Calcium
000439901	STEFF023	AQUEOUS	200.7	Cadmium
000439901	STEFF023	AQUEOUS	200.7	Cobalt
000439901	STEFF023	AQUEOUS	200.7	Chromium
000439901	STEFF023	AQUEOUS	200.7	Copper
000439901	STEFF023	AQUEOUS	200.7	Iron
000439901	STEFF023	AQUEOUS	245.1	Mercury
000439901	STEFF023	AQUEOUS	200.7	Potassium
000439901	STEFF023	AQUEOUS	200.7	Magnesium
000439901	STEFF023	AQUEOUS	200.7	Manganese
000439901	STEFF023	AQUEOUS	200.7	Sodium
000439901	STEFF023	AQUEOUS	200.7	Nickel
000439901	STEFF023	AQUEOUS	200.7	Lead
000439901	STEFF023	AQUEOUS	150.1	pH
000439901	STEFF023	AQUEOUS	200.7	Antimony
000439901	STEFF023	AQUEOUS	200.7	Selenium
439901	STEFF023	AQUEOUS	200.7	Thallium
439901	STEFF023	AQUEOUS	8260B	GC/MS Volatile Organics
000439901	STEFF023	AQUEOUS	200.7	Vanadium
000439901	STEFF023	AQUEOUS	200.7	Zinc
000439902	EQB023	AQUEOUS	200.7	Silver
000439902	EQB023	AQUEOUS	200.7	Aluminum
000439902	EQB023	AQUEOUS	206.2	Arsenic
000439902	EQB023	AQUEOUS	8270C	GC/MS Base/Neutral & Acid
000439902	EQB023	AQUEOUS	200.7	Barium
000439902	EQB023	AQUEOUS	200.7	Beryllium
000439902	EQB023	AQUEOUS	200.7	Calcium
000439902	EQB023	AQUEOUS	200.7	Cadmium
000439902	EQB023	AQUEOUS	200.7	Cobalt
000439902	EQB023	AQUEOUS	200.7	Chromium
000439902	EQB023	AQUEOUS	200.7	Copper
000439902	EQB023	AQUEOUS	200.7	Iron
000439902	EQB023	AQUEOUS	245.1	Mercury
000439902	EQB023	AQUEOUS	200.7	Potassium
000439902	EQB023	AQUEOUS	200.7	Magnesium
000439902	EQB023	AQUEOUS	200.7	Manganese
000439902	EQB023	AQUEOUS	200.7	Sodium
000439902	EQB023	AQUEOUS	200.7	Nickel
000439902	EQB023	AQUEOUS	200.7	Lead
000439902	EQB023	AQUEOUS	150.1	pH
000439902	EQB023	AQUEOUS	200.7	Antimony
000439902	EQB023	AQUEOUS	200.7	Selenium
000439902	EQB023	AQUEOUS	200.7	Thallium
000439902	EQB023	AQUEOUS	8260B	GC/MS Volatile Organics
000439902	EQB023	AQUEOUS	200.7	Vanadium
000439902	EQB023	AQUEOUS	200.7	Zinc
000439903	Trip Blank	AQUEOUS	8260B	GC/MS Volatile Organics

776 459

Environmental Testing & Consulting, Inc.

Sample Reports

000006

776 460

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

INORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370

Site ID Memphis Defense Depot

Date Arrived 04/14/00

ETC Order Number 0004399

ETC Lab ID 0004399-01

Sample ID: STEFF023

Matrix :AQUEOUS

Sample Date :04/14/00

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED BY	METHOD
pH	6.1	SU		1315	04/14/00 RT	150.1

CD
LABORATORY MANAGER

000007

776 461

ENVIRONMENTAL TESTING & CONSULTING, INC.
2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750
INORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370

Site ID Memphis Defense Depot

Date Arrived 04/14/00
ETC Order Number 0004399

ETC Lab ID 0004399-02
Sample ID: EQB023

Matrix :AQUEOUS
Sample Date :04/14/00

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED BY	METHOD
pH	6.5	SU		1315	04/14/00 RT	150.1

CDS
LABORATORY MANAGER

000008

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

INORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370

Site ID **Memphis Defense Depot**

Date Arrived 04/14/00
 ETC Order Number 0004399

ETC Lab ID 0004399-01
Sample ID: STEFF023

Matrix :AQUEOUS
 Sample Date :04/14/00

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED BY	METHOD
Mercury Digestion Batch	V6-AQ-56				NR	245.1
Metals Digestion Batch	V19-AQ-83				NR	3030K
Silver	<0.009	mg/L	0.009	1442	04/19/00 SH	200.7
Aluminum	<0.060	mg/L	0.060	1442	04/19/00 SH	200.7
Arsenic	<0.003	mg/L	0.003	1212	04/20/00 SH	206.2
Barium	0.111	mg/L	0.003	1442	04/19/00 SH	200.7
Beryllium	<0.002	mg/L	0.002	1442	04/19/00 SH	200.7
Cesium	21.1	mg/L	0.015	1442	04/19/00 SH	200.7
Cadmium	<0.005	mg/L	0.005	1442	04/19/00 SH	200.7
Cobalt	<0.009	mg/L	0.009	1442	04/19/00 SH	200.7
Chromium	<0.009	mg/L	0.009	1442	04/19/00 SH	200.7
Copper	<0.008	mg/L	0.008	1442	04/19/00 SH	200.7
Iron	0.048	mg/L	0.009	1442	04/19/00 SH	200.7
Mercury	<0.0002	mg/L	0.0002	1337	04/19/00 NR	245.1
Potassium	0.826	mg/L	0.250	1442	04/19/00 SH	200.7
Magnesium	10.9	mg/L	0.040	1442	04/19/00 SH	200.7
Manganese	0.019	mg/L	0.003	1442	04/19/00 SH	200.7
Sodium	22.9	mg/L	0.050	1442	04/19/00 SH	200.7
Nickel	<0.020	mg/L	0.020	1442	04/19/00 SH	200.7
Lead	<0.060	mg/L	0.060	1442	04/19/00 SH	200.7
Antimony	<0.040	mg/L	0.040	1442	04/19/00 SH	200.7
Selenium	<0.100	mg/L	0.100	1442	04/19/00 SH	200.7
Thallium	<0.065	mg/L	0.065	1442	04/19/00 SH	200.7
Vanadium	<0.010	mg/L	0.010	1442	04/19/00 SH	200.7
Zinc	0.052	mg/L	0.010	1442	04/19/00 SH	200.7

776 463

ENVIRONMENTAL TESTING & CONSULTING, INC.
 2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750
INORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370

Site ID **Memphis Defense Depot**

Date Arrived 04/14/00
 ETC Order Number 0004399

ETC Lab ID 0004399-02
Sample ID: EQB023

Matrix :AQUEOUS
 Sample Date :04/14/00

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED BY	METHOD
Mercury Digestion Batch	V6-AQ-56					
Metals Digestion Batch	V19-AQ-83				NR	245.1
Silver	<0.009	mg/L	0.009	1442	04/19/00	SH 200.7
Aluminum	<0.060	mg/L	0.060	1442	04/19/00	SH 200.7
Arsenic	<0.003	mg/L	0.003	1212	04/20/00	SH 206.2
Barium	<0.003	mg/L	0.003	1442	04/19/00	SH 200.7
Beryllium	<0.002	mg/L	0.002	1442	04/19/00	SH 200.7
Calcium	0.028	mg/L	0.015	1442	04/19/00	SH 200.7
Cadmium	<0.005	mg/L	0.005	1442	04/19/00	SH 200.7
Cobalt	<0.009	mg/L	0.009	1442	04/19/00	SH 200.7
Chromium	<0.009	mg/L	0.009	1442	04/19/00	SH 200.7
Copper	<0.008	mg/L	0.008	1442	04/19/00	SH 200.7
Iron	<0.009	mg/L	0.009	1442	04/19/00	SH 200.7
Mercury	<0.0002	mg/L	0.0002	1337	04/19/00	NR 245.1
Potassium	<0.250	mg/L	0.250	1442	04/19/00	SH 200.7
Magnesium	<0.040	mg/L	0.040	1442	04/19/00	SH 200.7
Manganese	<0.003	mg/L	0.003	1442	04/19/00	SH 200.7
Sodium	<0.050	mg/L	0.050	1442	04/19/00	SH 200.7
Nickel	<0.020	mg/L	0.020	1442	04/19/00	SH 200.7
Lead	<0.060	mg/L	0.060	1442	04/19/00	SH 200.7
Antimony	<0.040	mg/L	0.040	1442	04/19/00	SH 200.7
Selenium	<0.100	mg/L	0.100	1442	04/19/00	SH 200.7
Thallium	<0.065	mg/L	0.065	1442	04/19/00	SH 200.7
Vanadium	<0.010	mg/L	0.010	1442	04/19/00	SH 200.7
Zinc	<0.010	mg/L	0.010	1442	04/19/00	SH 200.7

CD

LABORATORY MANAGER

000010

ENVIRONMENTAL TESTING & CONSULTING, INC.

776 464

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID **Memphis Defense Depot**

Date Arrived 04/14/00
 ETC Order Number 0004399

ETC Lab ID 0004399-01
Sample ID: STEFF023

Matrix :AQUEOUS
 Sample Date :04/14/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					04/18/00	LS	8260B
QC Batch	V2041801	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	1.63	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	7.60	ug/L	1.00				
Chloromethane	ND	ug/L	1.00				
1,1-Dichloroethane	0.47J	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	15.4	ug/L	1.00				
trans-1,2-Dichloroethene	14.9	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,1,2-Tetrachloroethane	54.7	ug/L	1.00				
Tetrachloroethene	18.0	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	0.96J	ug/L	1.00				
Trichloroethene	135	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	51.5	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	99	74 123
S2 - Toluene-d8	100	86 112
S3 - 4-Bromofluorobenzene	103	81 115

LABORATORY MANAGER

ND - Not Detected

000011

776 465

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

CLIENT SAMPLE NO.

0004-399-1

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0501003

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/18/00

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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30.				

FORM I VOA-GCMS-TIC

000012

ENVIRONMENTAL TESTING & CONSULTING, INC.

776 466

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

ORGANIC ANALYSIS DATA SHEET

ent Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
FID #

Site ID Memphis Defense Depot

Date Arrived 04/14/00
ETC Order Number 0004399

ETC Lab ID 0004399-02
Sample ID: EQB023

Matrix :AQUEOUS
Sample Date :04/14/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					04/17/00	LS	8260B
QC Batch	V2041702	ug/L					
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				
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				
2-Butanone (MEK)	ND	ug/L	20.0				
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	1.00				
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				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits
1 - Dibromofluoromethane	93	74 123
2 - Toluene-d8	96	86 112
3 - 4-Bromofluorobenzene	99	81 115

BORATORY MANAGER

ND - Not Detected

000013

776 467

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

CLIENT SAMPLE NO.

0004-399-2

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0701008

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/17/00

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

000014

ENVIRONMENTAL TESTING & CONSULTING, INC.

776 468

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # **801370**
FID #

Site ID **Memphis Defense Depot**

Date Arrived **04/14/00**
ETC Order Number **0004399**

ETC Lab ID **0004399-03**
Sample ID: Trip Blank

Matrix : **AQUEOUS**
Sample Date :

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					04/17/00	LS	8260B
QC Batch	V2041702	ug/L					
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				
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				
2-Butanone (MEK)	ND	ug/L	20.0				
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	1.00				
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				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
1 - Dibromofluoromethane	92	74	123
2 - Toluene-d8	94	86	112
3 - 4-Bromofluorobenzene	96	81	115

LABORATORY MANAGER

ND - Not Detected

000015

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

CLIENT SAMPLE NO.

0004-399-3

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0401005

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/17/00

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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ENVIRONMENTAL TESTING & CONSULTING, INC.

776 470

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

ORGANIC ANALYSIS DATA SHEET

ent Name Sverdrup Corporation
 Memphis Defense Depot
 13723 Riverport Drive
 Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID Memphis Defense Depot

Date Arrived 04/14/00
 ETC Order Number 0004399

ETC Lab ID 0004399-01
Sample ID: STEFF023

Matrix :AQUEOUS
 Sample Date :04/14/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Base/Neutral & Acid				04/18/00	04/19/00	PF	8270C
QC Batch	P05322	ug/L					
Acenaphthene	ND	ug/L	2.00				
Acenaphthylene	ND	ug/L	2.00				
Anthracene	ND	ug/L	2.00				
Benzo(a)anthracene	ND	ug/L	2.00				
Benzo(b)fluoranthene	ND	ug/L	2.00				
Benzo(k)fluoranthene	ND	ug/L	2.00				
Benzo(g,h,i)perylene	ND	ug/L	2.00				
Benzo(a)pyrene	ND	ug/L	2.00				
Benzoic Acid	ND	ug/L	50.0				
Benzyl Alcohol	ND	ug/L	10.0				
Bis(2-chloroethoxy)methane	ND	ug/L	5.00				
Bis(2-chloroethyl)ether	ND	ug/L	5.00				
Bis(2-chloroisopropyl)ether	ND	ug/L	5.00				
Bis(2-ethylhexyl)phthalate	ND	ug/L	10.0				
4-Bromophenyl phenyl ether	ND	ug/L	5.00				
Butyl benzyl phthalate	ND	ug/L	5.00				
4-Chloroaniline	ND	ug/L	5.00				
2-Chloronaphthalene	ND	ug/L	5.00				
4-Chloro-3-methylphenol	ND	ug/L	5.00				
2-Chlorophenol	ND	ug/L	5.00				
4-Chlorophenyl phenyl ether	ND	ug/L	5.00				
Chrysene	ND	ug/L	2.00				
Dibenzo(a,h)anthracene	ND	ug/L	2.00				
Dibenzofuran	ND	ug/L	5.00				
Di-n-butyl phthalate	ND	ug/L	5.00				
1,2-Dichlorobenzene	ND	ug/L	5.00				
1,3-Dichlorobenzene	ND	ug/L	5.00				
1,4-Dichlorobenzene	ND	ug/L	5.00				
3,3'-Dichlorobenzidine	ND	ug/L	10.0				
2,4-Dichlorophenol	ND	ug/L	5.00				
2,6-Dichlorophenol	ND	ug/L	5.00				
Diethyl phthalate	ND	ug/L	5.00				
2,4-Dimethylphenol	ND	ug/L	5.00				
Dimethyl phthalate	ND	ug/L	5.00				
4,6-Dinitro-2-methylphenol	ND	ug/L	10.0				
2,4-Dinitrophenol	ND	ug/L	50.0				
2,4-Dinitrotoluene	ND	ug/L	5.00				
2,6-Dinitrotoluene	ND	ug/L	5.00				
Di-n-octyl phthalate	ND	ug/L	5.00				
Fluoranthene	ND	ug/L	2.00				
Fluorene	ND	ug/L	2.00				
Hexachlorobenzene	ND	ug/L	5.00				

LABORATORY MANAGER

ND - Not Detected

000017

776 471

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID **Memphis Defense Depot**

Date Arrived 04/14/00
 ETC Order Number 0004399

ETC Lab ID 0004399-01
Sample ID: STEFF023

Matrix :AQUEOUS
 Sample Date :04/14/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Base/Neutral & Acid							8270C
Hexachlorobutadiene	ND	ug/L	5.00	04/18/00	04/19/00	PF	
Hexachlorocyclopentadiene	ND	ug/L	5.00				
Hexachloroethane	ND	ug/L	5.00				
Indeno(1,2,3-cd)pyrene	ND	ug/L	2.00				
Isophorone	ND	ug/L	5.00				
2-Methylnaphthalene	ND	ug/L	2.00				
2-Methylphenol (o-cresol)	ND	ug/L	5.00				
3-Methylphenol (m-cresol)	ND	ug/L	5.00				
4-Methylphenol (p-cresol)	ND	ug/L	5.00				
Naphthalene	ND	ug/L	2.00				
Nitrobenzene	ND	ug/L	5.00				
2-Nitroaniline	ND	ug/L	5.00				
3-Nitroaniline	ND	ug/L	10.0				
4-Nitroaniline	ND	ug/L	5.00				
2-Nitrophenol	ND	ug/L	5.00				
4-Nitrophenol	ND	ug/L	5.00				
N-Nitrosodiphenylamine	ND	ug/L	5.00				
N-Nitrosodipropylamine	ND	ug/L	5.00				
Pentachlorophenol	ND	ug/L	10.0				
Phenanthrene	ND	ug/L	2.00				
Phenol	ND	ug/L	5.00				
Pyrene	ND	ug/L	2.00				
1,2,4-Trichlorobenzene	ND	ug/L	5.00				
2,4,5-Trichlorophenol	ND	ug/L	5.00				
2,4,6-Trichlorophenol	ND	ug/L	5.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Nitrobenzene-d5	82	29	110
S2 - 2-Fluorobiphenyl	85	38	107
S3 - 4-Terphenyl-d14	93	33	122
S4 - Phenol-d6	34	7	58
S5 - 2,4,6-Tribromophenol	79	16	138
S6 - 2-Fluorophenol	50	8	88

LABORATORY MANAGER

ND - Not Detected

000018

776 472

FORM 1

BNA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

0004-399-1

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix: (soil/water) WATER

Lab Sample ID:

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: 0801009

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: 1 (mL)

Date Analyzed: 04/19/00

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 8

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1. 563-80-4	2-BUTANONE, 3-METHYL-	2.20	38.27	NJB
2. 594-36-5	BUTANE, 2-CHLORO-2-METHYL-	2.26	12.23	NJB
3. 79-01-6	TRICHLOROETHYLENE	2.56	13.72	NJ
4. 127-18-4	TETRACHLOROETHYLENE	3.50	6.67	NJ
5. 19780-68-8	3-ETHYL-4-METHYL-2-PENTENE	4.11	7.35	NJ
6. 79-34-5	ETHANE, 1,1,2,2-TETRACHLORO-	4.38	45.76	NJ
7. 41977-43-9	CYCLOPROPANE, 1,1,2-TRIMETHY	4.45	8.00	NJ
8. 4291-79-6	CYCLOHEXANE, 1-METHYL-2-PROP	4.56	21.81	NJB
9. _____	_____	_____	_____	_____
10. _____	_____	_____	_____	_____
11. _____	_____	_____	_____	_____
12. _____	_____	_____	_____	_____
13. _____	_____	_____	_____	_____
14. _____	_____	_____	_____	_____
15. _____	_____	_____	_____	_____
16. _____	_____	_____	_____	_____
17. _____	_____	_____	_____	_____
18. _____	_____	_____	_____	_____
19. _____	_____	_____	_____	_____
20. _____	_____	_____	_____	_____
21. _____	_____	_____	_____	_____
22. _____	_____	_____	_____	_____
23. _____	_____	_____	_____	_____
24. _____	_____	_____	_____	_____
25. _____	_____	_____	_____	_____
26. _____	_____	_____	_____	_____
27. _____	_____	_____	_____	_____
28. _____	_____	_____	_____	_____
29. _____	_____	_____	_____	_____
30. _____	_____	_____	_____	_____

FORM I BNA-GCMS-TIC

000019

776 473

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID **Memphis Defense Depot**

Date Arrived 04/14/00
 ETC Order Number 0004399

ETC Lab ID 0004399-02
Sample ID: EQB023

Matrix :AQUEOUS
 Sample Date :04/14/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Base/Neutral & Acid				04/18/00	04/19/00	PF	8270C
QC Batch	P05322	ug/L					
Acenaphthene	ND	ug/L	2.00				
Acenaphthylene	ND	ug/L	2.00				
Anthracene	ND	ug/L	2.00				
Benzo(a)anthracene	ND	ug/L	2.00				
Benzo(b)fluoranthene	ND	ug/L	2.00				
Benzo(k)fluoranthene	ND	ug/L	2.00				
Benzo(g,h,i)perylene	ND	ug/L	2.00				
Benzo(a)pyrene	ND	ug/L	2.00				
Benzoic Acid	ND	ug/L	50.0				
Benzyl Alcohol	ND	ug/L	10.0				
Bis(2-chloroethoxy)methane	ND	ug/L	5.00				
Bis(2-chloroethyl)ether	ND	ug/L	5.00				
Bis(2-chloroisopropyl)ether	ND	ug/L	5.00				
Bis(2-ethylhexyl)phthalate	ND	ug/L	10.0				
4-Bromophenyl phenyl ether	ND	ug/L	5.00				
Butyl benzyl phthalate	ND	ug/L	5.00				
4-Chloroaniline	ND	ug/L	5.00				
2-Chloronaphthalene	ND	ug/L	5.00				
4-Chloro-3-methylphenol	ND	ug/L	5.00				
2-Chlorophenol	ND	ug/L	5.00				
4-Chlorophenyl phenyl ether	ND	ug/L	5.00				
Chrysene	ND	ug/L	2.00				
Dibenzo(a,h)anthracene	ND	ug/L	2.00				
Dibenzofuran	ND	ug/L	5.00				
Di-n-butyl phthalate	ND	ug/L	5.00				
1,2-Dichlorobenzene	ND	ug/L	5.00				
1,3-Dichlorobenzene	ND	ug/L	5.00				
1,4-Dichlorobenzene	ND	ug/L	5.00				
3,3'-Dichlorobenzidine	ND	ug/L	10.0				
2,4-Dichlorophenol	ND	ug/L	5.00				
2,6-Dichlorophenol	ND	ug/L	5.00				
Diethyl phthalate	ND	ug/L	5.00				
2,4-Dimethylphenol	ND	ug/L	5.00				
Dimethyl phthalate	ND	ug/L	5.00				
4,6-Dinitro-2-methylphenol	ND	ug/L	10.0				
2,4-Dinitrophenol	ND	ug/L	50.0				
2,4-Dinitrotoluene	ND	ug/L	5.00				
2,6-Dinitrotoluene	ND	ug/L	5.00				
Di-n-octyl phthalate	ND	ug/L	5.00				
Fluoranthene	ND	ug/L	2.00				
Fluorene	ND	ug/L	2.00				
Hexachlorobenzene	ND	ug/L	5.00				

PE's

LABORATORY MANAGER

ND - Not Detected

000020

ENVIRONMENTAL TESTING & CONSULTING, INC.

776 474

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

ORGANIC ANALYSIS DATA SHEET

Lent Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # **801370**
FID #

Site ID **Memphis Defense Depot**

Date Arrived **04/14/00**
ETC Order Number **0004399**

ETC Lab ID **0004399-02**
Sample ID: EQB023

Matrix : **AQUEOUS**
Sample Date : **04/14/00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Base/Neutral & Acid				04/18/00	04/19/00	PF	8270C
Hexachlorobutadiene	ND	ug/L	5.00				
Hexachlorocyclopentadiene	ND	ug/L	5.00				
Hexachloroethane	ND	ug/L	5.00				
Indeno(1,2,3-cd)pyrene	ND	ug/L	2.00				
Isophorone	ND	ug/L	5.00				
2-Methylnaphthalene	ND	ug/L	2.00				
2-Methylphenol (o-cresol)	ND	ug/L	5.00				
3-Methylphenol (m-cresol)	ND	ug/L	5.00				
4-Methylphenol (p-cresol)	ND	ug/L	5.00				
1-Naphthalene	ND	ug/L	2.00				
Nitrobenzene	ND	ug/L	5.00				
2-Nitroaniline	ND	ug/L	5.00				
3-Nitroaniline	ND	ug/L	10.0				
4-Nitroaniline	ND	ug/L	5.00				
2-Nitrophenol	ND	ug/L	5.00				
4-Nitrophenol	ND	ug/L	5.00				
N-Nitrosodiphenylamine	ND	ug/L	5.00				
N-Nitrosodipropylamine	ND	ug/L	5.00				
Pentachlorophenol	ND	ug/L	10.0				
Phenanthrene	ND	ug/L	2.00				
Phenol	ND	ug/L	5.00				
Pyrene	ND	ug/L	2.00				
1,2,4-Trichlorobenzene	ND	ug/L	5.00				
2,4,5-Trichlorophenol	ND	ug/L	5.00				
2,4,6-Trichlorophenol	ND	ug/L	5.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Nitrobenzene-d5	77	29	110
S2 - 2-Fluorobiphenyl	84	38	107
S3 - 4-Terphenyl-d14	77	33	122
S4 - Phenol-d6	32	7	58
S5 - 2,4,6-Tribromophenol	72	16	138
S6 - 2-Fluorophenol	47	8	88

776 475

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

CLIENT SAMPLE NO.

0004-399-2

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix: (soil/water) WATER

Lab Sample ID:

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: 1101012

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: 1 (mL)

Date Analyzed: 04/19/00

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 7

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 563-80-4	2-BUTANONE, 3-METHYL-	2.20	37.66	NJB
2. 594-36-5	BUTANE, 2-CHLORO-2-METHYL-	2.27	12.36	NJB
3. 928-97-2	3-HEXEN-1-OL, (E) -	3.46	5.60	NJB
4. 4127-45-1	CYCLOPROPANE, 1,1,2-TRIMETHY	4.11	6.80	NJ
5. 107-86-8	2-BUTENAL, 3-METHYL-	4.35	19.01	NJB
6. 930-89-2	CYCLOPENTANE, 1-ETHYL-2-METH	4.45	6.98	NJ
7. 4291-79-6	CYCLOHEXANE, 1-METHYL-2-PROP	4.56	19.92	NJB
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FORM I BNA-GCMS-TIC

000022

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level III
Metals (ICP/GFAA/CV)**

ENVIRONMENTAL TESTING AND CONSULTING, INC.

CASE NARRATIVE
METALS - AQUEOUS

Client Name Sverdrup
Project Name DDMT-Dunn Field

ETC Order# 0004-399

HOLDING TIMES

QC Batch(s) for this order ICP/GFAA V19-AQ-83
Mercury V6-AQ-56

Sample Analysis All samples digested and analyzed within 180 days of collection.
Mercury Analysis All samples analyzed within 28 days of collection.

CALIBRATION

Initial Calibration All criteria met.
Continuing Calibration All criteria met.

SAMPLE ANALYSIS

Instrumentation: Thermo Jarrell Ash Enviro-I ICP
Varian 640Z Zeeman Graphite Furnace
Perkin Elmer 5100ZL Graphite Furnace
Perkin Elmer 6000 Graphite Furnace
Thermo Jarrell Ash AA-Scan 4 Graphite Furnace
CETAC M-6000A Mercury Analyzer
Dilutions Required No dilutions required.

QUALITY CONTROL

0004-399.MQCBLANK

Method Blank

V19-AQ-83BLK ICP/GFAA Metals
V6-AQ-56BLK Mercury

No analytes detected in the Method Blank

0004-399.MQCLCS

Laboratory Control Sample(s)

V19-AQ-83LCS ICP/GFAA Metals
V6-AQ-56LCS Mercury

All criteria met.

0004-399.MQCMSMSD

Matrix Spike / Matrix Spike Dup - ICP Metals

0004-399-01 RPD All analytes within QC limits.
STEFF023 Spike Recovery All analytes within QC limits, except as listed below.

Sodium was flagged as outside QC Limits due to the level of this analyte present relative to the spike amount. A Dilution Test was performed for verification:

Analyte	No Dilution	1:5 Dilution	% Difference	QA Evaluation
Sodium	22.9 mg/L	22.5 mg/L	2	Pass

Refer to Laboratory Control Sample(s) for system verification.

CASE NARRATIVE
METALS - AQUEOUS

Client Name Sverdrup
Project Name DDMT-Dunn Field
ETC Order# 0004-399

QUALITY CONTROL

Matrix Spike / Matrix Spike Dup - Graphite Metals

0004-399-01 RPD All analytes within QC limits.
STEFF023 Spike Recovery All analytes within QC limits.

Refer to Laboratory Control Sample(s) for system verification.

Matrix Spike / Matrix Spike Dup - Hg

0004-399-01 RPD All analytes within QC limits.
STEFF023 Spike Recovery All analytes within QC limits.

Refer to Laboratory Control Sample(s) for system verification.

Dilution Test Dilution result must agree within 10% of original result when sample is diluted by a factor of 5.
Post Digestion Spike Recovery must be +/-15% of expected value.

CDs
Project Manager

WATER METHOD BLANK
METALS

Lab Name

Environmental Testing and Consulting, Inc

Laboratory ID ICP/GFAA Metals

V19-AQ-83 BLK

QC Batch

V19-AQ-83

Laboratory ID Mercury

V6-AQ-56 BLKV6-AQ-56

Date Sample Prepared

04/14/00

ICP/GFAA Metals

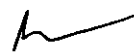
04/19/00

Mercury

Metals	Concentration mg/L	Detection Limit mg/L	Date Analyzed	Method
Silver	ND	0.009	04/19/00	200.7
Aluminum	ND	0.060	04/19/00	200.7
Arsenic	ND	0.003	04/20/00	206.2
Barium	ND	0.003	04/19/00	200.7
Beryllium	ND	0.002	04/19/00	200.7
Calcium	ND	0.015	04/19/00	200.7
Cadmium	ND	0.005	04/19/00	200.7
Cobalt	ND	0.009	04/19/00	200.7
Chromium	ND	0.009	04/19/00	200.7
Copper	ND	0.008	04/19/00	200.7
Iron	ND	0.009	04/19/00	200.7
Potassium	ND	0.250	04/19/00	200.7
Magnesium	ND	0.040	04/19/00	200.7
Manganese	ND	0.003	04/19/00	200.7
Sodium	ND	0.050	04/19/00	200.7
Nickel	ND	0.020	04/19/00	200.7
Lead	ND	0.060	04/19/00	200.7
Antimony	ND	0.040	04/19/00	200.7
Selenium	ND	0.100	04/19/00	200.7
Thallium	ND	0.065	04/19/00	200.7
Vanadium	ND	0.010	04/19/00	200.7
Zinc	ND	0.010	04/19/00	200.7
Mercury	ND	0.0002	04/19/00	245.1

ND - Not Detected

QC Reviewed



WATER LABORATORY CONTROL SAMPLE
METALS

Lab Name Environmental Testing and Consulting, Inc

Laboratory Control ID ICP/GFAA Metals V19-AQ-83 LCS QC Batch V19-AQ-83
Mercury V6-AQ-56 LCS V6-AQ-56

Date Prepared ICP/GFAA Metals 04/14/00
Mercury 04/19/00

Metals	Spike Added mg/L	Found mg/L	% R	#	QC Limits
Silver	0.250	0.267	107	80	120
Aluminum	2.50	2.65	106	80	120
Arsenic	0.063	0.058	92	85	115
Barium	2.50	2.75	110	80	120
Beryllium	0.250	0.269	108	80	120
Calcium	5.00	5.06	101	80	120
Cadmium	0.250	0.272	109	80	120
Cobalt	1.25	1.34	107	80	120
Chromium	0.500	0.536	107	80	120
Copper	0.500	0.562	112	80	120
Iron	2.50	2.69	108	80	120
Potassium	5.00	5.28	106	80	120
Magnesium	5.00	5.15	103	80	120
Manganese	0.250	0.260	104	80	120
Sodium	5.00	5.39	108	80	120
Nickel	1.25	1.33	106	80	120
Lead	1.25	1.30	104	80	120
Antimony	2.50	2.84	114	80	120
Selenium	1.25	1.40	112	80	120
Thallium	1.25	1.21	97	80	120
Vanadium	1.25	1.36	109	80	120
Zinc	0.250	0.270	108	80	120
Mercury	0.0050	0.0053	106	80	120

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

QC Reviewed



WATER MATRIX SPIKE
METALS

Lab Name Environmental Testing and Consulting, Inc

Laboratory ID MS ICP/GFAA Metals	0004-399-01	QC Batch
Laboratory ID MS Mercury	0004-399-01	V19-AQ-83
		V6-AQ-56

Date Sample Prepared	04/14/00	ICP/GFAA Metals
	04/19/00	Mercury

Metals	SPIKE Added mg/L	SAMPLE Conc mg/L	MS Conc mg/L	RPD <20% #	MS % Rec #	QC Limits	
Silver	0.250	ND	0.281	0	112	75	125
Aluminum	2.50	ND	2.80	2	112	75	125
Arsenic	0.063	ND	0.061	0	97	85	115
Barium	2.50	0.111	2.99	0	115	75	125
Beryllium	0.250	ND	0.285	1	114	75	125
Calcium	5.00	21.1	26.9	1	116	75	125
Cadmium	0.250	ND	0.288	1	115	75	125
Cobalt	1.25	ND	1.40	0	112	75	125
Chromium	0.500	ND	0.572	1	114	75	125
Copper	0.500	ND	0.595	3	119	75	125
Iron	2.50	0.048	2.87	1	113	75	125
Potassium	5.00	0.826	6.36	1	111	75	125
Magnesium	5.00	10.9	16.7	1	116	75	125
Manganese	0.250	0.019	0.294	1	110	75	125
Sodium	5.00	22.9	30.2	0	146 *	75	125
Nickel	1.25	ND	1.40	1	112	75	125
Lead	1.25	ND	1.40	1	112	75	125
Antimony	2.50	ND	2.99	2	120	75	125
Selenium	1.25	ND	1.48	1	118	75	125
Thallium	1.25	ND	1.29	2	103	75	125
Vanadium	1.25	ND	1.43	1	114	75	125
Zinc	0.250	0.052	0.347	2	118	75	125
Mercury	0.0050	ND	0.0054	2	108	75	125

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

ND - Not Detected

QC Reviewed 

WATER MATRIX SPIKE DUPLICATE METALS

Lab Name Environmental Testing and Consulting, Inc

Laboratory ID MS ICP/GFAA Metals 0004-399-01 QC Batch V19-AQ-83
Laboratory ID MS Mercury 0004-399-01 V6-AQ-56

Date Sample Prepared 04/14/00 ICP/GFAA Metals
04/19/00 Mercury

Metals	SPIKE Added mg/L	SAMPLE Conc mg/L	MSD Conc mg/L		MSD % Rec	#	QC Limits
Silver	0.250	ND	0.230		112	75	125
Aluminum	2.50	ND	2.74		110	75	125
Arsenic	0.063	ND	0.061		97	85	115
Barium	2.50	0.111	2.98		115	75	125
Beryllium	0.250	ND	0.283		113	75	125
Calcium	5.00	21.1	26.7		112	75	125
Cadmium	0.250	ND	0.284		114	75	125
Cobalt	1.25	ND	1.40		112	75	125
Chromium	0.500	ND	0.565		113	75	125
Copper	0.500	ND	0.580		116	75	125
Iron	2.50	0.048	2.84		112	75	125
Potassium	5.00	0.826	6.32		110	75	125
Magnesium	5.00	10.9	16.5		112	75	125
Manganese	0.250	0.019	0.291		109	75	125
Sodium	5.00	22.9	30.2		146	*	75 125
Nickel	1.25	ND	1.39		111	75	125
Lead	1.25	ND	1.41		113	75	125
Antimony	2.50	ND	2.94		118	75	125
Selenium	1.25	ND	1.46		117	75	125
Thallium	1.25	ND	1.26		101	75	125
Vanadium	1.25	ND	1.41		113	75	125
Zinc	0.250	0.052	0.340		115	75	125
Mercury	0.0050	ND	0.0055		110	75	125

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

ND - Not Detected

QC Reviewed



Environmental Testing & Consulting, Inc.

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

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

Client Name Sverdrup
Project Name DDMT-Dunn Field
ETC Order# 0004-399
Method (SW-846) 8260B/5030B

SAMPLE PRESERVATION (Verified at time of analysis)

All aqueous samples preserved to pH < 2.

HOLDING TIMES

Sample Analysis All samples analyzed within 14 days of collection.

QUALITY CONTROL

<u>QC Batch</u>	<u>Form 4 Summary</u>
V2041702	V2041721LB
V2041801	V2041811LB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits.

Method Blank FORM 4
V2041721LB
V2041811LB

Target Analytes were not detected in the Method Blanks.

Laboratory Control Sample FORM 3
V2041721LCS
V2041811LCS

All acceptance criteria met, except as listed below.

V2041721LCS

Furan, a non-target analyte, was flagged for high recovery in the LCS. There is no effect on the data.

V2041811LCS

Furan, a non-target analyte, was flagged for high recovery in the LCS. There is no effect on the data.

Matrix Spike / Matrix Spike Dup. FORM 3
Batch V2041702

Due to an instrumentation malfunction, data for the associated Matrix Spike and Matrix Spike Duplicate were not acquired.

Refer to Batch V2041801 and Laboratory Control Sample(s) for system verification.

Matrix Spike / Matrix Spike Dup. FORM 3
Batch V2041801

0004-399-01	RPD	All analytes within QC limits.
STEFF023	Spike Recovery	All analytes within QC limits.

Refer to Laboratory Control Sample(s) for system verification.

776 485

ENVIRONMENTAL TESTING AND CONSULTING, INC.

CASE NARRATIVE

GC/MS VOLATILE COMPOUNDS - AQUEOUS

Client Name Sverdrup
Project Name DDMT-Dunn Field
ETC Order# 0004-399
Method (SW-846) 8260B/5030B

CALIBRATION

BFB Daily 12-Hour Tune All criteria met. FORM 5
Initial Calibration All criteria met. FORM 6
Calibration Verification All criteria met. FORM 7

Volatile Internal Standard Area and RT FORM 8

Daily Check Standard(s) Internal Standard Areas and Retention Times within QC limits.

SAMPLE ANALYSIS

Instrumentation HP 5890 Series II GC, 5971MSD
Dilutions Required No dilutions required.

CDs
Project Manager

000032

FORM 2
WATER VOA-GCMS SYSTEM MONITORING COMPOUND RECOVERY

776 486

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER	TOT OUT
	=====	=====	=====	=====	=====	=====
01	V2041721LCS	93	92	94		0
02	V2041721LB	91	93	94		0
03	0004-399-3	92	94	96		0
04	0004-399-2	93	96	99		0
05	V2041811LCS	100	98	102		0
06	V2041811LB	99	99	103		0
07	0004-399-1	99	100	103		0
08	0004-399-1MS	101	99	99		0
09	0004-399-1MS	99	100	101		0
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QC LIMITS

SMC1 = Dibromofluoromethane (74-123)

SMC2 (TOL) = Toluene-d8 (86-112)

SMC3 (BFB) = Bromofluorobenzene (81-115)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

776 487

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

Lab Name: ETC, INC.

Contract:

V2041721LB

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Lab File ID: 0302004

Lab Prep Batch: V2041702

Date Analyzed: 04/17/00

Time Analyzed: 1642

GC Column: ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC2

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

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	V2041721LCS	V2041702	0201002LCS	1457
02	0004-399-3	V2041702	0401005	1729
03	0004-399-2	V2041702	0701008	1947
04				
05				
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COMMENTS:

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

776 488

CLIENT SAMPLE NO.

V2041721LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix: (soil/water) WATER

Lab Prep Batch: V2041702

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

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/17/00

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	25.00	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
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
78-93-3-----	2-Butanone	20.00	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
110-75-0-----	2-Chloroethyl vinyl Ether	5.00	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

000035

776 489

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2041721LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix: (soil/water) WATER

Lab Prep Batch: V2041702

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

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/17/00

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
67-64-1-----	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
156-59-4-----	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
590-20-7-----	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
87-63-3-----	Hexachlorobutadiene	1.00	U
110-54-3-----	Hexane	5.00	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	1.00	U
80-62-6-----	Methyl methacrylate	1.00	U
108-10-1-----	4-Methyl-2-Pentanone	5.00	U
1634-04-4-----	Methyl-tertbutyl-Ether	1.00	U
91-20-3-----	Naphthalene	1.00	U
76-01-7-----	Pentachloroethane	1.00	U

FORM I VOA-GCMS

000036

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

776 490 CLIENT SAMPLE NO.

V2041721LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix: (soil/water) WATER

Lab Prep Batch: V2041702

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

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/17/00

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

107-12-0-----	Propionitrile	10.00	U
109-60-4-----	n-Propyl Acetate	1.00	U
103-65-1-----	n-Propylbenzene	1.00	U
100-42-5-----	Styrene	1.00	U
630-20-6-----	1,1,1,2-Tetrachloroethane	1.00	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1.00	U
127-18-4-----	Tetrachloroethene	1.00	U
109-99-9-----	Tetrahydrofuran	1.00	U
108-88-3-----	Toluene	1.00	U
87-61-6-----	1,2,3-Trichlorobenzene	1.00	U
120-82-1-----	1,2,4-Trichlorobenzene	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
108-67-8-----	1,3,5-Trimethylbenzene	1.00	U
108-05-4-----	Vinyl Acetate	5.00	U
75-01-4-----	Vinyl Chloride	1.00	U
1330-20-7-----	Xylene-mp	2.00	U
95-47-6-----	Xylene-o	1.00	U

776 491

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

CLIENT SAMPLE NO.

V2041721LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0302004

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/17/00

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

000038

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

776 492

Lab Name: ETC, INC.

Lab Prep Batch: V2041702

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix Spike - Sample No.: V2041721LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acetone	100.0		99.11	99	59-151
Acetonitrile	1000		880.1	88	57-143
Acrolein	100.0		87.18	87	59-134
Acrylonitrile	100.0		92.94	93	60-146
Allyl chloride	100.0		89.38	89	74-120
Benzene	100.0		95.34	95	72-124
Bromobenzene	100.0		95.10	95	77-120
Bromochloromethane	100.0		91.06	91	74-120
Bromodichloromethane	100.0		92.18	92	68-119
Bromoform	100.0		103.3	103	66-136
Bromomethane	100.0		87.46	87	40-134
n-Butylbenzene	100.0		111.0	111	69-129
sec-Butylbenzene	100.0		98.32	98	72-127
tert-Butylbenzene	100.0		96.90	97	73-126
Carbon Disulfide	100.0		71.80	72	60-133
2-Butanone	100.0		99.93	100	55-151
Carbon Tetrachloride	100.0		97.57	98	64-123
Chlorobenzene	100.0		94.89	95	77-112
Chlorodibromomethane	100.0		92.09	92	72-118
Chloroethane	100.0		91.24	91	64-142
2-Chloroethyl vinyl Eth	100.0		76.12	76	22-165
Chloroform	100.0		91.56	92	70-115
Chloromethane	100.0		89.86	90	58-139
Chloroprene	100.0		93.83	94	73-118
2-Chlorotoluene	100.0		97.92	98	65-132
4-Chlorotoluene	100.0		98.60	99	67-127
1,2-Dibromo-3-chloropro	100.0		106.6	107	56-134
1,2-Dibromoethane	100.0		92.53	92	74-118

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

* Values outside of QC limits

COMMENTS:

776 493

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V2041702

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix Spike - Sample No.: V2041721LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Dibromomethane	100.0		93.79	94	75-114
1,2-Dichlorobenzene	100.0		103.9	104	80-113
1,3-Dichlorobenzene	100.0		107.5	108	77-119
1,4-Dichlorobenzene	100.0		105.2	105	78-116
cis-1,4-Dichloro-2-bute	100.0		106.4	106	62-138
trans-1,4-Dichloro-2-bu	100.0		100.4	100	62-138
Dichlorodifluoromethane	100.0		83.20	83	48-145
1,1-Dichloroethane	100.0		93.94	94	76-118
1,2-Dichloroethane	100.0		95.16	95	62-124
1,1-Dichloroethene	100.0		93.56	94	69-121
cis-1,2-Dichloroethene	100.0		93.76	94	76-114
trans-1,2-Dichloroethen	100.0		95.98	96	72-121
1,2-Dichloropropane	100.0		93.40	93	64-133
1,3-Dichloropropane	100.0		94.50	94	68-128
2,2-Dichloropropane	100.0		101.7	102	67-132
1,1-Dichloropropene	100.0		97.50	98	76-117
cis-1,3-Dichloropropene	100.0		96.76	97	77-120
trans-1,3-Dichloroprope	100.0		96.07	96	73-124
Di isopropyl ether	100.0		89.03	89	62-160
1,4-Dioxane	2000		1940	97	56-131
Ethyl Acetate	100.0		92.87	93	52-151
Ethylbenzene	100.0		97.80	98	77-111
Ethyl methacrylate	200.0		184.2	92	57-140
Furan	100.0		138.0	138*	52-124
Hexachlorobutadiene	100.0		109.4	109	69-137
Hexane	100.0		93.78	94	70-130
2-Hexanone	100.0		94.81	95	53-144
Iodomethane	100.0		64.40	64	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: V2041702

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix Spike - Sample No.: V2041721LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	2000		1901	95	60-134
Isopropylbenzene	100.0		98.06	98	74-125
4-Isopropyltoluene	100.0		98.10	98	72-127
Methacrylonitrile	1000		727.6	73	70-125
Methylene Chloride	100.0		92.36	92	76-115
Methyl methacrylate	200.0		184.0	92	57-147
4-Methyl-2-Pentanone	100.0		92.22	92	42-144
Methyl-tertbutyl-Ether	100.0		92.57	92	62-122
Naphthalene	100.0		101.0	101	53-124
Pentachloroethane	100.0		108.0	108	78-126
Propionitrile	1000		934.6	93	58-139
n-Propyl Acetate	100.0		139.8	140	88-170
n-Propylbenzene	100.0		99.50	100	75-125
Styrene	100.0		96.22	96	77-117
1,1,1,2-Tetrachloroetha	100.0		93.78	94	79-113
1,1,2,2-Tetrachloroetha	100.0		101.9	102	67-126
Tetrachloroethene	100.0		96.97	97	77-115
Tetrahydrofuran	100.0		87.57	88	76-181
Toluene	100.0		91.45	91	77-115
1,2,3-Trichlorobenzene	100.0		106.2	106	62-132
1,2,4-Trichlorobenzene	100.0		109.1	109	68-132
1,1,1-Trichloroethane	100.0		95.63	96	63-122
1,1,2-Trichloroethane	100.0		92.82	93	69-117
1,1,2-trichloro-1,2,2-t	100.0		95.79	96	70-130
Trichloroethene	100.0		92.00	92	75-113
Trichlorofluoromethane	100.0		93.88	94	55-130
1,2,3-Trichloropropane	100.0		91.82	92	62-130
1,2,4-Trimethylbenzene	100.0		96.16	96	69-126

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

* Values outside of QC limits

COMMENTS:

776.495

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V2041702

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix Spike - Sample No.: V2041721LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
1,3,5-Trimethylbenzene	100.0		96.70	97	69-128
Vinyl Acetate	100.0		95.04	95	28-146
Vinyl Chloride	100.0		88.72	89	65-134
Xylene-mp	200.0		198.0	99	77-115
Xylene-o	100.0		96.33	96	77-115

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

* Values outside of QC limits

RPD: 0 out of 0 outside limits

Spike Recovery: 1 out of 89 outside limits

COMMENTS:

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

776 496

CLIENT SAMPLE NO.

Lab Name: ETC, INC.

Contract:

V2041811LB

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Lab File ID: 0401002

Lab Prep Batch: V2041801

Date Analyzed: 04/18/00

Time Analyzed: 1128

GC Column: ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC2

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

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	V2041811LCS	V2041801	0201002LCS	0938
02	0004-399-1	V2041801	0501003	1215
03	0004-399-1MS	V2041801	1601012	2041
04	0004-399-1MS	V2041801	1701013	2126
05				
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COMMENTS:

776 497

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

Lab Name: ETC, INC.

Contract:

V2041811LB

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix: (soil/water) WATER

Lab Prep Batch: V2041801

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

Lab File ID: 0401002

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/18/00

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	25.00	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
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
78-93-3-----	2-Butanone	20.00	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
110-75-0-----	2-Chloroethyl vinyl Ether	5.00	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

000044

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

776 498

CLIENT SAMPLE NO.

V2041811LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix: (soil/water) WATER

Lab Prep Batch: V2041801

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

Lab File ID: 0401002

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/18/00

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
67-64-1-----	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
156-59-4-----	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
590-20-7-----	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
87-63-3-----	Hexachlorobutadiene	1.00	U
110-54-3-----	Hexane	5.00	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	1.00	U
80-62-6-----	Methyl methacrylate	1.00	U
108-10-1-----	4-Methyl-2-Pentanone	5.00	U
1634-04-4-----	Methyl-tertbutyl-Ether	1.00	U
91-20-3-----	Naphthalene	1.00	U
76-01-7-----	Pentachloroethane	1.00	U

FORM I VOA-GCMS

000045

776 499

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

Lab Name: ETC, INC.

Contract:

V2041811LB

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix: (soil/water) WATER

Lab Prep Batch: V2041801

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

Lab File ID: 0401002

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/18/00

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.

COMPOUND

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

Q

107-12-0-----	Propionitrile	10.00	U
109-60-4-----	n-Propyl Acetate	1.00	U
103-65-1-----	n-Propylbenzene	1.00	U
100-42-5-----	Styrene	1.00	U
630-20-6-----	1,1,1,2-Tetrachloroethane	1.00	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1.00	U
127-18-4-----	Tetrachloroethene	1.00	U
109-99-9-----	Tetrahydrofuran	1.00	U
108-88-3-----	Toluene	1.00	U
87-61-6-----	1,2,3-Trichlorobenzene	1.00	U
120-82-1-----	1,2,4-Trichlorobenzene	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
108-67-8-----	1,3,5-Trimethylbenzene	1.00	U
108-05-4-----	Vinyl Acetate	5.00	U
75-01-4-----	Vinyl Chloride	1.00	U
1330-20-7-----	Xylene-mp	2.00	U
95-47-6-----	Xylene-o	1.00	U

FORM I VOA-GCMS

000046

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

776 500 CLIENT SAMPLE NO.

V2041811LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0401002

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/18/00

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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776 501

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V2041801

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix Spike - Sample No.: V2041811LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acetone	100.0		85.66	86	59-151
Acetonitrile	1000		832.2	83	57-143
Acrolein	100.0		75.15	75	59-134
Acrylonitrile	100.0		87.54	88	60-146
Allyl chloride	100.0		90.18	90	74-120
Benzene	100.0		96.00	96	72-124
Bromobenzene	100.0		99.84	100	77-120
Bromochloromethane	100.0		89.14	89	74-120
Bromodichloromethane	100.0		93.77	94	68-119
Bromoform	100.0		96.84	97	66-136
Bromomethane	100.0		78.71	79	40-134
n-Butylbenzene	100.0		119.1	119	69-129
sec-Butylbenzene	100.0		108.0	108	72-127
tert-Butylbenzene	100.0		104.0	104	73-126
Carbon Disulfide	100.0		96.82	97	60-133
2-Butanone	100.0		92.85	93	55-151
Carbon Tetrachloride	100.0		98.63	99	64-123
Chlorobenzene	100.0		99.35	99	77-112
Chlorodibromomethane	100.0		89.84	90	72-118
Chloroethane	100.0		94.50	94	64-142
2-Chloroethyl vinyl Eth	100.0		90.43	90	22-165
Chloroform	100.0		92.82	93	70-115
Chloromethane	100.0		110.5	110	58-139
Chloroprene	100.0		94.32	94	73-118
2-Chlorotoluene	100.0		105.6	106	65-132
4-Chlorotoluene	100.0		105.5	106	67-127
1,2-Dibromo-3-chloropro	100.0		103.0	103	56-134
1,2-Dibromoethane	100.0		90.56	90	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

776 502

Lab Name: ETC, INC.

Lab Prep Batch: V2041801

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix Spike - Sample No.: V2041811LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dibromomethane	100.0		93.53	94	75-114
1,2-Dichlorobenzene	100.0		104.7	105	80-113
1,3-Dichlorobenzene	100.0		107.8	108	77-119
1,4-Dichlorobenzene	100.0		106.0	106	78-116
cis-1,4-Dichloro-2-bute	100.0		107.2	107	62-138
trans-1,4-Dichloro-2-bu	100.0		99.08	99	62-138
Dichlorodifluoromethane	100.0		85.16	85	48-145
1,1-Dichloroethane	100.0		94.49	94	76-118
1,2-Dichloroethane	100.0		92.38	92	62-124
1,1-Dichloroethene	100.0		95.82	96	69-121
cis-1,2-Dichloroethene	100.0		95.37	95	76-114
trans-1,2-Dichloroethen	100.0		98.02	98	72-121
1,2-Dichloropropane	100.0		95.48	95	64-133
1,3-Dichloropropane	100.0		95.72	96	68-128
2,2-Dichloropropane	100.0		103.8	104	67-132
1,1-Dichloropropene	100.0		100.4	100	76-117
cis-1,3-Dichloropropene	100.0		97.93	98	77-120
trans-1,3-Dichloroprope	100.0		98.52	98	73-124
Di isopropyl ether	100.0		90.41	90	62-160
1,4-Dioxane	2000		1900	95	56-131
Ethyl Acetate	100.0		87.84	88	52-151
Ethylbenzene	100.0		103.7	104	77-111
Ethyl methacrylate	200.0		182.7	91	57-140
Furan	100.0		128.5	128*	52-124
Hexachlorobutadiene	100.0		120.1	120	69-137
Hexane	100.0		112.7	113	70-130
2-Hexanone	100.0		90.07	90	53-144
Iodomethane	100.0		52.91	53	51-153

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

* Values outside of QC limits

COMMENTS:

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: V2041801

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix Spike - Sample No.: V2041811LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Isobutyl Alcohol	2000		1766	88	60-134
Isopropylbenzene	100.0		104.8	105	74-125
4-Isopropyltoluene	100.0		106.9	107	72-127
Methacrylonitrile	1000		887.0	89	70-125
Methylene Chloride	100.0		93.98	94	76-115
Methyl methacrylate	200.0		179.0	90	57-147
4-Methyl-2-Pentanone	100.0		89.26	89	42-144
Methyl-tertbutyl-Ether	100.0		90.28	90	62-122
Naphthalene	100.0		103.9	104	53-124
Pentachloroethane	100.0		108.3	108	78-126
Propionitrile	1000		883.8	88	58-139
n-Propyl Acetate	100.0		133.2	133	88-170
n-Propylbenzene	100.0		108.9	109	75-125
Styrene	100.0		101.0	101	77-117
1,1,1,2-Tetrachloroetha	100.0		95.30	95	79-113
1,1,2,2-Tetrachloroetha	100.0		97.46	97	67-126
Tetrachloroethene	100.0		98.83	99	77-115
Tetrahydrofuran	100.0		82.46	82	76-181
Toluene	100.0		94.87	95	77-115
1,2,3-Trichlorobenzene	100.0		112.7	113	62-132
1,2,4-Trichlorobenzene	100.0		116.6	117	68-132
1,1,1-Trichloroethane	100.0		96.23	96	63-122
1,1,2-Trichloroethane	100.0		93.10	93	69-117
1,1,2-trichloro-1,2,2-t	100.0		96.52	96	70-130
Trichloroethene	100.0		95.26	95	75-113
Trichlorofluoromethane	100.0		95.37	95	55-130
1,2,3-Trichloropropane	100.0		91.10	91	62-130
1,2,4-Trimethylbenzene	100.0		105.8	106	69-126

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: V2041801

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix Spike - Sample No.: V2041811LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
1,3,5-Trimethylbenzene	100.0		105.8	106	69-128
Vinyl Acetate	100.0		91.89	92	28-146
Vinyl Chloride	100.0		94.15	94	65-134
Xylene-mp	200.0		207.3	104	77-115
Xylene-o	100.0		102.5	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: 1 out of 89 outside limits

COMMENTS:

776 505

FORM 3

WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC, INC.

Lab Prep Batch: V2041801

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix Spike - Sample No.: 0004-399-1

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Benzene	100.0	0.000	102.9	103	72-124
Chlorobenzene	100.0	0.000	102.5	102	77-112
1,1-Dichloroethene	100.0	15.41	111.2	96	69-121
Toluene	100.0	0.000	99.89	100	77-115
Trichloroethene	100.0	135.1	227.0	92	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD REC.
=====	=====	=====	=====	=====	=====
Benzene	100.0	104.2	104	1	20 72-124
Chlorobenzene	100.0	106.0	106	4	20 77-112
1,1-Dichloroethene	100.0	111.3	96	0	20 69-121
Toluene	100.0	104.0	104	4	20 77-115
Trichloroethene	100.0	231.4	96	4	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 III
GC/MS Semi-Volatiles**

776 507

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

Client Name Sverdrup
Project Name DDMT-Dunn Field
ETC Order# 0004-399
Method (SW-846) 8270C/3510C

HOLDING TIMES

Sample Extraction All aqueous samples extracted within 7 days.
Sample Analysis All samples analyzed within 40 days of extraction.

QUALITY CONTROL

QC Batch Form 4 Summary
P05322 P05322LB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits.

Method Blank FORM 4
P05322LB

Target analytes were not detected in the Method Blanks, except as listed below.

Bis(2-ethylhexyl)phthalate detected at a concentration of 5.49 ug/L. This analyte was not identified in associated project samples. There is no effect on the data.

Laboratory Control Sample FORM 3
P05322LCS

All acceptance criteria met, except as listed below.

Benzidine (non-target analyte), Di-n-Butylphthalate, Di-n-octyl phthalate, and 3,3-Dimethylbenzidine (non-target analyte) exceeded control limits the LCS. These analytes were not identified in associated samples. There is no effect on the data. Benzoic Acid was flagged below control limits in the LCS. This slightly low recovery does not affect the data. The laboratory spiked the LCS with all target compounds and all recoveries were within QC Limits except as previously noted. Due to the large number of spike compounds, it is likely that a few compounds may be out of control limits. It is ETC, Inc. QC policy that 90% of all spike compound recoveries are within control limits. The LCS complies with this requirement.

Matrix Spike / Matrix Spike Dup FORM 3

Batch P05322

0004-399-01

STEFF023

RPD

Spike Recovery All analytes within QC limits, except as listed below.

All analytes within QC limits.

2,4-Dinitrotoluene was flagged for high recovery in the MS/MSD. This analyte was not detected in the associated samples. There is no effect on the data. Phenol was flagged below control limits in the MS/MSD. This analyte was not detected in the associated samples.

Refer to Laboratory Control Sample(s) for system verification.

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

776 508

Client Name Sverdrup
Project Name DDMT-Dunn Field
ETC Order# 0004-399
Method (SW-846) 8270C/3510C

CALIBRATION

DFTPP Daily 12-Hour Tune All criteria met. FORM 5
Initial Calibration All criteria met. FORM 6
Calibration Verification All criteria met. FORM 7, except as listed below.

Calibration Verification (CV): Date 04/19/00 Time: 1612

Analyte	%Diff(30% Max)	Response
Benzidine	+52.5	High
Carbazole	+49.4	High
Di-n-Butylphthalate	+56.0	High
3,3'-Dimethylbenzidine	+71.5	High
2,4-Dinitrophenol	+35.5	High
2,4-Dinitrotoluene	+38.7	High
Hexachlorocyclopentadiene	+53.8	High
4-Nitrophenol	+52.3	High

Samples affected by this CV include P05322LB, P05322LCS, 0004-399-01, and 0004-399-02. High responses indicate that reported levels for these analytes may be biased high. These analytes were not identified in associated project samples. There is no effect on the data. High response may account for the high LCS recoveries.

Semi-Volatile Internal Standard Area and RT FORM 8

Daily Check Standard(s) Internal Standard Areas and Retention Times within QC limits.

SAMPLE ANALYSIS

Instrumentation HP 5890 Series II GC, 5971MSD
Dilutions Required No dilutions required.

P. V. L.
Project Manager

000055

FORM 2
WATER BNA-GCMS SURROGATE RECOVERY

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

	CLIENT SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (TBP) #	S6 (2FP) #	S7 #	S8 #	TOT OUT
01	P05322LB	84	86	69	36	81	58			
02	P05322LCS	76	81	69	32	82	47			0
03	0004-399-1	82	85	93	34	79	50			0
04	0004-399-1MS	79	85	80	34	80	52			0
05	0004-399-1MS	81	88	79	33	80	53			0
06	0004-399-2	77	84	77	32	72	47			0
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QC LIMITS

S1 (NBZ) = Nitrobenzene-d5 (29-110)
 S2 (FBP) = 2-Fluorobiphenyl (38-107)
 S3 (TPH) = Terphenyl-d14 (33-122)
 S4 (PHL) = Phenol-d6 (7- 58)
 S5 (TBP) = 2,4,6-Tribromophenol (16-138)
 S6 (2FP) = 2-Fluorophenol (8- 88)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D Surrogate diluted out

FORM 4
BNA-GCMS METHOD BLANK SUMMARY

776 510

CLIENT SAMPLE NO.

P05322LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Lab File ID: 0301004

Lab Prep Batch: P05322

Instrument ID: BNA2

Date Extracted:

Matrix: (soil/water) WATER

Date Analyzed: 04/19/00

Level: (low/med) LOW

Time Analyzed: 1645

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

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	P05322LCS	P05322	0601007	04/19/00
02	0004-399-1	P05322	0801009	04/19/00
03	0004-399-1MS	P05322	0901010	04/19/00
04	0004-399-1MS	P05322	1001011	04/19/00
05	0004-399-2	P05322	1101012	04/19/00
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COMMENTS:

776 511

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

P05322LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix: (soil/water) WATER

Lab Prep Batch: P05322

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: 0301004

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: 1 (mL)

Date Analyzed: 04/19/00

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

83-32-9-----	Acenaphthene	2.00	U
208-96-8-----	Acenaphthylene	2.00	U
98-86-2-----	Acetophenone	5.00	U
62-53-3-----	Aniline	5.00	U
120-12-7-----	Anthracene	2.00	U
92-87-5-----	Benzidine	20.00	U
56-55-3-----	Benz (a) Anthracene	2.00	U
205-99-2-----	Benzo (b) fluoranthene	2.00	U
207-08-9-----	Benzo (k) fluoranthene	2.00	U
191-24-2-----	Benzo (ghi) perylene	2.00	U
50-32-8-----	Benzo (a) pyrene	2.00	U
65-85-0-----	Benzoic acid	50.00	U
100-51-6-----	Benzyl alcohol	5.00	U
111-91-1-----	Bis (2-chloroethoxy) methane	5.00	U
111-44-4-----	Bis (2-chloroethyl) ether	5.00	U
108-60-1-----	Bis (2-chloroisopropyl) ether	5.00	U
117-81-7-----	Bis (2-ethylhexyl) phthalate	5.49	U
101-55-3-----	4-Bromophenyl phenyl ether	5.00	U
85-68-7-----	Butyl benzyl phthalate	5.00	U
86-74-8-----	Carbazole	2.00	U
106-47-8-----	4-Chloroaniline	5.00	U
510-15-6-----	Chlorobenzilate	5.00	U
59-50-7-----	4-Chloro-3-methylphenol	5.00	U
91-58-7-----	2-Chloronaphthalene	2.00	U
95-57-8-----	2-Chlorophenol	5.00	U
7005-72-3-----	4-Chlorophenyl phenyl ether	5.00	U
218-01-9-----	Chrysene	2.00	U
53-70-3-----	Dibenz (a,h) anthracene	2.00	U
132-64-9-----	Dibenzofuran	5.00	U
84-74-2-----	Di-n-butyl phthalate	5.00	U
95-50-1-----	1,2-Dichlorobenzene	5.00	U
541-73-1-----	1,3-Dichlorobenzene	5.00	U
106-46-7-----	1,4-Dichlorobenzene	5.00	U

FORM I BNA-GCMS

000058

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET

776 512

CLIENT SAMPLE NO.

P05322LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix: (soil/water) WATER

Lab Prep Batch: P05322

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: 0301004

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: 1 (mL)

Date Analyzed: 04/19/00

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

91-94-1-----	3,3'-Dichlorobenzidine	10.00	U
120-83-2-----	2,4-Dichlorophenol	5.00	U
87-65-0-----	2,6-Dichlorophenol	5.00	U
84-66-2-----	Diethyl phthalate	5.00	U
119-93-7-----	3,3-Dimethylbenzidine	10.00	U
105-67-9-----	2,4-Dimethyphenol	5.00	U
131-11-3-----	Dimethyl phthalate	5.00	U
534-52-1-----	4,6-Dinitro-2-methylphenol	10.00	U
51-28-5-----	2,4-Dinitrophenol	20.00	U
121-14-2-----	2,4-Dinitrotoluene	5.00	U
606-20-2-----	2,6-Dinitrotoluene	5.00	U
122-39-4-----	N-NitrosdiphyAm/Diphenylamin	5.00	U
117-84-0-----	Di-n-octyl phthalate	5.00	U
62-50-0-----	Ethyl methanesulfonate	5.00	U
206-44-0-----	Fluoranthene	2.00	U
86-73-7-----	Fluorene	2.00	U
118-74-1-----	Hexachlorobenzene	5.00	U
87-68-3-----	Hexachlorobutadiene	5.00	U
77-47-4-----	Hexachlorocyclopentadiene	5.00	U
67-72-1-----	Hexachloroethane	5.00	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	2.00	U
78-59-1-----	Isophorone	5.00	U
66-27-3-----	Methyl methanesulfonate	5.00	U
91-57-6-----	2-Methylnaphthalene	2.00	U
95-48-7-----	2-Methylphenol	5.00	U
108-39-4-----	3&4-Methylphenol	5.00	U
91-20-3-----	Naphthalene	2.00	U
88-74-4-----	2-Nitroaniline	10.00	U
99-09-2-----	3-Nitroaniline	10.00	U
100-01-6-----	4-Nitroaniline	10.00	U
98-95-3-----	Nitrobenzene	5.00	U
88-75-5-----	2-Nitrophenol	10.00	U
100-02-7-----	4-Nitrophenol	5.00	U

FORM I BNA-GCMS

000059

776 513

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

P05322LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix: (soil/water) WATER

Lab Prep Batch: P05322

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: 0301004

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: 1 (mL)

Date Analyzed: 04/19/00

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

924-16-3-----	N-Nitrosodibutylamine	5.00	U
55-18-5-----	N-Nitrosodiethylamine	5.00	U
129-00-0-----	N-Nitrosodimethylamine	5.00	U
621-64-7-----	N-Nitrosodi-n-propylamine	5.00	U
82-68-8-----	Pentachloronitrobenzene	10.00	U
87-86-5-----	Pentachlorophenol	5.00	U
62-44-2-----	Phenacetin	5.00	U
85-01-8-----	Phenanthrene	2.00	U
108-95-2-----	Phenol	5.00	U
129-00-0-----	Pyrene	2.00	U
110-86-1-----	Pyridine	5.00	U
95-94-3-----	1,2,4,5-Tetrachlorobenzene	5.00	U
58-90-2-----	2,3,4,6-Tetrachlorophenol	5.00	U
120-82-1-----	1,2,4-Trichlorobenzene	5.00	U
95-95-4-----	2,4,5-Trichlorophenol	5.00	U
88-06-2-----	2,4,6-Trichlorophenol	5.00	U
103-33-3-----	1,2-Dphenylhydrazine/Azobenzen	5.00	U

FORM I BNA-GCMS

000060

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

776 514

CLIENT SAMPLE NO.

P05322LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix: (soil/water) WATER

Lab Sample ID:

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: 0301004

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: 1 (mL)

Date Analyzed: 04/19/00

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 9

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 563-80-4	2-BUTANONE, 3-METHYL-	2.20	41.10	NJ
2. 594-36-5	BUTANE, 2-CHLORO-2-METHYL-	2.27	13.31	NJ
3. 13417-43-1	2-BUTENE, 1-CHLORO-2-METHYL-	2.50	4.46	NJ
4. 928-97-2	3-HEXEN-1-OL, (E) -	3.46	4.62	NJ
5. 625-27-4	2-PENTENE, 2-METHYL-	4.12	7.68	NJ
6. 107-86-8	2-BUTENAL, 3-METHYL-	4.35	21.78	NJ
7. 0-00-0	2,3,3-TRIMETHYL-1-HEXENE	4.45	7.97	NJ
8. 4291-79-6	CYCLOHEXANE, 1-METHYL-2-PROP	4.56	22.70	NJ
9.	UNKNOWN	9.84	66.72	J
10.				
11.				
12.				
13.				
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27.				
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29.				
30.				

FORM I BNA-GCMS-TIC

000061

FORM 3
WATER BNA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: P05322

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix Spike - Sample No.: P05322LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acenaphthene	50.00		47.02	94	37-123
Acenaphthylene	50.00		44.87	90	67-118
Acetophenone	50.00		44.33	89	60-120
Aniline	50.00		42.01	84	25-102
Anthracene	50.00		49.15	98	68-124
Benzidine	50.00		76.74	153*	22-127
Benz(a)Anthracene	50.00		48.26	96	69-125
Benzo(b)fluoranthene	50.00		45.18	90	68-127
Benzo(k)fluoranthene	50.00		41.02	82	73-128
Benzo(ghi)perylene	50.00		47.02	94	53-138
Benzo(a)pyrene	50.00		46.90	94	73-125
Benzoic acid	50.00		6.29	12*	20-150
Benzyl alcohol	50.00		33.55	67	23-142
Bis(2-chloroethoxy)meth	50.00		51.73	103	45-135
Bis(2-chloroethyl)ether	50.00		42.07	84	51-120
Bis(2-chloroisopropyl)e	50.00		38.75	78	34-137
Bis(2-ethylhexyl)phthal	50.00		52.77	106	61-151
4-Bromophenyl phenyl et	50.00		42.06	84	60-120
Butyl benzyl phthalate	50.00		47.50	95	60-120
Carbazole	50.00		62.05	124	37-156
4-Chloroaniline	50.00		48.98	98	45-135
Chlorobenzilate	50.00		37.65	75	20-150
4-Chloro-3-methylphenol	50.00		46.62	93	33-134
2-Chloronaphthalene	50.00		51.87	104	63-121
2-Chlorophenol	50.00		36.95	74	17-134
4-Chlorophenyl phenyl e	50.00		43.46	87	60-120
Chrysene	50.00		48.68	97	70-124
Dibenz(a,h)anthracene	50.00		51.05	102	57-136

Column to be used to flag recovery and RPD values with an asterisk
 * Values outside of QC limits

COMMENTS:

FORM 3
WATER BNA-GCMS LAB CONTROL SAMPLE

776 516

Lab Name: ETC, INC.

Lab Prep Batch: P05322

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix Spike - Sample No.: P05322LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dibenzofuran	50.00		44.28	88	64-122
Di-n-butyl phthalate	50.00		64.00	128*	60-120
1,2-Dichlorobenzene	50.00		37.68	75	39-101
1,3-Dichlorobenzene	50.00		39.44	79	38- 98
1,4-Dichlorobenzene	50.00		35.75	72	31- 97
3,3'-Dichlorobenzidine	50.00		55.03	110	35-165
2,4-Dichlorophenol	50.00		47.22	94	13-146
2,6-Dichlorophenol	50.00		47.09	94	20-150
Diethyl phthalate	50.00		51.80	104	60-120
3,3-Dimethylbenzidine	50.00		79.81	160*	20-150
2,4-Dimethyphenol	50.00		40.99	82	51-118
Dimethyl phthalate	50.00		47.52	95	60-120
4,6-Dinitro-2-methylphe	50.00		51.37	103	15-150
2,4-Dinitrophenol	50.00		52.76	106	12-182
2,4-Dinitrotoluene	50.00		59.75	120	34-130
2,6-Dinitrotoluene	50.00		50.87	102	62-135
N-NitrsdiphyllAm/Dipheny	100.0		78.68	79	45-135
Di-n-octyl phthalate	50.00		61.14	122*	60-120
Ethyl methanesulfonate	50.00		40.12	80	45-135
Fluoranthene	50.00		45.09	90	55-135
Fluorene	50.00		47.70	95	66-121
Hexachlorobenzene	50.00		43.45	87	65-133
Hexachlorobutadiene	50.00		44.29	88	50-112
Hexachlorocyclopentadie	50.00		38.37	77	21-141
Hexachloroethane	50.00		40.29	80	37-100
Indeno(1,2,3-cd)pyrene	50.00		47.71	95	57-140
Isophorone	50.00		50.26	100	13-146
Methyl methanesulfonate	50.00		26.54	53	45-135

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

COMMENTS:

776 517

FORM 3
WATER BNA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Lab Prep Batch: P05322

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix Spike - Sample No.: P05322LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
2-Methylnaphthalene	50.00		46.87	94	50-124
2-Methylphenol	50.00		32.98	66	48-117
3&4-Methylphenol	50.00		31.51	63	46- 99
Naphthalene	50.00		45.58	91	55-113
2-Nitroaniline	50.00		47.34	95	63-129
3-Nitroaniline	50.00		51.48	103	61-120
4-Nitroaniline	50.00		47.84	96	60-126
Nitrobenzene	50.00		48.14	96	57-120
2-Nitrophenol	50.00		49.18	98	27-137
4-Nitrophenol	50.00		23.09	46	20-150
N-Nitrosodibutylamine	50.00		52.47	105	60-120
N-Nitrosodiethylamine	50.00		38.33	77	60-120
N-Nitrosodimethylamine	50.00		30.25	60	30- 96
N-Nitrosodi-n-propylami	50.00		42.05	84	60-120
Pentachloronitrobenzene	50.00		44.57	89	20-150
Pentachlorophenol	50.00		52.74	105	22-171
Phenacetin	50.00		53.19	106	20-150
Phenanthrene	50.00		47.67	95	65-126
Phenol	50.00		18.65	37	12- 57
Pyrene	50.00		34.75	70	40-149
Pyridine	50.00		22.70	45	10- 82
1,2,4,5-Tetrachlorobenz	50.00		41.13	82	60-120
2,3,4,6-Tetrachlorophen	50.00		46.06	92	20-150
1,2,4-Trichlorobenzene	50.00		43.94	88	29-116
2,4,5-Trichlorophenol	50.00		45.60	91	31-147
2,4,6-Trichlorophenol	50.00		41.82	84	31-147
1,2-Dphnylhydrzine/Azob	50.00		40.30	81	45-135

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 83 outside limits

COMMENTS:

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

776 518

Lab Name: ETC, INC.

Lab Prep Batch: P05322

Lab Code:

Case No.:

SAS No.:

SDG No.: 0004-399

Matrix Spike - Sample No.: 0004-399-1

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acenaphthene	100.0	0.000	86.18	86	45- 99
4-Chloro-3-methylphenol	160.0	0.000	101.9	64	35-113
2-Chlorophenol	160.0	0.000	100.7	63	38-100
1,4-Dichlorobenzene	100.0	0.000	69.25	69	40- 90
2,4-Dinitrotoluene	100.0	0.000	114.1	114*	34-110
4-Nitrophenol	160.0	0.000	64.25	40	9- 92
Pentachlorophenol	160.0	0.000	121.8	76	28-124
Phenol	160.0	0.000	42.15	26*	37-103
Pyrene	100.0	0.000	67.64	68	60-127
1,2,4-Trichlorobenzene	100.0	0.000	68.73	69	45- 94

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS	
=====	=====	=====	=====	=====	=====	=====
Acenaphthene	100.0	90.50	90	4	20	45- 99
4-Chloro-3-methylphenol	160.0	103.1	64	0	20	35-113
2-Chlorophenol	160.0	106.8	67	6	20	38-100
1,4-Dichlorobenzene	100.0	71.99	72	4	20	40- 90
2,4-Dinitrotoluene	100.0	116.9	117*	2	20	34-110
4-Nitrophenol	160.0	65.02	41	2	20	9- 92
Pentachlorophenol	160.0	124.1	78	2	20	28-124
Phenol	160.0	44.88	28*	7	20	37-103
Pyrene	100.0	67.71	68	0	20	60-127
1,2,4-Trichlorobenzene	100.0	71.41	71	3	20	45- 94

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 10 outside limits

Spike Recovery: 4 out of 20 outside limits

COMMENTS:



ENVIRONMENTAL TESTING & CONSULTING, INC.
2924 Walnut Grove Road • Memphis, TN 38111 • (901) 327-2750 • FAX (901) 327-6334

Founded 1972

May 24, 2000

Mr. Virgil Jansen
Sverdrup Corporation
13723 Riverport Drive
Maryland Heights, MO 63043

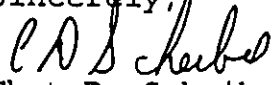
Ref: Analytical Testing
ETC Order # 0005400
Project Description DDMT-Dunn Field
Memphis, TN
Project # 801370

The above referenced project has been analyzed per your instructions. The analyses were performed in accordance with Standard Methods 17th/18th Edition; The Solid Waste Manual SW-846; EPA Methods for the Analysis of Water and Wastes and/or 40 CFR part 136.

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

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

Sincerely,


Chet D. Scheibel
Project Manager

rt
Attachment

SVE_MHDDMT

Certifications

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

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

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.

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.
N	Non-Compliance Report associated with this sample or project.
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)

**CASE NARRATIVE
METALS - AQUEOUS**

Client Name Sverdrup
Project Name DDMT-Dunn Field

ETC Order# 0005-400

HOLDING TIMES

QC Batch(s) for this order ICP/GFAA V20-AQ-36
Mercury V6-AQ-63

Sample Analysis All samples digested and analyzed within 180 days of collection.
Mercury Analysis All samples analyzed within 28 days of collection.

CALIBRATION

Initial Calibration All criteria met.
Continuing Calibration All criteria met.

SAMPLE ANALYSIS

Instrumentation: Thermo Jarrell Ash Enviro-I ICP
Varian 640Z Zeeman Graphite Furnace
Perkin Elmer 5100ZL Graphite Furnace
Perkin Elmer 6000 Graphite Furnace
Thermo Jarrell Ash AA-Scan 4 Graphite Furnace
CETAC M-6000A Mercury Analyzer

Dilutions Required No dilutions required.

QUALITY CONTROL**0005-400.MQCBLANK****Method Blank**

V20-AQ-36BLK ICP/GFAA Metals
V6-AQ-63BLK Mercury

No analytes detected in the Method Blank

0005-400.MQCLCS**Laboratory Control Sample(s)**

V20-AQ-36LCS ICP/GFAA Metals
V6-AQ-63LCS Mercury

All criteria met.

0005-400.MQCMSMSD**Matrix Spike / Matrix Spike Dup - ICP Metals**

0005-400-01 RPD All analytes within QC limits.
ST-EFF024 Spike Recovery All analytes within QC limits.

Refer to Laboratory Control Sample(s) for system verification.

776 522

ENVIRONMENTAL TESTING AND CONSULTING, INC.
CASE NARRATIVE
METALS - AQUEOUS

Client Name Sverdrup
Project Name DDMT-Dunn Field
ETC Order# 0005-400

QUALITY CONTROL

Matrix Spike / Matrix Spike Dup - Graphite Metals

0005-400-01	RPD	All analytes within QC limits.
ST-EFF024	Spike Recovery	All analytes within QC limits.

Refer to Laboratory Control Sample(s) for system verification.

Matrix Spike / Matrix Spike Dup - Hg

0005-400-01	RPD	All analytes within QC limits.
ST-EFF024	Spike Recovery	All analytes within QC limits.

Refer to Laboratory Control Sample(s) for system verification.

Dilution Test Dilution result must agree within 10% of original result when sample is diluted by a factor of 5.
Post Digestion Spike Recovery must be +/-15% of expected value.

CDS
Project Manager

000003

776 523

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

Client Name Sverdrup
Project Name DDMT-Dunn Field
ETC Order# 0005-400
Method (SW-846) 8260B/5030B

SAMPLE PRESERVATION (Verified at time of analysis)

All aqueous samples preserved to pH < 2.

HOLDING TIMES

Sample Analysis All samples analyzed within 14 days of collection.

QUALITY CONTROL

QC Batch Form 4 Summary
V2052101 V2052111LB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits.

Method Blank FORM 4
V2052111LB

Target Analytes were not detected in the Method Blanks.

Laboratory Control Sample FORM 3
V2052111LCS

All acceptance criteria met, except as listed below.

V2052111LCS

Furan, a non-target analyte, was flagged for slightly high recovery in the LCS. There is no effect on the data.

Matrix Spike / Matrix Spike Dup. FORM 3

Batch V2052101

0005-400-01

RPD

All analytes within QC limits.

ST-EFF024

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

Volatile Internal Standard Area and RT FORM 8

Daily Check Standard(s) Internal Standard Areas and Retention Times within QC limits.

000004

776 524

ENVIRONMENTAL TESTING AND CONSULTING, INC.

CASE NARRATIVE

GC/MS VOLATILE COMPOUNDS - AQUEOUS

Client Name Sverdrup
Project Name DDMT-Dunn Field

ETC Order# 0005-400
Method (SW-846) 8260B/5030B

SAMPLE ANALYSIS

Instrumentation HP 5890 Series II GC, 5971MSD
Dilutions Required No dilutions required.

CDS
Project Manager

000005

776 525

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

Client Name Sverdrup
Project Name DDMT-Dunn Field
ETC Order# 0005-400
Method (SW-846) 8270C/3510C

HOLDING TIMES

Sample Extraction All aqueous samples extracted within 7 days.
Sample Analysis All samples analyzed within 40 days of extraction.

QUALITY CONTROL

QC Batch Form 4 Summary
P05333 P05333LB

System Monitoring Compounds FORM 2

Surrogate recoveries within QC limits, except as listed below.

Surrogate 2,4,6-Tribromophenol was not recovered in samples 0005-440-01 MS/MSD (FTCS32-DS01-002-01). Other acid surrogates were within control limits. There is only a minimal effect on the data. The surrogate recovery for 2,4,6-Tribromophenol was within control limits for the unspiked sample.

Method Blank FORM 4

P05333LB

Target analytes were not detected in the Method Blanks, except as listed below.

Bis(2-ethylhexyl)phthalate detected at a concentration of 1.66J ug/L. This analyte was not identified in associated project samples. There is no effect on the data.

Laboratory Control Sample FORM 3

P05333LCS

All acceptance criteria met, except as listed below.

Multiple target analytes and Methyl Methanesulfonate (a non-target analyte) was flagged for slightly low recovery in the LCS. The target analytes were not identified in associated samples. These slightly low recoveries do not effect the data. 4-Nitrophenol was flagged for high recovery in the LCS. This analyte was not detected in the associate samples. The LCS was reanalyzed for verification of results.

Matrix Spike / Matrix Spike Dup FORM 3

0005-440-01	RPD	All analytes within QC limits.
FTCS32-DS02-002-01	Spike Recovery	All analytes within QC limits, except as listed below.

Phenol was flagged for low recovery in the MS/MSD. 2,4-Dinitrotoluene was flagged for high recovery in the MS/MSD. Pyrene was flagged for low recovery in the MS. Analytes were not identified in the sample. There is no effect on the data.

Refer to Laboratory Control Sample(s) for system verification.

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ENVIRONMENTAL TESTING AND CONSULTING, INC.

CASE NARRATIVE

GC/MS SEMI-VOLATILE COMPOUNDS - AQUEOUS

Client Name Sverdrup
Project Name DDMT-Dunn Field
ETC Order# 0005-400
Method (SW-846) 8270C/3510C

CALIBRATION

DFTPP Daily 12-Hour Tune All criteria met. FORM 5
Initial Calibration All criteria met. FORM 6
Calibration Verification All criteria met. FORM 7, except as listed below.

Calibration Verification (CV): Date 05/18/00 Time: 1435

Analyte	%Diff(30% Max)	Response
Carbazole	+43.9	High
Di-n-Butylphthalate	+51.6	High
2,4-Dinitrotoluene	+37.1	High
Hexachlorocyclopentadiene	+34.8	High
4-Nitrophenol	+354.8	High (Co-elution with Dibenzofuran)

Samples affected by this CV include P05333LB, P05333LCS, 0005-440-01MS/MSD, 0005-400-01, and 0005-400-02. High responses indicate that reported levels for these analytes may be biased high. These analytes were not identified in associated field samples. There is no effect on the data. High response may account for the high LCS recoveries.

Semi-Volatile Internal Standard Area and RT FORM 8

Daily Check Standard(s) Internal Standard Areas and Retention Times within QC limits.

SAMPLE ANALYSIS

Instrumentation HP 5890 Series II GC, 5971MSD
Dilutions Required No dilutions required.

OTHER

Chlorinated volatile analytes were detected in the samples and listed on the TIC Form. These analytes were also detected in the VOC analysis by SW-846 method 8260B.

CD >
Project Manager

000007

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

776 527

ANALYTICAL SUMMARY TABLE

Client Name Sverdrup Corporation
Site ID DDMT-Dunn Field
Memphis, TN

ETC				
<u>Sample ID</u>	<u>Field ID</u>	<u>Matrix</u>	<u>Method</u>	<u>Method Description</u>
000540001	ST-EFF024	AQUEOUS	200.7	Silver
000540001	ST-EFF024	AQUEOUS	200.7	Aluminum
000540001	ST-EFF024	AQUEOUS	206.2	Arsenic
000540001	ST-EFF024	AQUEOUS	8270C	GC/MS Base/Neutral & Acid
000540001	ST-EFF024	AQUEOUS	200.7	Barium
000540001	ST-EFF024	AQUEOUS	200.7	Beryllium
000540001	ST-EFF024	AQUEOUS	200.7	Calcium
000540001	ST-EFF024	AQUEOUS	200.7	Cadmium
000540001	ST-EFF024	AQUEOUS	200.7	Cobalt
000540001	ST-EFF024	AQUEOUS	200.7	Chromium
000540001	ST-EFF024	AQUEOUS	200.7	Copper
000540001	ST-EFF024	AQUEOUS	200.7	Iron
000540001	ST-EFF024	AQUEOUS	245.1	Mercury
000540001	ST-EFF024	AQUEOUS	200.7	Potassium
000540001	ST-EFF024	AQUEOUS	200.7	Magnesium
000540001	ST-EFF024	AQUEOUS	200.7	Manganese
000540001	ST-EFF024	AQUEOUS	200.7	Sodium
000540001	ST-EFF024	AQUEOUS	200.7	Nickel
000540001	ST-EFF024	AQUEOUS	200.7	Lead
000540001	ST-EFF024	AQUEOUS	150.1	pH
000540001	ST-EFF024	AQUEOUS	200.7	Antimony
000540001	ST-EFF024	AQUEOUS	200.7	Selenium
000540001	ST-EFF024	AQUEOUS	200.7	Thallium
000540001	ST-EFF024	AQUEOUS	8260B	GC/MS Volatile Organics
000540001	ST-EFF024	AQUEOUS	200.7	Vanadium
000540001	ST-EFF024	AQUEOUS	200.7	Zinc
000540002	EQB-024	AQUEOUS	200.7	Silver
000540002	EQB-024	AQUEOUS	200.7	Aluminum
000540002	EQB-024	AQUEOUS	206.2	Arsenic
000540002	EQB-024	AQUEOUS	8270C	GC/MS Base/Neutral & Acid
000540002	EQB-024	AQUEOUS	200.7	Barium
000540002	EQB-024	AQUEOUS	200.7	Beryllium
000540002	EQB-024	AQUEOUS	200.7	Calcium
000540002	EQB-024	AQUEOUS	200.7	Cadmium
000540002	EQB-024	AQUEOUS	200.7	Cobalt
000540002	EQB-024	AQUEOUS	200.7	Chromium
000540002	EQB-024	AQUEOUS	200.7	Copper
000540002	EQB-024	AQUEOUS	200.7	Iron
000540002	EQB-024	AQUEOUS	245.1	Mercury
000540002	EQB-024	AQUEOUS	200.7	Potassium
000540002	EQB-024	AQUEOUS	200.7	Magnesium
000540002	EQB-024	AQUEOUS	200.7	Manganese
000540002	EQB-024	AQUEOUS	200.7	Sodium
000540002	EQB-024	AQUEOUS	200.7	Nickel
000540002	EQB-024	AQUEOUS	200.7	Lead
000540002	EQB-024	AQUEOUS	150.1	pH
000540002	EQB-024	AQUEOUS	200.7	Antimony
000540002	EQB-024	AQUEOUS	200.7	Selenium
000540002	EQB-024	AQUEOUS	200.7	Thallium
000540002	EQB-024	AQUEOUS	8260B	GC/MS Volatile Organics
000540002	EQB-024	AQUEOUS	200.7	Vanadium
000540002	EQB-024	AQUEOUS	200.7	Zinc

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Environmental Testing & Consulting, Inc.

Sample Reports

000009

776 529

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

INORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived 05/16/00
ETC Order Number 0005400

ETC Lab ID 0005400-01
Sample ID: ST-EFF024

Matrix :AQUEOUS
Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED BY	METHOD
pH	5.9	SU		0928	05/16/00 RB	150.1

COS
LABORATORY MANAGER

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ENVIRONMENTAL TESTING & CONSULTING, INC.

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

INORGANIC ANALYSIS DATA SHEET

Client Name Sverdrup Corporation
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370

Site ID DDMT-Dunn Field
Memphis, TN

Date Arrived 05/16/00
ETC Order Number 0005400

ETC Lab ID 0005400-02
Sample ID: EQB-024

Matrix :AQUEOUS
Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED BY	METHOD
pH	6.0	SU		0928	05/16/00 RB	150.1

CDS

LABORATORY MANAGER

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ENVIRONMENTAL TESTING & CONSULTING, INC.

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

INORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived 05/16/00
 ETC Order Number 0005400

ETC Lab ID 0005400-01
Sample ID: ST-EFF024

Matrix :AQUEOUS
 Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED BY	METHOD
Mercury Digestion Batch	V6-AQ-63				05/17/00 NR	245.1
Metals Digestion Batch	V20-AQ-36				05/18/00 NR	3030K
Silver	<0.009	mg/L	0.009	1349	05/22/00 SH	200.7
Aluminum	<0.060	mg/L	0.060	1118	05/23/00 SH	200.7
Arsenic	<0.003	mg/L	0.003	0437	05/23/00 JF	206.2
Barium	0.099	mg/L	0.003	1118	05/23/00 SH	200.7
Beryllium	<0.002	mg/L	0.002	1349	05/22/00 SH	200.7
Calcium	21.4	mg/L	0.015	1349	05/22/00 SH	200.7
Cadmium	<0.005	mg/L	0.005	1349	05/22/00 SH	200.7
Cobalt	<0.009	mg/L	0.009	1349	05/22/00 SH	200.7
Chromium	<0.009	mg/L	0.009	1349	05/22/00 SH	200.7
Copper	<0.008	mg/L	0.008	1349	05/22/00 SH	200.7
Iron	0.030	mg/L	0.009	1118	05/23/00 SH	200.7
Mercury	<0.0002	mg/L	0.0002	1419	05/17/00 NR	245.1
Potassium	0.681	mg/L	0.250	1118	05/23/00 SH	200.7
Magnesium	11.4	mg/L	0.040	1349	05/22/00 SH	200.7
Manganese	<0.003	mg/L	0.003	1118	05/23/00 SH	200.7
Sodium	23.3	mg/L	0.050	1349	05/22/00 SH	200.7
Nickel	<0.020	mg/L	0.020	1118	05/23/00 SH	200.7
Lead	<0.060	mg/L	0.060	1118	05/23/00 SH	200.7
Antimony	<0.040	mg/L	0.040	1118	05/23/00 SH	200.7
Selenium	<0.100	mg/L	0.100	1349	05/22/00 SH	200.7
Thallium	<0.065	mg/L	0.065	1118	05/23/00 SH	200.7
Vanadium	<0.010	mg/L	0.010	1349	05/22/00 SH	200.7
Zinc	0.045	mg/L	0.010	1349	05/22/00 SH	200.7

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ENVIRONMENTAL TESTING & CONSULTING, INC.
 2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750
INORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived 05/16/00
 ETC Order Number 0005400

ETC Lab ID 0005400-02
Sample ID: EQB-024

Matrix :AQUEOUS
 Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED BY	METHOD
Mercury Digestion Batch	V6-AQ-63				05/17/00	NR 245.1
Metals Digestion Batch	V20-AQ-36				05/18/00	NR 3030K
Silver	<0.009	mg/L	0.009	1349	05/22/00	SH 200.7
Aluminum	<0.060	mg/L	0.060	1118	05/23/00	SH 200.7
Arsenic	<0.003	mg/L	0.003	0437	05/23/00	JF 206.2
Barium	0.101	mg/L	0.003	1118	05/23/00	SH 200.7
Beryllium	<0.002	mg/L	0.002	1349	05/22/00	SH 200.7
Calcium	20.8	mg/L	0.015	1349	05/22/00	SH 200.7
Cadmium	<0.005	mg/L	0.005	1349	05/22/00	SH 200.7
Cobalt	<0.009	mg/L	0.009	1349	05/22/00	SH 200.7
Chromium	<0.009	mg/L	0.009	1349	05/22/00	SH 200.7
Copper	<0.008	mg/L	0.008	1349	05/22/00	SH 200.7
Iron	0.032	mg/L	0.009	1118	05/23/00	SH 200.7
Mercury	<0.0002	mg/L	0.0002	1419	05/17/00	NR 245.1
Potassium	0.892	mg/L	0.250	1118	05/23/00	SH 200.7
Magnesium	11.0	mg/L	0.040	1349	05/22/00	SH 200.7
Manganese	<0.003	mg/L	0.003	1118	05/23/00	SH 200.7
Sodium	22.3	mg/L	0.050	1349	05/22/00	SH 200.7
Nickel	<0.020	mg/L	0.020	1118	05/23/00	SH 200.7
Lead	<0.060	mg/L	0.060	1118	05/23/00	SH 200.7
Antimony	<0.040	mg/L	0.040	1118	05/23/00	SH 200.7
Selenium	<0.100	mg/L	0.100	1349	05/22/00	SH 200.7
Thallium	<0.065	mg/L	0.065	1118	05/23/00	SH 200.7
Vanadium	<0.010	mg/L	0.010	1349	05/22/00	SH 200.7
Zinc	0.038	mg/L	0.010	1349	05/22/00	SH 200.7

CDS

LABORATORY MANAGER

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Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level III
Metals (ICP/GFAA/CV)**

WATER METHOD BLANK
METALS

Lab Name

Environmental Testing and Consulting, Inc

Laboratory ID ICP/GFAA Metals

V20-AQ-36 BLK

QC Batch

Laboratory ID Mercury

V6-AQ-63 BLKV20-AQ-36V6-AQ-63

Date Sample Prepared

05/18/00

ICP/GFAA Metals

05/17/00

Mercury

Metals	Concentration mg/L	Detection Limit mg/L	Date Analyzed	Method
Silver	ND	0.009	05/22/00	200.7
Aluminum	ND	0.060	05/22/00	200.7
Arsenic	ND	0.003	05/23/00	206.2
Barium	ND	0.003	05/22/00	200.7
Beryllium	ND	0.002	05/22/00	200.7
Calcium	ND	0.015	05/22/00	200.7
Cadmium	ND	0.005	05/22/00	200.7
Cobalt	ND	0.009	05/22/00	200.7
Chromium	ND	0.009	05/22/00	200.7
Copper	ND	0.008	05/22/00	200.7
Iron	ND	0.009	05/22/00	200.7
Potassium	ND	0.250	05/22/00	200.7
Magnesium	ND	0.040	05/22/00	200.7
Manganese	ND	0.003	05/22/00	200.7
Sodium	ND	0.050	05/22/00	200.7
Nickel	ND	0.020	05/22/00	200.7
Lead	ND	0.060	05/22/00	200.7
Antimony	ND	0.040	05/22/00	200.7
Selenium	ND	0.100	05/22/00	200.7
Thallium	ND	0.065	05/22/00	200.7
Vanadium	ND	0.010	05/22/00	200.7
Zinc	ND	0.010	05/22/00	200.7
Mercury	ND	0.0002	05/17/00	245.1

QC REVIEWED



0005-400.mqc BLANK

000015

WATER LABORATORY CONTROL SAMPLE METALS

Lab Name

Environmental Testing and Consulting, Inc

Laboratory Control ID

 ICP/GFAA Metals V20-AQ-36 LCS
 Mercury V6-AQ-63 LCS

QC Batch

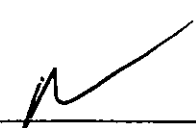
V20-AQ-36V6-AQ-63

Date Prepared

 ICP/GFAA Metals 05/18/00
 Mercury 05/17/00

Metals	Spike Added mg/L	Found mg/L	% R	#	QC Limits
Silver	0.250	0.268	107	80	120
Aluminum	2.50	2.58	103	80	120
Arsenic	0.063	0.065	103	85	115
Barium	2.50	2.52	101	80	120
Beryllium	0.250	0.266	106	80	120
Calcium	5.00	5.34	107	80	120
Cadmium	0.250	0.264	106	80	120
Cobalt	1.25	1.34	107	80	120
Chromium	0.500	0.544	109	80	120
Copper	0.500	0.534	107	80	120
Iron	2.50	2.78	111	80	120
Potassium	5.00	4.77	95	80	120
Magnesium	5.00	5.30	106	80	120
Manganese	0.250	0.259	104	80	120
Sodium	5.00	5.00	100	80	120
Nickel	1.25	1.33	106	80	120
Lead	1.25	1.35	108	80	120
Antimony	2.50	2.66	106	80	120
Selenium	1.25	1.34	107	80	120
Thallium	1.25	1.09	87	80	120
Vanadium	1.25	1.34	107	80	120
Zinc	0.250	0.267	107	80	120
Mercury	0.0050	0.0050	100	80	120

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

QC REVIEWED 

0005-400.mqc LCS

000016

WATER MATRIX SPIKE
METALS

Lab Name Environmental Testing and Consulting, Inc

Laboratory ID MS ICP/GFAA Metals	0005-400-01	QC Batch V20-AQ-36
Laboratory ID MS Mercury	0005-400-01	V6-AQ-63

Date Sample Prepared	05/18/00	ICP/GFAA Metals
	05/17/00	Mercury

Metals	SPIKE Added mg/L	SAMPLE Conc mg/L	MS Conc mg/L	RPD <20% #	MS % Rec #	QC Limits	
Silver	0.250	ND	0.253	4	101	75	125
Aluminum	2.50	ND	2.50	0	100	75	125
Arsenic	0.063	ND	0.068	3	108	85	115
Barium	2.50	0.099	2.59	1	100	75	125
Beryllium	0.250	ND	0.263	1	105	75	125
Calcium	5.00	21.4	25.7	0	86	75	125
Cadmium	0.250	ND	0.254	0	102	75	125
Cobalt	1.25	ND	1.27	0	102	75	125
Chromium	0.500	ND	0.535	0	107	75	125
Copper	0.500	ND	0.545	2	109	75	125
Iron	2.50	0.030	2.67	1	106	75	125
Potassium	5.00	0.681	5.59	1	98	75	125
Magnesium	5.00	11.4	16.3	1	98	75	125
Manganese	0.250	ND	0.250	1	100	75	125
Sodium	5.00	23.3	28.1	3	96	75	125
Nickel	1.25	ND	1.29	1	103	75	125
Lead	1.25	ND	1.36	3	109	75	125
Antimony	2.50	ND	2.67	1	107	75	125
Selenium	1.25	ND	1.37	2	110	75	125
Thallium	1.25	ND	1.05	0	84	75	125
Vanadium	1.25	ND	1.31	1	105	75	125
Zinc	0.250	0.045	0.310	2	106	75	125
Mercury	0.0050	ND	0.0056	0	112	75	125

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

ND - Not Detected

QC REVIEWED _____

0005-400.mqc MSMSD

000017

WATER MATRIX SPIKE DUPLICATE METALS

Lab Name Environmental Testing and Consulting, Inc

Laboratory ID MS ICP/GFAA Metals 0005-400-01 QC Batch V20-AQ-36
Laboratory ID MS Mercury 0005-400-01 V6-AQ-63

Date Sample Prepared 05/18/00 ICP/GFAA Metals
05/17/00 Mercury

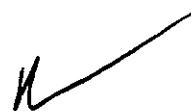
Metals	SPIKE Added mg/L	SAMPLE Conc mg/L	MSD Conc mg/L		MSD % Rec	#	QC Limits
Silver	0.250	ND	0.244		98	75	125
Aluminum	2.50	ND	2.51		100	75	125
Arsenic	0.063	ND	0.070		111	85	115
Barium	2.50	0.099	2.62		101	75	125
Beryllium	0.250	ND	0.261		104	75	125
Calcium	5.00	21.4	25.7		86	75	125
Cadmium	0.250	ND	0.254		102	75	125
Cobalt	1.25	ND	1.27		102	75	125
Chromium	0.500	ND	0.535		107	75	125
Copper	0.500	ND	0.534		107	75	125
Iron	2.50	0.030	2.70		107	75	125
Potassium	5.00	0.681	5.63		99	75	125
Magnesium	5.00	11.4	16.2		96	75	125
Manganese	0.250	ND	0.252		101	75	125
Sodium	5.00	23.3	27.3		80	75	125
Nickel	1.25	ND	1.30		104	75	125
Lead	1.25	ND	1.32		106	75	125
Antimony	2.50	ND	2.70		108	75	125
Selenium	1.25	ND	1.34		107	75	125
Thallium	1.25	ND	1.05		84	75	125
Vanadium	1.25	ND	1.30		104	75	125
Zinc	0.250	0.045	0.305		104	75	125
Mercury	0.0050	ND	0.0056		112	75	125

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

ND - Not Detected

QC REVIEWED



0005-400.mqc MSMSD

000018

776 538

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived 05/16/00
 ETC Order Number 0005400

ETC Lab ID 0005400-01
Sample ID: ST-EFF024

Matrix :AQUEOUS
 Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
QC Batch	V2052101	ug/L			05/21/00	LS	
Dilution Factor	1	ug/L					
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				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	0.87J	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	7.59	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	14.8	ug/L	1.00				
trans-1,2-Dichloroethene	15.8	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	51.0	ug/L	1.00				
Tetrachloroethene	15.2	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	124	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	50.9	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	101	74	123
S2 - Toluene-d8	104	86	112

PDS

LABORATORY MANAGER

ND - Not Detected

000019

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 539

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # **801370**
FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived **05/16/00**
ETC Order Number **0005400**

ETC Lab ID **0005400-01**
Sample ID: ST-EFF024

Matrix **:AQUEOUS**
Sample Date **:05/15/00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/21/00	LS	8260B
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>				
S3 - 4-Bromofluorobenzene	102		81	115			

105
LABORATORY MANAGER

ND - Not Detected

000020

776 540

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

CLIENT SAMPLE NO.

0005-400-1

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-400

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0701007

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/21/00

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

000021

ENVIRONMENTAL TESTING & CONSULTING, INC.
2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750
ORGANIC ANALYSIS DATA SHEET

776 541

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # **801370**
FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived **05/16/00**
ETC Order Number **0005400**

ETC Lab ID **0005400-02**
Sample ID: EQB-024

Matrix **:AQUEOUS**
Sample Date **:05/15/00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/21/00	LS	8260B
QC Batch	V2052101	ug/L					
Dilution Factor	1	ug/L					
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				
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	7.76	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	15.6	ug/L	1.00				
trans-1,2-Dichloroethene	16.3	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				
2-Butanone (MEK)	ND	ug/L	20.0				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	51.3	ug/L	1.00				
Tetrachloroethene	15.9	ug/L	1.00				
Toluene	ND	ug/L	1.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	0.78J	ug/L	1.00				
Trichloroethene	129	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
o-Xylenes	ND	ug/L	1.00				
m-Xylenes	ND	ug/L	1.00				
p-Xylenes	ND	ug/L	1.00				
cis-1,2-Dichloroethene	52.4	ug/L	1.00				

surrogate Standard	% Recovery	QC Limits	
1 - Dibromofluoromethane	101	74	123
2 - Toluene-d8	103	86	112

LABORATORY MANAGER

ND - Not Detected

000022

776 542

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # **801370**
FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived **05/16/00**
ETC Order Number **0005400**

ETC Lab ID **0005400-02**
Sample ID: EQB-024

Matrix **:AQUEOUS**
Sample Date **:05/15/00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics					05/21/00	LS	8260B
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>				
S3 - 4-Bromofluorobenzene	104		81	115			

105

LABORATORY MANAGER

ND - Not Detected

000023

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

776 543
CLIENT SAMPLE NO.

0005-400-2

Lab Name: _____ Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 0005-400

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

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0601006

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

% Moisture: not dec. _____ Date Analyzed: 05/21/00

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

776 544

Environmental Testing & Consulting, Inc.

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

000025

FORM 2
WATER VOA-GCMS SYSTEM MONITORING COMPOUND RECOVERY

776 545

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-400

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER	TOT OUT
	=====	=====	=====	=====	=====	=====
01	V2052111LCS	97	101	102		0
02	V2052111LB	100	101	102		0
03	0005-400-2	101	103	104		0
04	0005-400-1	101	104	102		0
05	0005-400-1	102	101	99		0
06	0005-400-1MS	101	102	103		0
07	0005-400-1MS	104	101	103		0
08						
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QC LIMITS

SMC1 = Dibromofluoromethane (74-123)
 SMC2 (TOL) = Toluene-d8 (86-112)
 SMC3 (BFB) = Bromofluorobenzene (81-115)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

776 546

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

Lab Name:

Contract:

V2052111LB

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-400

Lab File ID: 0302003

Lab Prep Batch: V2052101

Date Analyzed: 05/21/00

Time Analyzed: 1405

GC Column: ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC2

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

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	V2052111LCS	V2052101	0201002LCS	1224
02	0005-400-2	V2052101	0601006	1621
03	0005-400-1	V2052101	0701007	1706
04	0005-400-1	V2052101	0801008	1751
05	0005-400-1MS	V2052101	1401014	2223
06	0005-400-1MS	V2052101	1501015	2308
07				
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COMMENTS:

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

776 547

CLIENT SAMPLE NO.

V2052111LB

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-400

Matrix: (soil/water) WATER

Lab Prep Batch: V2052101

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

Lab File ID: 0302003

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/21/00

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	25.00	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
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
78-93-3-----	2-Butanone	20.00	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
110-75-0-----	2-Chloroethyl vinyl Ether	5.00	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

000028

776 548

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V2052111LB

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-400

Matrix: (soil/water) WATER

Lab Prep Batch: V2052101

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

Lab File ID: 0302003

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/21/00

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
67-64-1-----	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
156-59-4-----	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
590-20-7-----	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
87-63-3-----	Hexachlorobutadiene	1.00	U
110-54-3-----	Hexane	5.00	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	1.00	U
80-62-6-----	Methyl methacrylate	1.00	U
108-10-1-----	4-Methyl-2-Pentanone	5.00	U
1634-04-4-----	Methyl-tertbutyl-Ether	1.00	U
91-20-3-----	Naphthalene	1.00	U
76-01-7-----	Pentachloroethane	1.00	U

FORM I VOA-GCMS

000029

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

776 549 CLIENT SAMPLE NO.

V2052111LB

Lab Name: _____ Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 0005-400

Matrix: (soil/water) WATER Lab Prep Batch: V2052101

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

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

% Moisture: not dec. _____ Date Analyzed: 05/21/00

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

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

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

107-12-0-----	Propionitrile	10.00	U
109-60-4-----	n-Propyl Acetate	1.00	U
103-65-1-----	n-Propylbenzene	1.00	U
100-42-5-----	Styrene	1.00	U
630-20-6-----	1,1,1,2-Tetrachloroethane	1.00	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1.00	U
127-18-4-----	Tetrachloroethene	1.00	U
109-99-9-----	Tetrahydrofuran	1.00	U
108-88-3-----	Toluene	1.00	U
87-61-6-----	1,2,3-Trichlorobenzene	1.00	U
120-82-1-----	1,2,4-Trichlorobenzene	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
108-67-8-----	1,3,5-Trimethylbenzene	1.00	U
108-05-4-----	Vinyl Acetate	5.00	U
75-01-4-----	Vinyl Chloride	1.00	U
1330-20-7-----	Xylene-mp	2.00	U
95-47-6-----	Xylene-o	1.00	U

776 550

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

CLIENT SAMPLE NO.

V2052111LB

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-400

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 0302003

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 05/21/00

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

000031

Lab Name: Lab Prep Batch: V2052101
Lab Code: Case No.: SAS No.: SDG No.: 0005-400
Matrix Spike - Sample No.: V2052111LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acetone	100.0		100.2	100	59-151
Acetonitrile	1000		921.5	92	57-143
Acrolein	100.0		103.8	104	59-134
Acrylonitrile	100.0		94.54	94	60-146
Allyl chloride	100.0		93.48	93	74-120
Benzene	100.0		101.7	102	72-124
Bromobenzene	100.0		95.34	95	77-120
Bromochloromethane	100.0		96.27	96	74-120
Bromodichloromethane	100.0		97.39	97	68-119
Bromoform	100.0		98.88	99	66-136
Bromomethane	100.0		99.38	99	40-134
n-Butylbenzene	100.0		105.9	106	69-129
sec-Butylbenzene	100.0		101.9	102	72-127
tert-Butylbenzene	100.0		100.5	100	73-126
Carbon Disulfide	100.0		100.3	100	60-133
2-Butanone	100.0		107.3	107	55-151
Carbon Tetrachloride	100.0		98.60	99	64-123
Chlorobenzene	100.0		99.61	100	77-112
Chlorodibromomethane	100.0		92.03	92	72-118
Chloroethane	100.0		108.0	108	64-142
2-Chloroethyl vinyl Eth	100.0		149.5	150	22-165
Chloroform	100.0		99.69	100	70-115
Chloromethane	100.0		96.13	96	58-139
Chloroprene	100.0		100.5	100	73-118
2-Chlorotoluene	100.0		101.3	101	65-132
4-Chlorotoluene	100.0		101.9	102	67-127
1,2-Dibromo-3-chloropro	100.0		95.74	96	56-134
1,2-Dibromoethane	100.0		97.02	97	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

Lab Name:

Lab Prep Batch: V2052101

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-400

Matrix Spike - Sample No.: V2052111LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dibromomethane	100.0		100.9	101	75-114
1,2-Dichlorobenzene	100.0		96.46	96	80-113
1,3-Dichlorobenzene	100.0		97.89	98	77-119
1,4-Dichlorobenzene	100.0		100.4	100	78-116
cis-1,4-Dichloro-2-bute	100.0		114.4	114	62-138
trans-1,4-Dichloro-2-bu	100.0		108.5	108	62-138
Dichlorodifluoromethane	100.0		112.8	113	48-145
1,1-Dichloroethane	100.0		99.20	99	76-118
1,2-Dichloroethane	100.0		95.58	96	62-124
1,1-Dichloroethene	100.0		100.0	100	69-121
cis-1,2-Dichloroethene	100.0		100.3	100	76-114
trans-1,2-Dichloroethen	100.0		103.8	104	72-121
1,2-Dichloropropane	100.0		96.29	96	64-133
1,3-Dichloropropane	100.0		96.41	96	68-128
2,2-Dichloropropane	100.0		108.5	108	67-132
1,1-Dichloropropene	100.0		101.4	101	76-117
cis-1,3-Dichloropropene	100.0		98.24	98	77-120
trans-1,3-Dichloroprope	100.0		98.98	99	73-124
Di isopropyl ether	100.0		96.65	97	62-160
1,4-Dioxane	2000		2080	104	56-131
Ethyl Acetate	100.0		95.14	95	52-151
Ethylbenzene	100.0		103.5	104	77-111
Ethyl methacrylate	200.0		192.2	96	57-140
Furan	100.0		145.1	145*	52-124
Hexachlorobutadiene	100.0		106.1	106	69-137
Hexane	100.0		118.8	119	70-130
2-Hexanone	100.0		94.87	95	53-144
Iodomethane	100.0		94.38	94	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

776 553

Lab Name: Lab Prep Batch: V2052101
Lab Code: Case No.: SAS No.: SDG No.: 0005-400
Matrix Spike - Sample No.: V2052111LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	2000		1835	92	60-134
Isopropylbenzene	100.0		102.4	102	74-125
4-Isopropyltoluene	100.0		101.2	101	72-127
Methacrylonitrile	1000		938.2	94	70-125
Methylene Chloride	100.0		99.43	99	76-115
Methyl methacrylate	200.0		192.6	96	57-147
4-Methyl-2-Pentanone	100.0		93.12	93	42-144
Methyl-tertbutyl-Ether	100.0		96.20	96	62-122
Naphthalene	100.0		90.52	90	53-124
Pentachloroethane	100.0		119.0	119	78-126
Propionitrile	1000		942.2	94	58-139
n-Propyl Acetate	100.0		138.8	139	88-170
n-Propylbenzene	100.0		104.9	105	75-125
Styrene	100.0		101.8	102	77-117
1,1,1,2-Tetrachloroetha	100.0		97.24	97	79-113
1,1,2,2-Tetrachloroetha	100.0		102.1	102	67-126
Tetrachloroethene	100.0		86.11	86	77-115
Tetrahydrofuran	100.0		90.81	91	76-181
Toluene	100.0		102.5	102	77-115
1,2,3-Trichlorobenzene	100.0		95.68	96	62-132
1,2,4-Trichlorobenzene	100.0		100.5	100	68-132
1,1,1-Trichloroethane	100.0		100.0	100	63-122
1,1,2-Trichloroethane	100.0		98.66	99	69-117
1,1,2-trichloro-1,2,2-t	100.0		100.0	100	70-130
Trichloroethene	100.0		98.02	98	75-113
Trichlorofluoromethane	100.0		104.2	104	55-130
1,2,3-Trichloropropane	100.0		103.1	103	62-130
1,2,4-Trimethylbenzene	100.0		99.12	99	69-126

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

* Values outside of QC limits

COMMENTS:

Lab Name:

Lab Prep Batch: V2052101

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-400

Matrix Spike - Sample No.: V2052111LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
1,3,5-Trimethylbenzene	100.0		99.47	99	69-128
Vinyl Acetate	100.0		99.08	99	28-146
Vinyl Chloride	100.0		105.7	106	65-134
Xylene-mp	200.0		204.7	102	77-115
Xylene-o	100.0		102.2	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: 1 out of 89 outside limits

COMMENTS:

Lab Prep Batch: V2052101

SDG No.: 0005-400

Matrix Spike - Sample No.: 0005-400-1

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Benzene	100.0	0.000	101.5	102	72-124
Chlorobenzene	100.0	0.000	96.50	96	77-112
1,1-Dichloroethene	100.0	0.000	97.96	98	69-121
Toluene	100.0	0.000	101.6	102	77-115
Trichloroethene	100.0	2.85	99.18	96	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
Benzene	100.0	107.8	108	6	20	72-124
Chlorobenzene	100.0	97.54	98	2	20	77-112
1,1-Dichloroethene	100.0	103.0	103	5	20	69-121
Toluene	100.0	103.2	103	1	20	77-115
Trichloroethene	100.0	101.1	98	2	20	75-113

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

COMMENTS :

776 556

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived 05/16/00
 ETC Order Number 0005400

ETC Lab ID 0005400-01
Sample ID: ST-EFF024

Matrix :AQUEOUS
 Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Base/Neutral & Acid				05/18/00	05/18/00	PF	8270C 3510C
QC Batch	P05333						
Dilution Factor	1						
Acenaphthene	ND	ug/L	2.00				
Acenaphthylene	ND	ug/L	2.00				
Anthracene	ND	ug/L	2.00				
Benzo(a)anthracene	ND	ug/L	2.00				
Benzo(b)fluoranthene	ND	ug/L	2.00				
Benzo(k)fluoranthene	ND	ug/L	2.00				
Benzo(g,h,i)perylene	ND	ug/L	2.00				
Benzo(a)pyrene	ND	ug/L	2.00				
Benzoic Acid	ND	ug/L	50.0				
Benzyl Alcohol	ND	ug/L	10.0				
Bis(2-chloroethoxy)methane	ND	ug/L	5.00				
Bis(2-chloroethyl)ether	ND	ug/L	5.00				
Bis(2-chloroisopropyl)ether	ND	ug/L	5.00				
Bis(2-ethylhexyl)phthalate	ND	ug/L	10.0				
4-Bromophenyl phenyl ether	ND	ug/L	5.00				
Butyl benzyl phthalate	ND	ug/L	5.00				
4-Chloroaniline	ND	ug/L	5.00				
2-Chloronaphthalene	ND	ug/L	5.00				
4-Chloro-3-methylphenol	ND	ug/L	5.00				
2-Chlorophenol	ND	ug/L	5.00				
4-Chlorophenyl phenyl ether	ND	ug/L	5.00				
Chrysene	ND	ug/L	2.00				
Dibenzo(a,h)anthracene	ND	ug/L	2.00				
Dibenzofuran	ND	ug/L	5.00				
Di-n-butyl phthalate	ND	ug/L	5.00				
1,2-Dichlorobenzene	ND	ug/L	5.00				
1,3-Dichlorobenzene	ND	ug/L	5.00				
1,4-Dichlorobenzene	ND	ug/L	5.00				
3,3'-Dichlorobenzidine	ND	ug/L	10.0				
2,4-Dichlorophenol	ND	ug/L	5.00				
2,6-Dichlorophenol	ND	ug/L	5.00				
Diethyl phthalate	ND	ug/L	5.00				
2,4-Dimethylphenol	ND	ug/L	5.00				
Dimethyl phthalate	ND	ug/L	5.00				
4,6-Dinitro-2-methylphenol	ND	ug/L	10.0				
2,4-Dinitrophenol	ND	ug/L	50.0				
2,4-Dinitrotoluene	ND	ug/L	5.00				
2,6-Dinitrotoluene	ND	ug/L	5.00				
Di-n-octyl phthalate	ND	ug/L	5.00				
Fluoranthene	ND	ug/L	2.00				
Fluorene	ND	ug/L	2.00				

COS

LABORATORY MANAGER

ND - Not Detected

000037

ENVIRONMENTAL TESTING & CONSULTING, INC.
 2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750
ORGANIC ANALYSIS DATA SHEET

776 557

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived 05/16/00
 ETC Order Number 0005400

ETC Lab ID 0005400-01
Sample ID: ST-EFF024

Matrix :AQUEOUS
 Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Base/Neutral & Acid				05/18/00	05/18/00	PF	8270C 3510C
Hexachlorobenzene	ND	ug/L	5.00				
Hexachlorobutadiene	ND	ug/L	5.00				
Hexachlorocyclopentadiene	ND	ug/L	5.00				
Hexachloroethane	ND	ug/L	5.00				
Indeno(1,2,3-cd)pyrene	ND	ug/L	2.00				
Isophorone	ND	ug/L	5.00				
2-Methylnaphthalene	ND	ug/L	2.00				
2-Methylphenol (o-cresol)	ND	ug/L	5.00				
3-Methylphenol (m-cresol)	ND	ug/L	5.00				
4-Methylphenol (p-cresol)	ND	ug/L	5.00				
1-Methylnaphthalene	ND	ug/L	2.00				
Nitrobenzene	ND	ug/L	5.00				
2-Nitroaniline	ND	ug/L	5.00				
3-Nitroaniline	ND	ug/L	10.0				
4-Nitroaniline	ND	ug/L	5.00				
2-Nitrophenol	ND	ug/L	5.00				
4-Nitrophenol	ND	ug/L	5.00				
N-Nitrosodiphenylamine	ND	ug/L	5.00				
N-Nitrosodipropylamine	ND	ug/L	5.00				
Pentachlorophenol	ND	ug/L	10.0				
Phenanthrene	ND	ug/L	2.00				
Phenol	ND	ug/L	5.00				
Pyrene	ND	ug/L	2.00				
1,2,4-Trichlorobenzene	ND	ug/L	5.00				
2,4,5-Trichlorophenol	ND	ug/L	5.00				
2,4,6-Trichlorophenol	ND	ug/L	5.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Nitrobenzene-d5	86	29	110
S2 - 2-Fluorobiphenyl	91	38	107
S3 - 4-Terphenyl-d14	62	33	122
S4 - Phenol-d6	36	7	58
S5 - 2,4,6-Tribromophenol	81	16	138
S6 - 2-Fluorophenol	48	8	88

PD>

LABORATORY MANAGER

ND - Not Detected

000038

776 558

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

CLIENT SAMPLE NO.

0005-400-1

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-400

Matrix: (soil/water) WATER

Lab Sample ID:

Sample wt/vol: 980.0 (g/mL) ML

Lab File ID: 0601006

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: 1 (mL)

Date Analyzed: 05/18/00

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

Number TICs found: 7

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 594-36-5	BUTANE, 2-CHLORO-2-METHYL-	2.13	16.54	NJB
2. 79-01-6	TRICHLOROETHYLENE	2.42	14.01	NJ
3. 127-18-4	TETRACHLOROETHYLENE	3.39	8.18	NJ
4. 760-21-4	PENTANE, 3-METHYLENE-	4.00	6.55	NJ
5. 79-34-5	ETHANE, 1,1,2,2-TETRACHLORO-	4.27	41.77	NJ
6. 0-00-0	TRIFLUOROACETYL-CITRONELLOL	4.34	8.08	NJ
7. 4291-79-6	CYCLOHEXANE, 1-METHYL-2-PROP	4.45	19.79	NJ
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FORM I BNA-GCMS-TIC

000039

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

776 559

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # **801370**
FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived **05/16/00**
ETC Order Number **0005400**

ETC Lab ID **0005400-02**
Sample ID: EQB-024

Matrix : **AQUEOUS**
Sample Date : **05/15/00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Base/Neutral & Acid				05/18/00	05/18/00	PF	8270C 3510C
QC Batch	P05333						
Dilution Factor	1.1						
Acenaphthene	ND	ug/L	2.20				
Acenaphthylene	ND	ug/L	2.20				
Anthracene	ND	ug/L	2.20				
Benzo(a)anthracene	ND	ug/L	2.20				
Benzo(b)fluoranthene	ND	ug/L	2.20				
Benzo(k)fluoranthene	ND	ug/L	2.20				
Benzo(g,h,i)perylene	ND	ug/L	2.20				
Benzo(a)pyrene	ND	ug/L	2.20				
Benzoic Acid	ND	ug/L	55.0				
Benzyl Alcohol	ND	ug/L	11.0				
Bis(2-chloroethoxy)methane	ND	ug/L	5.50				
Bis(2-chloroethyl)ether	ND	ug/L	5.50				
Bis(2-chloroisopropyl)ether	ND	ug/L	5.50				
Bis(2-ethylhexyl)phthalate	ND	ug/L	11.0				
4-Bromophenyl phenyl ether	ND	ug/L	5.50				
Butyl benzyl phthalate	ND	ug/L	5.50				
4-Chloroaniline	ND	ug/L	5.50				
2-Chloronaphthalene	ND	ug/L	5.50				
4-Chloro-3-methylphenol	ND	ug/L	5.50				
2-Chlorophenol	ND	ug/L	5.50				
4-Chlorophenyl phenyl ether	ND	ug/L	5.50				
Chrysene	ND	ug/L	2.20				
Dibenzo(a,h)anthracene	ND	ug/L	2.20				
Dibenzofuran	ND	ug/L	5.50				
Di-n-butyl phthalate	ND	ug/L	5.50				
1,2-Dichlorobenzene	ND	ug/L	5.50				
1,3-Dichlorobenzene	ND	ug/L	5.50				
1,4-Dichlorobenzene	ND	ug/L	5.50				
3,3'-Dichlorobenzidine	ND	ug/L	11.0				
2,4-Dichlorophenol	ND	ug/L	5.50				
2,6-Dichlorophenol	ND	ug/L	5.50				
Diethyl phthalate	ND	ug/L	5.50				
2,4-Dimethylphenol	ND	ug/L	5.50				
Dimethyl phthalate	ND	ug/L	5.50				
4,6-Dinitro-2-methylphenol	ND	ug/L	11.0				
2,4-Dinitrophenol	ND	ug/L	55.0				
2,4-Dinitrotoluene	ND	ug/L	5.50				
2,6-Dinitrotoluene	ND	ug/L	5.50				
Di-n-octyl phthalate	ND	ug/L	5.50				
Fluoranthene	ND	ug/L	2.20				
Fluorene	ND	ug/L	2.20				

PDS

LABORATORY MANAGER

ND - Not Detected

000040

776 560

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Sverdrup Corporation**
Memphis Defense Depot
13723 Riverport Drive
Maryland Heights, MO 63043

Project # 801370
 FID #

Site ID **DDMT-Dunn Field**
Memphis, TN

Date Arrived 05/16/00
 ETC Order Number 0005400

ETC Lab ID 0005400-02
Sample ID: EQB-024

Matrix :AQUEOUS
 Sample Date :05/15/00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Base/Neutral & Acid				05/18/00	05/18/00	PF	8270C 3510C
Hexachlorobenzene	ND	ug/L	5.50				
Hexachlorobutadiene	ND	ug/L	5.50				
Hexachlorocyclopentadiene	ND	ug/L	5.50				
Hexachloroethane	ND	ug/L	5.50				
Indeno (1,2,3-cd) pyrene	ND	ug/L	2.20				
Isophorone	ND	ug/L	5.50				
2-Methylnaphthalene	ND	ug/L	2.20				
2-Methylphenol (o-cresol)	ND	ug/L	5.50				
3-Methylphenol (m-cresol)	ND	ug/L	5.50				
4-Methylphenol (p-cresol)	ND	ug/L	5.50				
Naphthalene	ND	ug/L	2.20				
Nitrobenzene	ND	ug/L	5.50				
2-Nitroaniline	ND	ug/L	5.50				
3-Nitroaniline	ND	ug/L	11.0				
4-Nitroaniline	ND	ug/L	5.50				
2-Nitrophenol	ND	ug/L	5.50				
4-Nitrophenol	ND	ug/L	5.50				
N-Nitrosodiphenylamine	ND	ug/L	5.50				
N-Nitrosodipropylamine	ND	ug/L	5.50				
Pentachlorophenol	ND	ug/L	11.0				
Phenanthrene	ND	ug/L	2.20				
Phenol	ND	ug/L	5.50				
Pyrene	ND	ug/L	2.20				
1,2,4-Trichlorobenzene	ND	ug/L	5.50				
2,4,5-Trichlorophenol	ND	ug/L	5.50				
2,4,6-Trichlorophenol	ND	ug/L	5.50				

Surrogate Standard	% Recovery	QC Limits
S1 - Nitrobenzene-d5	82	29 110
S2 - 2-Fluorobiphenyl	84	38 107
S3 - 4-Terphenyl-d14	68	33 122
S4 - Phenol-d6	38	7 58
S5 - 2,4,6-Tribromophenol	78	16 138
S6 - 2-Fluorophenol	50	8 88

LABORATORY MANAGER

ND - Not Detected

000041

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

776 561 CLIENT SAMPLE NO.

0005-400-2

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-400

Matrix: (soil/water) WATER

Lab Sample ID:

Sample wt/vol: 940.0 (g/mL) ML

Lab File ID: 0901009

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: 1 (mL)

Date Analyzed: 05/18/00

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

Number TICs found: 8

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 594-36-5	BUTANE, 2-CHLORO-2-METHYL-	2.12	14.63	NJB
2. 79-01-6	TRICHLOROETHYLENE	2.42	11.19	NJ
3. 127-18-4	TETRACHLOROETHYLENE	3.39	7.07	NJ
4. 19780-68-8	3-ETHYL-4-METHYL-2-PENTENE	4.00	6.23	NJB
5. 79-34-5	ETHANE, 1,1,2,2-TETRACHLORO-	4.27	38.91	NJ
6. 584-94-1	HEXANE, 2,3-DIMETHYL-	4.33	7.22	NJ
7. 107-40-4	2-PENTENE, 2,4,4-TRIMETHYL-	4.45	15.94	NJ
8.	UNKNOWN	9.65	71.14	J
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FORM I BNA-GCMS-TIC

000042

Environmental Testing & Consulting, Inc.

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

FORM 2
WATER BNA-GCMS SURROGATE RECOVERY

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-400

	CLIENT SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (TBP) #	S6 (2FP) #	S7 #	S8 #	TOT OUT
01	P05333LB	75	75	59	33	65	43			0
02	P05333LCS	78	84	79	32	76	44			0
03	0005-400-1	86	91	62	36	81	48			0
04	0005-400-1MS	74	80	67	32	0*	42			1
05	0005-400-1MS	87	92	71	37	0*	49			1
06	0005-400-2	82	84	68	38	77	50			0
07										
08										
09										
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QC LIMITS

S1 (NBZ) = Nitrobenzene-d5 (29-110)
 S2 (FBP) = 2-Fluorobiphenyl (38-107)
 S3 (TPH) = Terphenyl-d14 (33-122)
 S4 (PHL) = Phenol-d6 (7- 58)
 S5 (TBP) = 2,4,6-Tribromophenol (16-138)
 S6 (2FP) = 2-Fluorophenol (8- 88)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D Surrogate diluted out

FORM 4
BNA-GCMS METHOD BLANK SUMMARY

776 564

CLIENT SAMPLE NO.

P05333LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-400

Lab File ID: 0301003

Lab Prep Batch: P05333

Instrument ID: BNA2

Date Extracted:

Matrix: (soil/water) WATER

Date Analyzed: 05/18/00

Level: (low/med) LOW

Time Analyzed: 1507

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

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	P05333LCS	P05333	0501005	05/18/00
02	0005-400-1	P05333	0601006	05/18/00
03	0005-400-1MS	P05333	0701007	05/18/00
04	0005-400-1MS	P05333	0801008	05/18/00
05	0005-400-2	P05333	0901009	05/18/00
06				
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COMMENTS:

776 565

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

P05333LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-400

Matrix: (soil/water) WATER

Lab Prep Batch: P05333

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: 0301003

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: 1 (mL)

Date Analyzed: 05/18/00

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.

COMPOUND

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

Q

83-32-9-----	Acenaphthene	2.00	U
208-96-8-----	Acenaphthylene	2.00	U
98-86-2-----	Acetophenone	5.00	U
62-53-3-----	Aniline	5.00	U
120-12-7-----	Anthracene	2.00	U
92-87-5-----	Benzidine	20.00	U
56-55-3-----	Benz (a) Anthracene	2.00	U
205-99-2-----	Benzo (b) fluoranthene	2.00	U
207-08-9-----	Benzo (k) fluoranthene	2.00	U
191-24-2-----	Benzo (ghi) perylene	2.00	U
50-32-8-----	Benzo (a) pyrene	2.00	U
65-85-0-----	Benzoic acid	50.00	U
100-51-6-----	Benzyl alcohol	5.00	U
111-91-1-----	Bis (2-chloroethoxy) methane	5.00	U
111-44-4-----	Bis (2-chloroethyl) ether	5.00	U
108-60-1-----	Bis (2-chloroisopropyl) ether	5.00	U
117-81-7-----	Bis (2-ethylhexyl) phthalate	1.66	J
101-55-3-----	4-Bromophenyl phenyl ether	5.00	U
85-68-7-----	Butyl benzyl phthalate	5.00	U
86-74-8-----	Carbazole	2.00	U
106-47-8-----	4-Chloroaniline	5.00	U
510-15-6-----	Chlorobenzilate	5.00	U
59-50-7-----	4-Chloro-3-methylphenol	5.00	U
91-58-7-----	2-Chloronaphthalene	2.00	U
95-57-8-----	2-Chlorophenol	5.00	U
7005-72-3-----	4-Chlorophenyl phenyl ether	5.00	U
218-01-9-----	Chrysene	2.00	U
53-70-3-----	Dibenz (a, h) anthracene	2.00	U
132-64-9-----	Dibenzofuran	5.00	U
84-74-2-----	Di-n-butyl phthalate	5.00	U
95-50-1-----	1,2-Dichlorobenzene	5.00	U
541-73-1-----	1,3-Dichlorobenzene	5.00	U
106-46-7-----	1,4-Dichlorobenzene	5.00	U

FORM I BNA-GCMS

000046

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET

776 566 CLIENT SAMPLE NO.

P05333LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-400

Matrix: (soil/water) WATER

Lab Prep Batch: P05333

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: 0301003

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: 1(mL)

Date Analyzed: 05/18/00

Injection Volume: 1.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

91-94-1-----	3,3'-Dichlorobenzidine	10.00	U
120-83-2-----	2,4-Dichlorophenol	5.00	U
87-65-0-----	2,6-Dichlorophenol	5.00	U
84-66-2-----	Diethyl phthalate	5.00	U
119-93-7-----	3,3-Dimethylbenzidine	10.00	U
105-67-9-----	2,4-Dimethyphenol	5.00	U
131-11-3-----	Dimethyl phthalate	5.00	U
534-52-1-----	4,6-Dinitro-2-methylphenol	10.00	U
51-28-5-----	2,4-Dinitrophenol	20.00	U
121-14-2-----	2,4-Dinitrotoluene	5.00	U
606-20-2-----	2,6-Dinitrotoluene	5.00	U
122-39-4-----	N-NitrsdiphyAm/Diphenylamin	5.00	U
117-84-0-----	Di-n-octyl phthalate	5.00	U
62-50-0-----	Ethyl methanesulfonate	5.00	U
206-44-0-----	Fluoranthene	2.00	U
86-73-7-----	Fluorene	2.00	U
118-74-1-----	Hexachlorobenzene	5.00	U
87-68-3-----	Hexachlorobutadiene	5.00	U
77-47-4-----	Hexachlorocyclopentadiene	5.00	U
67-72-1-----	Hexachloroethane	5.00	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	2.00	U
78-59-1-----	Isophorone	5.00	U
66-27-3-----	Methyl methanesulfonate	5.00	U
91-57-6-----	2-Methylnaphthalene	2.00	U
95-48-7-----	2-Methylphenol	5.00	U
108-39-4-----	3&4-Methylphenol	5.00	U
91-20-3-----	Naphthalene	2.00	U
88-74-4-----	2-Nitroaniline	10.00	U
99-09-2-----	3-Nitroaniline	10.00	U
100-01-6-----	4-Nitroaniline	10.00	U
98-95-3-----	Nitrobenzene	5.00	U
88-75-5-----	2-Nitrophenol	10.00	U
100-02-7-----	4-Nitrophenol	5.00	U

FORM I BNA-GCMS

000047

776 567

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

P05333LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-400

Matrix: (soil/water) WATER

Lab Prep Batch: P05333

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: 0301003

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: 1 (mL)

Date Analyzed: 05/18/00

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.

COMPOUND

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

Q

924-16-3-----	N-Nitrosodibutylamine	5.00	U
55-18-5-----	N-Nitrosodiethylamine	5.00	U
129-00-0-----	N-Nitrosodimethylamine	5.00	U
621-64-7-----	N-Nitrosodi-n-propylamine	5.00	U
82-68-8-----	Pentachloronitrobenzene	10.00	U
87-86-5-----	Pentachlorophenol	5.00	U
62-44-2-----	Phenacetin	5.00	U
85-01-8-----	Phenanthrene	2.00	U
108-95-2-----	Phenol	5.00	U
129-00-0-----	Pyrene	2.00	U
110-86-1-----	Pyridine	5.00	U
95-94-3-----	1,2,4,5-Tetrachlorobenzene	5.00	U
58-90-2-----	2,3,4,6-Tetrachlorophenol	5.00	U
120-82-1-----	1,2,4-Trichlorobenzene	5.00	U
95-95-4-----	2,4,5-Trichlorophenol	5.00	U
88-06-2-----	2,4,6-Trichlorophenol	5.00	U
103-33-3-----	1,2-Dphnylhydrzine/Azobenzen	5.00	U

FORM I BNA-GCMS

000048

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

776 568

CLIENT SAMPLE NO.

P05333LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-400

Matrix: (soil/water) WATER

Lab Sample ID:

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: 0301003

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: 1 (mL)

Date Analyzed: 05/18/00

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 594-36-5	BUTANE, 2-CHLORO-2-METHYL-	2.13	13.63	NJ
2. 19780-68-8	3-ETHYL-4-METHYL-2-PENTENE	4.00	5.36	NJ
3. 110-87-2	2H-PYRAN, 3,4-DIHYDRO-	4.24	13.35	NJ
4. 2050-01-3	PROPANOIC ACID, 2-METHYL-, 3	4.33	6.06	NJ
5. 565-77-5	2-PENTENE, 2,3,4-TRIMETHYL-	4.45	14.36	NJ
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FORM I BNA-GCMS-TIC

000049

Lab Name: ETC, INC.

Lab Prep Batch: P05333

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-400

Matrix Spike - Sample No.: P05333LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acenaphthene	50.00		34.93	70	37-123
Acenaphthylene	50.00		39.26	78	67-118
Acetophenone	50.00		33.13	66	60-120
Aniline	50.00		29.21	58	25-102
Anthracene	50.00		35.30	71	68-124
Benzidine	50.00		52.48	105	22-127
Benz(a)Anthracene	50.00		27.60	55*	69-125
Benzo(b)fluoranthene	50.00		25.30	51*	68-127
Benzo(k)fluoranthene	50.00		26.39	53*	73-128
Benzo(ghi)perylene	50.00		20.32	41*	53-138
Benzo(a)pyrene	50.00		26.96	54*	73-125
Benzoic acid	50.00		11.90	24	20-150
Benzyl alcohol	50.00		26.58	53	23-142
Bis(2-chloroethoxy)meth	50.00		37.33	75	45-135
Bis(2-chloroethyl)ether	50.00		31.72	63	51-120
Bis(2-chloroisopropyl)e	50.00		30.48	61	34-137
Bis(2-ethylhexyl)phthal	50.00		29.18	58*	61-151
4-Bromophenyl phenyl et	50.00		28.59	57*	60-120
Butyl benzyl phthalate	50.00		33.99	68	60-120
Carbazole	50.00		54.41	109	37-156
4-Chloroaniline	50.00		32.14	64	45-135
Chlorobenzilate	50.00		32.78	66	20-150
4-Chloro-3-methylphenol	50.00		28.05	56	33-134
2-Chloronaphthalene	50.00		42.48	85	63-121
2-Chlorophenol	50.00		25.73	51	17-134
4-Chlorophenyl phenyl e	50.00		31.80	64	60-120
Chrysene	50.00		27.58	55*	70-124
Dibenz(a,h)anthracene	50.00		20.61	41*	57-136

Column to be used to flag recovery and RPD values with an asterisk
 * Values outside of QC limits

COMMENTS:

FORM 3
WATER BNA-GCMS LAB CONTROL SAMPLE

776 570

Lab Name: ETC, INC.

Lab Prep Batch: P05333

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-400

Matrix Spike - Sample No.: P05333LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dibenzofuran	50.00		32.96	66	64-122
Di-n-butyl phthalate	50.00		47.73	95	60-120
1,2-Dichlorobenzene	50.00		30.24	60	39-101
1,3-Dichlorobenzene	50.00		30.40	61	38- 98
1,4-Dichlorobenzene	50.00		29.80	60	31- 97
3,3'-Dichlorobenzidine	50.00		35.16	70	35-165
2,4-Dichlorophenol	50.00		31.45	63	13-146
2,6-Dichlorophenol	50.00		29.93	60	20-150
Diethyl phthalate	50.00		38.89	78	60-120
3,3-Dimethylbenzidine	50.00		49.82	100	20-150
2,4-Dimethyphenol	50.00		25.66	51	51-118
Dimethyl phthalate	50.00		35.12	70	60-120
4,6-Dinitro-2-methylphe	50.00		36.33	73	15-150
2,4-Dinitrophenol	50.00		33.72	67	12-182
2,4-Dinitrotoluene	50.00		46.63	93	34-130
2,6-Dinitrotoluene	50.00		38.35	77	62-135
N-NitrsdiphyAm/Dipheny	100.0		65.84	66	45-135
Di-n-octyl phthalate	50.00		23.36	47*	60-120
Ethyl methanesulfonate	50.00		30.01	60	45-135
Fluoranthene	50.00		37.80	76	55-135
Fluorene	50.00		35.66	71	66-121
Hexachlorobenzene	50.00		29.40	59*	65-133
Hexachlorobutadiene	50.00		31.20	62	50-112
Hexachlorocyclopentadie	50.00		28.53	57	21-141
Hexachloroethane	50.00		31.69	63	37-100
Indeno(1,2,3-cd)pyrene	50.00		17.97	36*	57-140
Isophorone	50.00		34.94	70	13-146
Methyl methanesulfonate	50.00		18.88	38*	45-135

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

* Values outside of QC limits

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: P05333

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-400

Matrix Spike - Sample No.: P05333LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
2-Methylnaphthalene	50.00		33.32	67	50-124
2-Methylphenol	50.00		22.70	45*	48-117
3&4-Methylphenol	50.00		22.74	45*	46- 99
Naphthalene	50.00		33.38	67	55-113
2-Nitroaniline	50.00		34.86	70	63-129
3-Nitroaniline	50.00		38.96	78	61-120
4-Nitroaniline	50.00		34.63	69	60-126
Nitrobenzene	50.00		36.10	72	57-120
2-Nitrophenol	50.00		32.17	64	27-137
4-Nitrophenol	50.00		111.7	223*	20-150
N-Nitrosodibutylamine	50.00		34.93	70	60-120
N-Nitrosodiethylamine	50.00		31.08	62	60-120
N-Nitrosodimethylamine	50.00		23.56	47	30- 96
N-Nitrosodi-n-propylami	50.00		32.49	65	60-120
Pentachloronitrobenzene	50.00		34.95	70	20-150
Pentachlorophenol	50.00		30.20	60	22-171
Phenacetin	50.00		46.56	93	20-150
Phenanthrene	50.00		34.86	70	65-126
Phenol	50.00		15.58	31	12- 57
Pyrene	50.00		29.06	58	40-149
Pyridine	50.00		17.15	34	10- 82
1,2,4,5-Tetrachlorobenz	50.00		32.93	66	60-120
2,3,4,6-Tetrachlorophen	50.00		30.78	62	20-150
1,2,4-Trichlorobenzene	50.00		32.56	65	29-116
2,4,5-Trichlorophenol	50.00		31.22	62	31-147
2,4,6-Trichlorophenol	50.00		30.15	60	31-147
1,2-Dphnylhydrzine/Azob	50.00		32.76	66	45-135

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: 16 out of 83 outside limits

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: P05333

Lab Code:

Case No.:

SAS No.:

SDG No.: 0005-400

Matrix Spike - Sample No.: 0005-400-1

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acenaphthene	107.5	0.000	90.21	84	45- 99
4-Chloro-3-methylphenol	172.0	0.000	106.3	62	35-113
2-Chlorophenol	172.0	0.000	93.44	54	38-100
1,4-Dichlorobenzene	107.5	0.000	65.31	61	40- 90
2,4-Dinitrotoluene	107.5	0.000	128.8	120*	34-110
4-Nitrophenol	172.0	0.000	82.55	48	9- 92
Pentachlorophenol	172.0	0.000	142.7	83	28-124
Phenol	172.0	0.000	47.42	28*	37-103
Pyrene	107.5	0.000	60.21	56*	60-127
1,2,4-Trichlorobenzene	107.5	0.000	70.01	65	45- 94

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
=====	=====	=====	=====	=====	=====	=====
Acenaphthene	105.3	102.0	97	14	20	45- 99
4-Chloro-3-methylphenol	168.4	125.6	74	18	20	35-113
2-Chlorophenol	168.4	110.3	65	18	20	38-100
1,4-Dichlorobenzene	105.3	77.40	74	19	20	40- 90
2,4-Dinitrotoluene	105.3	140.8	134*	11	20	34-110
4-Nitrophenol	168.4	97.02	58	19	20	9- 92
Pentachlorophenol	168.4	159.6	95	13	20	28-124
Phenol	168.4	54.96	33*	16	20	37-103
Pyrene	105.3	65.55	62	10	20	60-127
1,2,4-Trichlorobenzene	105.3	81.68	78	18	20	45- 94

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

* Values outside of QC limits

RPD: 0 out of 10 outside limits

Spike Recovery: 5 out of 20 outside limits

COMMENTS:

776 573

Environmental Testing & Consulting, Inc.

**Login
Chain-of-Custody**

000054



O.H. Remediation
Services Corp.

IT Corp

CHAIN-OF-CUSTODY RECORD

776 574

LAB COPY
Form 0019
Field Technical Services
Rev. 08/89

199292

0005400

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

PROJECT NAME DOMT - Dunn Field Memphis TN		PROJECT LOCATION Memphis TN		PROJECT CONTACT PROJECT TELEPHONE NO. 801300 Vigil Jansen 34770.4025		PROJECT MANAGER/SUPERVISOR Serdar Inc Vigil Jansen		ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)		NUMBER OF CONTAINERS		REMARKS	
ITEM NO	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)							
1	ST-EFF024	5/15/93	1100	X				X	X	X	X	X	Please see MSA MSD from ST-EFF-024 Containers
2	EQS-024	5/15/93	1100	X				X	X	X	X	X	
3													
4													
5													
6													
7													
8													
9													
10													

TRANSFERS NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME	REMARKS
1	1 → 2	Serdar Inc Vigil Jansen		5/15/93	1835	Temp. 20.4 °C DO not analyze pH 5.93 Trip Blank. Cond. 306 per V. Jansen. Turb. 0.35 NTU
2						
3						
4						SAMPLER'S SIGNATURE <i>Serdar Inc Vigil Jansen</i>

Environmental Testing & Consulting, Inc.
Cooler Receipt Form

Date Received 5/15/00
 Date/Time Checked In 5/16/00-0800 *
 Carrier/Bill# _____ Hand-Delivered _____

LIMS# 0005-400
 Project DDMT-Dunn Field
Memphis, TN
 By R. Bange

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-bags, ice, bubble wrap	Yes
6. Chain of Custody filled out properly?	Yes
7. All containers in separate bags?	Yes
8. Sample containers intact?	Yes
9. Label(s) complete and in good condition?	Yes
10. Label(s) agree with Chain of Custody?	No
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 _____
 _____ Analyze for pH. _____
 _____ Do not analyze Trip Blank per V. Jansen. _____

*Validated Date and Time of Sample Receipt (VDTSR)

Data Evaluation

Field Quality Control

The second year second quarter monitoring well sampling events for the Defense Depot in Memphis, Tennessee took place in May 2000. The required analysis was volatiles (EPA 8260B). Submitted with the samples were three trip blanks, three equipment blanks, one field blank and four duplicate samples. All blanks yielded non-detect results for each analyzed compound.

The four samples taken in duplicate were RW-09, RW-02, MW-69 and MW-51. The duplicates were analyzed for the same tests as the original samples. The following table lists the duplicate relative percent difference (RPD) calculations. A blank space indicates that compound was not found in the sample or its duplicate. "NC" indicates the RPD could not be calculated due to a positive result in a sample but not its duplicate.

Analyte	RW-09	RW-02	MW-69	MW-51
Carbon tetrachloride	7	9	16	
Chloroform	2	8	9	
1,1-Dichloroethane	3			
1,1-Dichloroethene	2			1
Trans-1,2-Dichloroethene	0	11	13	
Tetrachloroethene	0	13	8	NC
1,1,1-Trichloroethane	3			
Trichloroethene	1	7	37	2
Cis-1,2-Dichloroethene	3	9	10	

The acceptance criteria used for field duplicates was <20% (reference SW-846 Test Methods for Evaluating Solid Waste). Trichloroethene in MW-69 and its duplicate was the only compound yielding a RPD above the acceptance limit.

Laboratory Quality Control

A method blank and a laboratory control sample were analyzed in each batch containing a sample from this project. Surrogates were used by the laboratory to show control of organic analyses. Matrix spike and matrix spike duplicate samples were analyzed on project samples as sufficient amounts of sample were available.

All method blanks yielded non-detect results for all compounds. The LCS only gave unacceptable recoveries on non-target compounds. Sample MW-70 Bottom was spiked and yielded high trichloroethene recoveries due to matrix interference. All surrogate recoveries were acceptable.

The project completeness criteria of 95% were met, as the combined completeness for all samples and all analyses was 99.2%.

Data Evaluation

Field Quality Control

Two effluent samples were collected between March 15, 2000 and April 14, 2000 at the Defense Depot in Memphis, Tennessee. The required analyses included volatiles (EPA 8260B), semi-volatiles (EPA 8270C) and metals (EPA 200 series). Submitted with the samples were two trip blanks, one equipment blank and one duplicate sample.

Trip blanks were submitted with all effluent samples and analyzed for volatiles (EPA 8260B). The trip blank associated with ST-EFF-022 gave a detectable concentration of 1.25 ppb toluene. All other trip blank recoveries were non-detect.

The equipment blank was associated with sample ST-EFF-023. This equipment blank yielded a detectable concentration of 0.028 ppm calcium. All other equipment blank recoveries were non-detect.

The sample taken in duplicate was ST-EFF-022. The duplicate was analyzed for the same tests as the original sample. The following table lists the duplicate relative percent difference (RPD) calculations. "NC" indicates the RPD could not be calculated due to the positive result in a sample but not its duplicate.

Analyte	022 RPD
Volatile Organics	
Carbon tetrachloride	4
Chloroform	7
1,1-Dichloroethane	NC
1,1-Dichloroethene	5
Trans-1,2-Dichloroethene	2
1,1,2,2-Tetrachloroethane	8
Tetrachloroethene	5
Toluene	NC
1,1,1-Trichloroethane	NC
1,1,2-Trichloroethane	38
Trichloroethene	5
Cis-1,2-Dichloroethene	1
Wet-Chemistry	
pH	5
Metals	
Barium	2
Calcium	0
Iron	137
Potassium	5
Magnesium	2
Manganese	0
Sodium	5
Zinc	7

Data Evaluation

The acceptance criteria used for field duplicates was <20% for organic compounds and <30% for metals analytes (reference SW-846 Test Methods for Evaluating Solid Waste and 600R94111 Methods for the Determination of Metals in Environmental Samples). There were no detectable concentrations of semi-volatile compounds in the effluent sample. There was one significant difference in the volatile results for sample ST-EFF-022 and its duplicate found in 1,1,2-trichloroethane. All other volatiles duplicate recoveries yielded good RPDs. Iron yielded a high RPDs and should be flagged.

Laboratory Quality Control

A method blank and a laboratory control sample were analyzed in each batch containing a sample from this project. Surrogates were used by the laboratory to show control of organic analyses. Matrix spike and matrix spike duplicate samples were analyzed on project samples as sufficient amounts of sample were available. For batches that did not include matrix spike and matrix spike duplicates, a laboratory control duplicate sample was analyzed.

The method blanks associated with both effluent samples yielded positive recoveries for bis (2-ethylhexyl) phthalate. There were no detectable concentrations of bis (2-ethylhexyl) phthalate in the samples. The method blank associated with ST-EFF-022 yielded positive recoveries for three other semi-volatile compounds that were non-detect in the samples. No actions were taken.

The LCS samples associated with ST-EFF-022 and ST-EFF-023 yielded a few recoveries outside acceptance limits for volatiles and semi-volatiles; however the only target compounds out of control were below the reporting limit in the samples.

Qualifications due to unacceptable MS/MSD recoveries include phenol and pyrene for causing a potential low bias on the sample results.

All surrogate recoveries for volatiles and semi-volatiles analyses were acceptable.

The project completeness criteria of 95% were met, as the combined completeness for all samples and all analyses was 97.8%.

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